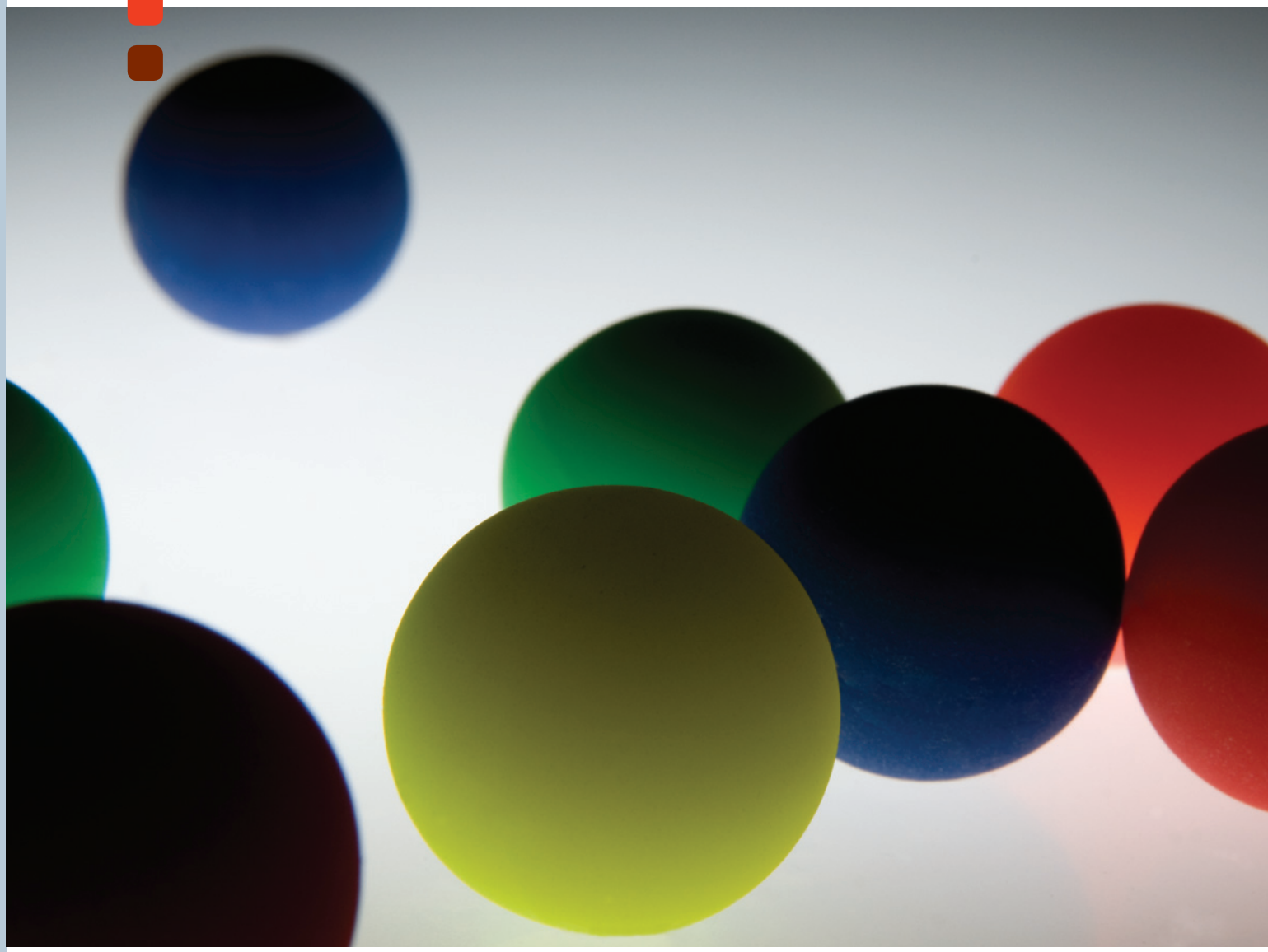
Employment in Poland 2010

Integration and globalization

edited by Maciej Bukowski

Warsaw 2011



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Introduction

Employment in Poland 2010 – integration and globalisation is the sixth edition of the 'Employment in Poland' series. Similar to previous editions, we focus on selected processes that influence the Polish and European labour markets. This time we focus on European integration, understood as a project meant to increase European social and economic welfare in the increasingly strong network of global ties. We address this report to Polish social and economic policy makers, especially of labour market policy, academic and business economists and researchers in social sciences interested in modernisation in the times of globalisation.

In the first Part we evaluate the achievements and failures of ten years of Lisbon Strategy implementation in the European Union countries. We discuss sources of the increasing discrepancies between EU countries in achieving employment targets of the Strategy, and the position of Poland in this picture. We analyse long-term and short-term causes of relative successes and failures in individual parts of Europe in the previous decade. We pay particular attention to differences in economic growth rates and related changes in the labour markets between EU27 and USA, showing the reasons for Europe lagging behind the globalising world. We examine the feasibility of Poland converging to the level of EU15 and USA, taking into account the current strategic context, defined by Europe 2020 and Poland 2030 documents.

In the second part, we concentrate on the mobility of Europeans, especially international migration within the continent and inflows of external immigrants. We evaluate the openness of the individual labour markets in the EU Member States to foreign workers, including the citizens of other Member States. We take a closer look at integration of the European labour market, and the direction of changes in internal migration, cross border commuting, and the economic effects of the increased openness of Europe to immigrants from third countries. We also analyse the phenomenon of return migration which is especially important from a Polish point of view. We discuss its potential as a tool for levelling development differences within the EU. Finally, we assess the impact of EU regulations on migration processes, confronting European achievements with the experiences of other developed countries, especially the US.

The third part is dedicated to foreign direct investment and its impact on the labour market in Poland and Central Europe. We analyse the most important trends in capital flows, focusing especially on FDI determinants in the regional dimension. Due to the export-oriented nature of many investments of multinational corporations in Europe, we also analyse the impact of trade on the labour markets of EU Member States and productivity at the sectoral level. We study how the spatial FDI distribution depends on the expected benefits from trade, and scrutinise general patterns in FDI inflow and stock to Central European countries. The Polish labour market is analysed taking into account the FDI determinants at the level of voivodeships, using econometric modelling and in-depth interviews with the representatives of enterprises and local officials (Marshal Office) specialising in FDI promotion in Polish voivodeships. We compare the results with evaluation of the effectiveness of individual policy tools used by local governments to increase FDI volume, and a formal analysis of institutional and localisation causes of the uneven distribution of investment in different parts of Central Europe.

In the last part of the report, we discuss the local aspects and effects of globalisation. We show the role of global processes in NMS and Poland, and smaller areas – Central European regions and sub-regions. The analysis starts with the presentation of technological, economic and institutional aspects of progressing globalisation and the description of its effect on production and employment structures in the economies of the developed North (including Central Europe) and the developing South. At the same time we analyse how these processes materialise at t piotr.lewandowski@ibs.org.pl he local level. We are particularly interested in the inclusion of Poland and the entire region of Central Europe to the European network of economic ties. We isolate a few areas in which globalisation processes adopt a different shape, and we analyse the causes of these differences. In the description of effects of globalisation in Poland and foreign countries, we focus on those sectors that are under the particular spell of globalisation. These include: the automotive industry, steel industry, textiles and clothing, and business services that are susceptible to offshoring, including R&D.

The report is completed with conclusions and policy recommendations, focusing around the issues of growth policy and regional policy, so those aspects of public policy that are particularly predisposed to tackling the challenges that globalisation poses for the labour market. We do not omit policy instruments concerning the labour market and social security, as they will be key in the choice of development path of Poland – following Northern or Southern Europe. We show that the challenges of globalisation for public policy include both the internal agenda of the Polish government, and Poland's stance in the European forum – either in favour of European reforms or against them.

Part I. The Lisbon strategy – hopes, successes and failures

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LIST OF TABLE

LIST OF BOXES

LIST OF FIGURES

Introduction

The Lisbon Strategy, adopted by the European Commission in 2000, was the most important document indicating the directions of European Union development in the 2000s. Although the EU had only fifteen Member States at the time of signing the Strategy, it would also apply to the countries which joined the Community in the next decade. Advancement of the accession process in 2000 resulted in realisation of the Strategy in the new Member States, including Poland, even before their actual accession. In this Part I of the Report we analyse and evaluate European successes and failures in terms of the Lisbon Strategy objectives, and discuss their feasibility in the current decade.

In the first chapter, we present the major premises and objectives of the Lisbon Strategy, and discuss their adequacy in the context of the actual challenges faced by the EU in 2000. In the second chapter, we analyse changes in the macroeconomic situation of the EU and its individual Member States between 2000 and 2010. We mainly focus on the labour market and how Poland and Europe have succeeded in achieving the specific objectives of the major goal of 'full employment'. We perform a decomposition to show to what extent the achievement of (or failure to achieve) this target resulted from tackling (or not) the main sources of the employment gap in comparison with the USA. The third chapter presents an analysis of the evolution of the gap in GDP per capita in the EU and its Member States in relation to the USA.

We quantify the impact of differences in total work input (employment rate – extensive input, and the average number of hours worked per year – intensive input), labour productivity and different demographic structures, on the differences in GDP per capita between Poland, the EU and USA. We analyse to what extent differences in the dynamics of labour productivity between the EU and USA resulted from differences in the accumulation of human capital, investment in traditional and modern (ICT) physical capital, and the total factor productivity, i.e. technological and organisational effectiveness. We examine which sectors were crucial for productivity growth in these two economic areas, and the sources of this growth in individual sectors. Thus we can pinpoint the key sources of differences in the rate of economic growth in Europe and the USA. In the fourth chapter, conclusions of the first three chapters are presented to examine if the new Europe 2020 strategy accurately identifies and responds to the challenges facing the EU. We also present lessons from the realisation of the Lisbon Strategy for implementation of the Europe 2020 strategy, concluding with a brief summary.

1. Premises and objectives of the Lisbon Strategy

The Lisbon Strategy was presented for the first time at the European Union summit in March 2000, where it was accepted by the European Council.[1] In many regards, it was drafted during a successful period for the EU. The Union managed to create the single internal market, complete economic and monetary integration, and establish a common currency. Individual Member States were cutting their budget deficits and enjoyed low inflation and interest rates. Nonetheless, at the end of 1990s the GDP per capita, employment rate, participation of women and older workers in the EU15 were still distinctly lower than the USA, and many European countries also had much higher unemployment. Furthermore, the differences between the EU and the USA were becoming more and more pronounced. On one hand, in 1945-1975 Western Europe had managed to eliminate a large proportion of the development gap (cf. Table I.1), possible thanks to the slightly higher dynamics of labour productivity and considerable fixed capital investment – hence the capital to employment ratio came close to the American level. On the other hand, since the mid-1970s, the situation in the European labour market had deteriorated much more than in the USA, so that in 1990 most of the EU countries had lower participation and employment rates, and also higher unemployment and lower average hours worked than in the USA. These processes, visible through the entire 1980s, slowed down the convergence of the EU countries to the USA.

In the 1990s traditional manufacturing sectors lost their significance as the main source of growth in the European economy (Timmer et al., 2010), and the average GDP per capita and labour productivity growth rates decreased (cf. Table I. 1). At the same time, the American economy re-oriented towards development of the so-called 'new economy', based on knowledge and leadership in information and computer technologies (ICT), which accelerated its productivity and output per capita growth. That change was duly reflected in the Lisbon Strategy; it emphasised the lower flexibility of the EU economies in relation to the USA as inadequate in times of globalisation and transformation to a knowledge-based economy.

Although the EU had reduced the gap to the USA in the 1990s in terms of employment rate, it was losing position in average hours worked and labour productivity (Table I.1). In the beginning of the 1960s, an average worker in the largest Western European economies annually worked 150 hours more than his counterpart in the USA. At the same time, long-term trends of a gradual reduction in hours worked, increasing leisure time and substitution of labour by capital had been visible on the both sides of Atlantic (cf. part IV). After 1975 the average hours worked in the USA stabilised at about 1800 hours per year, while in the EU15 it decreased from 1750 hours to 1650 hours a year between 1980 and 2000. This trend was so strong that the total input of labour in the EU15 decreased by 8 percentage points in relation to the USA, even though in the 1990s the EU15 had reversed some of the previous falls in participation and employment rates.

Table I.1. Main macroeconomic variables in the largest European economies and the EU15, 1985-2000 (per cent, USA = 100).

GDP per capita in PPP (USA = 100)					Employment rate (USA = 100)			
	1985	1990	1995	2000	1985	1990	1995	2000
France	76.7	78.6	76.9	74.1	88.1	83.6	83.2	84.1
Germany	95.2	97.7	78.8	74.0	91.1	93.4	90.7	88.8
Spain	53.8	59.3	59.4	61.1	63.6	68.5	66.0	77.4
Italy	74.4	77.6	77.7	73.0	80.3	76.6	72.2	74.0
United Kingdom	70.9	73.9	74.5	74.5	97.1	100.7	98.0	97.0
EU15	74.8	77.7	74.2	72.5	77.9	87.0	84.8	86.6
Average hours worked (hours, USA = 100)					Labour productivity (GDP/hour USA=100)			
	1985	1990	1995	2000	1985	1990	1995	2000
France	93.0	93.1	89.5	86.7	94.4	101.0	103.5	103.4
Germany	90.4	85.9	83.1	80.2	108.4	113.3	98.6	99.3
Spain	96.5	95.1	93.9	94.2	88.9	89.0	90.8	79.9
Italy	101.4	102.0	100.8	101.4	89.0	93.9	100.0	93.7
United Kingdom	96.2	96.7	94.5	93.2	75.6	75.2	80.2	82.6
EU15	94.8	94.0	91.1	89.7	100.9	92,2	92.7	91.2

Notes: GDP per capita in thousands of dollars PPP (taking into account the purchasing power parity), productivity – GDP per hour of work in dollars PPP. For the USA the employment rate for people aged 16-64.

Source: Own calculations based on Eurostat, OECD, KLEMS data.

[1] The Lisbon European Council - An Agenda of Economic and Social Renewal for Europe (2000).

As a result, in 2000 the ratio of GDP per capita in the EU15 to that in the USA was the lowest in 20 years (allowing for the purchasing power parity). Employment rate was lower by almost 10 percentage points. The critique of this situation, expressed at the EU summit in Lisbon, became the basis of the EU development plan that was later named Lisbon Strategy or Lisbon Agenda. It was assumed that the plan would be gradually implemented by all EU countries (also by the NMS that later joined the EU, in 2004 and 2007), so that it would have been realised by 2010.[2]

The primary goal of the Strategy was to make the EU the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion. The plan was divided into 10 areas[3] in which changes had to be implemented for the project to be successful. Each of them contained from several to dozens of objectives and indicators. Due to the large number of priorities and propositions of the Strategy, which were also modified after subsequent reviews of the Strategy, and the character of this Report, we present only the most important of them, namely those that are directly or indirectly associated with the European labour market which along with research, innovation, education and efficiency of the single internal market was deemed a key factor for the economic growth of the European Union.

No single and direct objective was established in terms of closing the gap in output per capita between the EU and USA, although the Strategy stipulated that the implementation of its recommendations should result in a GDP growth of about 3 per cent a year, which should have decreased the gap by about 10 percentage points within a decade. Given the demographic developments, especially the gradual ageing of the population discussed in an earlier edition of *Employment in Poland* (IBS/CRZL, 2010), the assumed growth in GPD per capita should have involved not only increased labour productivity, but also an increase in participation and employment rates of the working age population.

In the document *The Lisbon European Council - An Agenda of Economic and Social Renewal for Europe* (2000), the European Commission indicated six main factors resulting in the deficit of employment in the EU in relation to the USA:

- Gap in employment of women: in Europe the employment rate of women aged 15-64 was a little over 50 per cent, whereas in the USA it was around 65 percent.
- Gap in employment in services: European Union had a lower employment rate in services than the USA.
- Regional discrepancies: unemployment in the EU15 was concentrated in Germany, France, Italy and Spain. It was the highest in the South of the continent, in peripheral areas and those with a dominant position in traditional manufacturing.
- Long-term structural unemployment: about half of the unemployed remained without any work for more than a year.
- Skills gap: especially notable in ICT use, resulting from insufficient investment in education and training.
- Age gap: too low participation of workers aged 55-64.

The main goal in the labour market was 'full employment'. This very generally defined objective was mentioned in all the documents of subsequent EU summits, and was more precisely defined through the determination of five detailed targets (cf. Pissarides 2006, Ivan-Ungureanu, Marcu 2006) which were scheduled be completed by the end of 2010 (in brackets targets for 2005);[4]

- 70 per cent employment rate among people aged 15-64 (67 per cent, 2005)
- 60 per cent employment rate among women aged 15-64 (57 per cent)
- 50 per cent employment rate among people aged 55-64
- 5 year increase in the average effective retirement age.[5]

However, the previously mentioned significant factor behind differences between the EU15 and USA in the total amount of labour input and GDP per capita, namely the shorter hours worked in Europe, was neither addressed in the diagnosis accompanying the Strategy nor its objectives.

[2] Although in 2000 Poland was not a EU Member State, its advanced stage of accession process gave good reasons to think it would join the EU in the following few years. That is why, although in Poland the implementation of the Strategy officially started in May 2004, in reality this process was already initiated in 2000, similar to other actual Member States.

[3] An information society for all; Establishing a European Area of Research and Innovation; Creating a friendly environment for starting up and developing innovative businesses, especially SME; Economic reforms for a complete and fully operational internal market; Efficient and integrated financial market; Coordinating macro-economic policies: fiscal consolidation, quality and sustainability of public finances; Education and training for living and working in the knowledge society; More and better jobs for Europe: developing an active employment policy; Modernising social protection; Promoting social inclusion.

[4] Moreover, it was recommended to put more emphasis on life-long learning in order to reduce the deficit in skills and develop the information society. At the Stockholm summit in 2001 (Realising the European Union's Potential – Consolidating and Extending the Lisbon Strategy, 2001) it was recommended that Member States in cooperation with social partners should determine the national priorities in order to achieve the Lisbon objectives, especially in term of increasing the employment of older workers (aged 55-64) and the participation of women in the labour market (through active labour market policies), and increasing the incidence of life-long learning (through tax incentives).

[5] The general objective 'full employment' included also a target of 'Provision of child-care for 90% of children aged from 3 to the age of obligatory school education and for 33% of younger children' which is not directly connected with situation in the labour market in the analysed period, and that is why we do not discuss it here in detail. The access to child-care is one of the subjects of Employment in Poland – work over the life course (IBS/CRZL, 2010a).

2. Realisation of the Lisbon Strategy labour market targets

2.1. Employment targets: total and selected demographic groups employment rates

Over the last twenty years the employment rate in the EU15 has been gradually getting closer to the American level (cf. Figure I.1). Progress in the employment rate in Europe started as early as the 1990s, and by the middle of the 2000s it was indicated that it was unjustified to perceive the EU as an economic area with a generally worse situation in the labour market than the USA (Blanchard 2004). However, Europe has remained a continent of contrasts. In Scandinavian countries, the Netherlands and the UK the percentage of employed individuals of working age is higher, and in Austria and Ireland virtually the same as in the USA, while Italy, Greece, Poland and Hungary are lower by 10-15 percentage points than the USA.

The continuing weakness of Western Europe is its systematically decreasing intensive labour supply i.e. the number of hours worked per worker in a year. Despite a decline in the average hours worked in the USA below 1800 hours during the crisis of 2008-2009, hours worked in the USA have been 10 per cent higher than in the EU15 throughout the 2000s (cf. Figure I.2). In contrast, in the NMS5 countries of Central Europe (Czech Republic, Estonia, Poland, Slovakia and Hungary), the average hours worked in 1995-2009 were about 10 per cent higher than the USA and almost 20 per cent higher than in the EU15.[6] These differences have been maintained over the last fifteen years. Even though there has also been a decrease in hours worked in Central Europe, it was weaker than in the EU15 and the USA; the average hours worked dropped below the USA level only in Slovakia, albeit it was still higher than in the EU15. Different patterns in the EU15 and NMS5 in terms of extensive and intensive inputs of labour resulted in a situation where, in terms of average total labour input per person of working age, the NMS5 even exceeded the average in the EU15 and were close to the USA level (cf. Figure I.3). Although the participation rate of the working age population was lower, the employed spent more time at work than in the EU15. Importantly, both in the 'old' and 'new" EU Member States, the lower employment rate was the main source of the gap to the USA in terms of labour input per person of working age. Table I.2 shows that this gap decreased thanks to improvements in the employment rate.

Table I.2. Decomposition of differences in the average labour input in hours per person aged 15-64 in the EU15 and NMS5 in relation to the USA, into contributions of differences in the employment rate and average hours worked per worker, 1991-2009 (per cent, USA = 100).

	1991	1995	2000	2005	2009
EU15					
Employment rate	-11	-15	-13	-8	0
Average hours worked	-7	-9	-10	-10	-10
Residual	1	1	1	1	1
Total	-17	-23	-22	-17	-9
NMS5					
Employment rate	no data	-17	-23	-21	-10
Average hours worked	no data	8	9	10	10
Residual	no data	-1	-2	-2	-1
Total	no data	-10	-16	-13	-1

Notes: NMS5: Czech Republic, Estonia, Hungary, Poland, Slovakia. For the USA, the employment rate for people aged 16-64.
Source: Own calculations based on Eurostat, OECD, KLEMS.

As some Member States were reluctant to implement the recommended reforms, the general distance (both in the EU27 and EU15) from the objective of the Strategy, in terms of total employment, has been reduced by only half since 2000. Even in the peak of the boom in 2007, it missed by 3 percentage points in the EU15 and 4.5 percentage points in the EU27.

By 2000, a few European countries had already met some or even all the targets set by the Lisbon Strategy. In 2000 the total employment objective had been realised by only four countries – Denmark, the Netherlands, Sweden and the UK. These countries maintained or even strengthened their position later. Germany and Austria joined the group in 2009-2010 thanks to earlier reforms in their labour markets. In 2005-2010 the target of 70 per cent employment rate was reached by 8 out of all 27 EU countries. For a short time it was fulfilled by Cyprus and Finland, until these countries were hit by recession in 2008-2009. Estonia, too, almost reached (69.8 per cent) the Lisbon Strategy employment rate objective in 2008, but in the following year recession resulted in a decrease by more than 6 percentage points.

[6] The selection of these five countries and the period depends on the availability of data.

Figure I.1. Employment rate of people aged 15-64 (left axis, per cent) in the EU15 (left panel), NMS5 (right panel) and the USA, and the relation of this variable in the EU15 (left panel) and NMS5 (right panel) to the USA (right axis, per cent), 1991-2010.

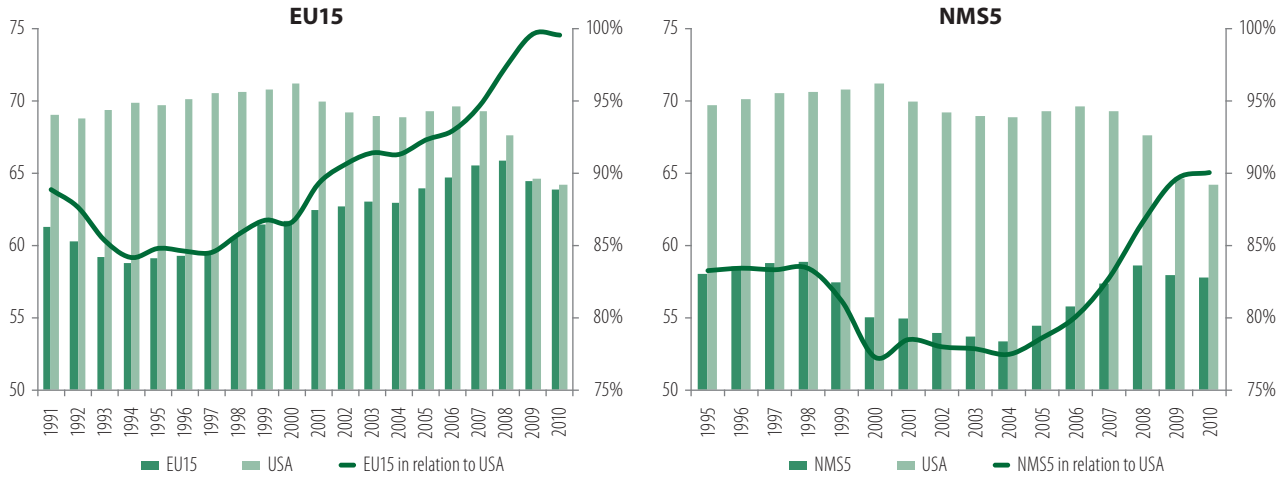


Figure I.2. Average annual hours worked per worker (left axis, in hours) in the EU15 (left panel), NMS5 (right panel) and the USA, and the relation of this variable in the EU15 (left panel) and NMS5 (right panel) to the USA (right axis, per cent), 1991-2009.

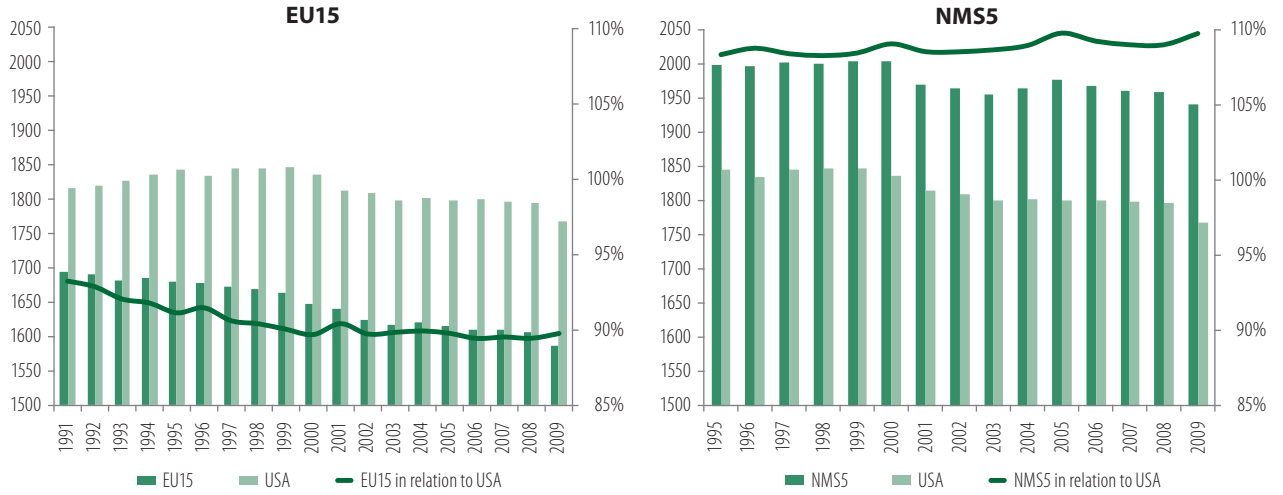
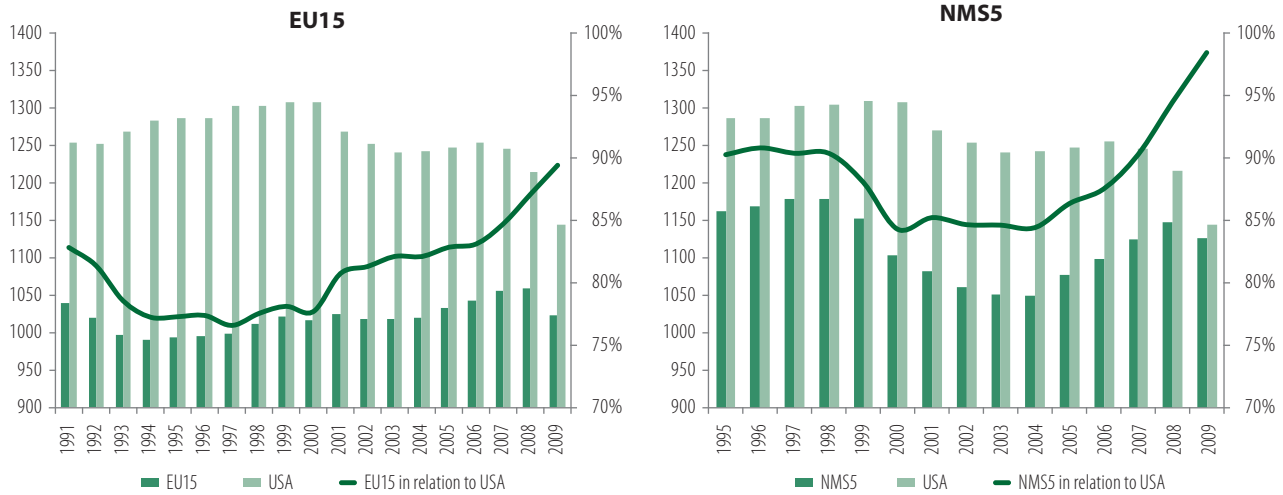


Figure I.3. Average annual hours worked per person aged 15-64 (left axis, in hours) in the EU15 (left panel), NMS5 (right panel) and the USA and the relation of this variable in the EU15 (left panel) and NMS5 (right panel) to the USA (right axis, per cent), 1991-2009.



Notes: NMS5: Czech Republic, Estonia, Hungary, Poland, Slovakia. For the USA, the employment rate for people aged 16-64.

Source: Own calculations based on Eurostat, OECD and KLEMS data.

Apart from the lack of structural reforms which slowed down the progress of most EU countries in meeting the Lisbon Strategy objectives, another major obstacle was caused by periods of downturn. It includes both the cyclical downturn in 2001-2002 which in many countries lead to a temporary decrease in employment rate by about 1 percentage point, and the Great Recession of 2008-2009 which in most European countries practically reversed the progress achieved over the previous several years. An especially high adjustment occurred in countries that were most affected by the crisis – those that had come close to the general employment objective, such as Latvia and Ireland, and those that had always been far from achieving it, such as Spain and Greece.

A few more countries had achieved the objective of employment of women (60 per cent, cf. Figure I.5). In 2000 it was realised by the four countries that had also met the general objective, as well as Finland and Portugal. By 2005 the target level was also reached by Austria, Estonia, Germany and Slovenia. In 2007-2008 the objective was achieved by Ireland, and in 2009 by France, Cyprus, Lithuania and Latvia. This meant that in 2009 in half of the EU countries the employment of women was higher than the 60 per cent envisaged in the Lisbon Strategy. However, because of the downturn, five of these countries later fell below the target. Poland – the least affected by the Great Recession in Europe – did not significantly experience the downturn's negative effect on the labour market. Yet, similar to overall employment, the employment of women in Poland has been one of the lowest in Europe, next to Italy, Greece and Spain. The employment weaknesses in these countries have been structural, resulting not so much from the recession but rather from the lack of adequate regulatory and institutional reforms that would tackle the most challenging areas of their labour markets.

Figure I.4. Employment rate of people aged 15-64 in 2000 (horizontal axis) and in 2010 (vertical axis) in EU countries (per cent).

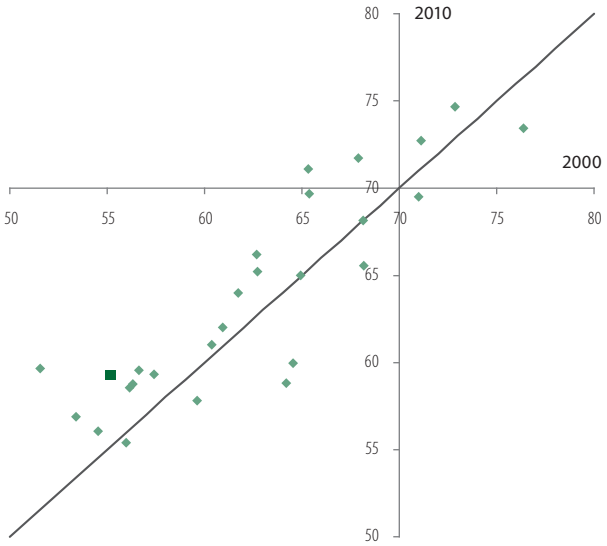
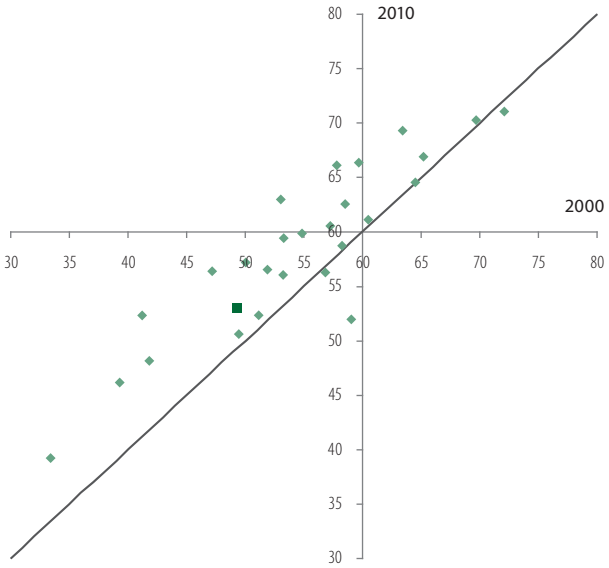


Figure I.5. Employment of women aged 15-64 in 2000 (horizontal axis) and 2010 (vertical axis) in EU countries (per cent).



Notes: Larger square denotes Poland. The axes show the objectives of the Lisbon Strategy in terms of total employment and employment of women aged 15-64, respectively.

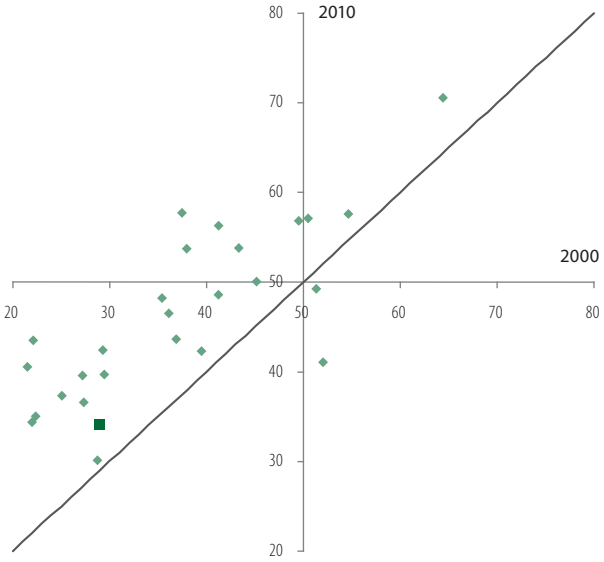
Source: Own calculations based on the Eurostat data.

The employment of older workers was another employment objective of the Strategy which turned out to be relatively easier than the main objective. In 2000 the 50 per cent employment rate of 55-64 year olds was observed in only three EU countries that had at the same time also met the overall employment target, i.e. Denmark, Sweden and UK, as well as in Portugal. By 2005 the goal had also been achieved by Estonia, Finland, Ireland and Cyprus, and four years later by Germany, the Netherlands, Lithuania and Latvia. Importantly, these achievements turned out to be more resilient to the effects of the 2008-2009 downturn. Among the countries that achieved the goal over the entire decade, only in the badly affected Latvia and Lithuania and in Portugal did the level of employment of 55-64 year olds decrease below 50 per cent in 2010. Poland has a particularly bad situation in this regard – Greece is the only country in which the improvement in the employment rate of 55-64 year olds has been lower.[7]

Changes in the activity and employment of older people in individual countries were closely related to successes in increasing the effective retirement age. Figure I.7 shows, however, that although in most cases the effective retirement age increased in 2000-2010 both for men and women, almost no country has managed to realise the initially intended extension of labour market participation by 5 years. This target was met only for women (not for men) in the Czech Republic and Ireland.

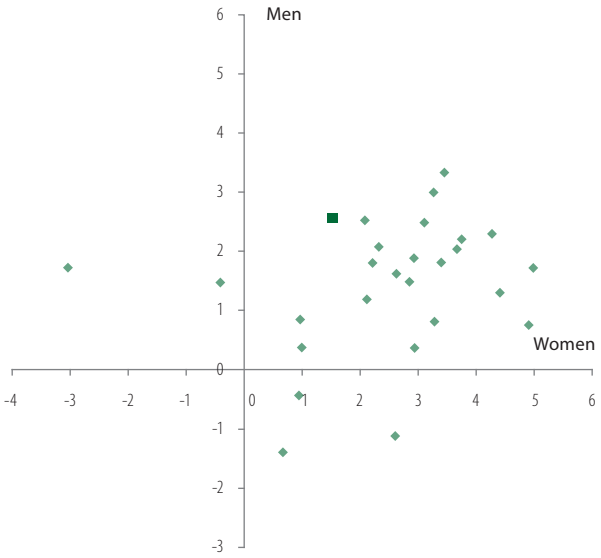
[7] Romania is a special case, as, according to the Eurostat, the employment rate of people aged 55-64 there decreased by 10 percentage points in the period 2000-2010, accompanied by a decrease in the employment of women. A relatively low development level of this country and the specificity of its structural transformations (reductions of employment in agriculture) make it difficult to draw comparison with other EU countries, especially the EU15 and from the perspective of the Lisbon Strategy.

Figure I.6. Employment rate among people aged 55-64 in 2000 (horizontal axis) and 2010 (vertical axis) in EU countries (per cent).



Notes: Larger square denotes Poland. The axes are the objective of the Lisbon Strategy in terms of employment of people aged 55-64.
Source: Own calculations based on Eurostat data.

Figure I.7. Change in the effective retirement age of women (horizontal axis) and men (vertical axis) between 2000 and 2010 in UE countries (in years).



Notes: Larger square denotes Poland. The objective of the Lisbon Strategy to increase the effective retirement age by 5 years.
Source: Own calculations based on Eurostat data

In general, progress in extending labour market participation in Europe was greater for women than for men. The only exceptions have been Cyprus, Malta,[8] Romania and Poland. In Poland, an increase in the effective retirement age of men by 2.6 years was accompanied by a respective increase among women by only 1.5 years. Importantly, this change occurred mostly in the last two years of the studied period, when 40 per cent of the increase in the entire period among men and 85 per cent of the increase among women happened. This acceleration resulted from the abolishment of early pension schemes from 2009 on. Earlier, a lack of serious institutional reforms to change incentives for and conditions of retiring by older workers resulted in the effective retirement age being firmly anchored below 60 for both sexes, and the employment rate of people aged 55-64 stagnant below 30 per cent.

The lack of institutional reforms in Poland (except for the mentioned early retirement reform in 2008) has translated into a growing gap from EU countries in terms of the activity of women aged 55+. Figure I.7 shows that in 2000 Poland was in the middle rank in Europe in terms of the average retirement age and employment of women aged 55-64. By 2010 the employment rate of older women was only higher than Malta, and the effective retirement age only exceeded Malta and Slovenia. In 2010, in 20 out of 27 EU countries, the effective retirement age among women went beyond 60 years – which is the statutory retirement age for women in Poland (which is always higher than the effective age of retirement). It must be remembered that the Polish labour market has been the least affected by the global downturn in Europe (cf. IBS/CRZL, 2011), and less aggravated with problems of keeping or finding a job than other EU countries, meaning that the reasons of the weak progress in the employment of women aged over 55 have been strictly institutional. The same applies to the employment of men and accordingly the gap between Poland and most of the EU Member States has not changed in this regard.

Figures I.8-I.9 indicate that the correlation between the average age of leaving the labour market and the employment rate of older people in Europe has increased in 2000-2010.[9] In other words, the more effective the actions directed to lengthen the duration of economic employment, the higher the employment rate in the 55+ group. This correlation was already visible in 2000, and only became more pronounced in 2010. The low employment rate among older people in Poland is currently connected with the low effective retirement age, which in turn is related to the low statutory retirement age (even after the elimination of early pension schemes). It is clear that without raising the statutory retirement age, an increase in employment among 55-64 year olds and the realisation of the corresponding Lisbon Strategy objective in Poland seems unlikely, given the experiences of other countries.

[8] The only countries in which the effective retirement age of women decreased in years 2000-2010.
[9] Correlation coefficients between the employment rate of people aged 55-64 and the effective age of retirement increased for both sexes in 2000-2007, and then slightly decreased due to the drop in employment and increased unemployment during the downturn.

Figure I.8. Average effective retirement age and employment rate of women (left panel) and men (right panel) aged 55-64 in EU countries in 2000 (per cent).

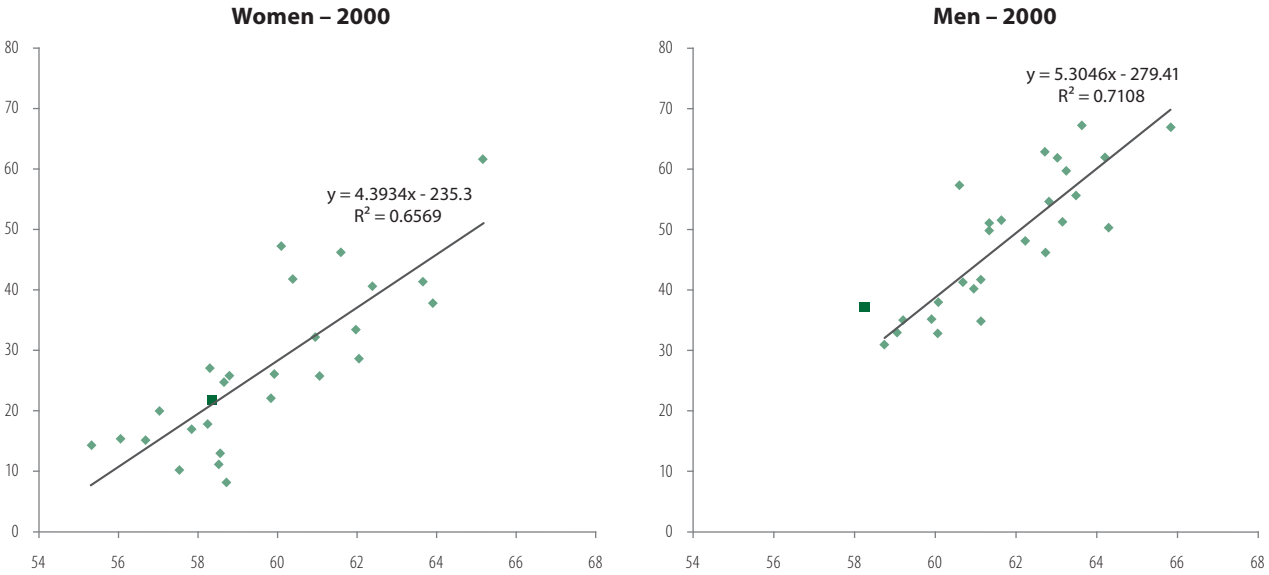
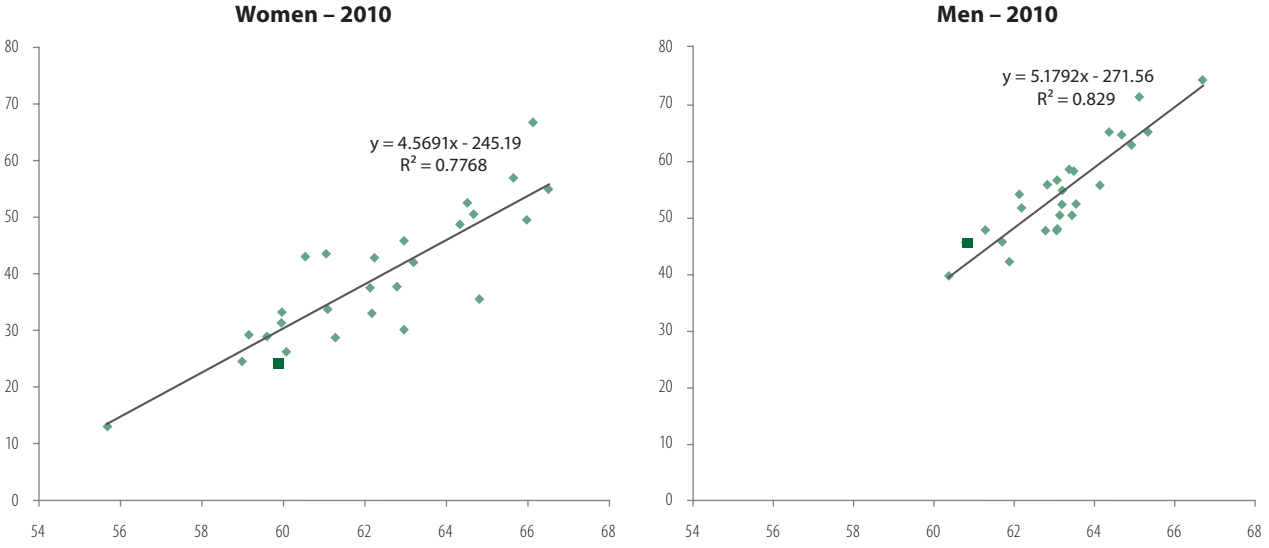


Figure I.9. Average effective retirement age and employment rate of women (left panel) and men (right panel) aged 55-64 in EU countries, 2009 (per cent).



Notes: Larger square denotes Poland.

Source: Own calculations based on Eurostat data.

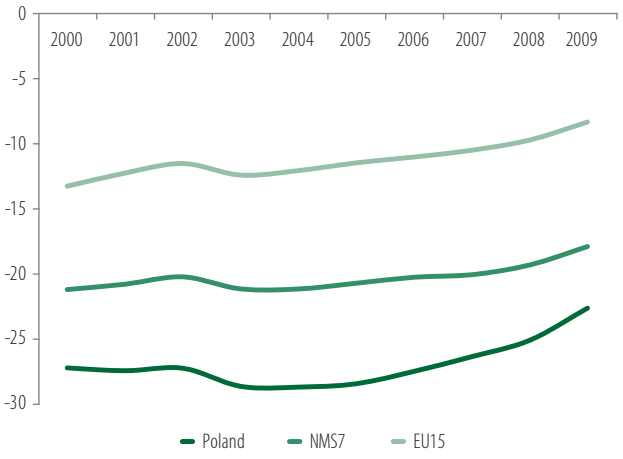
2.2. Employment in services and tackling regional imbalances targets

The gap in employment in services between the EU15 and USA, one of the causes of the total employment gap presented in the Lisbon Strategy, shrank by almost half in the 2000s among both old and new Member States. Sectoral transformations in Central Europe were studied in the previous edition of Employment in Poland (Entrepreneurship for work) and show that although in Poland and the NMS7 the significance of services has grown, it has also been accompanied by a rising employment in manufacturing (unlike the EU15 and USA). The causes of this slow paced de-industrialisation are discussed in deeper detail in Part IV of this Edition. Importantly, in the EU15, Poland and USA, the contributions of services to total employment growth in 2000s were comparable, reaching 4.5-4.7 percentage points of the employment rate (cf. Figure I.11), and as such the moderate improvement of the position of Poland against the EU15 in employment rate was entirely due to a smaller decrease in net employment in other sectors of the Polish economy.[10] In the USA and EU15 employment dropped both in manufacturing and agriculture; in the NMS7 and Poland the rise in employment in manufacturing

[10] Due to the much stronger impact of the 2008-2009 downturn on manufacturing than on other sectors, we compare the average values for 2000-2002 and 2007-2009, as the comparison of the beginning of the decade with 2009 would have been too much distorted by a significant decrease in employment in manufacturing which to a great extent will probably prove temporary.

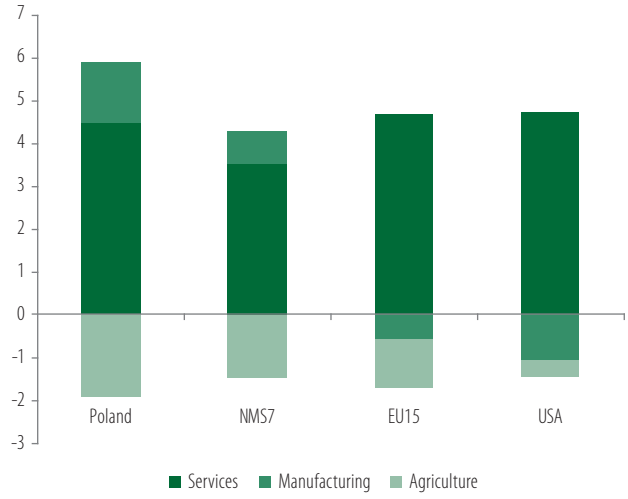
counterbalanced the decrease in agriculture. The whole of Central Europe experienced a medium-term tendency to reallocate resources from agriculture to manufacturing and services (cf. Part IV). However, the simultaneous trend of rising employment in services has not been uniform. Substantial between-sectors differences indicate the coexistence of sectors with very contrasting dynamics of employment and labour productivity growth (cf. IBS/CRZL, 2011). This issue is discussed in more detail in the third chapter.

Figure I.10. Average coefficient of variation of employment and unemployment rates among people aged 15+ at the level of NUTS2 regions in the European Union, 2000-2009 (2000= 1).



Source: Own calculations based on Eurostat and OECD data.

Figure I.11. The contribution of between-country variation (left axis) and within-country variation (right axis) to the total variation in employment and unemployment rates among people aged 15+ at the level of NUTS2 regions in the European Union, 2000-2009.



Source: Own calculations based on Eurostat and OECD data.

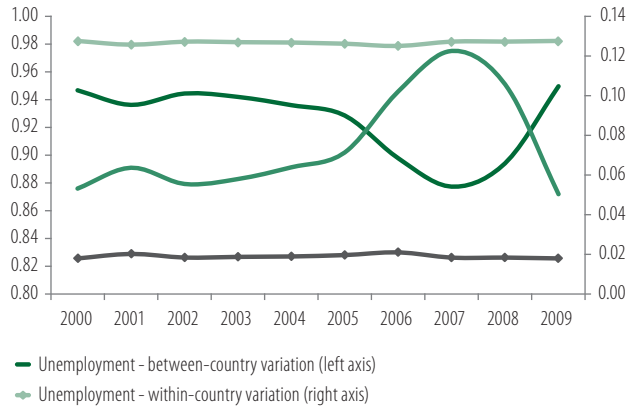
The Lisbon Strategy emphasised the need for a decrease in regional imbalances in the European labour market, although no specific objective was established. These imbalances were on one hand caused by the lower level of development in peripheral regions that were far from economic centres, and on the other by changes in the structure of the European economy. This, combined with the decreasing importance of traditional sectors, resulted in the need for restructuring in many European regions and a consequent long-term increase in unemployment (more on the impact of the deindustrialisation on the traditionally industrial regions in Part IV).

Figure I.12. Average coefficient of variation of employment and unemployment rates among people aged 15+ at the level of NUTS2 regions in the European Union, 2000-2009 (2000= 1).

Notes: Weighted mean of the coefficient of variation for the countries which have at least five NUTS2 regions: Austria, Belgium, Czech Republic, Greece, the Netherlands, Finland, France, Spain, Germany, Poland, Portugal, Romania, Sweden, Hungary, UK, Italy.

Source: Own calculations based on Eurostat data.

Figure I.13. The contribution of between-country variation (left axis) and within-country variation (right axis) to the total variation in employment and unemployment rates among people aged 15+ at the level of NUTS2 regions in the European Union, 2000-2009.



Notes: The calculations cover countries which have at least five NUTS2 regions: Austria, Belgium, Czech Republic, Greece, the Netherlands, Finland, France, Spain, Germany, Poland, Portugal, Romania, Sweden, Hungary, UK, Italy.

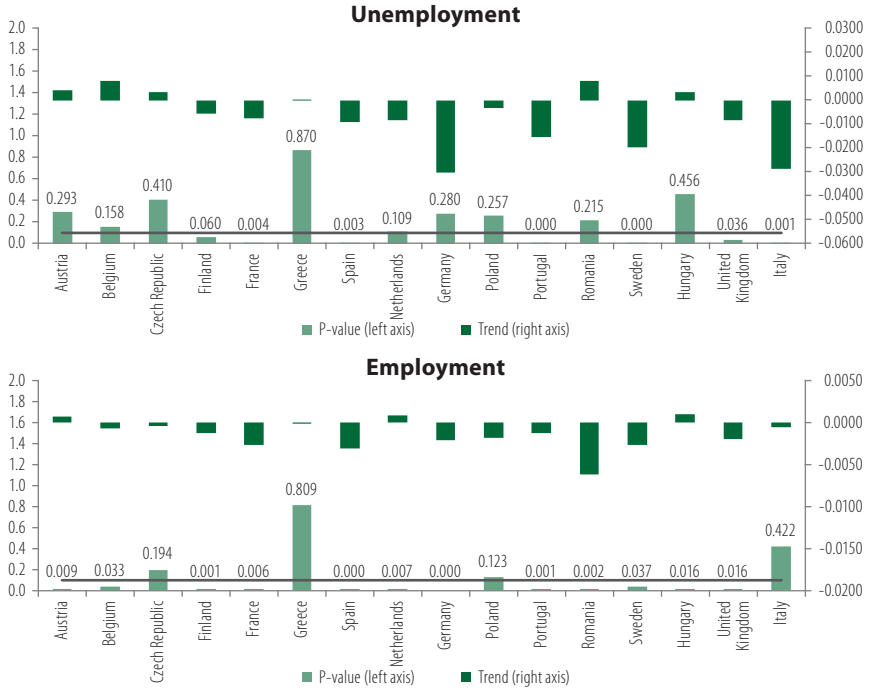
Source: Own calculations based on Eurostat data

In 2000-2009 both the regional differences at the NUTS2 level (i.e. voivodeships in Poland) within the EU Member States and differences in the labour market situation between the EU countries have decreased (cf. Figure I.12). Apart from this medium-term trend, the within-country differences in employment rate were also influenced by cyclical fluctuations in the European economy, especially the latest crisis. Recessions from 2001-2002 and 2008-2009 had various effects not only on individual countries but also on the European regions (cf. Figure I.13). A compression in regional differences is also illustrated in Figure I.14 which presents the results of estimations of linear trends for the coefficient of variation of unemployment and employment rates in individual EU countries. Statistically significant (with p-value lower than 0.1) estimated parameters of trends indicate that in a given country there were systematic changes in within-country differences: an increase if the parameter is positive, a decrease when it is negative.

Our results show that within-country regional differences in the unemployment rate have significantly decreased in six countries (Spain, France, Italy, Portugal, Sweden and the UK). In the remaining countries, no statistically significant changes occurred, nor did any of them experience rising imbalances. The greatest decline of within-country differences in unemployment rates (although not in employment rates) took place in Italy, a country with substantial regional differences. In contrast, within-country differences in employment rates changed significantly in most of the EU countries, with the exception of the Czech Republic, Greece, Italy and Poland. These differences usually decreased, but in three cases – Austria, the Netherlands and Hungary, the within-country variation in NUTS2 employment increased. Romania has managed to achieve the greatest improvement in this regard.

The overall variation at the level of regional labour markets in the European Union is to a greater extent driven by differences between individual countries than by within-country regional differences. Figure I.13 presents the contributions of international variation (in unemployment and employment rates between EU Member States) and within-country variation to the total variation of unemployment rates and employment rates at the level of NUTS2 in the European Union.[11] 98 per cent of regional variation in employment rates can be attributed to differences between countries. In case of unemployment rate the contribution of differences within countries was greater, but still did not account for more than 10 per cent of total differences within the EU. The importance of within-country differences increased especially in years 2004-2007 which gives a ground for conclusion that the acceleration of the economic growth and improved situation in labour market in the entire Europe resulted first in rise in differences between the regions within individual countries. In 2008, the year of the global downturn and a slump in European labour markets, the contribution of the within-country differences to the total variation among NUTS2 regions in the entire EU dropped to the level of about 5 per cent, recorded in Europe in years 2000-2004.

Figure I.14. Estimation of the linear trend for coefficient of variation of unemployment rate (upper panel) and employment rate of people aged 15+ (bottom panel) among NUTS2 regions in selected EU countries in 2000-2009, with a test of the statistical significance of the trend.



Notes: The graph presents countries which have at least five NUTS2 regions. P-value below the level of significance 0.1 (denoted with the horizontal line) means that the estimated parameter of the trend in a given country is statistically significant.

Source: Own calculations based on Eurostat data.

[11] More precisely, in those countries that have at least five NUTS2 regions (cf. Table I.9).

2.3. Sources of successes and failures of EU countries in realisation of employment targets of the Lisbon Strategy

The previous section shows that countries which realised (or came close to) the total employment objective usually achieved the specific employment targets, especially with regard to older workers and women. In this section, we present a quantitative decomposition of these achievements, and evaluate to what extent the changes in employment rate of people aged 15-64 between 2000 and 2010 were due to the changes the employment rates of women and men, the young (aged 15-24), prime-aged (25-54) and older (55-64) people, and also to what extent they resulted from demographic factors, changes in the quality of the human capital and changes in utilisation of labour input in various demographic groups. We also assess the significance of these factors in the changes in employment rate of these subpopulations. The methodology of the decomposition is presented in Annex I.A. Figures I.15–I.17 present detailed (disaggregation into 5-year age groups) sources of changes in employment rates of women and men in the EU15, EU27 and in Poland. Table I.3 contains the decomposition of changes in total employment rate in 2000-2010 into the contribution of (i) demographics, (ii) human capital quality, and (iii) utilisation of labour input among women and men and three basic age groups (15-24, 25-54, 55-64). Apart from the EU15, EU27 and Poland, Table I.3 presents countries which have achieved the greatest successes in the realisation of the Lisbon Strategy employment objectives, and those who have made the lowest progress.[12]

Figures I.15 – I.17 show fundamental differences in labour market patterns in the 2000s in Poland, the EU15 and EU27. Firstly, in the EU15 and EU27, the increase in employment rate by 2.2 and 2.0 percentage points, respectively, resulted almost completely from the increase in the employment rate of women.[13] In Poland it was the increase in the employment rate of men that contributed most to the total increase in employment rate (4.2 percentage points). Secondly, although both in Poland and the EU15 the positive contribution of utilisation of labour input was concentrated among people aged over 40, in the EU15 it mostly concerned women after 50 and men after 55 years of age. In Poland the contribution of this factor among people 50+ was much lower, and among 60+ it was negative.

Thirdly, although Poland still has a relatively younger population structure than the EU15,[14] the negative impact of demographic factors on total employment rate – reflecting the decreasing share of demographic groups characterised by highest activity and employment rates and increasing share of groups that participate less in the labour market - was several times higher than in the EU15. Fourthly, both in Poland and the EU15 the improvement in the quality of human capital, especially among women, had a substantial positive impact in the labour market. In the decomposition, changes in the educational structure of the workforce contributed to more than 1/3 of the overall increase in the employment rate of the population aged 15-64, both in Poland and the EU15.

The processes highlighted in Figure I.16 were crucial for the achievement of the 70 per cent employment rate in some European countries. In Austria and Germany, i.e. countries which achieved the main employment objectives of the Strategy, almost half the increase in total employment resulted from employment growth among people aged 55-64 (Table I.3). Also the role of increasing employment of women was dominant – in Austria the sheer 90 per cent increase in employment of people aged 15-64 can be ascribed to the rising utilisation of labour input of women and about 8 per cent of this increase can be explained by the improvement in human capital among women. Interestingly, in Finland, which had reached all the goals of the Lisbon Strategy before the downturn, contributions of the utilisation of labour and the quality of the human capital factors were positive, but gave only a balance to the negative impact of deteriorating age structure of the workforce on the employment rate. In contrast, in the UK (where employment was growing until 2008, and fell back to the level from 2000 due to the exceptionally strong impact of the Great Recession) and in Germany and Austria, i.e. countries which have been attracting relatively numerous groups of migrants, the impact of the demographic factor in the group of 15-25 year olds was positive, an exception in the entire EU.

The improvement in employment rate in 2000-2010 was not restricted just to the countries of Northern and Western Europe. In the south of the continent in Spain, Italy and Greece,[15] there was some improvement too, but given the very low initial employment rates it was insufficient to get close to the goals of the Strategy. In particular, the narrowing gap of employment of women was accompanied by a decrease in the employment of men, while the slight increase in the employment of older workers (lower than the EU15 average) was counterbalanced by a decrease in the employment of youth. Importantly, the effect of the downturn was substantial only in Spain (where it amounted to a decline in employment rate by 7 percentage points). In the remaining countries the effect of the decreasing utilisation of labour input among young people was visible even before the downturn, and the utilisation of labour input of men practically did not change. Total employment of men was rising in the Southern European countries solely thanks to the positive demographic effect, reflecting the fact that 30-49 year olds were relatively numerous and the sizes of cohorts entering the labour market were lower and lower.[16]

[12] These do not include countries that for the most of the examined period had a good situation in the labour market and were getting close to the objectives of the Strategy but due to the depth of recession in 2008-2009 the employment rates decreased to levels only slightly higher than those in 2000. Especially this concerns Ireland and Baltic states, for which also the detailed data for years 2000-2002 is missing.

[13] The sectoral impact of the 2008-2009 downturn also played a role here, as the situation of men in the labour market was affected more badly than that of women, although usually in recessions greater decreases in employment occur among women (cf. IBS/CRZL, 2010b).

[14] The effect of demographic changes on the labour market is discussed in detail in Employment in Poland – work of the life course (IBS/CRZL, 2010).

[15] The lack of data make it impossible to perform decomposition for Portugal and Baltic states.

[16] This temporary effect of changes in the population structure will turn negative in the next two decades, when many currently prime-aged workers will enter their 50+, and population aged 30-49 will be relatively small.

Figure I.15. Decomposition of the changes in the employment rate of women (left panel) and men (right panel) aged 15-64, between 2010 and 2000 in Poland (percentage points).

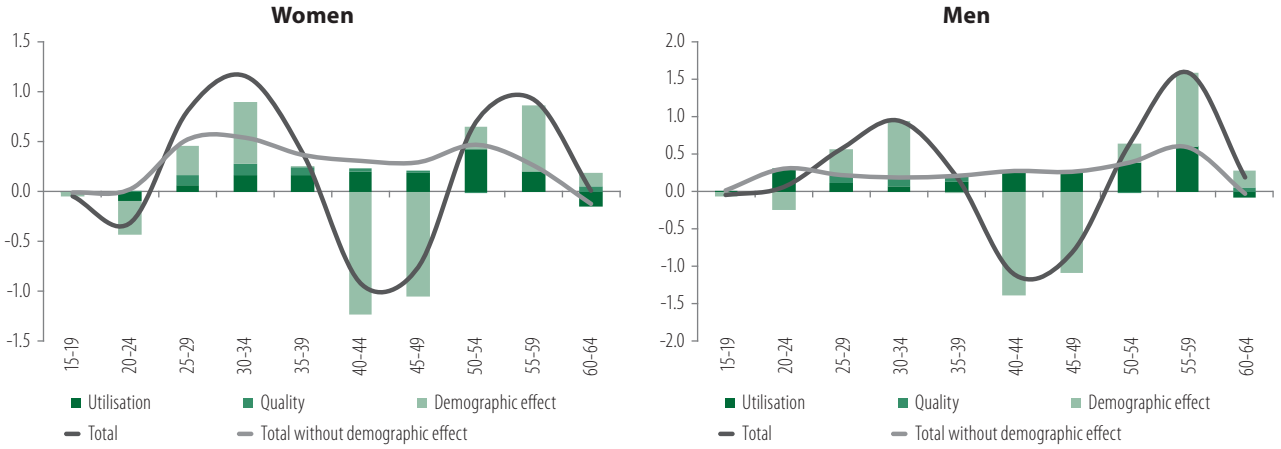


Figure I.16. Decomposition of change in the employment rate of women (left panel) and men (right panel) aged 15-64 between 2010 and 2000 in the EU15 (percentage points).

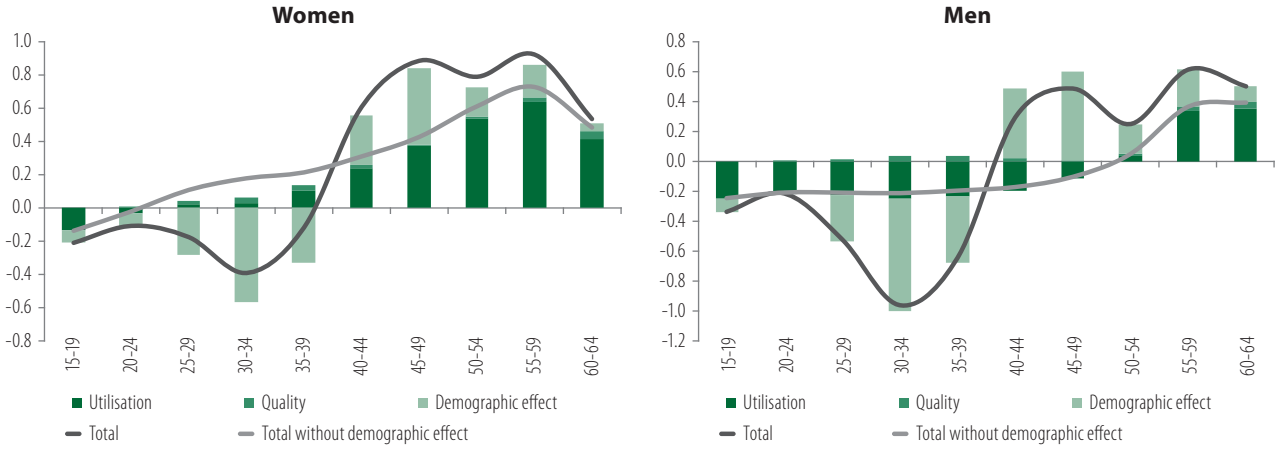
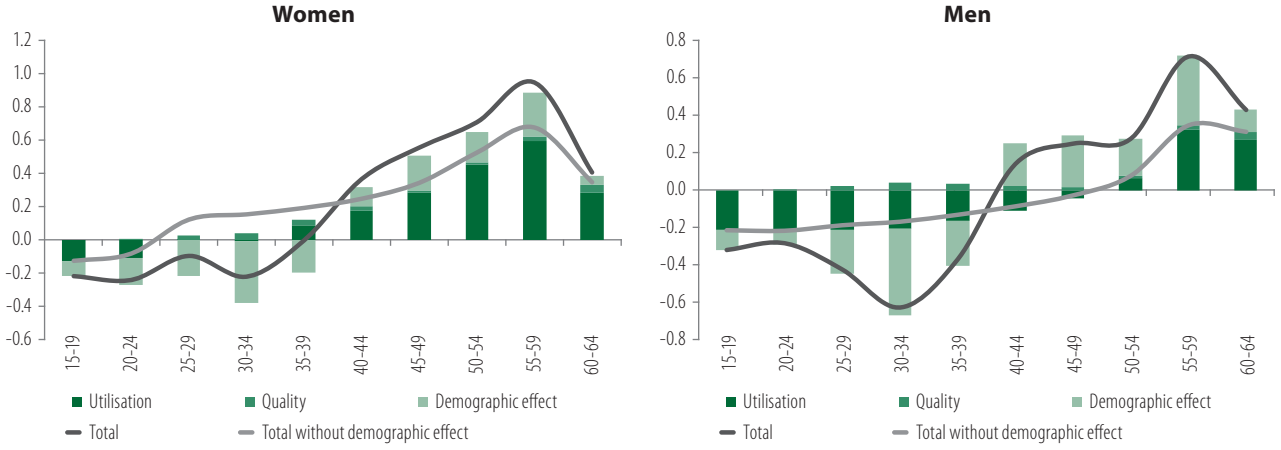


Figure I.17. Decomposition of change in employment of women (left panel) and men (right panel) aged 15-64 between 2010 and 2000 in the EU27 (percentage points).



Source: Own calculations based on Eurostat data.

In Central Europe, the increase in the employment rates of 55-65 year olds was a bit more pronounced than in the EU15, but it was accompanied by a significant decrease in employment of young people. The latter was to a similar degree caused by the decrease in employment of individual subgroups in education (resulting mostly from the decrease in the economic activity of people aged 15-24 by more than 10 percentage points in most countries) and demographic factors. In the Czech Republic, Slovakia and Hungary (Table I.3) both these effects were stronger than in Poland and the improvement in the employment of women was even lower (in the Czech Republic the employment of women decreased).

To sum up, the performed decompositions show that the achievement of the main employment goal of the Lisbon Strategy depended on the success of the realisation of objectives concerning the employment of women and older people. Moreover, in countries such as Germany and Austria, the achievement of all the three aforementioned targets was connected to a notable increase in employment in services. On the other hand, in the countries of Southern and Central Europe, including Poland, the moderate progress in employment of older workers was the crucial factor behind the barely changed gap in total employment between those countries and the wealthier EU Member States, making the total employment goal of the Strategy impossible to achieve.

Table I.3. Decomposition of changes in employment rate of people aged 15-64 between 2000 and 2010, into the contribution of selected age groups and women and men in the EU15, EU27 and selected European countries (percentage points).

	15-24	25-54	55-64	Women	Men	Total
EU27						
Utilisation	-0.66	0.44	1.46	1.64	-0.40	1.25
Quality	0.03	0.64	0.22	0.76	0.12	0.89
Demographic effect	-0.42	-0.52	0.82	-0.18	0.06	-0.12
Total	-1.05	0.57	2.50	2.23	-0.21	2.01
Total without demographic effect	-0.63	1.09	1.68	2.41	-0.28	2.13
EU15						
Utilisation	-0.61	0.42	1.73	2.19	-0.65	1.53
Quality	0.01	0.60	0.24	0.72	0.13	0.85
Demographic effect	-0.26	-0.51	0.60	-0.16	-0.01	-0.18
Total	-0.86	0.50	2.57	2.75	-0.54	2.21
Total without demographic effect	-0.60	1.01	1.97	2.91	-0.53	2.38
Poland						
Utilisation	0.26	2.66	0.57	1.14	2.34	3.48
Quality	0.10	1.37	0.14	1.52	0.10	1.62
Demographic effect	-0.70	-2.24	2.01	-0.72	-0.21	-0.93
Total	-0.35	1.80	2.72	1.94	2.23	4.16
Total without demographic effect	0.35	4.03	0.71	2.66	2.44	5.10
Germany						
Utilisation	-0.33	1.35	3.15	3.14	1.03	4.17
Quality	0.01	0.20	0.19	0.33	0.06	0.39
Demographic effect	0.70	0.85	-0.34	0.71	0.50	1.21
Total	0.38	2.39	3.00	4.18	1.59	5.78
Total without demographic effect	-0.32	1.54	3.34	3.48	1.09	4.56
Austria						
Utilisation	0 .23	1 .55	1 .97	3 .32	0 .43	3 .75
Quality	0 .01	0 .29	0 .22	0 .32	0 .20	0 .51
Demographic effect	0 .55	-0 .86	-0 .26	-0 .22	-0 .35	-0 .57
Total	0 .78	0 .98	1 .93	3 .41	0 .28	3 .69
Total without demographic effect	0 .23	1 .84	2 .19	3 .63	0 .63	4 .26
Finland						
Utilisation	-1.03	-0.01	3.27	1.81	0.42	2.23
Quality	-0.13	0.41	0.32	0.42	0.18	0.60
Demographic effect	-0.24	-5.01	2.45	-1.39	-1.42	-2.81
Total	-1.40	-4.61	6.04	0.84	-0.81	0.03

Total without demographic effect	-1.16	0.40	3.59	2.23	0.60	2.83
	15-24	25-54	55-64	Kobiety	Mężczyźni	Ogółem
United Kingdom						
Utilisation	-1 .87	-1 .05	1 .21	-0 .50	-1 .21	-1 .71
Quality	0 .05	0 .78	0 .18	0 .92	0 .09	1 .01
Demographic effect	0 .96	-2 .51	0 .72	-0 .54	-0 .29	-0 .83
Total	-0 .86	-2 .78	2 .11	-0 .13	-1 .41	-1 .54
Total without demographic effect	-1 .82	-0 .28	1 .39	0 .41	-1 .12	-0 .70
Slovenia						
Utilisation	0.15	0.37	2.09	1.56	1.06	2.62
Quality	0.03	0.67	0.17	0.63	0.24	0.87
Demographic effect	-0.94	0.07	0.91	-0.74	0.79	0.05
Total	-0.75	1.12	3.17	1.45	2.08	3.53
Total without demographic effect	0.18	1.04	2.26	2.19	1.30	3.49
Spain						
Utilisation	-1.01	-0.35	0.78	4.07	-4.65	-0.58
Quality	-0.02	1.22	0.31	1.21	0.30	1.52
Demographic effect	-1.97	2.95	0.54	0.04	1.48	1.52
Total	-3.00	3.82	1.64	5.33	-2.87	2.46
Total without demographic effect	-1.03	0.87	1.09	5.29	-4.35	0.94
Italy						
Utilisation	-0.69	1.64	1.46	2.67	-0.26	2.41
Quality	-0.04	0.28	0.29	0.66	-0.13	0.53
Demographic effect	-0.67	0.98	0.30	0.08	0.54	0.61
Total	-1.40	2.91	2.05	3.41	0.15	3.56
Total without demographic effect	-0.72	1.92	1,75	3.33	-0.39	2.95
Greece						
Utilisation	-1.22	1.07	0.14	1.69	-1.70	0.00
Quality	0.04	0.67	0.24	0.98	-0.02	0.96
Demographic effect	-1.36	2.52	0.82	0.24	1.74	1.98
Total	-2.53	4.27	1.20	2.91	0.03	2.94
Total without demographic effect	-1.17	1.75	0.38	2.67	-1.71	0.96
Hungary						
Utilisation	-2.18	-0.82	2.24	0.42	-1.19	-0.77
Quality	0.05	0.62	0.21	0.75	0.13	0.88
Demographic effect	-2.00	0.45	0.88	-0.63	-0.05	-0.68
Total	-4.14	0.25	3.32	0.55	-1.11	-0.56
Total without demographic effect	-2.13	-0.20	2.44	1.17	-1.06	0.11
Czech Republic						
Utilisation	-1.78	0.13	2.43	0.21	0.58	0.79
Quality	-0.03	0.22	0.12	0.30	0.01	0.31
Demographic effect	-1.56	-0.73	1.31	-1.26	0.28	-0.98
Total	-3.37	-0.38	3.87	-0.75	0.87	0.12
Total without demographic effect	-1.81	0.35	2.55	0.51	0.59	1.10

	Slovakia					
Utilisation	-1.62	0.70	2.82	0.27	1.61	1.89
Quality	-0.06	0.59	0.21	0.71	0.04	0.75
Demographic effect	-1.05	-0.07	1.01	-0.68	0.57	-0.11
Total	-2.73	1.22	4.04	0.31	2.21	2.53
Total without demographic effect	-1.68	1.29	3.03	0.99	1.65	2.64

Source: Own calculations based on Eurostat data

3. Labour productivity in the EU and convergence with the USA

3.1. Evolution of the gap in GDP per capita between EU countries and the USA

Even though Europe has managed to meet the employment targets of the Lisbon Strategy in part, and some countries even completely, objectives set in the area of competitiveness have not been achieved. In particular Europe has failed to increase the rate of output and productivity growth enough to reach the per capita GDP of the American economy. Quite to the contrary, both in the 1990s and 2000s, the average annual real GDP per capita growth in the EU15 was lower than in the USA (cf. Table I.4).

Table I.4. Average annual growth rate of GDP per capita and labour productivity in the EU15 and USA, 1991-2000 and 2001-2010 (per cent).

	Average annual GDP per capita growth (per cent)		Average annual labour productivity growth (per cent)	
	1991-2000	2001-2010	1991-2000	2001-2009
Austria	2.1	1.1	2.3	0.7
Belgium	1.9	0.8	1.7	0.5
Denmark	2.2	0.3	2.2	0.6
Finland	1.7	1.5	2.7	2.0
France	1.6	0.5	2.2	0.3
Greece	1.6	2.0	1.6	2.0
Spain	2.5	0.7	0.8	0.6
Netherlands	2.5	0.9	0.8	0.4
Ireland	6.4	0.8	4.8	2.6
Luxembourg	3.6	1.6	4.3	1.3
Germany	-0.6	0.9	0.6	0.6
Portugal	2.8	0.2	3.9	0.8
Sweden	1.7	1.5	2.7	1.0
UK	2.3	0.9	2.9	1.3
Italy	1.5	-0.3	1.9	-0.4
EU15	1.5	0.7	1.7	0.6
Czech Rep.	0.3	3.0	2.9	3.6
Estonia	6.6	4.1	b.d.	4.7
Poland	3.6	4.0	5.9	2.9
Slovakia	3.6	4.7	5.5	4.2
Slovenia	1.9	2.4	0.0	0.0
Hungary	2.3	2.1	1.8	2.4
United States	2.2	0.8	1.9	2.0

Notes: GDP per capita in thousands dollars PPP (Purchasing Power Parity), labour productivity – output per hour worked in dollars PPP.
Source: Own calculations based on Eurostat and OECD data.

Of course some European countries have had impressive results in terms of growth, but these have been mostly small economies which were initially relatively poor and so relatively insignificant for the evolution of the GDP of the entire EU27. In particular this refers to the NMS, including Poland. These economies have experienced real convergence to the EU15 and the USA, but due to the low initial level GDP per capita in those countries is still much lower than in the USA and EU15.

An analogous situation took place in the dynamics of labour productivity (output per hour worked). In this regard, the difference between the average growth rate in the USA and the European Union in 2001-2009 was even greater.[17] In effect, GDP per capita in the EU15 in the 2000s has remained at 72-73 per cent of GDP per capita in the USA, while the level of labour productivity has gradually decreased relative to the USA. In the NMS the productivity convergence has been stable, and between 1995 and 2010 the output per capita increased from 31 to 43 per cent of the USA level.

Figure I.18. GDP per capita (left axis, thousands of dollars PPP) in the EU15 (left panel), NMS5 (right panel) and the USA, and the relation of GDP per capita in the EU15 (left panel) and NMS5 (right panel) to the USA (right axis, per cent), 1991-2010.

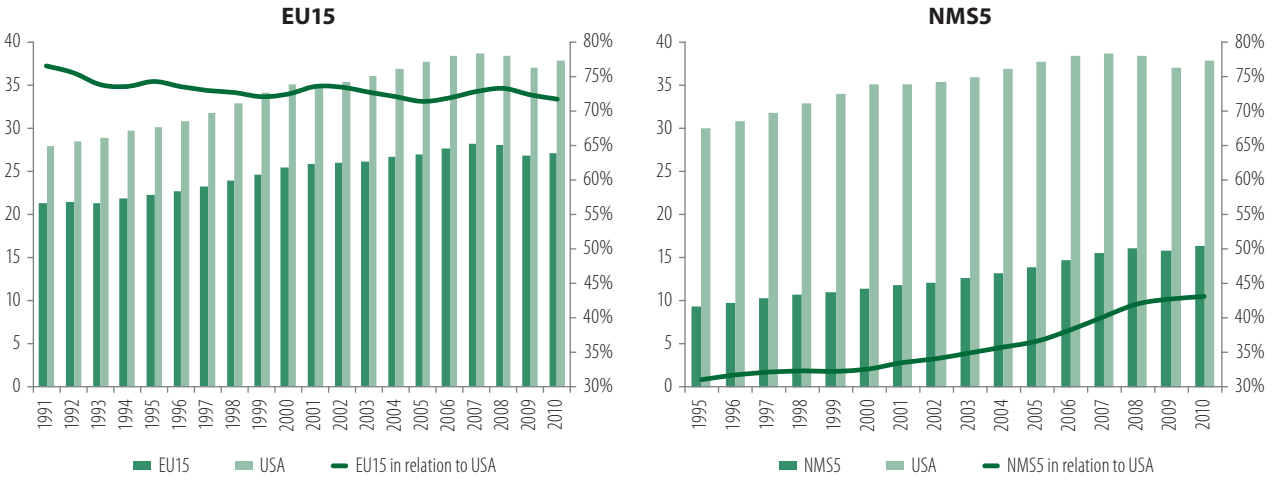
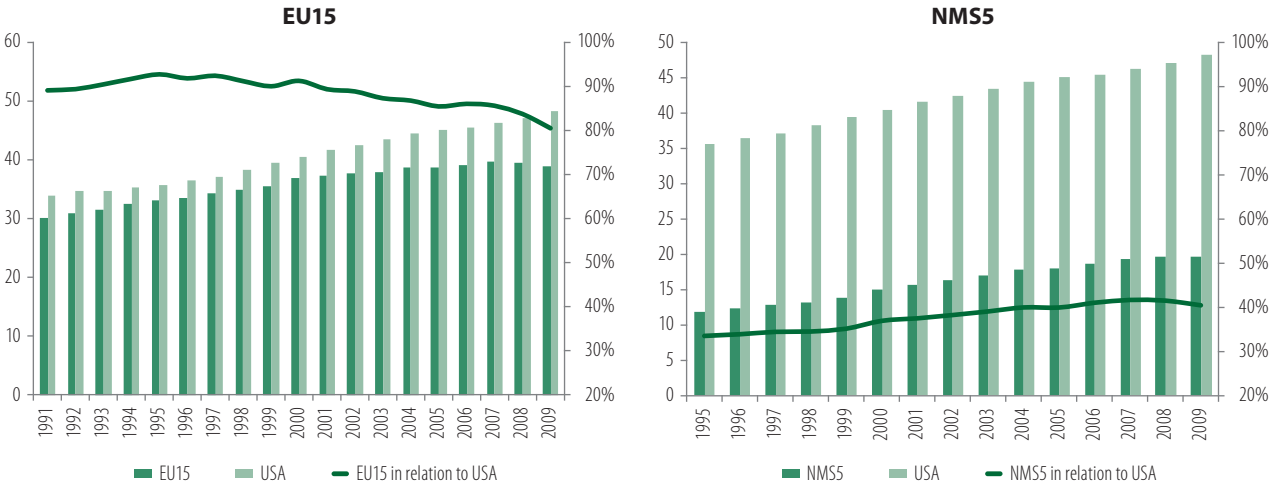


Figure I.19. Labour productivity (left axis, in thousands of dollars PPP) in the EU15 (left panel), NMS5 (right panel) and the USA, and labour productivity in the EU15 (left panel) and NMS5 (right panel) to the USA (right axis, per cent), 1991-2009.



Notes: GDP per capita in thousands of dollars PPP (purchasing power parity), GDP per hour worked in dollars PPP. For the USA, the employment rate for people aged 16-64.

Source: Own calculations based on Eurostat, OECD and KLEMS data.

Although the global downturn in 2008-2009 led to a comparable decrease in growth dynamics in the EU countries and the USA, both markets distinctly differed in terms of labour productivity adjustment (cf. Figures I.20 and I.21). As argued in the first part of *Employment of Poland – entrepreneurship for work* (IBS/CRZL 2011), during the recent recession European companies decided to 'hoard' labour,

[17] During the preparation of this Report, data on the average annual hours worked for 2010 were not available.

i.e. they chose a relatively moderate scale of dismissals in the face of significantly contracted production, at the expense of the output per worker and per hour worked. In the USA, the labour productivity dynamic was decreasing as early as 2003, and at the outbreak of the crisis many sectors reacted with massive redundancies and hence increased their productivity. Mulligan (2009) shows that this mechanism has been typical for all American recessions since 1990.

Figure I.20. Real GDP per capita and labour productivity growth rate in the EU15 and USA in 2001-2010 (per cent).

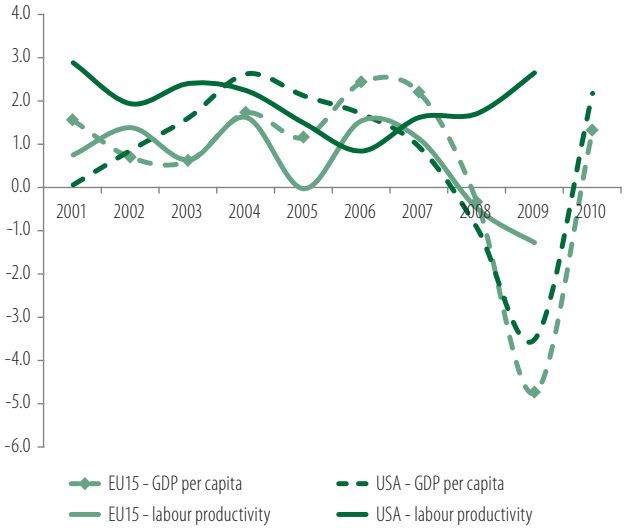
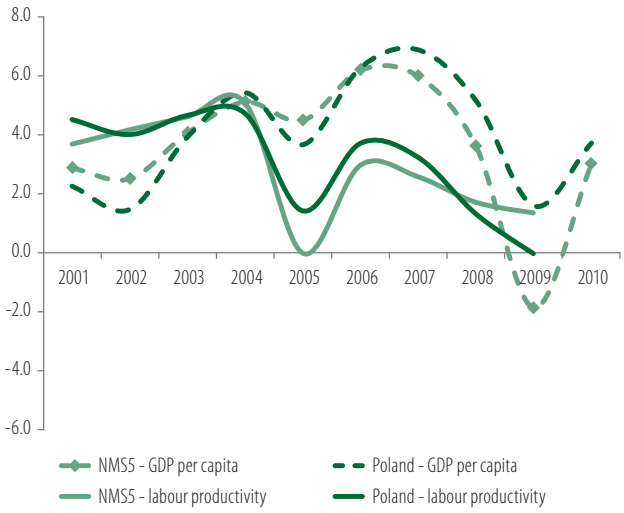


Figure I.21. Real GDP per capita and labour productivity growth rate in Poland and NMS5 in 2001-2010 (per cent).



Notes: GDP per capita in thousands of dollars PPP (purchasing power parity), labour productivity - output per hour worked in dollars PPP.
Source: Own calculations based on Eurostat and OECD data.

This suggests that these adjustments in the USA were real, i.e. they shifted the marginal labour productivity schedule – the first stage saw a decline in employment (and hours worked) that compensated for the previous decrease in labour productivity growth below the long-term trend; and after that the following changes in employment reflected changes in demand for labour. In European countries, especially the EU15 and Poland, adjustments were different – although productivity dynamics were decreasing as early as 2006, during the crisis companies decided to limit employment decline at the cost of lower productivity. Importantly, in other countries of Central Europe (NMS5 – Czech Republic, Estonia, Slovakia, Slovenia, Hungary) the decline in productivity dynamics in 2007-2008 was greater than in Poland and the EU15, and in 2009 employment adjustment resembled that in the USA. Although in almost all European countries the increased lay-offs were the main source of the rise in unemployment (as shown in the previous edition of *Employment in Poland*, IBS/CRZL, 2011), in Baltic countries this correlation was particularly strong and not accompanied by adjustments in hours worked that were observed for example in Poland and Germany.

3.2. Sources of differences in the GDP per capita between the EU and USA

The fact that the closing of the employment gap between the EU and the USA was not accompanied by convergence in GDP per capita means that the differences in the prosperity of both continents may only to a certain extent be ascribed to the lower employment rate in Europe. Indeed, in 2000 a lower employment rate accounted for about 13 percentage points of the 28 per cent difference in GDP per capita between the EU15 and USA (cf. Figure I.22). A comparable contribution of 10 percentage points could be attributed to (i) lower annual hours worked by an average European worker and (ii) lower labour productivity (value added per hour). Ten years later the importance of differences in employment rate for the GDP gap was only marginal.

In the EU15 the employment rate was even slightly higher than in the USA (by 0.5 percentage point), as the global recession in 2008-2009 reduced employment in the USA relatively strongly (cf. Figure I.1).[18] In the 2000s disproportions in labour productivity between the EU15 and USA increased, and the impact of differences in hours worked did not change. Hence, the gains of Europe due to the higher extensive labour supply were counterbalanced by losses in labour productivity. Importantly, in 2000 the GDP per capita gap between the EU15 and USA was reduced by the demographic factor, as the share of the working age population in the total EU15 population was slightly higher than the respective share in the USA, exhibiting a higher share of population aged under 15. In 2009 the effect of this factor was already miniscule, and since the pace of ageing was expected to be higher in Europe than in the USA,[19] it is likely that in the future this demographic factor will increase the gap between GDP per capita in the EU and USA.

[18] Albeit this distance was decreasing over the decade.
[19] In the USA the total fertility rate (TFR) regularly exceeds 2.0, which in 2008-2009 in Europe occurred only in France, Ireland and Iceland (EU average = 1.6). According to demographic forecasts, until 2050 the average TFR level in the countries of European Union will stay below 2.0.

Figure I.22. Decomposition of the GDP per capita gap between the EU15 and USA in 2000 and 2009 (per cent).

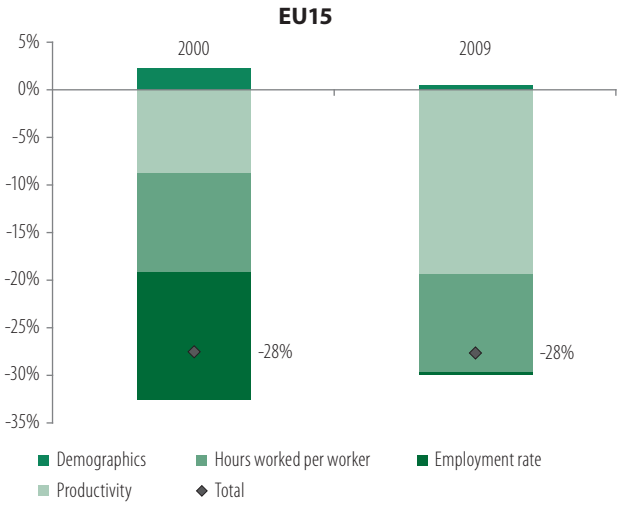
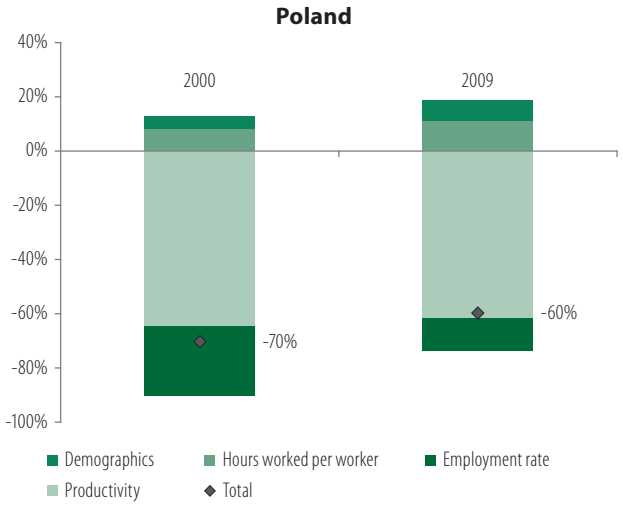


Figure I.23. Decomposition of the GDP per capita gap between Poland and the USA in 2000 and 2009 (per cent).



Notes: Difference in GDP per capita in relation to the USA is decomposed into the contributions of: (i) productivity – differences in the output per hour worked, (ii) hours worked – average number of hours worked per worker, (iii) employment rate, (iv) demographics – share of 15-64 year olds in the total population. All the values expressed at per cent of GDP per capita in the USA in a given year.

Source: Own calculations based on Eurostat and OECD data.

In Poland the 10 percentage point reduction in the distance to the USA in terms of GDP per capita resulted mainly from the increasing employment rate, although it remained lower than in the USA (cf. Figure I.23). This increasing employment was accompanied by a slight increase in average annual hours worked (higher than in the USA as early as 2000), and a productivity growth slightly higher than in the USA (measured by the dynamics of value added per hour worked). However, the contribution of labour productivity convergence in reducing the development gap was relatively low, which suggests that despite being a distinctly poorer country, Poland struggles with achieving productivity dynamics that could result in a rapid convergence to the USA. In other words, the labour productivity growth in Poland, only a little bit higher than in the USA, puts into question the possibility of convergence between the two countries. Reserves in the extensive supply of labour in Poland do still exist, but after they are exhausted, bridging the development gap will only be possible through higher dynamics of value added per hour worked. In addition, progress in convergence to the EU15 results rather from the weakness of these countries rather than from the high competitiveness of the Polish economy.

In 2000, the development gap in Poland was caused by three main factors: (i) much lower public and private capital engaged in production than in developed countries, (ii) lower level of technology, resulting in lower efficiency of production processes; and (iii) lower human capital and slightly lower relative labour input (cf. Bukowski, Growiec, Marć 2009). Over the following ten years the labour input increased, mainly thanks to rising employment and decreasing unemployment. However, as shown in section 2.3, the improvement in employment and hence GDP per capita could both have been greater if Poland had managed to increase the employment of women and older workers to average EU levels.

A relatively low labour productivity dynamic in Poland after 2000 distinguishes it from other Central European countries, especially the Czech Republic and Slovakia. Although the aggregate increase in output per hour worked in Poland amounted to 30 per cent in 2000-2009, which shortened the distance to the EU15 and to a lesser extent the USA, other NMS countries that joined the EU in 2004 reached better outcomes. In the Czech Republic, already distinctly wealthier than Poland in 2000, labour productivity growth in 2000-2009 totalled 36.5 per cent and its contribution to the convergence to USA was twice as great as in Poland (6 percentage points against 3 percentage points in Poland). In Slovakia, the overall increase in labour productivity was 45 per cent, and its contribution to the output per capita convergence to the USA reached 8 percentage points.

Moreover, both in the Czech Republic and Slovakia employment rates rose to a degree comparable to Poland and they already had higher labour productivity in 2000, especially the Czech Republic. According to the growth theory, relatively poorer economies with comparable human resources and institutional and regulatory environments should develop faster than wealthier countries. In this light, the convergence of Poland to the EU15 and USA in 2000-2009 was below expectations. Among the countries of the Visegrad Group, only Hungary exhibited lower productivity and employment dynamics. The causes of this distinct decrease in growth of GDP per hour worked in 2000s are related to low investment. Poland, in comparison with the Czech Republic and Slovakia, has had a systematically lower capital accumulation rate, and as a result in 2000-2010 the capital to employment ratio was growing markedly slower.

Figure I.24 shows the decompositions of the GDP per capita gaps between the EU countries and the USA, 2000 and 2009. In Germany, the largest European economy, the distance to the USA had almost not changed, but factors determining it have reversed. The rise in employment rate in Germany was favourable, but it had been counterbalanced by a slightly deeper decline than in the USA in hours worked per worker and most importantly by a lower growth in the value added per hour worked. A similar trend of relative improvement in employment rate in comparison to the USA 'at the cost' of lower labour productivity dynamics was observed in several European countries – the UK, where average hours worked have not changed, and in Austria, Denmark, the Netherlands, Sweden, where the average hours worked have increased.

At the same time the total increase in labour input in those countries – both through extensive (employment rate) and intensive (average annual hours worked) adjustment – balanced the relative decrease in hourly labour productivity and enabled partial reduction of the GDP per capita gap. Finland and Ireland were especially successful as they achieved a higher labour productivity growth than the USA, parallel to a stable employment rate in Finland and a rising rate in Ireland. Although in both countries the average hours worked have decreased in a relatively lower scale than in the USA, the employment rates have helped them close the GDP per capita gap respectively by 5 and 3 percentage points. [20]

On the other hand, in France and Belgium, an exceptionally slow productivity growth resulted in a situation where their labour productivity in 2009 was lower than in the USA, although it was relatively higher in 2000. The increase in employment rate by 2-3 percentage points in these countries still helped them maintain their relative position in terms of GDP per capita. This did not happen in the Southern European countries where relative productivity dynamics, especially in Italy, were notably lower than in the USA. In addition, Italy was the only EU country which has lost the distance to the USA in GDP per capita. In 2000 its labour productivity was 103 per cent of the EU15 average – but by 2010 it had dropped 5 percentage points below the average. In Spain and Portugal, labour productivity was growing at a rate similar to the EU15 average (i.e. a bit slower than in the USA) but accompanied by only a slight employment growth.

In consequence, Southern European countries have not effectively changed their distance to the USA in the 2000s. The only exception was Greece which managed to compensate for the negative contribution of the unfavourable demographic structure thanks to productivity growth similar to that in the USA and rising labour input (mainly on the extensive margin). It did decrease the gap to the USA but then lost its macroeconomic equilibrium: its foreign debt was one of the highest in EU and it was particularly badly hit by the Great Recession.

Between 2007 and 2010 the GDP per capita decreased in Greece and Spain by 6 per cent and in Italy by 7 per cent, more than the EU15 average (4 per cent), but similar to the UK, Denmark and Finland. In Portugal the decrease in output was much lower at 2 per cent, but the effect on employment was relatively high, similar to Spain. In effect, these countries maintained their labour productivity levels, unlike Italy and Greece where it decreased considerably, actually the most among the EU countries (GDP per employed fell by 3.8 per cent in Italy and 2.3 per cent in Greece).

Box I.1. Source of differences in hours worked between Europe and USA.

Bukowski, Growiec, Marć (2009) show that over the last 50 years developed economies have experienced a gradual decrease in hours worked per worker. At the beginning of the 1960s, an average worker in the largest economies of Western Europe had worked more than 150 hours a year more than their counterparts in the USA. This situation changed in the 1970s when European economies maintained the 1960s downward trend in hours worked, whereas in the USA since mid-1970 it has remained at a relatively stable level of about 1800 hours a year.

The decline in hours worked per worker has been mainly related to fewer hours worked by full-time workers, and not the increasing incidence of part-time employment (Blanchard, 2004). Actually, the difference between the USA and European countries in terms of annual average hours worked results mostly from the different durations of holidays (Faggio and Nickell, 2007). In most European countries workers spend 2 to 4 weeks more on holidays than in the USA. This factor is quantitatively more important than differences in average weekly working time and absences from work for other reasons (e.g. sickness, maternity leave, etc).

A higher number of hours worked in the USA results from a relatively smaller number of weeks spent on holidays and other types of absences (and in consequence from a higher number of weeks worked), higher average of hours worked by a worker in a week (39.4 hours), and in comparison with European countries with similar employment rates, relatively fewer part-time workers in the USA. Importantly, differences in annual hours worked are greater between the USA and European countries than among the European countries themselves.

Neither the Lisbon Strategy nor the policies of the individual Member States included a target of increasing the hours worked. However, due to the shorter working hours, GDP per capita in Europe in 2009 was 10 per cent lower than in the USA (Figure I.24).

[20] which In Ireland, the progress in years 2000-2007 was greater and made it possible to shorten the distance to the USA in GDP per capita by striking 13 percentage points, but the recessions in 2008-2009 resulted in a deep correction of the GDP level.

Figure I.24. Decomposition of the GDP per capita gap between selected EU countries and USA in 2000 and 2009 (per cent).

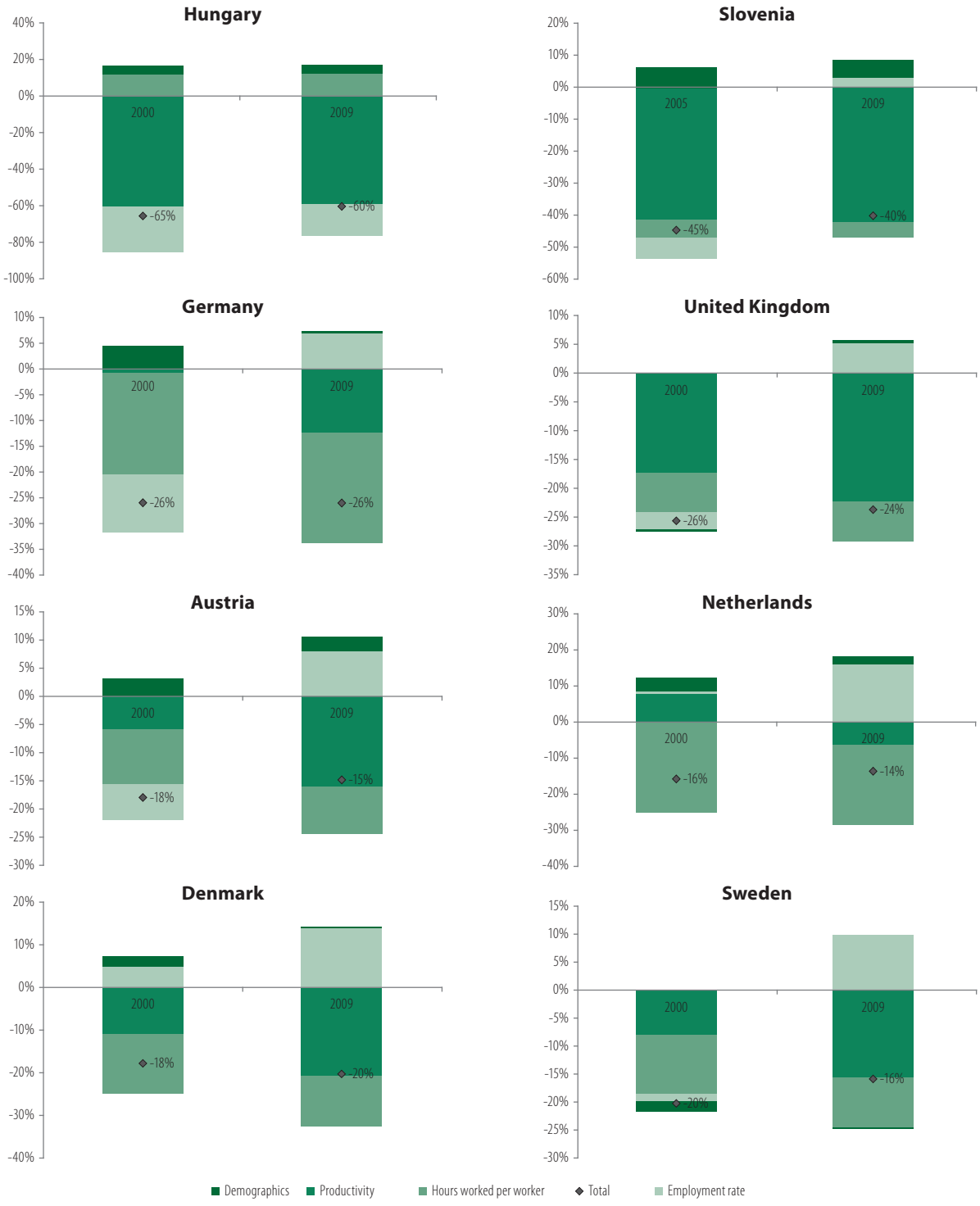
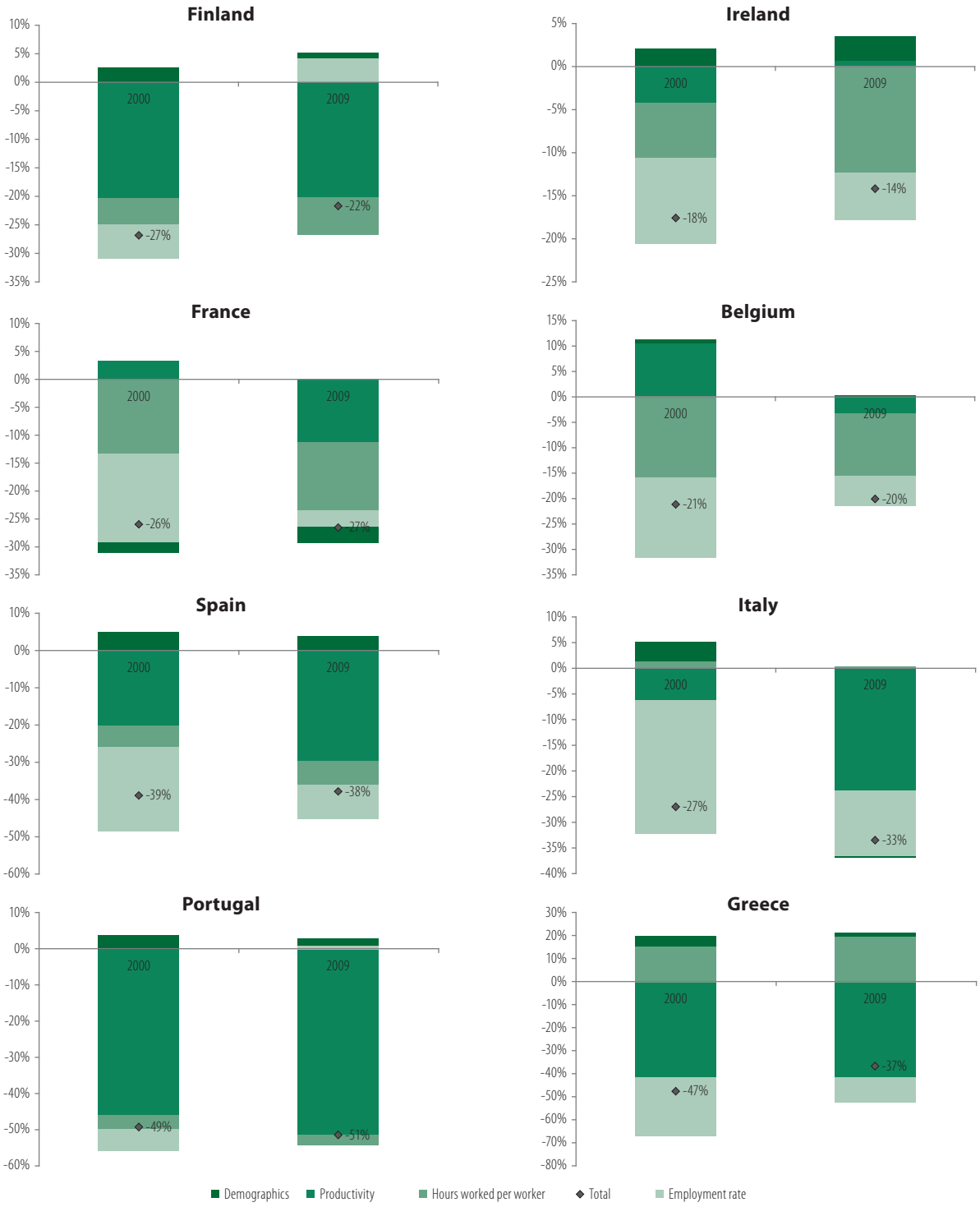


Figure I.24. (cont'd) Decomposition of the GDP per capita gap between selected EU countries and USA in 2000 and 2009 (per cent).



Notes: Distance in GDP per capita to the USA is decomposed into the contributions of: (i) productivity – differences in the output per hour worked, (ii) hours worked – average hours worked per worker, (iii) – employment rate, (iv) – demographics – participation of 15-64 year olds in the total population. All the values are expressed in per cent GDP per capita in USA.

Source: Own calculations based on Eurostat and OECD data.

3.3. Sources of differences in labour productivity growth between EU countries and the USA

The aforementioned decompositions indicate that the main reason for failure of EU economies to close the GDP per capita gap to the USA in the 2000s was the lower growth of output per hour worked. The differences in labour productivity (both in levels and rates of growth) may have resulted from many factors, e.g. differences in physical capital intensity and structure, average level and structure of human capital, and total factor productivity (TFP), i.e. efficiency of utilisation of resources. TFP describes the level of technology (not embodied in the capital per se) and efficiency of organisation of economic processes (influenced by the institutional and regulatory environment of the economy).

Table I.5 presents the results of decomposition of average per capita output (value added) growth rates in the USA and EU, allowing for these deeper sources of growth. Due to the lack of data for the NMS, analysis at this level of detail cannot be performed for the NMS economies, including Poland.[21] The data used in this analysis cover the market economy (i.e. without public services).

The average rate of value added per capita growth was decomposed into the contributions of:[22] (i) changes in the total labour input in hours worked; (ii) changes in the educational structure of the labour force; (iii) accumulation of information and communication technology (ICT); (iv) accumulation of other physical capital; and (v) total factor productivity (TFP).

Both in Europe and USA in 2001-2007 the average rate of growth of value added per capita was lower than in the 1990s (cf. Table I.5). In the USA that slowdown can be almost entirely ascribed to the lower growth of total labour input – after the 'jobs miracle' of the 1990s, employment and hours worked grew notably slower in the 2000s. In the EU15 the difference in productivity growth between the 1990s and 2000s was smaller but regardless the productivity dynamics remained below that in the USA. About one fourth of the value added per capita growth in the EU countries can be explained by total labour input growth, which given the aforementioned slight decline in average hours worked resulted mainly from rising employment. On the other hand, European labour productivity dynamics which were in 1991-2000 only slightly lower than in the USA, declined significantly in the 2000s. Table I.5 shows that this decrease cannot be perceived as a temporary trade-off with employment growth, i.e. a consequence of employing more workers with relatively lower skills and the resultant lower average quality of the labour force.

In both examined periods, the educational structure of the labour force was improving, moderately but positively contributing to the GDP growth per capita (in the 2000s the contribution of this factor was lower than in the 1990s). However, the higher employment was not accompanied by an adequate accumulation of capital, both as investment in modern technologies (ICT capital) and traditional capital. Insufficient investment was responsible for the half of the decline in labour productivity dynamics in Europe.

Table I.5. Average annual rate of value added growth per capita and contribution of growth determinants in the EU15 and the USA, 1991-2000 and 2001-2007 (per cent).

	European Union		United States	
	1991-2000	2001-2007	1991-2000	2001-2007
growth of value added per capita	2.1	1.9	3.1	2.3
Contribution of:				
Average labour input per capita	0.1	0.5	1.0	0.3
Labour productivity	2.0	1.4	2.1	2.0
including:				
labour force structure	0.3	0.1	0.2	0.2
ICT capital	0.4	0.3	0.9	0.4
non-ICT capital	0.8	0.6	0.9	0.6
TFP	0.5	0.4	0.2	0.8

Notes: Due to the limited availability of data, the table takes into account the following EU countries: Austria, Belgium, Denmark, Finland, France, Germany, Italy, the Netherlands, Spain and UK.

Source: Own elaboration based on Timmer et al. (2010) and EU-KLEMS data.

[21] And also for Greece, Ireland, Luxembourg, Portugal and Sweden. The remaining 10 UE countries produce 90 per cent of total GDP in the EU15, so analysis of this group may be interpreted as an analysis of the entire EU15.

[22] Detailed definitions, especially of ICT capital and non-ICT capital, are presented by Timmer et al. (2010).

These results indicate that in the 1990s the lower dynamics in labour productivity in Europe were caused mostly by lower investment in modern technologies (ICT capital) than in the USA, while in the 2000s the main cause of the gap was a much lower total factor productivity growth, which slowed down in Europe and markedly accelerated in the USA.

Table I.6 shows that the sources of differences in labour productivity growth between Western Europe and the USA are located in two sectors – manufacturing of both electrical machinery and telecommunications, and in market services. In manufacturing, agriculture, mining, utilities and construction, the EU countries even have slightly higher productivity dynamics than USA, but these sectors are less important for the aggregate productivity growth than market services, telecommunications and electrical machinery. In the 1990s Europe exhibited a distinctly lower labour productivity growth in electrical machinery, ICT manufacturing and telecommunications, but it was compensated for by a faster productivity growth in other manufacturing branches. The differences in productivity dynamics in 2000-2007 resulted mainly from contrasting trends in services – in Europe the contribution of market services to productivity growth decreased whereas in the USA it increased.

Table I.6. Contribution of market sectors to the average labour productivity growth in the EU and USA in 1991-2000 and 2001-2007 (per cent).

	European Union		United States	
	1991-2000	2001-2007	1991-2000	2001-2007
Labour productivity	2.0	1.4	2.1	2.0
including				
ICT production	0.2	0.1	0.6	0.5
Manufacturing excl, ICT	0.5	0.4	0.3	0.4
Agriculture, mining, utilities, construction	0.1	0.0	0.1	-0.2
Market services	1.2	0.9	1.2	1.3

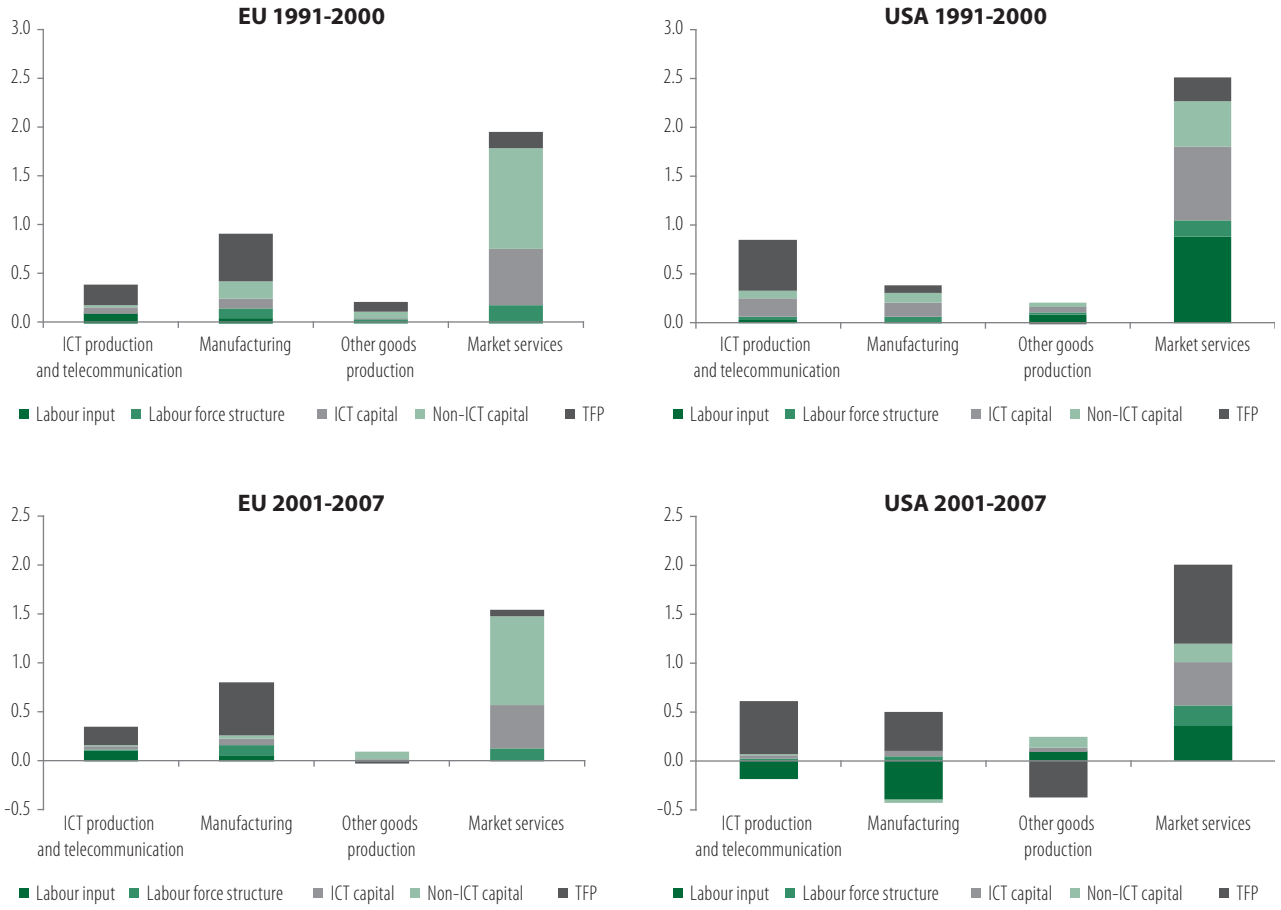
Notes: Sectors defined as in Timmer et al. (2010): ICT production (including electrical machinery and post and communication services), manufacturing (excluding electrical machinery); other production (agriculture, mining, utilities, construction), market services (e.g. trades, transportation, hotels and restaurants, financial and business services, personal and social services). Due to a lack of data, only the following EU countries were taken into account: Austria, Belgium, Denmark, Finland, France, Germany, Italy, the Netherlands, Spain and the UK.
Source: Own elaboration based on Timmer et al. (2010) and EU-KLEMS data.

Figure I.25 shows the nature of this process. In Europe the TFP growth was located almost exclusively in manufacturing (USA was not lagging behind in this sector). In the 2000s TFP growth in market services accelerated in the USA, which did not happen in Europe, except in the UK. In Europe, high accumulation of traditional physical capital in services did not translate into a proportionate productivity growth. Moreover, in the USA the contribution of improving the human capital structure of the labour force in services to labour productivity growth was two times higher than in the EU.

Thus it can be postulated that the high rate of innovation and investment in new technologies initiated in the USA in the 1990s resulted in a higher TFP, allowing for a delay associated with the implementation of the necessary changes in organisation and production processes. Triplett and Bosworth (2006) argue that the fastest productivity growth occurred in the sectors using new ICTs, especially in market services. There was also a shift in employment in USA from manufacturing to services, especially in 2000s, accompanied by a sizeable labour productivity growth (equal to the sum of the contributions listed in Table I.3 and Figure I.8). In Europe this did not happen, which will be discussed further in Part IV.

Table I.7 indicates that the aforementioned differences between the EU and USA are valid for most of the EU countries – only in Finland was the contribution of labour productivity to the value added growth higher in both periods than in the USA. Furthermore, similar to USA, TFP growth was the main source of rising productivity in Finland. Germany was another European country where the improvement in TFP was the most significant factor behind productivity growth, although the dynamics were much lower. A relatively high productivity growth was also observed in UK where the contribution of individual factors was comparable. Italy and Denmark were at the opposite end of the spectrum, as the contribution of the productivity growth to the value added growth in 2000-2007 was about 1/3 of the US rate, which resulted mainly from a decline in TFP. In France investment in traditional capital was the most significant factor of productivity growth.

Figure I.25. Decomposition of the value added per capita growth in market sectors in the EU15 and USA in 1991-2000 and 2001-2007 (per cent).



Notes: Sectors defined as in Timmer et al. (2010): ICT production (including electrical machinery and post and communication services), manufacturing (excluding electrical machinery); other production (agriculture, mining, utilities, construction), market services (e.g. trades, transportation, hotels and restaurants, financial and business services, personal and social services). Due to the lack of data, only the following EU countries were taken into account: Austria, Belgium, Denmark, Finland, France, Germany, Italy, the Netherlands, Spain and the UK.

Source: Own elaboration based on Timmer et al. (2010) and EU-KLEMS data.

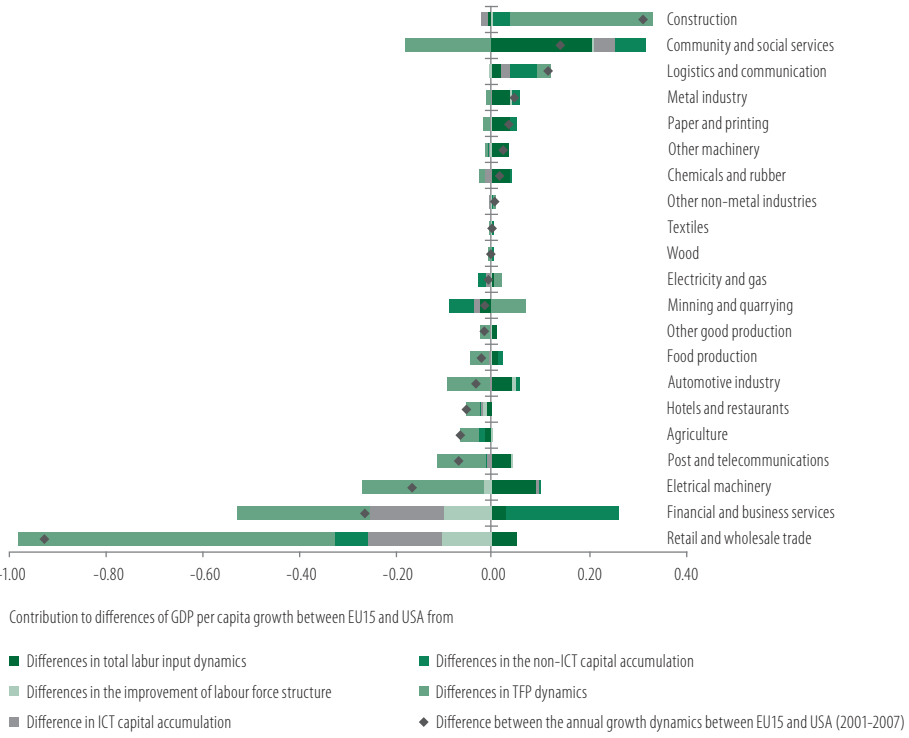
Table I.7. Average annual rate of value added per capita growth and contribution of growth determinants in selected EU countries and the USA in 1991-2000 and 2001-2007 (per cent).

	1991-2000							2001-2007						
	DK	FI	IT	UK	DE	FR	US	DK	FI	IT	UK	DE	FR	US
Value added growth	2.3	1.9	1.5	2.5	1.5	1.9	3.1	1.3	2.9	1.2	2.4	1.3	1.8	2.3
Contribution of:														
Total labour input	0.4	-0.7	0.0	-0.2	-0.2	0.0	1.0	0.6	0.5	0.6	0.6	-0.1	0.3	0.3
Labour productivity	1.8	2.7	1.5	2.7	1.8	1.9	2.1	0.7	2.3	0.5	1.8	1.5	1.5	2.0
including:														
Structure of labour force	0.4	0.5	0.1	0.6	-0.1	0.6	0.2	-0.1	0.3	0.1	0.4	0.1	0.2	0.2
ICT	0.9	0.4	0.3	0.7	0.4	0.3	0.9	0.7	0.4	0.2	0.5	0.3	0.2	0.4
non-ICT capital	0.3	0.3	0.6	0.6	0.9	0.5	0.9	0.3	0.4	0.7	0.5	0.5	0.6	0.6
TFP	0.3	1.4	0.5	0.8	0.6	0.6	0.2	-0.3	1.3	-0.4	0.5	0.7	0.4	0.8

Source: Own elaboration based on Timmer et al. (2010) and EU-KLEMS data.

These different developments come as no surprise as the USA remains the main source of innovation and technological progress increasing the productivity of inputs. Other economies, including European countries, benefit from them only after diffusion and adaptation, which results in a diffusion lag (cf. Benhabib, Spiegel, 2005) and differences in productivity levels. Given the differences in the level of human capital between individual EU countries, Bukowski, Growiec, Marć (2009) show that the diffusion of technologies had the greatest impact on TFP growth in Ireland, the Netherlands, Finland and Sweden, and the lowest in the Mediterranean: Greece, Spain, Portugal and Italy. They also emphasise that Europe is behind the USA in the utilisation of highly skilled labour. In their opinion, almost the entire advantage of the USA over the EU15 in labour productivity can be explained by this difference. At the same time differences in the contribution of individual sectors to the value added growth in the EU and USA before the downturn (Figure I. 26) show that retail and wholesale trades, business and financial services, and production of electrical machinery were the main sectors in which the EU countries were systematically losing distance to the USA – both in terms of labour productivity and TFP. The significant role of these sectors in the modern economy resulted in a situation where the better results of the EU countries in the public sector and construction did not compensate for the relative loss in productivity in comparison with the USA. Hence the failure of the Lisbon Strategy in the area of productivity.[23]

Figure I.26. Decomposition into contribution of individual market sectors to changes in value added per capita in the EU and USA in 2001-2007 (average annual growth rates, in percentage points).



Source: Own elaboration based on the EU-KLEMS data.

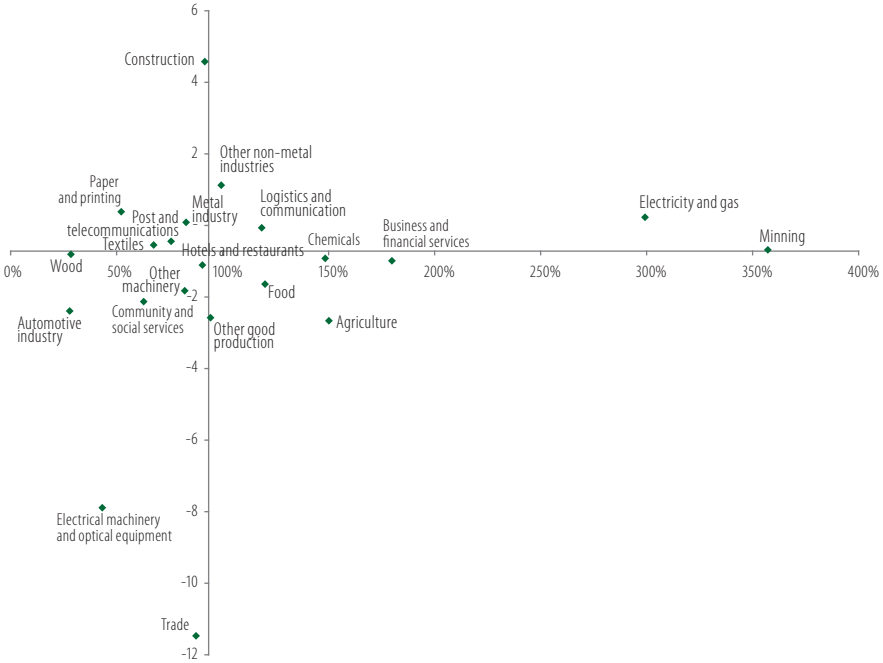
Figure I.27 shows that many sectors in which Europe was losing distance to the USA in 2000-2007 had already been less productive at the time of drafting the Lisbon Strategy. In particular, it refers to trades, hotels and restaurants, social and community services, the automotive industry and machinery manufacturing. Part of this gap in labour productivity did decrease in certain sectors, but in chemical, food, agriculture, mining, and financial and business services, relative productivity (per hour worked) was systematically declining, although back in 2000 Europe had an advantage in these sectors over the USA.

The widening gap in GDP per worker between the EU15 and USA, both in the aforementioned sectors and the entire market economy (cf. Table I.5), was mainly due to the lower TFP growth in Europe. It can be supposed that the observed differences are due to regulatory and institutional issues. In particular, it refers to limited competition in trade (regulations on retail trade, including store opening hours and the surface area of shops[24]) and in business services (rejection of the Bolkestein directive in its initial draft), hence making it more difficult for European companies to increase labour productivity to USA levels.

[23] Luxembourg In financial and business services the differences in productivity growth in the EU and USA were moderate, but their contribution to the differences in the value added per capita dynamics was considerable, resulting from a relatively greater role of this sector in the American economy. However, the available data cover the period of very fast growth of this sector, especially in the USA, which was then adjusted during the Great Recession. Analysis of the period 2000-2010 might have ascribed lower contribution of financial and business services to the productivity gap between the EU and USA, but the lack of data for 2008-2010 makes it impossible to verify it.

[24] Basker (2007) argues that the development of large-scale retail was the engine of productivity growth in the American trade. McKinsey Global Institute (2002) and Gordon (2007) emphasise the role of soft innovations resulting from the spread of ICTs – new forms of trade, facilitated logistics, marketing and distribution.

Figure I.27. Differences in labour productivity growth in individual sectors between the EU and USA in 2001-2007 (average annual growth rates, in percentage points) vs. the productivity of these sectors in the EU relative to the USA in 2000 (per cent).



Notes: In Figure I.27 the productivity levels of the EU sectors relative to the USA were calculated with the implicit assumption that relative prices in sectors (i.e. relative to total price levels) are the same in the EU and USA. This assumption results from the lack of data on prices at the level of the defined sectors.

Source: Own elaboration based on the EU-KLEMS data.

Furthermore, both the GDP share of spending on research and development, venture capital and ICT investment have been maintained in the USA at a higher level than the European average.[25] Although the pace of accumulation and utilisation of modern technologies[26] in the European economy increased in the late 1990s,[27] the share of ICT in the total volume of physical capital in the EU15 was in 2004 two times lower than in the USA (5.5 per cent against 11 per cent, cf. Timmer, Ypma, van Ark, 2005).

For the European countries most advanced in this area (Finland, Sweden, UK), the share of those technologies in capital stock reached 4/5 of the respective level in the USA, and in the least advanced (France, Spain), it was only 1/3. Analysis of the effect of ICT on the acceleration of growth in the USA in the 1990s (Basu, Fernald, 2007) shows that it occurred first of all in sectors intensely using ICT, and not in ICT production. Using sectoral data from the USA, Basue and Fernald (2007) show that the accumulation of ICT capital in 1990s was positively connected with the TFP increase after 2000, i.e. taking into account the delay associated with the adoption in the production process as general purpose technologies (GPT).

The high role of technology diffusion for productivity growth in individual countries, the distance to the USA in terms of ICT implementation as general purpose technologies, and the high human capital required for their adaptation, resulted in a situation where the productivity gap between the EU15 and the USA in fact increased. As rising employment in Europe drew into the market more members of socio-demographic groups previously less connected with the labour market, labour productivity declined even further. In the light of the earlier observations on the importance of physical capital, including ICT and human capital for the adaptations of innovations and productivity growth and their delayed influence, the determinants of the development gap from 10 years earlier had negatively impacted the potential of productivity growth in the recent decade.

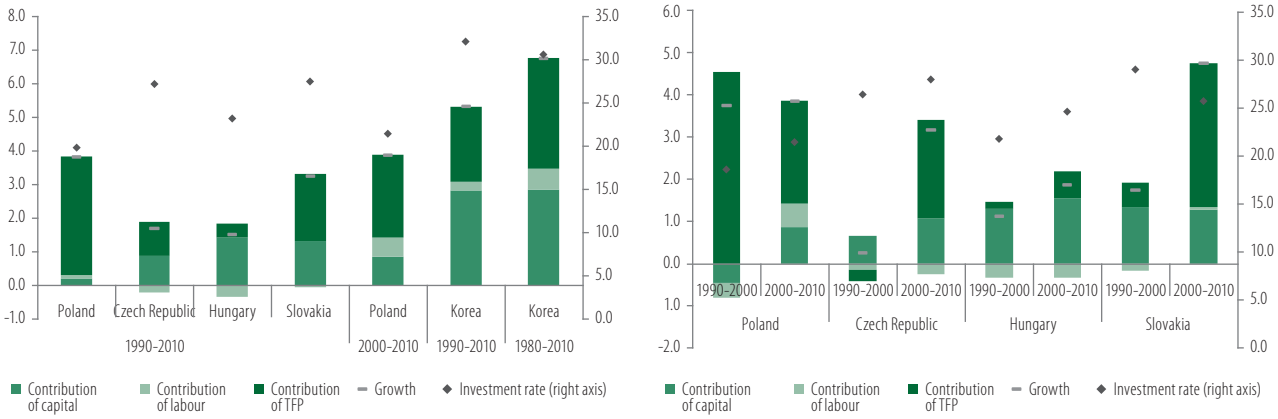
Bukowski, Growiec, Marć (2009) emphasise the fact the global technological progress is unevenly distributed across labour- and capital-intensive sectors. Most of the labour productivity growth in developed economies occurs in technologies intensively using physical capital and high-skilled labour. Productivity dynamics in labour-intensive sectors (e.g. in agriculture and in many services, etc.) are systematically lower than in manufacturing, especially in its most advanced sections (high-tech industries). This also means that only countries with high stocks of physical and human capital may fully benefit from technological progress. The economic success of

[25] Of course within the EU there is a high diversity in terms of innovation, investment in ICT and in output structure. In Scandinavia these values are similar or even higher than in the USA; in the UK and Ireland are just slightly lower; the gap is greater in the continental countries and the greatest in the Southern European countries.
[26] Hardware, communication devices (including telecommunication) and software.
[27] In 1995—2000 the volume of IT capital in the EU15 increased four times (Bukowski, Growiec, Marć, 2009).

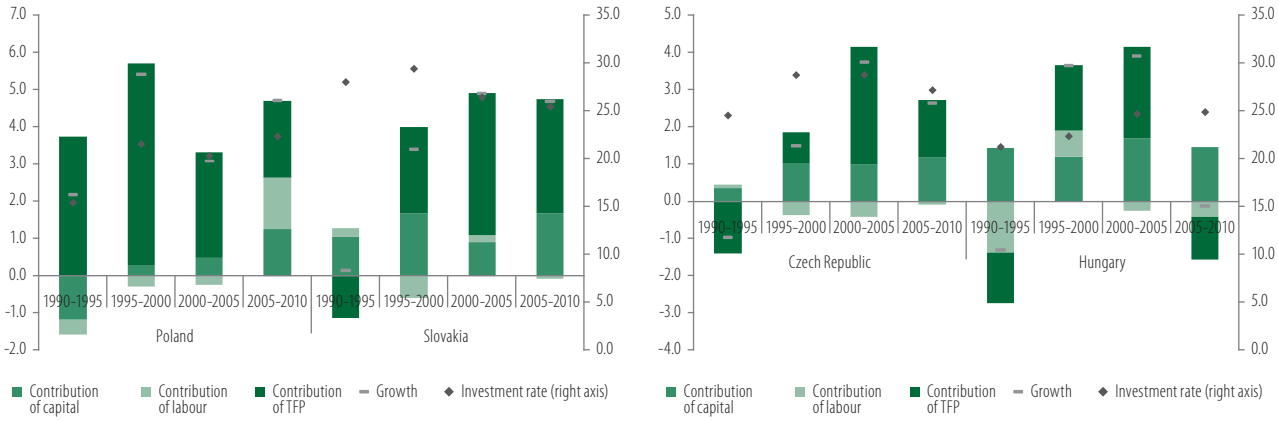
countries in Eastern Asia (Japan, Taiwan, South Korea) after 1945, and also China over the recent 30 years, have relied largely on closing the technological gap through intensive investment (exceeding 30 and even 40 per cent of GDP). The accumulation of capital was responsible for half of the spectacular economic growth of the Asian Tigers in the post-war period; and the high productivity growth was also associated with the nature of investments which concentrated on machinery and logistics infrastructure, and not in buildings and other constructions. The significance of the accumulated production capital stock for the wealth and labour productivity of economies is also reflected in the fact that the main source of the economic distance of Central and Eastern European countries, including Poland, to the EU15 and USA, is the large gap in capital intensity, i.e. the physical capital endowment of CEE economies (Bukowski, Growiec, Marć, 2009). Differences in human capital are also significant but not that important.

These observations are complemented by the decomposition of sources of economic growth in the Visegrad Group countries (Poland, the Czech Republic, Slovakia and Hungary) over the past 20 years, presented in Figures I.28-I.29. It shows that the main source of GDP growth in Eastern Europe after the 1990s (except Hungary) has resulted from utilisation of organisational and management reserves, i.e. improving the efficiency of the use of classical production factors – capital and labour. It has been especially visible in Poland where the TFP growth has been responsible for almost the entire economic growth in the transition period. This was especially pronounced in the 1990s where Poland stood out in comparison with other countries in the region with much higher labour productivity dynamics.

Figure I.28. Sources of economic growth in Visegrad countries in 1990-2010 (per cent, annual average) in comparison with South Korea (1980-2010).



FigureI.29. Sources of economic growth in Visegrad countries in consecutive 5-year-long periods in 1990-2010 (per cent, annual average)



Notes: data for 1990-1995 are complemented by approximated data.
Source: Own calculations based on Eurostat data.

Indeed, in the first decade of transition Poland experienced the decisively highest GDP growth in the Visegrad group despite the fact that low investment rates and expanded programs of passive labour market policies resulted in the reduction of capital stock and labour input involved in production. It shows that in Poland the reservoirs for improvement in efficiency, thanks to the elimination of inefficiencies typical for centrally planned economy, were so large that in order to achieve a growth of several per cent a year Poland needed only the stabilisation of the macroeconomic policy (Balcerowicz Plan), liberalisation of business (initiated by the Wilczek Bill of 1988) and the rapid privatisation of parts of the economy in the 1990 (especially in trade, part of manufacturing and services).

Much less radical approaches to reform in the Czech Republic, Slovakia and Hungary in the 1990s implied that these countries grew slower than Poland in 1990-2000. In their case the change in policy came later in the second decade of transformation, and because of that the Czech Republic and Slovakia experienced a distinct rise in TFP dynamics in the 2000s. These countries also maintained a relatively high investment, thanks to which the contribution of the capital accumulation to the GDP growth exceeded 1 percentage point a year. In Poland, investment had been distinctly lower than in its southern neighbours. An increase in investment over the last five years has resulted in a greater contribution of the accumulation of capital to the GDP growth. However, in comparison with the Asian Tigers, limited savings and domestic investment, decreasing employment rates and average hours worked over the period 1990-2010, have all resulted in the potential of the region being unrealised, growing by 1-2 percentage points a year slower than it could have.

Over the last five years, Poland has experienced a partial change of policy and departure from these negative trends. Due to social security reforms and demographic changes (cf. *Employment in Poland 2008 – work over the life course*) and an increase in public capital investment of about 2 percentage points of GDP a year, the contribution of production factors to the economic growth has increased significantly. These changes, however, have only been sufficient to balance the adverse impact of the decreasing dynamics of TFP. This pattern may be also interpreted as proof that the capital accumulation in 2005-2010 has not been sufficient to prevent a decline in labour productivity dynamics due to decreasing capital intensity.

This interpretation is also supported by the fact that most of the investment boom in that period was related to public capital investment in infrastructure, which had a far less direct potential impact on TFP than the investment in machinery. Slovakia, where in 2000-2010 investment shifted to manufacturing, has not experienced such a pronounced decrease in TFP dynamics as Poland, despite the effective decrease in aggregate investment.

Throughout the entire period of transformation, Hungary has been the least impressive economy in the region. It was the only country in the Visegrad group that in neither the 1990s nor the 2000s managed to significantly increase productivity dynamics. As a result, the country experienced the lowest GDP growth in Central Europe and its GDP per capita has become lower than in Poland, distinctly poorer than Hungary in 1990.

4. Implications from realisation of the Lisbon Strategy for Europe 2020 strategy and strategic policy in Poland

The Europe 2020 strategy constitutes proposals of changes in the social and economic policy of the EU, which on one hand aims at increasing the coordination of national policies, but on the other shifts the emphasis in economic objectives and methods of achieving them. The main three areas covered by the strategy are: (i) smart growth (development based on innovation, higher spending on R&D, greater support for scientific research, and wider application of ICTs), (ii) sustainable growth (i.e. green growth, and economic development taking into account the impact on the environment, supporting the adaptability of economic and labour markets to global changes), and (iii) inclusive growth (aiming to decrease poverty and exclusion in the EU). The specific methods for the implementation of these goals are yet to be established, but the Strategy already indicates the significant role of its 'flagship initiatives'.[28]

Specific targets for 2020 include an employment rate of 75 per cent for men and women aged 20-64, R&D investment levels at 3% of the EU's GDP, reduction of greenhouse gas emissions by 20% compared to 1990 levels, and even by 30% if other developed countries make similar commitments, increasing the share of renewables in final energy consumption to 20%, moving towards a 20% increase in energy efficiency, reducing school drop-out rates below 10%, at least 40% of 30-34–year-olds completing third level education, at least 20 million fewer people in or at risk of poverty and social exclusion.

The defined scope of the Strategy is quite wide, but the document seems to accurately define the most important social and economic problems in Europe: the demographic crisis; too slow economic and productivity growth; low innovativeness, spending on research and development lower than in some other developed countries; weak utilisation of ICT and low share of European companies in the global ICT market; increasing climate threat; increasing competition in the globalised world (both from developed and developing countries); low quality of European human capital (compared to USA and Japan) and its mismatch in terms of the needs of the labour market; and a high risk of poverty among some EU citizens.

In the light of our earlier discussion of the realisation of the Lisbon Strategy, the issues presented in *Europe 2020* adequately reflect the challenges that Europe is facing. At the same time, the very ambitious range of goals raises serious doubts concerning their feasibility, especially in the absence of reflection on the realisation of the Lisbon Strategy.

The introduction of many goals runs more of a risk of likely failure. On one hand it is favourable that the Strategy mentions all the significant problems, but it has not clearly declared the structure of priorities. Given limited resources and potentially contradictory goals,

[28] *Smart growth*: Digital agenda for Europe, Innovation union, Youth on the move; Sustainable growth: Resource efficient Europe, An industrial policy for the globalisation era; Inclusive growth: An agenda for new skills and jobs, European platform against poverty. slightly

this ambiguity of objectives may lead to a situation where the means and efforts of the Community are too scattered and in effect only small parts of the objectives are achieved, similar to the Lisbon Strategy. In addition, success or failure in achieving the targets may be conditioned by external factors, independent from the Strategy. Hence such a wide range of targets in *Europe 2020* may potentially lead to the same problems with their implementation as has been the case with the Lisbon Strategy.

Planning actions within the new strategy without any analysis of previous failures runs the risk of repeating the same mistakes. The new document actually never refers to the experiences of the Lisbon Strategy, just as other current strategic and program documents of the European Commission. The only conclusion has been that the downturn of 2008 thwarted a decade of European efforts and achievements in terms of economic growth and employment. In the previous chapters we showed that even before the downturn, in 2000-2007, there had been a visible divergence in GDP per capita and labour productivity in relation to the USA, and transformation to a knowledge-based economy was slower, if happening at all. The realisation of employment targets was only partial. Not denying the significance of the latest downturn for the realisation of the Lisbon Strategy, it is unjustified to blame it for all the European failures. *Europe 2020* could learn a lot from the experience of the Lisbon Strategy in terms of facilitating employment and productivity growth. Employment targets of the Lisbon Strategy were achieved to a considerable degree, whereas productivity and innovation even deteriorated in some aspects when compared to the USA. Our analysis shows that it was caused by insufficient diagnosis of factors responsible for the low productivity and interactions between employment and productivity objectives.

Europe 2020 sets specific targets only for employment and R&D, without setting any targets for productivity, while the priority of *smart growth* clearly shows that productivity growth and more innovations are key for improvement in the economic situation in the EU. *Smart growth* proposes many possible actions – emphasising support for innovations, research and development of human capital. This gives hope that in terms of employment, productivity and innovations, the results of *Europe 2020* will be more spectacular than was the case with the Lisbon Strategy. It will only happen if the implemented policies take into account the sectoral specificity of the gap to the USA, if they involve deregulatory actions, and support an increase in human capital, so that the TFP and labour productivity dynamics may grow. What should be avoided is a policy meant to increase employment through stimulation of supply and demand in the labour market, regardless of their impact on productivity.

Europe 2020 also mentions the issue of 'green growth', absent from the Lisbon Strategy. Although sustainable growth that respects the natural environment has been a component of horizontal EU policies, the high priority given to competitive advantage on the global scale through the development of green technologies is a new direction for the EU social and economic policy. Some European countries already have competitive advantage in green technologies, but for other EU Member States it is rather a new issue and they have slim chances to build such an advantage. Therefore the effective promotion of green growth requires an in-depth analysis of the failure in building a knowledge-based economy postulated by the Lisbon Strategy, otherwise resources spent on green growth will indeed decrease the burden on the environment in European countries, but not necessarily enhance the productivity and international competitiveness of Europe.

The broadly defined objectives of *Europe 2020* are in line with the needs of Poland in terms of its economy and labour market development. The relevance of the policy, however, will depend on the actual way in which the strategy is going to be realised and especially on the new financial perspective. In addition, *Europe 2020* pays little attention to the issue of transport infrastructure (still much less developed in Poland than in most EU countries) and puts a high emphasis on innovations (badly needed in Poland, although Polish companies seem to have a limited capacity to fully benefit from the EU support in this area). Still, the proposals of human capital development and improved adaptability perfectly match the needs of the Polish labour market.

In Poland the document that currently defines strategic goals is the Long-term Strategy of National Development (LSND) of June 2011. In the light of chapters 1-3 of this Part of our Report, in which we have shown the widening distance of Poland from the other EU countries in terms of employment of women and individuals aged 55+, the relatively low dynamics of TFP and moderate contribution of capital accumulation to GDP per capita growth in Poland, the LSND is correct in proposing support for the allocation of resources in the economy that would stimulate development, savings, investment and labour supply as the main goals of the macroeconomic policy until 2030.

The document also mentions problems that are specific to Poland and hence absent in *Europe 2020*. For example, it indicates that infrastructure, next to labour, health care, and innovations, should be one of the crucial areas of economic policy in Poland. Our findings also confirm the adequacy of the LSND suggestions concerning necessary changes in the labour market institutions in Poland in order to increase employment and output and counteract the economic effects of population ageing. These are (i) facilitating the participation of the older workers in the labour market,[29] and (ii) wider participation of youth and women[30] (cf. *Employment in Poland, work over the life course*, IBS/CRZL, 2010).

The LSND strategy is an official government document and the main strategic document in Poland. It is the basis of shorter-term documents (mid-term Strategy of National Development) or more specific documents in the terms of subject matter (sectoral strategies). From this point of view, it seems adequate that the LSND postulates effective fiscal policy to facilitate faster convergence. In terms

[29] Such as the harmonisation of the special pension systems with the universal system, gradual levelling of the retirement age for men and women at least at the level of 65 years, harmonisation of the disability pension system with the pension system.

[30] Such as lowering the age of compulsory education to 6 years, development of the child-care infrastructure, proactive orientation of university programs, increasing the significance of the BA diploma, and introducing economic rationality in decisions on continuing education from BA to MA, or MSc.

of expenditure, the project proposes a shift of public spending to development-oriented investment, through a lesser role of social transfers and higher share of spending on education, health, research and development, and infrastructure.

The postulated changes in the structure of taxation are meant to strengthen economic incentives for saving (including saving for retirement and saving energy), investing (including capital meant as a production input, modern technologies, and R&D), accumulation of human capital in the life-course, and encouraging work in all social groups between 15 and at least 65 year of age. It would entail a shift from an emphasis on direct taxes (CIT, PIT, social security payments, etc.) to indirect taxes (VAT, excise tax, ecological taxes and tolls). With regard to PIT, it would mean maintaining the noticeable progression only at the beginning of income distribution, through an increased level of tax deductible work related expenses. These recommendations are in many respects consistent with the conclusions of our analyses in this and previous editions of *Employment in Poland*.

The LSND also discusses the regulation of business, although its recommendations are less specific than in the area of macroeconomics and the labour market. It emphasises the role of improvements in the effectiveness of public administration, quality of law and the need for curbing excessive regulation in order to increase the economic competitiveness of Poland. It also analyses some of the likely reasons for the relatively low growth of TFP and capital accumulation. It provides a general recommendation that in-depth analyses and wide consultation with experts should form systematic attempts to tackle the issues of legal regulations, tax law, small business legislation, and the regulation of financial and capital markets. We think this should be quickly translated into specific objectives, especially given the unfavourable state of Polish economic regulations in comparison with other countries, including non-EU countries. [31]

Box I.2. Strategic decisions connected with the macroeconomic framework of the Long-term Strategy of National Development in Poland

1. **Sustainable decrease in the general government sector deficit**

   Introduction of a set of changes in public finances (in 2011-2012), guaranteeing long-term savings in expenses and increased revenue (also through a broader tax base) in order to achieve a sustainable stabilisation of public finances. The solutions should permanently reduce the deficit of the general government sector to 1 per cent GDP (on average in a business cycle) and prevent exceeding the 50% threshold of government debt.

2. **Reallocation of government spending to development aims**

   Introduction (in 2012) and securing the consistent growth in the share of government spending in areas crucial for development (education; health; transport, communication and environmental infrastructure; R&D; culture). The target level is 4 percentage points.

3. **Balancing the system of social security**

   Maximal balancing (in 2011-2013) of costs of maintaining the social security system (pensions, disability pensions, health insurance) and reintroducing the connection between the premium paid and the range of insurance, so that creation of the current deficit and government debt may be gradually limited.

4. **Conditions for an increase in savings and investment**

   Introduction of institutional and tax solutions (in 2011-2015) that would promote saving and productive investment for the future through concentration of the tax burden in consumption taxes, and through creating economic and institutional conditions for saving for retirement as an efficient 2nd Pillar and additional insurance as a 3rd Pillar of the universal pension system.

5. **Activation of reserves in the labour market**

   Implementation in 2011-2015 of programs of activation of labour market reserves, so that the employment rate increases to 75 per cent by 2030 (total employment at a level of 16.5 mln until 2020 and rising to 17.5 mln by 2030), through facilitated access of the disabled to the open labour market, providing chances for an earlier start for young workers (by 2-3 years), increasing the participation of women aged 25-50, raising the employability of inactive people, realisation of the 50+ and 60+ programs, and preparation and initiation of the long-term process of equalling the retirement age for both sexes and increasing the retirement age.

6. **Competitiveness of science and the development of Research and Development**

   Supporting the competitiveness of science and innovativeness of the economy through increased spending on R&D which should reach 3 per cent GDP by 2030, including governmental spending of at least 1.7 per cent GDP, stimulation of cooperation between science and business, stimulation of patent making and commercialisation of research results, facilitating competition for access to resources between universities and research centres, improved quality of third-level education through a rigorous evaluation of programs and schools based on the real effects of education, and connecting the level of financing with achieved results.

7. **Increasing the transport accessibility in Poland**

   Increasing the accessibility of transportation and density of infrastructure in Poland (roads, railways, airports) and optimising transport management by 2020 through a financial model that would combine the government budget, EU support, money from capital markets, private investors and new instruments of credit guarantees. Organising the basic structure of an integrated transport system by 2020, and then the introduction of a self-financing transport system through the combination of fees and general taxes.

[31] In 2010, according to the World Bank data (Doing Business index), in the EU only Greece had worse conditions for doing business than Poland. Among 201 classified countries, Poland had 70th place; in terms of starting business it had 113th place and closing business - 81st.

Summary

This part of *Employment in Poland – integration and globalisation* focuses on analysis of the realisation of the Lisbon Strategy objectives, especially those concerning the labour market and the convergence of EU countries to the USA. In the first chapter we presented the context of the Lisbon Strategy, its diagnosis of the European economy and the key problems identified in the labour market. We argued that although the diagnosis correctly identified the actual sources of employment deficits, it completely ignored the significance of differences in the hours worked for the GDP per capita gap. It also only cursorily presented the connections between employment and productivity, both in the entire economy and in the especially important services sector.

The second chapter presents our evaluation of the realisation of labour market goals – the employment rate of the total population, women, older workers, and a higher effective retirement age. We indicated that the greatest relative successes were observed in employment of women of working age, as almost half of the EU countries reached the recommended 60% employment rate or higher. Although the average length of labour market participation also rose, none of the EU countries managed to increase this by the expected 5 years. That is why the increased employment of older workers, closely related to the effective retirement age, reached the postulated 50% employment rate of people aged 55-64 in only a few countries. In effect, in 2010, the 70% goal of total employment of the population aged 15-64 was achieved by only six EU countries, and before the downturn by eight, four of which already had high employment at the moment of creating the Strategy.

The ability to achieve the targets in employment of women and older workers was crucial for meeting the total employment target. Both in the entire EU and in the countries which achieved considerable successes, such as Germany and Austria, the employment rise was mostly due to the higher employment of women, and first of all of people 50+. In Poland the higher total employment was due to a decrease in unemployment rather than longer labour market participation; it mostly concerned men rather than women, and progress in increasing the economic activity of women and older workers was actually one of the lowest in Europe. We showed that the contribution of labour input utilisation in both these groups to total employment rise was then much lower than in the EU15 and other NMS, and among the 60+ it was even negative. On the other hand, the changes in the educational structure of the workforce contributed to a more than 1/3 rise in total employment in 2000-2010, both in Poland and the EU15. The 2000s also saw a widespread decrease in regional inequalities in the labour market, although the downturn in 2008-2009 limited that progress. It must be stressed that the level of regional discrepancies is mostly related to differences in employment and unemployment between the EU countries, and not within the countries.

Although in terms of labour market goals Europe partially managed to meet the goals of the Lisbon Strategy, it completely failed to achieve its main goal, i.e. to lower the gap to the USA and make Europe the most innovative and dynamically developed economy. In 2010, output per capita in the EU15 in relation to the USA was exactly the same as in 2000 – 72 per cent. Although Europe managed to raise its employment rate, which in the late 2000s in a few countries was even higher than in the USA, in 2000-2010 the European labour productivity dynamics decreased and the gap in productivity increased.

This was associated both with labour supply factors – lower human capital of groups previously weakly connected with the labour market, capital structure – inadequate preparation for translating technological progress into labour productivity growth, and regulatory and organisational factors – resulting in lower TFP growth. In Europe, technological progress was still occurring, but through the diffusion of innovations that mainly originated in the USA. For as long as adaptation of the latest American achievements remains the main source of technological progress in EU countries in ICT and other high-tech sectors, as well as in traditional sectors which use ICTs as general purpose technologies, it will remain impossible to outdo USA in terms of innovation, a knowledge-based economy and labour productivity dynamics. This observation was reflected in the accurate pattern of priorities and specific goals of the Lisbon Strategy, but so far Europe has proven itself incapable of achieving them. The causes of the sustained gap have neither been examined during realisation of the Strategy nor after its deadline.

Another concern is that although the labour productivity growth in European manufacturing in both the 1990s and 2000s was higher than in the USA, the much lower productivity rise in services, a sector than has an increasingly significant role for employment and output structures, resulted in lower (and falling) total productivity dynamics. Furthermore, in the USA the services sector has been responsible for the greatest part of growth in TFP, while in Europe it has been almost negligible. European sectors that contributed most to the divergence of productivity between Europe and the USA were wholesale and retail trade, business and financial services, and manufacturing of electrical machinery. It shows the European problem with transforming a traditional economy into a knowledge-based economy, based on the widespread use of technologies, organisational innovations and modern services.

The decompositions of growth in Central European economies after 1990, which due to the lack of data could not be analysed at sectoral level, show that the main source of GDP growth in those countries (except Hungary) was the use of organisational and management reserves which improved the efficiency of capital and labour utilisation. In the 1990s Poland implemented the bravest reforms in the region and its TFP growth was accordingly higher than in the Czech Republic, Slovakia and Hungary; in the 2000s, however, the Czech Republic and Slovakia managed to boost their TFP dynamics beyond Polish levels. In 1990-2010 these countries had distinctly

higher dynamics of investment than Poland, which contributed to the GDP per capita growth rate at least 1 percentage point a year. Only in as late as 2005 did higher investment and reversal of the labour supply decrease in Poland translate into the positive contribution of capital and labour accumulation to GDP per capita growth. However, it was accompanied by a decline in TFP dynamics. It may be argued that the size and structure of investment in Poland, concentrated on infrastructure in recent years, has been not enough to quickly eliminate the gap in labour productivity, as had happened in the Asian Tiger economies, and to a certain extent in Slovakia.

The new European strategy, *Europe 2020*, is another broadly-ranged document which quite correctly identifies the most important social and economic problems of the continent. Unfortunately, it does not refer to the problems of realisation of the former strategy, and lacks a hierarchy of goals and priorities. Given the previous failure to transform Europe into an economy based on innovation and services, the realisation of the 'smart growth' priority should rely on an in-depth diagnosis of why Europe actually had not become the 'most competitive and dynamic knowledge-based economy in the world'. There is a similar case with 'green growth'. Our analyses in the third chapter also showed that due to the differences in competitiveness and abilities to increase productivity in individual sectors of the European economy, a greater emphasis should have been put on sectoral and regulatory issues.

The Polish Long-term Strategy of National Development (LSND) is correct in mentioning the problems of too low labour supply, capital accumulation and productivity dynamics in Poland. It rightly postulates transformation in the structure of taxation and government spending to stimulate higher labour supply, savings and investment. However, the precision of recommendations for the fiscal policy is not accompanied by adequately specific proposals concerning deregulation (although LSND admits it is necessary and proposes the pathway for the formulation of such proposals). Although the impact of economic regulations is generally less understood than for example determinants of labour supply and investment level, the importance of these problems for the development of Poland and the entire EU requires the rapid establishment of an agenda for the preparation of such regulatory reforms both on a national and EU scale. The LSND is a good point of departure for such works, although they still seem to be in their preliminary stages.

Part II. Mobile Europe

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LIST OF TABLE

LIST OF BOXES

LIST OF MAPS

LIST OF FIGURES

Introduction

This section focuses on the mobility of the European Union population and the impact of the EU regulations on international migration. We discuss the international flows of migrants and domestic migration, and analyse the openness of labour markets in the Member States to foreign workers and EU citizens.

Our goal is to examine the links between the Member States, especially after the eastern enlargements of the Union which took place between 2004 and 2007. The resultant integration of labour markets may be manifested in growing migration within the EU, its increased importance in comparison with domestic migration, and in cross-border commuting. Return migration may also be significant, which might foster reduction of differences in the economic development of Member States.

Migrations of people from outside the EU are an important source of movements. Our analysis of the scale of this phenomenon evaluates the openness of the Union to third countries in comparison to those that have been receiving immigrants for years – such as the United States, Canada and Australia. In order to get a more detailed picture, we analyse socio-demographic characteristics of migrants, including their education level.

We try to explain the empirical data presented in the context of available literature and theories of migration. We focus on the determinants of migration - including return migration - and the effects of population mobility for the sending and receiving countries and the European Union as a whole. We are especially interested in the impact of international flows of people on national labour markets and their potential role in reducing the negative effects of economic crises.

1. Migrants' Europe

1.1. Introduction

Labour mobility in the European Union is associated with broader population movements not only between Member States, but also between Europe and other regions of the world. The analyses of these flows help capture the movement of EU citizens within the EU and assess the scale and the relative economic and social impact of external migration.

The aggregated databases of Eurostat and the European Union Labour Force Survey (EU LFS) are the main sources of information on international migration flows in Europe. Eurostat primarily collects data concerning total migration flows, with the availability limited by the lengthy processing of data (the latest data comes from 3-4 years ago). These data are also not fully comparable between countries, although recently an attempt has been made to standardise them within the MIMOSA project (cf. Box II. 1). The EU LFS provides a broader set of information on the mobility in the European Labour market, but its questionnaire method should be treated with caution because it is not fully representative with regard to all migrants (especially short-term migrants and those from small ethnic groups). These data may be used in formulating conclusions about the community as a whole, when broken down into new and old Member States (NMS – those who joined the EU in 2004 and 2007, and the EU15 – those who joined the EU before those dates), assuming that these data generally correctly reflect actual trends despite their limited reliability and comparability between countries. However, it must be emphasised that the available sources provide information only about legal migration and hence the problematic character of analysis of inflows of workers from outside the EU where illegal migration is such an important factor.[1]

Our analysis begins with the description of migration processes in a historical and international context. This should answer questions on how globalisation affects the mobility of populations and how the processes taking place in the European Union (and its individual Member States) compare with other countries that are similar in size and development. Special attention is paid to the situation in the United States, a country with a traditionally positive balance of migration and a high internal mobility.

Box II.1. MIMOSA – an attempt to standardise and improve data on migration in the EU.

Due to the growing interest in migration in the EU countries, Eurostat initiated a project of standardising and supplementing aggregate data on flows of populations between the various member countries. Within the project (MIgration MOdelling for Statistical Analyses - MIMOSA), teams of experts from the Netherlands, Poland, the UK and Belgium have updated data on the volume of resources, flows and flow matrices in the EU27 for the period 2002-2007/2008. The estimations used data from national population registers, registers of foreigners or issued work permits, and information obtained through component methods, i.e. supplementing data from censuses with events that had occurred between successive censuses (gaining and losing citizens, high flows of migrants).

In the MIMOSA project the number of migrants was estimated according to the UN definition, where migrants are defined as persons living abroad for more than a year. The EU countries have been divided into four groups according to the availability and adequacy of data on population mobility:

1. The most reliable data: Austria, Denmark, Finland, Spain, the Netherlands, Germany, Norway, Latvia, Lithuania, Sweden (the absolute leader in the reliability of data collection)
2. Countries providing incomplete information: Luxembourg, Iceland, Italy,
3. Less reliable data: Cyprus, Czech Republic, Poland, Portugal, Romania, Slovakia, the United Kingdom,
4. Practical unavailability of data: Belgium, Bulgaria, Estonia, France, Greece, Ireland, Liechtenstein, Malta, Switzerland, Hungary.

The information from the first group of countries served for the estimation and correction of data from other countries.

Source: http://mimosa.gedap.be/

1.2. International migration

1.2.1. Introduction

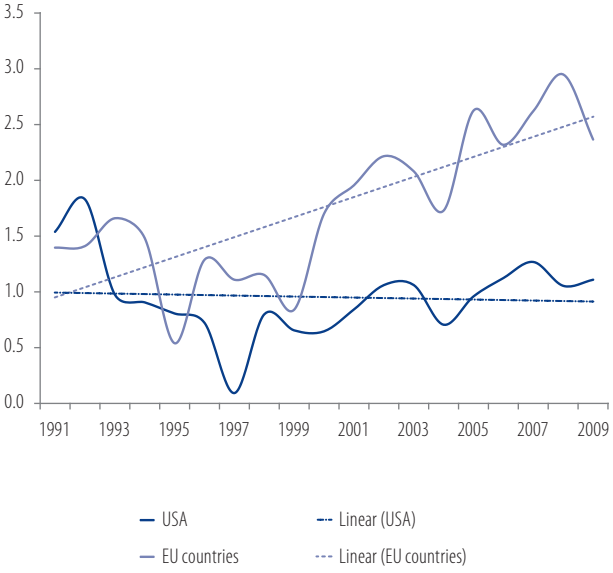
Migrations are among the oldest social processes in the history of civilisation, but research on their economic importance and consequences began in Europe only after World War II, primarily in connection with the fear of a 'brain drain' (see Chapter 2.3.6). By that time the USA had already created a special programme to supplement labour shortages, under which the citizens of Mexico could apply for temporary work. This helped Mexican community to settle in the USA and facilitated flows of migrants between the two countries.

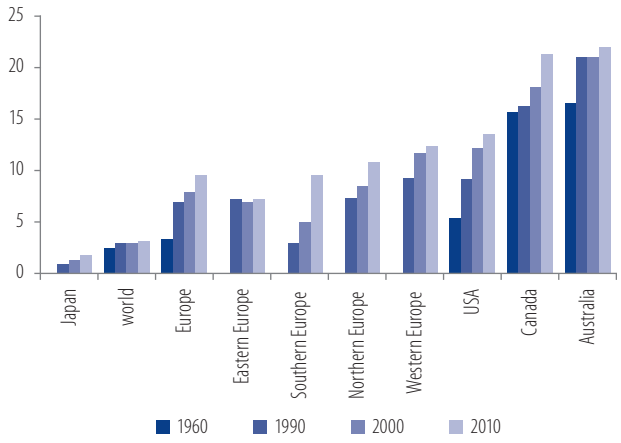
[1] According to the estimates of the CLANDESTINO project, 1.9 to 3.8 million illegal immigrants lived in 27 EU Member States in 2008.

Between 1940-1950, Europe experienced an outflow of political refugees to the United States, South America and Oceania, including many scientists, people of culture and entrepreneurs. In addition, in the 1950s Western Europe had already begun to experience shortages of workers needed for the regeneration and development of manufacturing and services emerging from the catastrophe of war. Accordingly, the strongest economies of the continent - France, Germany, Benelux and the UK - increased their openness to migrants. Initially, these were primarily residents of the relatively poorer southern European countries (Greece, Spain and Portugal), and then - in the 1960s - people from former colonies - Algerians (to France), Indians and Pakistanis (to Britain) and Africans (to Belgium).

In Germany, which had had no colonies, labour shortages were supplemented by the *Gastarbeiters* – 'guest workers' from Greece, Spain, Yugoslavia and Turkey. Their status was regulated by bilateral agreements with their countries of origin. Due to the rapid opening of Western European countries, even as late as the 1990s, the population ratios of migrants in southern and northern European countries were markedly lower than those observed in France, Germany, the UK and Benelux (cf. Figure II. 1, right panel). Since the early 1990s, the influx of external migrants to the European Union significantly increased and exceeded the number of foreign-born people coming to the United States, where immigration has remained at a stable level of about 1.0 - 1.5 million people per year (cf. Figure II.1., left panel).

Figure II.1. Inflow of external migrants to the EU and USA (millions per year, left panel) and the stock of migrants in selected regions of the world (percentage of total population, right panel).



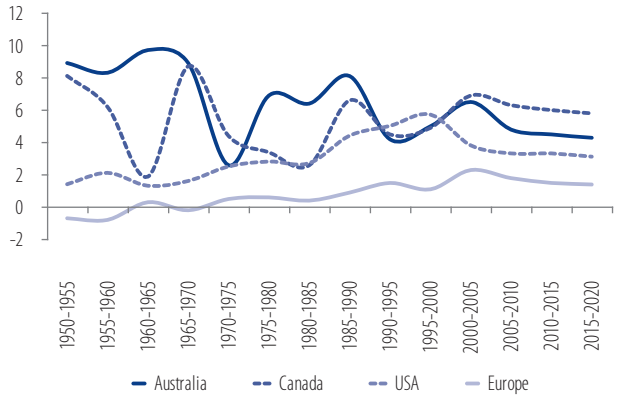


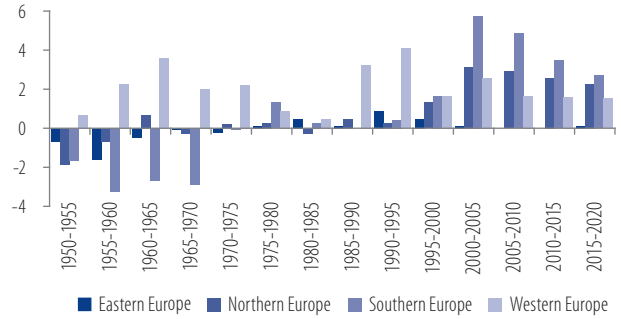
Source: OECD, International Migration Database, US Census Bureau.

Note: The figure takes into account the inflows of non-citizens to the countries of the UE27 that are OECD members.

Note: Migrants are defined as persons born in a country different than the country of residence.

Figure II.2. Net immigration ratio in selected regions of the world in years 1950 – 2020 (per one thousand inhabitants).





Note: The Figure takes into account UN projections with the assumption of maintained mean fertility ratio, mean values for 5 years.
Source: UN World Population Prospects, 2008.

In 2010 the total number of migrants in the world amounted to more than 200 million people[2] - about 3 percent of the global population. This migrant population can therefore be likened to the fifth largest country in the world, after China, India, the United States and Indonesia. In Europe the greatest proportion of non-native residents can be found in the developed countries of Western and Northern Europe, while the central and eastern part of the continent is close to the European average, mainly due to the situation in the Baltic states in which Russian immigrants from the times of the Soviet Union are a significant part of the population. Despite a marked increase in migrant workers after 1990, European countries are still inhabited by a much lower percentage of foreigners than Canada or Australia, although in this respect Europe has already overtaken the United States (cf. Figure II. 1, left panel).

1.2.2. International migration within EU Member States

With their openness to migrants in the postwar period, almost all regions of Europe gradually transformed into areas of positive net migration inflows (cf. Figure II.2). The greatest transformation took place in Southern Europe, which in recent years has experienced the largest influx of migrants on the continent. At the same time, the popularity of the founding states of the European Community as a target destination of external migration has been gradually decreasing, although the region continues to record positive net inflows of population. The notable exception is Ireland - a country with large fluctuations in the balance of population movements.

UN estimates indicate that the migration hump in Ireland has already taken place (cf. Box II. 2) and net inflows of migrants will gradually reduce, also due to the post-crisis collapse of the labour market, especially in the construction sector. Saturation with migrants is also expected in the UK, Spain, Italy, Belgium and Scandinavia.

The gradual transformation into receiving countries can be observed in the new EU Member States (NMS12). The wealthiest of them, the Czech Republic, Slovenia, Cyprus and Malta, have already recorded positive net migration. UN projections show that the strongest waves of immigration from NMS12 are also about to expire, so that by about 2020 only Romania will have had a strongly negative balance of population flow among the countries of the region.

Box II.2. Theory of the migration hump.

Martin and Taylor (1996, estimates for the U.S. and Mexico) presented the relationship between the intensity of migration and trade ties between the sending and the receiving country. At the initial stage of cooperation between the two countries, trade and population movements are complementary, but over time the differences in wages decline, accompanied by an increasing predominance of the flow of goods and services. The progressive integration diminishes differences in economic development and the push factors of migration become less significant (cf. Chap. 2.2.1). This theory can be used to explain migration in the new EU Member States which are currently experiencing high outflows of population. As predicted by Martin and Taylor, these outflows should decrease in a few years after accession due to enhanced trade cooperation.

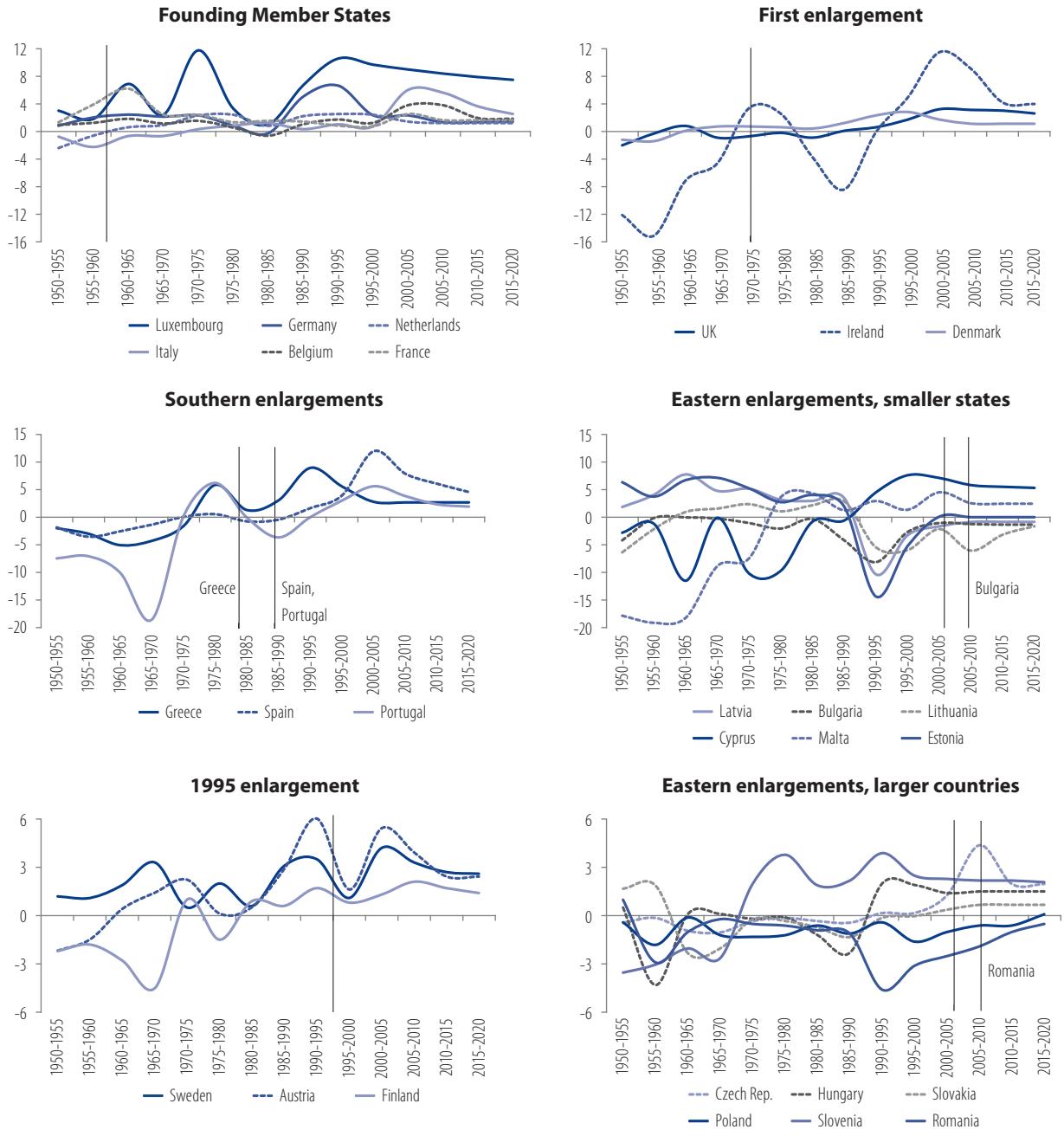
The intensity of inflows varies considerably among the EU countries (cf. Figure II. 4, left panel). The inflows are the greatest in countries that are small, relatively more economically developed, specialised in labour-intensive services such as tourism and experiencing a long-term construction boom, i.e. where even the lowest wage of unskilled workers is attractive to migrants from poorer areas of the Union, and where the demand for labour is not fully met by the internal labour supply. The relatively poorer countries of Central and Eastern Europe (including Poland) are at the other extreme – they cannot compete with EU15 wages and do not attract immigrants from the EU, and regardless have relatively restrictive immigration policies with formal and institutional barriers for non-European immigration.

Although annual changes in the populations of EU countries caused by the inflows of legal migrants do not exceed one per cent of the half billion population of the EU27, they effectively complement shortages in labour markets, especially in the EU15, which result from the continuing relatively low fertility rate of Europeans (cf. IBS, 2010). However, the scale of this complementation process is lower than in the United States. Although the European Union as a whole is a area of positive net immigration, the population growth resulting from net population inflows is approximately 0.3 - 0.4 percent of the total population of the EU27, i.e. 4-5 times less than in the U.S. (ca. 1.6 percent).

International migration, especially immigration, can be divided into three types - the influx of people from outside the European Union (which we refer to as immigration from third or external countries), intra-EU movements among the 27 Member States, and the return migration of persons who have been abroad for more than 12 months. Moreover, the mobility of the population can also be observed in internal movements. So far the focus has been mainly on aggregate movements, but it seems worthwhile considering the different types of flows separately. In the further sections of this chapter we primarily discuss the immigration from external countries and movements among EU countries (without separating return migration). This analysis will enable the evaluation of intra-EU relationships and ties with other regions of the world.

[2] (http://www.migrationinformation.org/datahub/Boxs/worldstats_1.cfm).

Figure II.3. Net immigration ratio per thousand inhabitants in individual EU Member States in years 1950-2020 (according to the data of accession and the size of immigration)



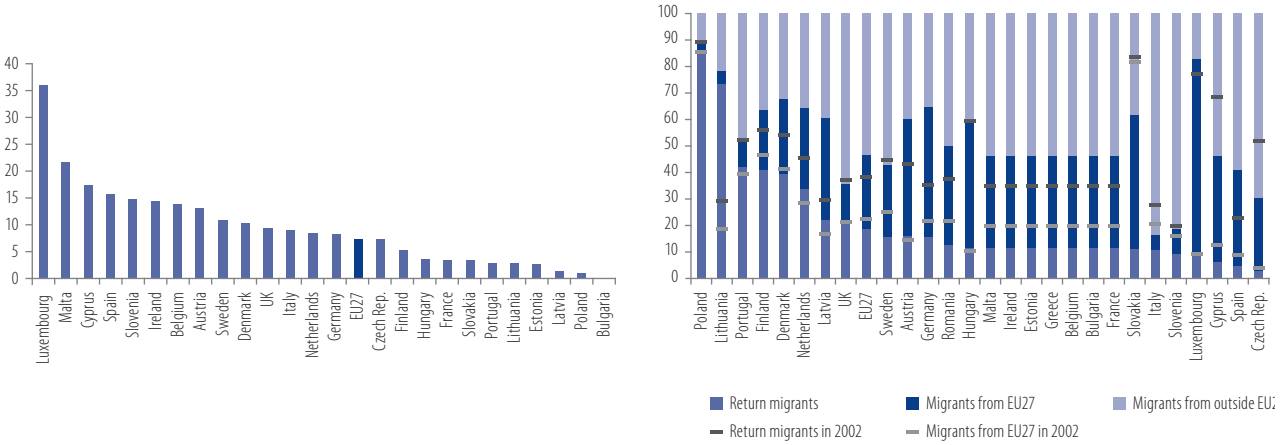
Note: the vertical line denotes the year of accession.

Source: UN World Population Prospects, 2008.

The receiving countries not only differ significantly in the intensity of inflows but also in their structure. In the less developed countries of central and eastern Europe inflows are dominated by return migration of their nationals from the EU15 - this especially applies to Poland in which up to 85 per cent of all inflows are Poles returning from immigration. In richer EU countries the vast majority of immigrants are citizens of other countries, and at the European level migration from third countries is higher than internal migration. This indicates the existence of significant differences between the members of the Community (including language, culture,[3] institutions) that restrict the mobility of EU citizens despite the progressive integration and formal opening of borders. It must still be kept in mind that intra-EU flows, especially those that are temporary and between countries with open access to the labour market, may be relatively less frequently recorded than inflows of people from outside the EU that require registration (provided they are legal). This means that it is possible that official statistics on spatial mobility underestimate the flows of EU citizens among its individual member states.

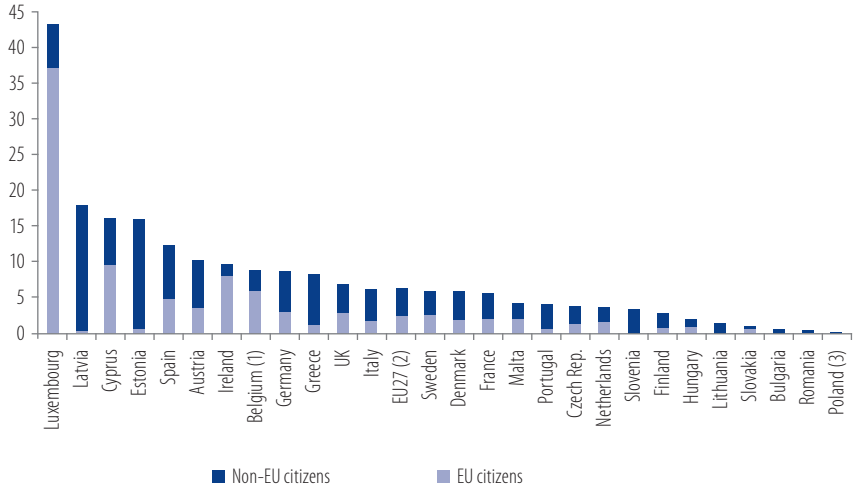
[3] In 2007 nearly 60 per cent of those surveyed by the Eurobarometer indicated the language as one of the main three barriers for EU mobility, and almost one fourth of respondents stated that moving to another country would be difficult for them because of the cultural differences and the need to adapt to the new culture.

Figure II.4. Inflows of migrants to the EU Member States in 2008, per one thousand inhabitants (left panel) and by the citizenship of migrants in 2002 and 2007 (per cent – right panel).



Note (left panel): Data for Greece and Romania are not available, Note (right panel): the graph takes into account both population inflows from the EU countries and from third countries.
Source: Eurostat.

Figure II.5. Share of immigrants in the total EU population in 2009 (per cent).



(1) Data from 2008 (2) Estimate (3) Temporary data.
Source: Eurostat.

What distinguishes the internal movements of the EU population from immigration from external countries is the much greater likelihood of return to the EU home country. In other words, Europe for many years has seen a greater influx of external immigrants than their outflow, due to the low probability of their return to their home countries. As the EU citizens are more likely to go back, we may observe a significantly larger share of non-EU foreigners in the total immigrant population (cf. Figure II. 5).

1.2.3. Immigration from third countries to EU Member States

When analysing the migration from third countries, one should be aware of limitations in the applied calculation methods. The available statistics only show migrant nationality or the country of previous residence, and thus they may only be used mainly to determine the total scale of arrivals of citizens of third countries to the EU27 and movements within the EU.[4] This enables the determination of the openness to external immigration and the evaluation of flows between the Member States but we are not able to fully separate both kinds of movements.

[4] However, taking into account the free flow of people within the Schengen area, the proportion of flows of non-EU citizens within the EU should be lower due to its limited registration.

Box II.3. Immigrants from Africa – do colonial ties matter?

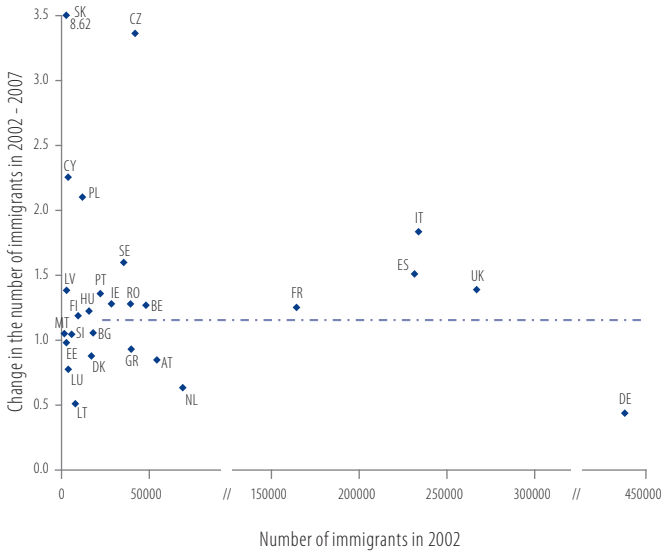
In 2000, about 60 percent of all skilled immigrants from Africa lived in Europe, and less than one-third lived in the United States. The natural hypothesis to explain this dichotomy is the strong relationship between former colonies and metropolitan states as a factor that determines the choice of the country of migration.

The outflow of migrants from Africa to Europe began in the 1960s when most African countries gained independence. Initially a large proportion consisted of the citizens of countries which owned the colonies (skilled labour force) but it was soon followed by an increasing flow of native Africans (also forced to flee by intertribal wars). The institutional reactions of former colonial powers varied. Belgium introduced restrictive immigration policies to limit inflows from the territories of Congo, while France received a million people from Algeria in the 1960s, and in the next decade Portugal received increasing numbers of migrants from Angola and Mozambique. Later the migration flows decreased but in the years 1990 - 2001 Europe was still receiving 20,000 highly skilled Africans each year (Constant, Tien 2009). Only a small percentage went to countries other than the former colonial countries – Algerians have usually chosen France, Kenyans – the UK, and Mozambicans - Portugal.

Constant and Tien (2009) argue that such strong ties between the former colonies and metropolitan states are associated with language, as almost all colonies retained the official language of the colonial period, and logistics, as most direct flights to Europe go in these directions (Algeria - France, Angola - Portugal, etc.). Some European countries still maintain military bases in former colonies and direct most of their development aid to these states, which in effect creates a strong bond between those nations. Another important factor is being attracted to culture, music, cuisine, etc. - Constant and Tien estimate that these phenomena can also be considered, in addition to economic incentives, a statistically significant determinant of mobility that increases the likelihood of choosing the country of destination by people from former colonies.

Each year the European Union receives about 2 million people from third countries. Consistently since 2002, the largest stream of immigration goes to the EU15, mostly to Italy, United Kingdom, Spain, Germany and France, which take an average of 75 per cent of immigrants from third countries in the EU. Among the new Member States, most migrants go to the Czech Republic, Romania, Bulgaria, Hungary and Poland (cf. Figure II.6).

Figure II.6. Number of immigrants in 2002 and a change in years 2002 - 2007 (ratio between immigration from outside the UE27 in 2007 and in 2002) and states with the highest average inflow of immigrants.



EU27	1 982 605.8
Italy	404 464.0
UK	333 483.2
Spain	324 214.6
Germany	257 260.7
France	161 256.1
Czech Republic	75 256.7
Austria	53 157.8
Netherlands	46 432.6
Belgium	44 129.9
Sweden	42 358.9
Romania	41 521.1
Greece	332.8
Ireland	28 352.5

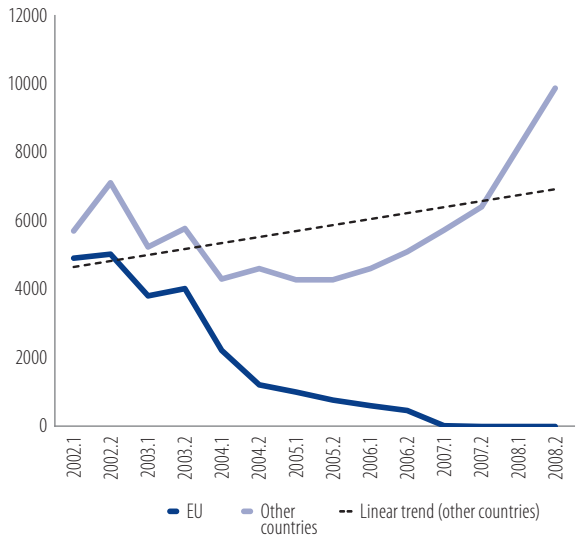
Source: MIMOSA.

The NMS10 record strongly positive net migration of citizens from non-EU countries (except the Czech Republic), mainly temporary migration. Romania, Cyprus, Hungary and Bulgaria are primarily transit countries, stops on the way to richer Western European countries (cf. Figure II. 9). This is particularly true of Cyprus, which in 2007 had the second most negative net migration in total, due only slightly to the migration of its own citizens.

Box II.4. Legal and illegal immigration to Poland.

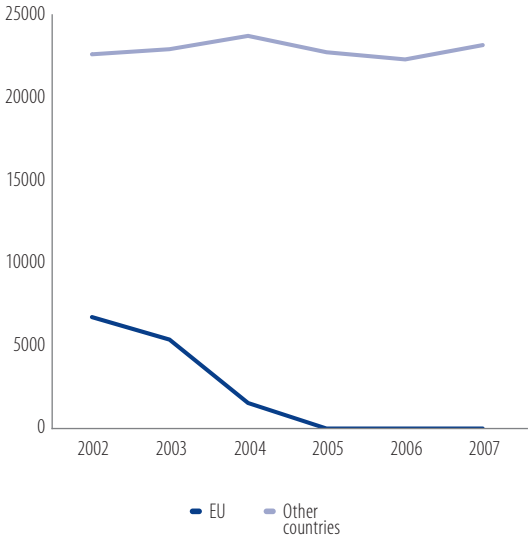
The scale of the influx of legal migrants to Poland is very small (about 14 thousand people in 2008). The permanent migrants are mostly Ukrainians, Belarussians and Russians, but there is also a relatively high proportion of British, Germans and Americans.

Figure II.7. Number of issued work permits for foreigners in Poland.



Source: Own elaboration (IBS) based on the data of the Polish Ministry of Labour and Social Policy.

Figure II.8. Number of issued permits for temporary residence in Poland.



Source: Own elaboration (IBS) based on the data of the Office for Foreigners.

A comparison of the structure of the Polish population before and after accession to the European Union shows that after 2004 it became a more popular destination of migration from other Member States in comparison with third countries. Still, the total number of immigrants has remained at relatively stable level. This means that despite the facilitated movement of people after 2004, Poland has not become significantly more attractive destination country. In particular, it concerns the neighbouring Member States with a similar culture and language (e.g. Czech Republic, Slovakia) whose inhabitants were not attracted by the relatively good economic situation in Poland during the global financial crisis of 2008-2009.

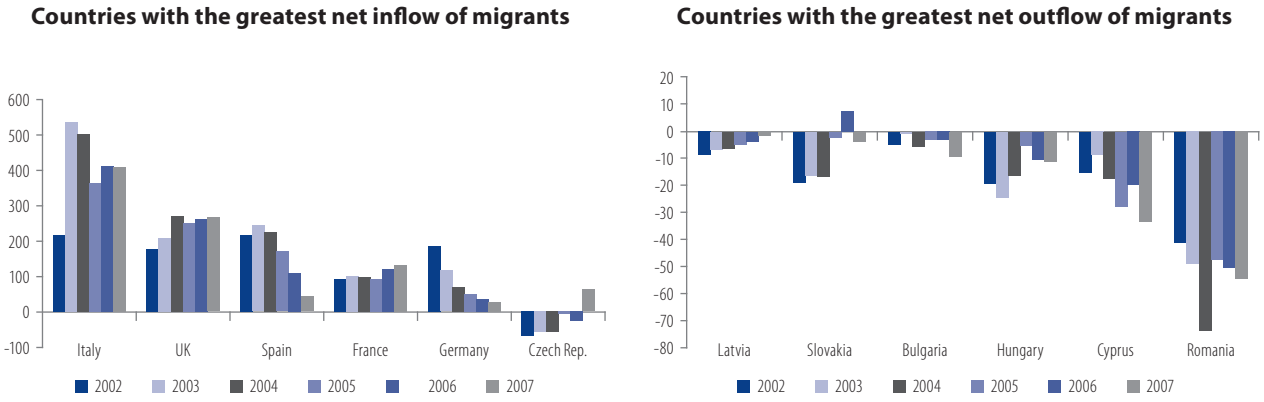
Immigrants coming to Poland usually had a high level of education - as much as 60 per cent have a university degree, and one third are high school graduates. It suggests that Poland is experiencing a brain gain, although obviously at such a low scale that any concerns about the replacement of native professionals by foreigners are not warranted. This is also reflected in data about the most frequent jobs of immigrants, which are mostly skilled workers and managers.

Table II.1. Main countries of origin of immigrants in Poland in 2008 by the place of birth and by the number of issued work permits.

1.	Poland (70.8 per cent)	33 907		Work permits	
2.	Ukraine (5.6 per cent)	2 665	1	Ukraine (30 per cent)	5400
3.	UK (2.8 per cent)	1 366	2.	China (11.3 per cent)	1343
4.	Germany (2.2 per cent)	1 041	3.	Belarus (7.4 per cent)	1325
5.	USA (1.5 per cent)	740	4.	Moldavia (6.8 per cent)	1218
6.	Belarus (1.5 per cent)	720	5.	Vietnam (0.7 per cent)	1200
7.	Russia (1.3 per cent)	598	6.	Turkey (5.2 per cent)	941

According to various estimates, the number of illegal immigrants in Poland ranges from 50 to 300 thousand. These are not just workers that are seasonally employed in the grey market, but also foreigners with expired visas who nonetheless decided to stay and work illegally in Poland. This especially applies to Ukrainians who are sometimes described as Schengen Orphans (after 2007, legal departure from Poland after an illegal stay resulted in the prohibition of entry to the entire EU). The illegal immigrants demand abolition and civil rights - in particular access to free health care (and not only in life-threatening cases). The activities of immigrant communities (e.g. *'Jestem Za'* campaign (*'I'm for it'*)) and the support of the Polish Ombudsman have helped to draft amendments to the Foreigners Act allowing the legalisation of residence of persons living in Poland continuously since at least December 2007 (Article 10, Chapter 12 of the *Draft assumptions for the draft law on foreigners*).

Figure II.9. Balance of immigration from outside EU in selected Member States (in thousands of immigrants per year).



Source: MIMOSA.

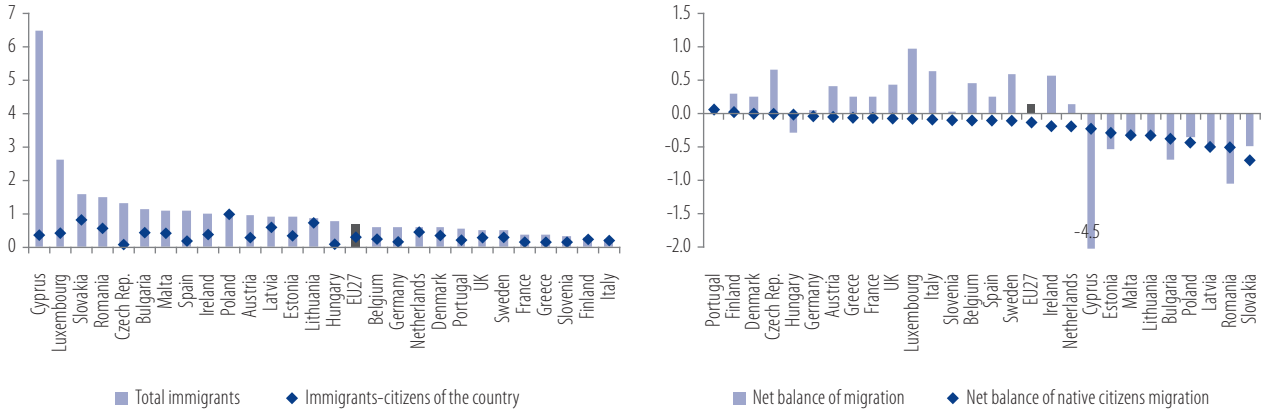
Despite the clearly positive net migration of people from outside the EU27 to countries such as the Netherlands, Austria, Denmark and Greece, their popularity as receiving countries is decreasing. In recent years, the greatest reduction in the influx of migrants has been observed in Germany, which between 2002 and 2007 lost the position of the most attractive host country to Italy. Large increases were noted by some NMS - in particular by Slovakia, the Czech Republic and Poland, which may have been associated with their economic boom and increased attractiveness after joining the EU.

1.2.4. International mobility of Europeans

A discussion on population movements in the European Union should include the role of citizens of a given country in its mobility, and also the share of immigrants returning to their country of origin and those going further to another country. This shows how Europeans perceive the attractiveness of their homelands and which countries are most attractive to foreigners.

Among the EU countries, there are some where nearly 100 percent of immigration is caused by the movement of their citizens, and those with a very high share of foreigners among permanent immigrants. The first group primarily includes Poland, Lithuania, Finland and Italy (cf. Figure II. 10, left panel). At the other extreme are the founding countries of the Community, the Czech Republic and Hungary, where the international mobility of their citizens is minimal and foreigners are responsible for the bulk of population movements.

Figure II.10. Share of emigrants – citizens of a given country and emigrants – foreigners in the population of EU countries (left figure) and net balance of migration in 2007 (right figure) (in %).



Notes: shares on the figures indicate what share of the population of a given country emigrated in 2007.
The net balance of migration in Cyprus equals -4.5% (right figure).
Source: MIMOSA.

Box II.5. Increased attractiveness of the Czech Republic as a receiving country after the system transformation.

In 2007, the Czech Republic had one of the highest positive migration balances in the entire EU27 (in relation to the entire population in the country). It also differed from the NMS in the neutrality of mobility of its citizens – equal numbers of people left and entered the country. What underlies this great attractiveness of the Czech Republic?

Until the beginning of the 1990s, the Czech Republic was a country with a traditionally negative migration balance, similar to Poland. In 1990s the trend reversed and inflows started to exceed population outflows, especially between the Czech Republic and Slovakia (IDEA 2009). Until 2001 the migration balance did not exceed 0.1 per cent of the population, but since 2002 there has been a discrepancy between the Czech data and MIMOSA results. According to the latter, positive net migration into the Czech Republic occurred only in 2007 (0.66 per cent), whereas the national data suggest a steady positive net migration since 2001.

Despite all the problems with measuring migration (especially immigration), there exist unquestionable and relatively high inflows of immigrants into the Czech Republic, already with the highest level of immigrants among the larger NMS (3.7 per cent, cf. Figure II.5). These are mainly people from Ukraine, Russia, Vietnam, and also Poland and Slovakia. The popularity of the Czech Republic as a receiving country is associated with its high level of economic development (in comparison with other countries in the region), low unemployment rate and maintained stable economic growth. Also of significance is the policy of the national governments towards immigrants – in the first years of transformation, immigrants did not need work permits (although Czech citizenship could be obtained only by a marriage with a Czech). It was a period when the Czech Republic was a popular destination for refugees from war-stricken Yugoslavia and expatriates from the former Soviet Union.

The inflows of immigrants did not decline even during the 1997 economic crisis and after the introduction of restrictions towards immigration. However, it must be borne in mind that at the same time the Czech Republic made it easier to obtain Czech citizenship, introduced free movement of people with Slovakia (migration between Slovakia and the Czech Republic is one of the highest in Europe – cf. the Figure II. 19) and a pilot programme to attract highly skilled specialists, mainly from outside the EU. Since 2006, foreigners may apply for permanent residence after only 5 years (rather than 10 years previously), and Czech citizenship after 10 years (rather than 15). In 2009, the Czech Republic introduced Green Cards for non-EU nationals that give them a chance to stay and work in the Republic for 2 to 3 years.

Differences between the mobility of Europeans and migrants from outside Europe in individual EU Member States result in different migration balances (cf. Figure II.10, right panel). The countries of Western Europe have generally balanced inflows and outflows of their citizens. In recent years a slightly positive balance of migration has been observed in Portugal (cf. chapter II) and Finland. An opposite situation can be observed in countries such as Ireland, the Netherlands and Great Britain, being more popular to external immigrants. In these cases the imbalance was quite small, reaching only 0.02 per cent of the population. In contrast, high net outflows of native populations can be observed in the NMS, especially those where the income per capita is lower than 80 per cent of the EU average – Slovakia, Romania, Latvia, Poland and Bulgaria. It shows that incomes lower than the EU average are significant determinants (push factors) of population outflow (cf. determinants of migration, section 2.2). Although the wealth level of the destination country is considered to be one of the important pull factors, it does not play a significant role in Western Europe where more non-economic reasons contribute to movements of population.

The accession of 12 new EU Member States in 2004 and 2007 changed the proportions between migration flows from third countries and internal flows, increasing mobility within the now larger EU. However, migration in Europe remains lower than in the USA. In the EU27 people migrating to a different EU country number less than 0.5 per cent of the population per year – in the USA the interstate migration is about 1.6 per cent each year. Such a low mobility of Europeans is caused by obstacles that do not occur in the USA - lingual and cultural barriers; institutional and legal factors: differences in labour law, social security and formal recognition of qualifications (Bonin et al. 2008, Ester, Krieger 2008). However, despite all the problems, internal migration in Europe is increasing, which with the falling American internal migration may result in similar levels of internal mobility in the future.

Table II.2. Percentage of mobile population in the USA and EU[5] in 2002 – 2009 (per cent).

	2002	2003	2004	2005	2006	2007	2008	2009
UE27	0.23	0.27	0.29	0.30	0.33	0.36	b.d.	b.d.
USA	2.8	2.7	2.6	2.6	2.0	1.7	1.6	1.6

Source: MIMOSA, U.S. Census Bureau.

While reports of internal migrations of Europeans take into account domestic migrations, even the total migration (within the EU and between the NUTS2 regions) is still only a little more than 1 per cent, despite the fact that European regions are usually smaller than

[5] Only international migrations were taken into account in the EU, and interstate migrations in the USA.

most of the American states and the distances to travel are much shorter. However, the nature of American migrations is different. Looking for a job or finding a job in a different state is not the main cause of migration (only 25 per cent of all flows). A much more important motivation is finding a good place to live (Ester, Krieger 2008). In Europe migration is caused mostly by economic factors.

To sum up, the European Union is becoming an increasingly popular destination for international migration. Despite the increasing mobility of EU citizens, immigrants are mostly third country nationals – with regard to both flows and stocks of foreign population in most EU countries. The Union receives a similar percentage of migrants to that of the USA, but the mobility within the EU is much lower than the American interstate migrations.

1.2.5. Evolution of community regulations in mobility and migration

The Treaties of Rome from 1957 that initiated European integration introduced four elementary freedoms for the unified Europe – free flow of capital, goods, services and people. These were the basic aims of the community policies, although two of them long remained outside the Community regulations. The common migration policy appeared as late as 1999 (the Treaty of Amsterdam). Before that, mainly due to the resistance of the United Kingdom and Ireland, it had been impossible to reach a consensus for the entire EU. This resulted in the emergence of legal agreements outside the European Communities, the most important of which are the Schengen Agreement and the Dublin I Regulation.

The first ideas of eliminating border controls and introducing a single European passport appeared as early as the 1970s. The British and Irish veto changed the focus to bilateral agreements. In 1984 France and Germany signed the Saarbrücken Agreement, a year later Benelux countries joined it, thus creating the basis of the future Schengen Agreement (cf. Box II.6). By 1995 controls on the borders between the Treaty members had been entirely eliminated. The countries in the Schengen Area have the right to temporarily reinstate border control in special cases of security or disease threats. In 2000s, this right was exercised a few times, e.g. during the World and European football championships, or during international conferences such as G8 summits.

The latter of the two regulations, known as the Dublin Convention I, was signed in 1997. It concerned a common asylum seeking law, and also included general regulations on information exchange between the Member States, protection of personal data, etc. In 2003 it was substituted by a twin agreement - Dublin Regulation II, included in the legal acquis of the EU. The most important change in the field of migration, introduced by the Treaty of Amsterdam, was the creation of Title IV - *Migration, asylum, borders and visas* and other policies related to the free movement of people. It obliged the Council of the European Union to establish common regulations on crossing internal borders, migration from third countries and prevention of such migration, and granting the status of an asylum-seeker, etc. After the implementation of the Lisbon Treaty of 2009 and a name change from the Treaty Establishing the European Community to the Treaty of the Functioning of the European Union, these issues were moved to Title IV – *Free movement of persons, services and capital* and the new Title V – *Area of freedom, security and justice* (See Box II.7). As a result, migration, asylum and visa policies were now the domain of the EU and not individual Member States.

Since the Treaty of Amsterdam, three programmes have been introduced to describe the details of the integration of migration policies in the EU Member States. Their names come from the sites of European Council sessions at which they were inaugurated: Tampere Programme for 2000-2005, the Hague Programme for 2005-2010 and the Stockholm Programme for 2010-2015. The principles of free internal EU movement of people and the right to asylum were regulated in the Charter of Fundamental Rights of the European Union signed in 2000.

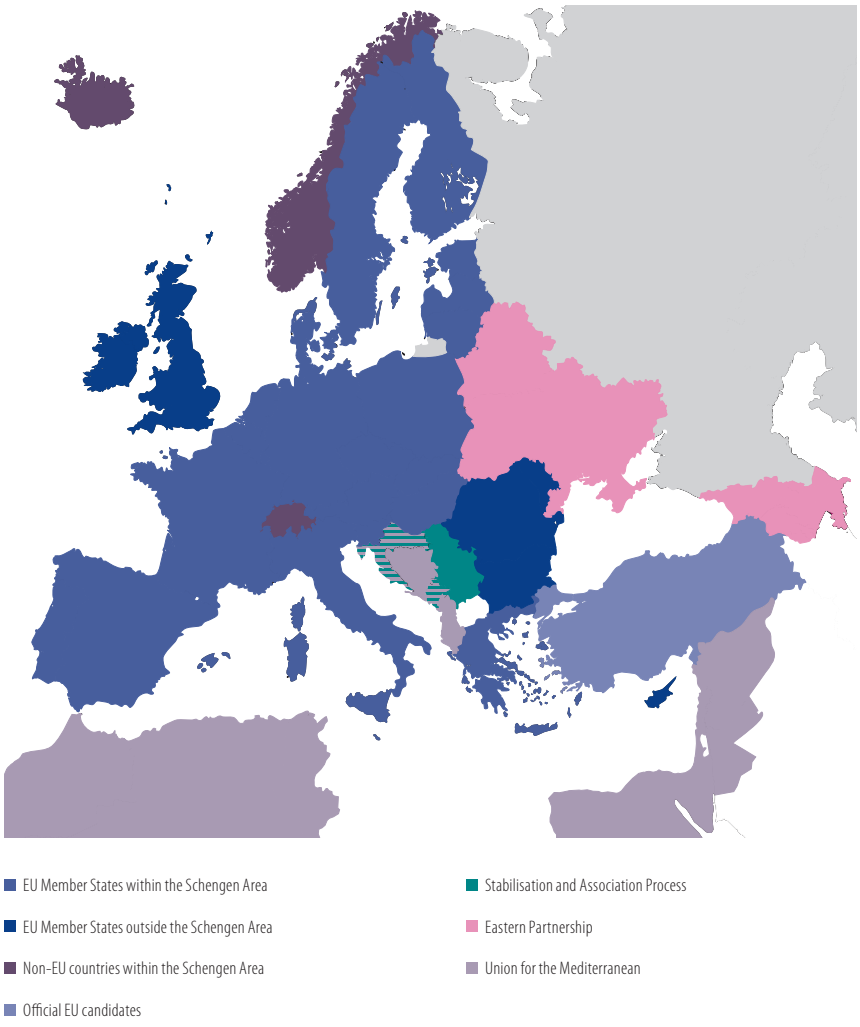
The general frameworks of the European Union policies are determined during sessions and summits of the European Council. The subject matter of migration was the theme of two such meetings: in Laeken in 2001 (when the common asylum policy was established) and in Hampton Court in 2005.[7] The most important achievement of the latter was the introduction of the European Pact on Immigration and Asylum, the most significant European legal act in this area until the signing of the Lisbon Treaty. The summit in Hampton Court also initiated the European Neighbourhood Policy, regulating the relationships of the Union with third countries on direct borders with the EU or the official candidates.[8] Since 2007, ENP and the Strategic Partnership with the Russian Federation have been financed by the European Neighbourhood and Partnership Instrument (ENPI). The ENP includes two main programmes: Union for the Mediterranean, to establish cooperation with the countries of North Africa and the Middle East, and the Eastern Partnership for the cooperation with the previous republics of the Soviet Union in Eastern Europe and the Caucasus (excluding Russia).

[6] Schengen Area does not include the Danish Greenland and the Greek Athos.
[7] The summit was convened in response to the situation in the Spanish autonomous cities in North Africa – Ceuta and Melilla, which experienced a rapid inflow of a dozen thousand asylum seekers.
[8] This reservation is significant for Georgia, Azerbaijan and Armenia which are not neighbours of any of the EU Member States, but were included into the European Neighbourhood Policy due to historical, cultural and economic ties and their borders with Turkey. The countries of North Africa are included due to the marine borders with the EU.

Box II.6. Schengen Agreement.

The Schengen Agreement is a practical implementation of the freedom of movement. The Agreement was signed in 1985 between France, Germany and the countries of Benelux. In 1995 it was joined by Spain and Portugal, and by 2003 it included Norway, Iceland and all the EU15, except the UK and Ireland[6] which participate in only selected aspects of the agreement. The next stage of the Schengen Area enlargement took place in 2007 (border controls at airports were removed half a year later), together with the accession of NMS10 (expect Cyprus) and the accession of Switzerland a year later. Romania, Bulgaria and Cyprus have the status of official candidates. The Schengen Agreement remained outside the Community acquis until 1999, when it was included as an additional protocol to the Treaty of Amsterdam.

Map II.1. Schengen Agreement and other international organisations.



Source: Own elaboration.

Financing of the European migration policy has been divided into several instruments (cf. Table II.3). In Poland three of them are the responsibility of the Ministry of the Interior; Internal Security Fund, Return Fund, and the European Refugee Fund. The fourth of the Instruments, European Fund for the Integration of Third Country Nationals (although the first in the official list) is managed by the Ministry of Labour and Social Policy.

Box II.7. Titles, areas and pillars.

The primary law of the European Union is based on two Treaties: Treaties Establishing the European Community, based on the Treaties of Rome, and the Treaty Establishing the European Union signed in Maastricht in 1992. In 1997 both these treaties were modified by the Treaty of Amsterdam, and substantially changed by the ratification of the Treaty of Lisbon in 2009 under the new name: Treaty of the Functioning of the European Union.

The Treaty of Maastricht included 3 Pillars of the European Union on which European integration is to be based: European Community (including common market, currency union, common agricultural policy), common foreign and common security policies (assuming the EU would become a single agent in foreign policy). The division into the three pillars was annulled by the Lisbon Treaty.

In order to obtain a higher clarity, Treaties have been divided into Titles – groups of agreements divided according to their subject matter. The Treaty of Maastricht had consisted of eight Titles before the Lisbon reform, and five after the reform. Titles IV and V establish the framework for the free movement of people within the EU, visas, asylum-seeking, migration into the EU from third countries, and the principles of security and freedom of movement in the EU.

Table II.3. Resources spent on the Framework Programme on Solidarity and Management of Migration Flows and the European Neighbourhood Policy.

Fund	Total allocation (million euro)	To Poland (million euro)
Framework Programme on Solidarity and Management of Migration Flows:		
Internal Security Fund	1 820	78
Return Fund	676	18.6
European Refugee Fund	699	12.3
Fund for the Integration of Third Country Nationals	825	15.6
European Neighbourhood Policy::		
Eastern Partnership	884	no data
Union for the Mediterranean	3 185	no data
Strategic Partnership with the Russian Federation	120	no data

Source: Duszczyk (2011), data of the Ministry of the Interior.

1.3. Domestic migration and cross-border commuting

1.3.1. Domestic migration and immigration

Apart from international migration, mobility in the EU Member States is shaped by the flows of people within the individual Member States and by cross-border commuting. A question arises whether the progressing integration, especially the opening of European labour markets, leads to an increased number of migrants in search of jobs.

In the EU15, domestic migration is significant in Finland, Sweden and the Netherlands. In these countries the size of domestic migration (among the NUTS2 level regions) is even 4 to 5 times greater than immigration (cf. Figure II.1). Among the NMS, domestic mobility is relatively most significant in Romania and Bulgaria, which may in part be due to the fact that the measurement was taken precisely in the year of their accession to the EU. Changes in mobility patterns before and after the accession are visible in Poland and Slovakia (domestic migration in Poland is discussed further in Box II.8), where immigration after 2004 was respectively three and four times higher than domestic flows.[9]

[9] The analysis of data on domestic migration should take into account the problematic comparability between the countries, associated with the differences in the sizes of the administrative regions (NUTS2) and in their population densities. In this regard, Spain, France, Italy, and Hungary are the most similar to Poland, and Slovakia and the Netherlands are most different (OECD 2005).

Box II.8. Domestic migration in Poland – who migrates and why?

Poles relatively rarely decide to move to another region of Poland, and the popularity of this mobility has been decreasing since the 1980s. Domestic migrants are usually represented more by workers and unemployed, as compared to non-movers (who have a higher fraction of economically inactive than the population of migrants). Therefore migration is frequently associated with a change of job (in the case of the employed) or deactivation (among the unemployed), which differs from patterns observed in the EU15, where only 3 per cent of domestic migrants leave the labour market.

Reports (Employment in Poland 2006) show that Polish domestic migrations are less dependent on economic factors (e.g. unemployment rate in the local labour market) than events such as starting a new level of education or family matters. The most likely domestic migrants are young people (aged 20-29) that are getting married, men and university graduates.

Despite the significant role of non-economic factors, Poles usually migrate from weakly developed regions (previous State Agricultural Farms, areas with low productive agriculture) to centres of development (cities and their neighbouring areas). They also search for apartments: low numbers of new rooms in their region increase the likelihood of their moving to a region with a high stock of apartments.

Source: 'Employment in Poland 2006 – productivity for jobs,' Ministry of Labour and Social Policy (2007).

Domestic migration may either complement or substitute immigration. Complementation takes place when outflows of population (mainly from urban areas) are complemented by domestic migration from peripheral areas to the national centres of development. Substitution occurs when one type of mobility is distinctly higher. This is the case with Europe in general – in almost all EU Member States that provide reliable data, the popularity of domestic migration is decreasing, with an increasing number of foreign departures (cf. Figure II.2). Yet the differences among the EU Member States can be quite high – for example in Scandinavian countries domestic migration is the most significant migration, whereas immigration is dominant in Poland, Slovakia and the Czech Republic.

Figure II.11. Correlation between domestic and foreign migration in 2007 (in thousands).

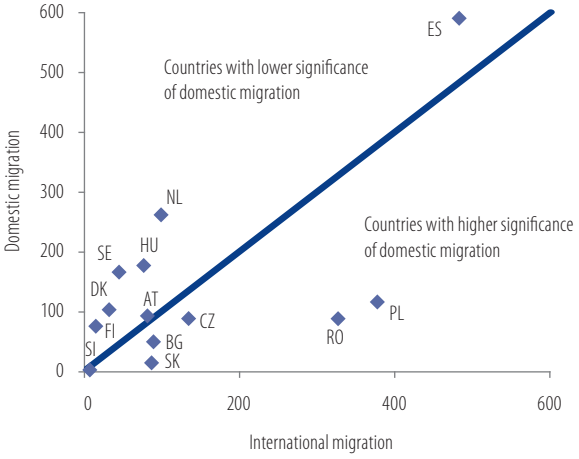
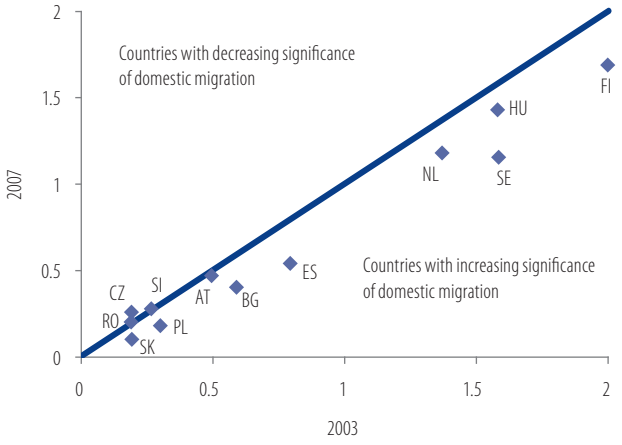


Figure II.12. Changes in the significance of domestic and international movements in selected EU27 countries between 2002 and 2007.



Note: In the right Figure the number of migrants between NUTS2 regions was divided by the sum of inflows and outflows of the citizens of the country, e.g. 0.5 on one axis means that in a given year domestic migration was half of the number of people who left and entered the country from abroad.

Source: Eurostat, MIMOSA.

1.3.2. *Cross-border commuting* in the EU

Discussions on migration should also take into account cross-border commuting which is limited in scale but symptomatic for the progressing integration of the European labour markets and the potential disappearance of internal borders in the future. Similar to immigration, this form of mobility usually can be observed among young people, mainly men, unmarried and without children (cf. Box II.9).

In Germany alone, the number of cross-border commuters doubled from 2000 to 2005, although the total number is insignificant in comparison with the domestic labour market (only 70,000 workers). However, this type of commuting is much more significant in the scale of the entire continent. In 2007 almost 1 million Europeans were cross-border commuters. In the NMS (except Cyprus) that number totals 350,000 which means a higher relative significance of cross-border commuting (cf. Figure II.13, upper panel). In Western Europe, cross-border commuting is especially important for Luxembourg where such migrants constitute more than one third of all employed. In larger Member States, however, cross-border commuters never exceed 2 per cent of the total employment (Huber 2011, based on EU LFS 2006).

Regions with the highest intensity of cross-border commuting can be found in France, Germany and Luxembourg, as well as Belgium, the Netherlands, Slovakia and all its neighbours (cf. Table II.4). It can be supposed that cross-border commuting is more popular between regions with similar cultures and languages, and short distances between the less and more developed areas (differences in unemployment, employment and value added), and also between urbanised regions with good transportation routes that have effectively become fully integrated after the removal of formal and legal barriers.

Data of EURES projects on cross-border cooperation show which countries are receiving and which are sending cross-border commuters. The receiving countries are in EU15 and NMS12 - Austria, the Czech Republic, the Netherlands, Ireland, Greece, Finland and Hungary. Poland belongs to the sending countries, along with France, Germany, Sweden, Belgium, Slovakia and Hungary (MKW 2009).

Figure II.13. Percentage of cross-border commuters in the EU15 and NMS12 in 2002 – 2007 (upper panel) and by country in 2007 (bottom panel) (per cent).

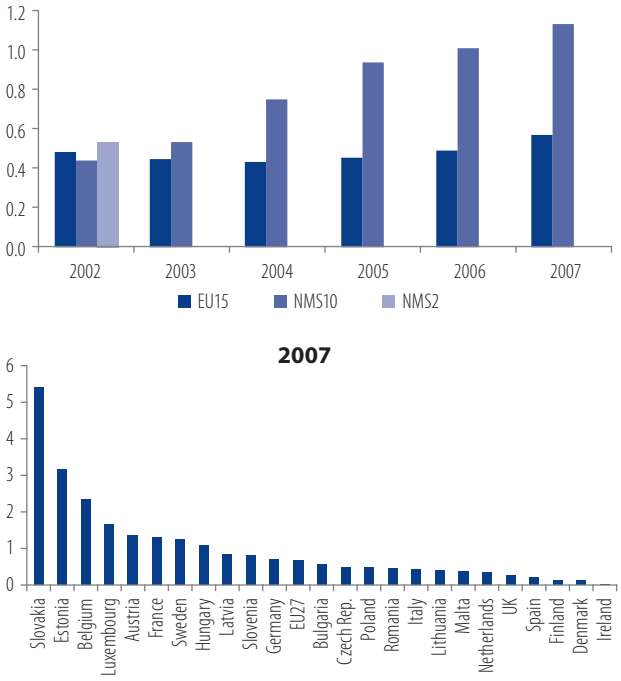


Table II.4. Regions with the highest proportion of cross-border commuters in relation to the total number of employed in 2007.

Region (NUTS2)	Cross-border commuters (per cent)	Employed in the region[10] (thousands)
Prov. Luxembourg (BE)	24.2	106.1
Trier (DE)	11.1	253.0
Lorraine (FR)	9.7	957.3
Alsace (FR)	9.2	813.1
Vorarlberg (AT)	8.2	182.1
Eastern Slovakia	8.0	612.5
Central Slovakia	5.7	558.8
Limburg (BE)	5.6	356.2
Western Slovakia	5.0	861.8
Freiburg (DE)	4.5	1 117.1
Walloon Region (BE)	4.2	1 300.4

Notes: No data for Cyprus, Greece and Portugal; AT – Austria, BE – Belgium, DE – Germany, FR – France
The data includes all persons that indicated their main workplace in a different country and which at least once a week return to their place of residence.
Source: EU LFS Eurostat.

[10] 'Employed in the region' include all the employed persons living in the region (workplace can be located either in the region or abroad).

Box II.9. Who are immigrants and cross-border commuters?

Huber (2011) analysed the socio-demographic characteristics of those employed in the EU27 in 2006, and observed (similar to previous analyses from the areas of the German-Danish and Austrian–Swiss borders) that people that choose cross-border commuting are mostly male (72 per cent) in their *prime age* (25-44), mostly working in manufacturing and construction. In comparison, people working in their place of residence, commuters to another NUTS2 region in their country of origin and immigrants, usually have second-level education (ISCED 3 or 4), perform medium skill jobs, with less prevalent *overeducation* (doing jobs for which they are overqualified), and more frequent *undereducation*.

Persons that choose cross-border commuting instead of immigration also differ in risk aversion and time preference for spending (Novotny 2010, studies based on the data on migration and commuting in the borderland of Austria and Slovakia in 2008 and 2009). Immigration is preferred by persons with a lower aversion to risk than cross-border commuters who are still more prone to take risks than those who stay in the country. Similarly, people who prefer to spend more now and save less for the future are more likely to leave their country than slightly more frugal non-immigrants and cross-border commuters. Higher propensity for immigration (in comparison to cross-border commuting) also depends on the experience related to previous foreign employment excursions.

There are also differences between the people from the EU15 and NMS12 in terms of their willingness to work abroad. Huber's logit models suggest that low and medium levels of education increase the likelihood of cross-border commuting among people from NMS (compared to people with university degrees), whereas in the 'old' Member States the relationship is opposite. In both areas, being employed in construction predisposes cross-border commuting. Working in market services increases the likelihood of cross-border commuting among workers in the EU15, and decreases it in the NMS12. It can be supposed that people commuting from the NMS12 are more often poorly educated and tend to work in construction, and the residents of the EU15 are more often university graduates and work in market services. However, immigrants from the NMS are relatively better educated than the native population.

Source: Own elaboration.

To sum up, progressing European integration is gradually increasing the cross-border mobility of EU citizens. The international flows are growing slowly, but they increasingly substitute domestic movement of people in the individual Member States. Cross-border commuting is also growing – especially in regions with traditional cultural and language ties, highly urbanised and with good transportation links.

Most international flows in the EU are associated with the movement of people from third countries. Their inflow to EU is similar to the annual inflow of immigrants to the USA. Although the Community as a whole can be seen as a receiving 'country', the percentage of external immigrants is very low, and in many EU countries international movements of population are mainly the return of their nationals from immigration.

1.3.3. Free movement of people in the context of EU regulations

The free movement of people is one of the main principles of the European Union, and also one of the main achievements of the European integration. It is the most developed among the EU policies of migration and mobility, including the right to travel and free movement of workers and self-employed individuals.

The basic issue for integration of the European labour market was Community citizenship (and later European Union citizenship). The first attempts appeared as early as 1970s but a common solution was signed in the Treaty of Maastricht in 1992. Currently, EU citizenship is obtained automatically with the citizenship of an individual Member State. This resulted in the exclusion of foreigners, with especially important consequences for the Russian minority in Estonia and Latvia, and also for those immigrants from third countries that do not have citizenship of any of the EU countries.

EU citizens have a full right to work in other Member States along with other public rights including enrolling and voting in European elections in any Member State.[11] In the elections to the European Parliament in 2004, the right to vote in a country different than the country of origin was used by more than a million people (12% of people staying abroad). This possibility was also used by 57 candidates to the Parliament. The right to work abroad results in the growing number of the EU labour market institutions. EURES – the network connecting employment services in the EU countries, mediating in the seeking jobs in Europe – is the most important from the point of view of a single citizen (cf. Box II. 10)

[11] In some Member States EU citizens from other countries cannot start their own political parties, which according to the European Commission limits the right to run in elections.

Free movement of labour is included in the Treaty on Establishing the European Community.[12] Some countries were granted transition periods, but not for longer than seven years. For NMS8[13] who joined in 2004 that period ended in May 2011 and for Romania and Bulgaria in 2014, as guaranteed by their respective accession treaties. This situation cannot be referred to previous enlargements as at the time there was no freedom of employment in the current form. It is notable that Sweden, Finland and Austria ratified the Treaty of Maastricht[14] even before their accession to the EU. Importantly, the freedom of employment in other EU countries is partly restricted by a ruling of the European Court of Justice that allows possible deportation of a citizen of another EU Member State when they fail to find a job during the first six months of their stay in the target country. In practice, this regulation has been very rarely enforced, due to difficulties with the determination of the real time of unemployment.

Box II.10. European institutions of the labour market and migration management.

The coordination of migration and job mobility on the Union level is the responsibility of the following institutions:

- the European Agency for the Management of Operational Cooperation at the External Borders of the Member States of the European Union – established in 2004 to coordinate cooperation among the Member States in management of internal borders. Its budget in 2011 was 81 million euro. The agency is located in Warsaw.
- EURES – European Employment Services established in 1993 for the cooperation of public services of employment in the EU countries and support of the professional mobility of Europeans. It provides services through the European Job Mobility Portal: www.eures.europa.eu
- the European Asylum Support Office – established in 2010 to support cooperation in the area of asylum among the EU member states and implementation of the common asylum system. The Office has an annual budget of about 5.3 million euro.
- the European Union is also developing the series of common information systems that enhance communication among the Member States, such as:
    - EURODAC – the data base on asylum seekers, established in 2000, containing mainly the fingerprints of the asylum seekers in the area of the European Union (Denmark does not participate in the programme).
    - Schengen Information System (SIS) – database on persons which should be denied the right of residence or the right to enter the area of the Community. Currently a second version of the systems is being developed (SIS II).
    - Visa Information System (VIS) – database with data of persons applying for a Schengen visa (including biometrical data). Although the system was created in 2004, the implementation has been going on since only 2009. The system first included the countries of North Africa and Middle East.
    - European Criminal Record Information System (ECRIS) – initiated in 2009 to enhance the exchange of information.
    - EUROPOL – European system of police cooperation.
    - Prüm convention – signed by seven EU Member States (BE, DE, ES, FR, LU, NL and AT) to intensify cooperation in the field of internal security and prevention of terrorism.

Further development of cooperation within the EU results in the emergence of projects of other institutions that coordinate actions in the area of migration:

- Eurosur – the European external border surveillance system, based for example on a network of coastal patrols. The Stockholm Programme includes a pledge of a faster completion of the system.
- European Corps of Border Guards – the European Commission's idea to replace the national Border Guards by one common institution (it concerns only the countries of the Schengen Area). Currently the project is being blocked by several countries; Poland has also expressed its objections.

Source: Own elaboration.

Citizens of the EU and their families (also those that are not UE citizens) are privileged in comparison with immigrants from third countries when it comes to the right of permanent residence - it is granted to them after 5 years of continuous residence in the area of any Member State. Regulations of the EU forbid any kind of discrimination of citizens of other Member States in access to social welfare. Table II.5 presents how this principle is realised in practice. In only two EU states (Sweden and Greece) social transfers are completely available for the citizens of other EU member states. Remaining countries have introduced certain restrictions, usually concerning permanent residence and guaranteed minimum income.

The most important legal act on the free movement of labour is Directive/38/CE. The communications of the EU Council show that the transposition of its regulations to national legislations has been inadequate. Up to 2008, i.e. for four years, no Member State had been able to implement all the recommendations of the Directive. On the other hand, some regulations were transposed in a more liberal way than initially assumed by the Directive. For example some countries extended the right to permanent residence for family members; Poland does not require the confirmation of employment or self-sufficiency from family members.

[12] Currently: Treaty on the Functioning of the European Union.
[13] Except Malta and Cyprus, for which the European labour market was opened directly after accession.
[14] This includes Norway, although its citizens rejected the Treaty in a referendum.

Table II.5. Social benefits for foreigners in European countries.

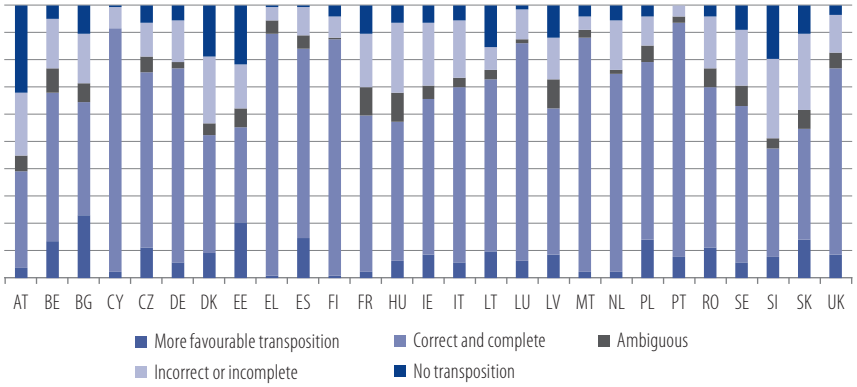
Country	Restriction
Austria	Guaranteed minimum income – requires residence in Austria
Belgium	Benefits for unemployed and children: require residence; guaranteed minimum income only for Belgians
Bulgaria	Children benefits – requires residence in Bulgaria
Cyprus	Maternity benefits – requires permanent residence and Cypriot citizenship
Czech Republic	Children benefits – requires residence in the Czech Republic
Denmark	Permanent residence in Denmark is required for practically any type of benefit
Estonia	Benefits for the unemployed and children: requires residence in Estonia
Finland	Maternity benefits – minimum 6 months of residence in Finland, guaranteed social minimum – minimum 5 years of residence
France	Guaranteed minimum income – permanent and legal residence
Greece	No restrictions
Spain	Benefits for the elderly – min. 10 years of residence, benefits for the disabled – minimum 5 years
Netherlands	Guaranteed social minimum – requires legal residence in the Netherlands
Ireland	Maternity benefits, unemployment benefits and social minimums – requires residence in Ireland
Lithuania	Non-native children can receive benefits only if they are registered in Lithuanian institutions
Luxembourg	Children benefits and social minimums: requires permanent residence in Luxembourg
Latvia	Guaranteed minimum income – requires permanent residence in Latvia
Malta	Guaranteed social minimum only for the Maltese
Germany	Guaranteed minimum income available for the citizens of most Member States
Poland	Guaranteed social minimum – requires permanent residence
Portugal	Permanent residence for each type of benefit
Romania	Children benefits and guaranteed minimum income – requires permanent residence in Romania
Slovakia	Maternity and children benefits – requires permanent residence
Slovenia	Residence in Slovenia is required for any type of benefit
Sweden	No restrictions
Hungary	Guaranteed minimum income – only after a long-term residence in Hungary
United Kingdom	Maternity benefits – required residence in the United Kingdom. Guaranteed minimum income is obtained after the verification of the legal residence in the country.
Italy	Guaranteed social minimum – required legal residence

Source: Own elaboration based on MISSOC.

One of the greatest drawbacks of the implementation of EU regulations on migration at the level of individual Member States is the lack of automatic procedures for visa issuing for the non-EU family members of EU citizens. According to the European Commission, only Germany and Bulgaria give such a right to its citizens. The Directive of the European Council recommended a special mode of obtaining visas for family members to facilitate the process. However, so far only seven Member States have implemented this special mode (including Poland).

Coordination of social security among the EU Member States has been relatively successful, from the point of view of the cohesion of the EU labour markets. The inclusion of work abroad into the pension scheme in one's own country has been the most crucial element. The coordination includes also all contributory benefits (disability, family and maternity benefits), but does not include non-contributory benefits.

Figure II.14. Transposition of Directive 2004/38/EC in individual countries.



Note: the vertical axis shows the proportions between articles of the Directive with different levels of transposition in national legislations. For example, in the Austria have failed to transpose (in a complete manner) the largest number of articles of the Directive.
Source: EC (2008c).

In order to avoid brain drain (cf. Box II. 18), which consists in the employment of people below their qualifications, the EU is trying to simplify and standardise the system of recognizing qualifications. Professions have been divided into three groups.

1. **Professions regulated at the level of the Community** – with special significance for its citizens, e.g. doctor, architect. The recognition of qualifications in one country is binding for the rest of the EU.
2. **Crafts, trade and manufacturing** – automatic recognition, with the possibility of documents control (e.g. to verify the duration of education).
3. **Rest of the regulated professions** – requiring comparison of education in the country of origin with the receiving country, or qualification assessment (e.g. in a test).

With regard to professions that do not belong to any of the three aforementioned groups, the decision is up to the employer. EU regulations also allow employers to require knowledge of their language from employees, although the details are not precisely stipulated. According to the Court of Justice, these requirements should be sensible and necessary for the performance of the job. In addition, the EU forbids regular tests of qualifications. Importantly, posts in public administration are not covered by the regulations.

The law on the free movement of labour does not cover people who are permanently employed in an enterprise in one country and sent to work in another country, or the self-employed. According to the relevant directive, these workers cannot be discriminated against with relation to the native workers. These regulations are being criticised for their irrelevance in terms of the changing situation in the labour market, but so far no consensus has been achieved. The rights of the self-employed are covered by regulations on the free movement of services, detailed in the Bolkestein Directive (cf. Box II. 11). According to the directive, each citizen of the EU has the right to start a business in any country of the EEA and Switzerland.

Box II.11. Bolkestein Directive.

The EC Directive on services in the internal market (EC 2006), passed in 2006, is commonly known as the Bolkestein Directive after the name of its originator, Dutch politician Frits Bolkestein, then the Commissioner for Internal Markets and Services. Before its implementation, the free market of services was the least developed among the four freedoms that were supposed to integrate the internal EU market.

The project of the directive was presented in 2004 and assumed the complete liberalisation of the movement of services. It was widely protested, especially by trade unions (the famous threat from the 'Polish plumber') and the resultant compromised version is a far cry from the Bolkestein's proposal. The principle of free movement does not cover health, financial and transportation services, but still the regulation is the most important law for the integration of the European services market. According to a report by the Committee on the Internal Market and Consumer of the European Parliament (EP 2011), the transposition of the Bolkestein Directive to national legislation in Member States is slow, but probably in the end it will be successfully completed.

Source: Own elaboration.

1.4. Who are the migrating Europeans?

1.4.1. Age and gender of immigrants

Analysis of the mobility of populations should include characteristics of people that decide to migrate. To a certain extent, their characteristics have already been described in this report (with regards to the EU citizens – cf. Box II.9), so here we will focus on the immigrants coming to Europe from outside the EU.

Most of the developed countries are facing growing demographic challenges and decreasing fertility rates. In the aging society the decreasing stock of working individuals is accompanied by an increasing number of retired citizens, which inevitably leads to tensions in the European social model that are very difficult to neutralise. According to many economists, the remedy consists in the inflow of younger populations from abroad. Indeed, as shown in Table II.6, the age structure of immigrants is distinctly different from the native European population. This concerns mostly non-Europeans.

Table II.6. EU population by age (in per cent) in 2008.

	0-24	Men:	25-44	Men:	45-64	Men:	65+	Men:	Men total:
EU total	28.18	51.10	29.12	50.43	25.00	49.22	17.70	41.54	**48.80**
EU citizens non-immigrants	28.23	51.12	27.78	50.26	25.39	49.12	18.60	41.35	**48.64**
EU citizens – immigrants	21.38	50.16	41.31	51.08	25.15	51.16	12.16	46.46	**50.35**
Immigrants from third countries	31.29	51.11	45.81	52.44	17.88	50.71	5.01	48.40	**51.49**

Source: MIMOSA.

Although immigrants from outside the EU dominate the migrant community, their total stock in the entire EU population is so low (about 3.7 per cent in 2009, cf. Figure II.5) that migration can decrease the average age in individual Member States to only a limited extent - in 2008 it was only 4 months. Luxembourg is the most rejuvenated country – native Luxembourgers are about 3.3 years older than the general population. This is due to the fact that half the residents in Luxembourg are relatively recent immigrants.

Latvia is a country with the second highest percentage of residents that are non-citizens, but in this case Latvians are younger, by 2.3 years. It results from the fact that non-citizens are mostly Russian (28 per cent of the entire Latvian population), living in Latvia since the times of the Soviet Union (and not granted citizenship by the independent Latvia). In the remaining European countries with the highest inflows of immigrants from third countries the age difference does not exceed one year.

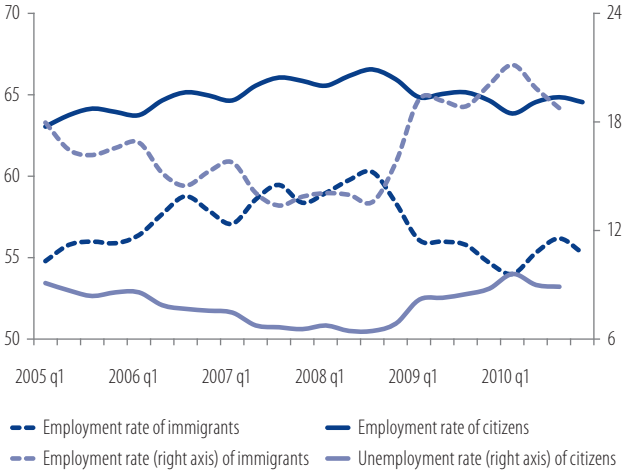
1.4.2. Status of immigrants from third countries in the European labour market

Employment rates among third-country nationals are on average 55-60 per cent, with distinct differences among the individual receiving countries. Interestingly, it is higher in the NMS, and the lowest among the traditional receiving countries, those with the most developed social welfare systems (Germany, Sweden, France). This indicates a rent-seeking behaviour among the immigrants from third countries to the EU. Also significant is the imbalance between the employment rates of immigrants and natives, especially in countries with the worst results in the market of workers from third countries (cf. Figure II.6).

Immigrants from third countries are more affected by unemployment than citizens of Member States – the gap in the unemployment rate in 2009 was on average 11 percentage points, i.e. 2-4 percentage points more than before the financial crisis in 2008. Immigrants are therefore in a worse position in the labour market compared to EU citizens, and the economic downturn has additionally increased differences through a greater impact on sectors in which the employment of foreigners is especially high.

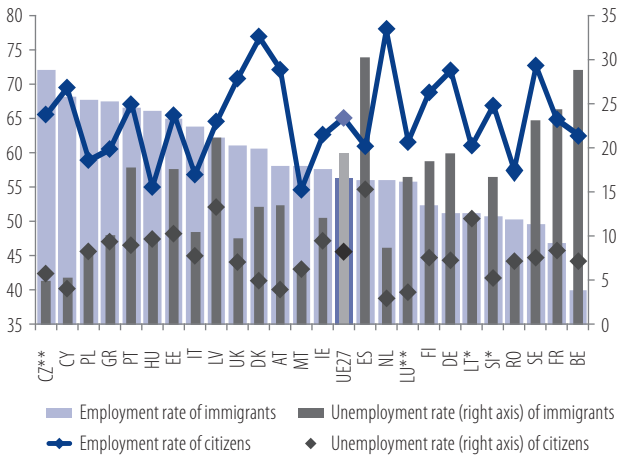
Research on Sweden (Picot, Sweetman 2011) indicates a series of factors that cause the bad results of non-European immigrants in the Swedish labour market. In the 1950s Sweden had a liberal policy towards immigrants (mostly to Europeans), but in 1972 the Swedish labour market was almost completely closed to people from outside the Scandinavian countries (Cerna 2009). Work permits were granted to only about 300-400 migrants per year. However, the restrictions did not include the inflow of family members and asylum seekers. This policy resulted in usually permanent migration to Sweden, whereas temporary migration was impeded. This resulted in the negative selection of permanent immigrants, especially regarding education. In 2004, the Swedish labour market was opened to workers from NMS10, and as late as 2008 Sweden liberalised its policy towards high-skilled workers from third-countries.

Figure II.15. Gap in employment and unemployment rate between third-country immigrants and EU27 citizens in 2005-2010 (per cent).



Source: Eurostat.

Figure II.16. Employment and unemployment rates of third-country immigrants and EU27 citizens in individual Member States in the first quarter of 2009 (per cent).



Note: No data for Slovakia and Bulgaria,
* - not very reliable data on employment rates among immigrants,
** - not very reliable data on unemployment rates among immigrants.
Source: Eurostat.

Employment protection legislation (EPL) is stricter in Sweden than in Canada or the USA, countries with much better results of immigrants. This has lead to lower flexibility of the Swedish labour market and a slower rate of absorbing foreign workers. The developed welfare system in Sweden adversely affects the search for employment among immigrants. A significant increase in immigration after 2005 could also have affected the quality and availability of integration and language courses (this problem can also be observed in Germany). All these factors have resulted in a lower employment rate than average for the EU27 and a high gap between employment of foreigners and Swedish citizens. However, these are factors that can also explain the situation in other countries of Western Europe. Table II. Employment of immigrants by profession, in the EU15, NMS12 and in total in 2008 (per cent).

Table II.7. Employment of immigrants by profession, in the EU15, NMS12 and in total in 2008 (per cent).

ISCO-88	EU27	EU15	NMS12
1. Legislators, senior officials and managers	6.50	6.50	8.20
2. Professionals	10.60	10.60	11.70
3. Technicians and associate professionals	10.70	10.70	12.20
4. Clerks	7.60	7.60	5.40
5. Services. shop and market sales workers	17.10	17.00	14.00
6. Skilled agricultural and fishery workers	1.10	1.10	2.40
7. Craft and related trades workers	15.70	15.70	17.10
8. Plant and machine operators and assemblers	8.80	8.80	11.10
9. Elementary occupations	**21.90**	**22.10**	**17.80**

Source: EC (2008a).

Immigrants from third countries are employed mainly in manufacturing (section C) and trades (G), and accordingly they usually have elementary occupations, or are craft and related trades workers. In NMS immigrants also often work in construction (F), whereas in the EU15 distinctly more immigrants are employed in health care and social welfare (Q). Importantly, NMS attracts relatively more highly-skilled immigrants (professionals, clerks, and managers). However, permanent deficiencies in the European labour markets indicate that migration policies of Member States are not fully effective tools for the improvement of their labour markets. To a certain degree, this is due to the xenophobia of EU citizens towards immigrants from outside Europe (cf. 2.3.5).

Box II.12. What are the jobs of foreigners in Poland?

From 2003 to 2008 a significant change could be observed in the range of professions of people applying for work permits in Poland (it concerns only non-EU citizens, due to a lack of data on EU citizens after 2004). In 2003 these were mostly managerial positions, and in 2008 skilled workers became more dominant, along with elementary occupations. The increase in the latter category may mean an increasing percentage of immigrants who have legalised their residence in Poland. Those who have stayed in the grey market are usually employed in housework, construction, agriculture and restaurants.

Immigrants from Ukraine are usually employed in secondary labour markets: the grey market, seasonal jobs or jobs that do not require any qualifications. In local markets they complement the deficiency of labour resulting from the aversion of Poles to certain jobs (e.g. housework) or the massive migration of local workers in a given sector (e.g. construction, agriculture). Temporary Ukrainian migrants are significantly present in agricultural areas affected by massive immigration, and in the areas of large cities where they can find work at construction sites or in households. Although Ukrainian immigrants solve the problem of the local and sectoral deficiency of a workforce, this availability of low paid workers may ossify the non-effective highly labour-intensive models of economic activity in less developed regions and sectors.

The **Vietnamese**, an example of an isolated immigrant group, usually apply for permanent residence in large cities (Warsaw, Kraków, Wrocław) and find employment mainly in trade. They concentrate in a specific sector of the economy and benefit from competitive advantage in the form of high social capital that facilitates trade contacts. Although it may result in the elimination of some Polish companies from the market, the clusters of companies created by the Vietnamese stimulate entrepreneurship and also create new jobs for the native Polish population (Mroczek et al, 2008).

IBS forecasts up to 2020 indicate that the demand for work by foreigners in Poland will increase (Bartkiewicz, Bukowski 2009). Its structure will change – the share of employed in construction and mining will decline, and agriculture will lose its dominance. Foreigners will take more low and medium skilled jobs in services as drivers, clerks, salespersons, and also in personal services. The greatest relative increases can be expected in biological sciences and healthcare (by almost 25 per cent), and technicians (by almost 18%). The scale of immigration to Poland will increase by about 30 to 80 per cent, depending on the scenario of macroeconomic development.

The inflows from outside the EU27 are similar to the volume of immigration to the USA – in 2008 the EU received 1.8 million people, and the USA 1.1 million, which is about 0.36 per cent of the population in both cases.

Immigrants from third countries in Europe are distinctly different from those that move to the USA. They are much less educated. Censuses from the beginning of the 2000s (the only comparable data) show that people with the third-level education (ISCED 5 and 6) constituted more than 27 per cent of people migrating to the USA, compared with 15 per cent in 18 countries of the EU.[15] An EU LFS panel on the situation of immigrants in 2008 indicated an improvement in this regard – the proportion of university graduates rose to 20 per cent. The lower interest in working in the EU27 among highly skilled professionals from outside the EU is discussed in Box II.13.

This phenomenon seems to be connected with different procedures of residence legalisation and applying for jobs in Member States. In this way the EU attracts more workers in elementary occupations, those that are less educated, less interested in mobility within the EU, or employed illegally. This also affects their economic situation – during a crisis, the likelihood of job loss is much higher than among EU citizens, reflected in the growing gaps in employment and unemployment rates.

[15] OECD members – Austria, Belgium, Czech Republic, Denmark, Finland, France, Greece, Spain, Netherlands, Ireland, Luxembourg, Poland, Portugal, Slovakia, Sweden, Hungary, United Kingdom, Italy.

Box II.13. Why is Europe losing the race for highly skilled workers from third countries?

Persons willing to start legal work in the EU27 face a series of barriers associated with necessary work permits in the given country and difficulties after arrival (Kahanec, Zimmermann 2011). Each Member State has the right to conduct its own immigration policy towards third-country nationals (the introduction of the Blue Card in 2009 was an attempt to standardise the system - it was accepted by all EU Member States, except the United Kingdom, Ireland and Denmark). Therefore getting a work permit in one country does not enable work in another. A worker has to apply for recognition of qualifications, transfer of social benefits and health insurance.

The EU Blue Card makes it possible to start legal work by highly skilled workers in a country that participates in the programme. The Card is granted for a period from one year to four years, and may be renewed. After 18 months of residence in a given country, the owner of the Card may move (with their family) to another country in the programme to take up another position requiring high skills. In order to obtain the card, the foreigner must have a contract offering at least 1.5x the average salary in the receiving country. The card gives the foreigner the rights of a citizen in terms of employment protection, salary, etc. However, the Member State are free to formulate the details of the procedure of granting the Card.

The introduction of the Card is a step in the right direction if the EU wants to attract a greater number of highly skilled migrants. However, its temporary character, restrictions on movement within the EU and starting work in other Member States, make it less attractive than American, Canadian or Australian visas. Other discouraging factors include differences in language and culture among the European countries, and the coexistence of the Blue Card and national legislations which may be more restrictive towards the applicants.

1.4.3. Migration from third countries to the EU

The deficit of workforce in the European labour market and the large number of third country nationals that want to settle in the European Union have created the need for the standardisation of regulations on migration from outside the EU. The coordination of regulations is also necessary as the open internal borders in the EU make it impossible for any Member State to conduct a policy that ignores the interest of other members.

The problem of legal migrations in the context of the EU policy was first discussed in the Tampere Programme 1999, although on a wider scale it was mentioned in later documents: the Hague Programme 2005-2010 and the Green Paper published in 2005.[16] It is planned that in the future the immigration policy of the European Union will be based on five directives concerning the following: (1) introduction of a standard form for work and permanent residence permits, (2) seasonal workers, (3) persons that move abroad within their companies, (4) interns, (5) and highly skilled workers. Until May 2011 only the last of the directives was signed. With regard to the previous four directives, the European Commission has presented initial proposals that are still subject to consultation and discussion.

The Directive on entry and residence in the area of the European Union is called the Blue Card Directive.[17] It introduced a tool called the Blue Card (cf. Box II. 13) based on the American 'green card'. The document allows granting special work permits for immigrants with high qualifications and employment in jobs that require specialist education. The introduction of this directive was widely protested by a number of third countries, especially South Africa and countries of North Africa which fear a potential brain drain. According to the communication of the Commission, during the first year the directive was only fully implemented in Spain, i.e. one of the most open to immigrants among the EU countries in the 2000s.

The immigration policy of the European Union represents a global approach to migration, highlighting the importance of international cooperation. Contacts of the EU with third countries are to be facilitated by mobility partnerships – bilateral agreements between the EU and individual third countries to introduce mutual liberalisation and standardisation of migration regulations. The negotiations are supposed to be held on the basis of EU Council guidelines and recommendations of the European Commission.

In 2010 the visa policy of the EU was standardised by the introduction of a common Visa Code. Earlier, each of the governments had its own separate priorities, which may have been the main cause of differences in the number of granted visas among the EU countries (cf. Table II.8). Interestingly, in 2009 the greatest number of long-term visas in the Schengen area were given by Poland, which is in contrast with the aforementioned picture of a country with the lowest percentage of foreigners. Boratyński et al. (2004) explain that the liberal policy of the Polish government concerns mostly neighbouring countries: Russia, Ukraine and Belarus. It also creates a positive image for the Polish consular services beyond the Polish eastern border.

[16] Green Paper on the EU, on the approach to managing economic migration, 11 January 2005 COM (2004) 811
[17] Directive 2009/50/EC of 25 May 2009 on the conditions of entry and residence of third-country nationals for the purposes of highly qualified employment.

Table II.8. Granting visas in the Schengen area in 2009.

Country	Number of granted visas	Percentage of refusals	Number of granted long-term visas
Austria	285 196	5.23	27 169
Belgium	165 474	17.38	24 588
Czech Republic	440 360	3.74	17 109
Denmark	77 142	5.40	1 037
Estonia	93 464	2.49	399
Finland	783 340	1.58	-
France	1 415 886	12.35	167 108
Greece	598 883	4.68	40 686
Spain	748 466	9.97	135 568
Netherlands	313 534	7.37	9 032
Iceland	779	4.18	88
Lithuania	236 299	1.77	2 824
Luxembourg	5 364	2.38	27
Latvia	118 436	3.48	1 450
Malta	28 915	9.31	4 168
Germany	1 491 784	9.06	139 640
Norway	105 430	0.75	16 502
Poland	579 424	3.29	210 292
Portugal	107 224	6.87	15 800
Slovakia	62 287	3.78	1 982
Slovenia	97 690	4.19	391
Switzerland	351 578	8.70	37 975
Sweden	172 595	7.62	527
Hungary	272 972	4.14	8 530
Italy	1 053 354	5.02	155 286

Source: COM (2011) 248.

2. Mobility in Europe after the 2004 and 2007 enlargements

2.1. Flows of population after the recent EU enlargements

2.1.1. UE enlargements and migrations

The mobility of the populations in the European Union in the 2000s cannot be discussed without mentioning the increase in migration after the accession of the countries of Central and Eastern Europe. It illustrates the general regularities and determinants of labour mobility within the EU, and helps evaluate the impact of enlargement on the labour markets and economies of EU Member States. The process of EU enlargement in the 2000s was also connected with accelerated integration, the far-reaching development of four freedoms: freedom of movement of goods, capital, services and people among the Member States, e.g. Maastricht Treaty (1992), Amsterdam Treaty (1997), Bolkestein Directive on the movement of services (2006), and the Lisbon Treaty (2009).

The accession of the NMS10 in 2004 and NMS2 in 2007 were the greatest single changes in the European labour market in the history of the Community. The increase in the population of the EU by about one fourth over a few years was not the first event on such a scale in the history of European Communities, as the accession of Denmark, Ireland, and the United Kingdom in 1973 and the accession of Greece, Spain and Portugal in the 1980s had a similar relative impact on the number of workers. However, in 2000s Western countries were concerned with the exceptionally high differences in incomes between the new members (NMS10 and NMS2) and old members (EU15). Before the accession, gross domestic product per head in the economies of Central and Eastern Europe was less than 50% of the EU15 average, and the situation on their labour markets was very disadvantageous, especially in the largest of them - Poland.

Table II.9. Increase in the EU population after the consecutive enlargements.

Year of accession	New members	Number of Member States after the accession	Increase in the population (in thousands)	Increase in the population (per cent)
1973	Denmark, Ireland, United Kingdom	9	64228	30.8
1981	Greece	10	9701	3.5
1986	Spain, Portugal	12	48515	16.7
1995	Austria, Finland, Sweden	15	21859	6.2
2004	Cyprus, Czech Republic, Estonia, Hungary, Lithuania, Latvia, Malta, Poland, Slovakia, Slovenia	25	74142	19.3
2007	Bulgaria, Romania	27	29244	6.3

Source: Eurostat.

In order to diminish the potential negative results of the massive inflow of migrants from the NMS, certain restriction were introduced to curb immigration, known as the 2-3-2 formula:

- For the first 2 years after accession, access to labour markets in the EU15 was determined by national legislations. After that time, the European Commission evaluated the functioning of national solutions.
- EU15 countries could prolong the time of national regulations by 3 years, but were obliged to inform the Commission about their decision.

After the second period, EU15 countries were obliged to annul all restrictions against citizens of the NMS, unless they experienced serious disruptions in their labour markets. In such a case they would have the right to prolong the time of restricted access to their labour markets by a further 2 years. After 7 years from NMS accession, each Member State was obliged to annul all restrictions against the workers from the NMS.

Box II.14. Migration after the Southern enlargement of the EC in 1980s.

The accession of Greece to the European Community in 1981 and Spain and Portugal in 1986 raised fears of potential inflows of immigrants from those poorer countries, with their high unemployment rate and inflation compared to the other Member States. Data on real migrations were however much lower than some estimates, predicting even 1.5-1.6 million of new immigrants from Spain and Portugal after the transition period and the opening of the labour markets of the remaining Member States in 1991.

Table II.10. Populations of Greek, Spanish and Portuguese immigrants in other countries of the European Community.

	1985	1991	1997
Greece	345 000	b.d.	447 000
Spain	495 000	474 000	470 000
Portugal	825 000	855 000	910 000

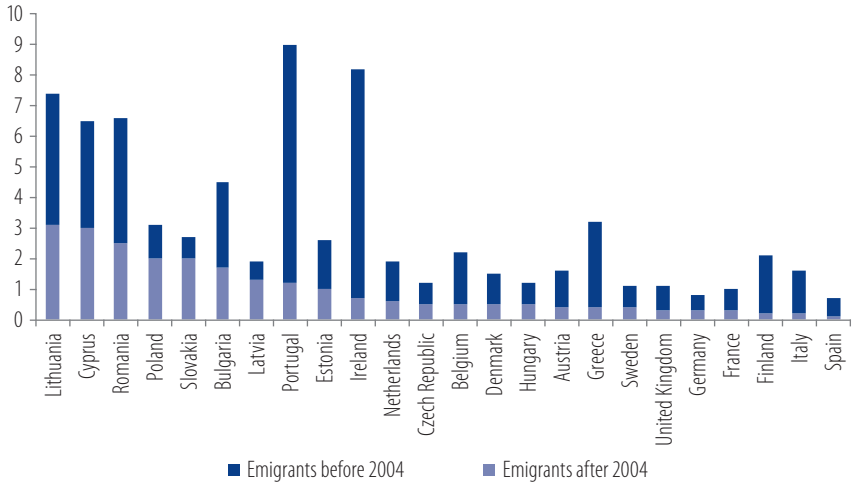
Note: 1985 – year before the accession of Spain and Portugal, 1991 – year of opening the labour markets of the old Member States (except Luxembourg) – a six year long transition period was applied towards the new Member States.

From the Polish perspective, the Spanish experiences are the most interesting – being a country with similar population, negative balance of migration before accession and the high importance of the relatively low productive agriculture before the accession. The main destinations of the immigrants from Spain were France, Germany and the United Kingdom (the total stock of immigrants in the latter two was between 140,000 and 180,000 over the first 10 years after the accession, i.e. 0.4-0.5 per cent of the entire Spanish population). Despite the officially negative balance of migration, Spain witnessed a considerable volume of return migration of 200,000 people in the 1980s. From 1985 to 1995 the number of Spanish workers in France fell by 35 per cent and in Germany by 20 per cent. Since the beginning of the 1990s Spain has had a positive balance of migration, as the return migration accompanied the growing popularity of Spain as a receiving country.

Source: Dustman et al (2003), Duszczyk M. (2007).

The United Kingdom, Ireland and Sweden were the only countries that did not introduce temporary restrictions for NMS workers in 2004, and completely opened their labour markets. Shortly afterwards, Finland, Spain, Portugal and Greece decided not to prolong the first two-year period of national restrictions. Italy, France, the Netherlands and Luxembourg opened their labour markets during the second transition period. After the additional three years Germany and Austria, contrary to Belgium and Denmark, decided to prolong the transition period again, until May 2011. The full opening of the EU labour markets to the NMS10 was therefore a lengthy process that created differences in mobility among the individual Member States.

Figure II.17. Share of the working-age population of a given country staying in another EU Member State in 2007 (per cent).



(1) Data from 2008 (2) Estimate (3) Provisional data

Source: Eurostat.

2.1.2. Main directions of migration from NMS before and after 2004

Enlargements in 2004 and 2007 changed the directions of migration in Europe, although they did not change its general structure. The main trend was the decreased significance of Germany as the target country of migration and the increased popularity of the United Kingdom and Ireland whose liberal policies made them the most popular among immigrants from Central and Eastern Europe. However, one can suppose that the early opening of the labour market in the British Isles was not the decisive factor. The language barrier was relatively low (English is better known in the NMS than any other languages), there were many vacancies, and immigrant networks had already existed in those countries. The lack of such elements in Sweden resulted in a much smaller scale of migration compared with Ireland and the United Kingdom, despite the complete opening of the Swedish labour market at the same time (Doyle et al., 2006).

Other important factors included the decreasing transportation costs, especially low-cost airlines and distinctly lower telephone call costs and money transfers from immigrants to their families in their native countries. This meant lower economic costs of migration, including the costs of maintaining contacts with the country of origin. Economic factors, such as higher wages and low language barriers, coexisted with cultural preferences and networks of contacts. The latter were especially important for the high migration from Romania and Bulgaria to the countries of Southern Europe, including Spain and Italy (cf. Figure II.19)

The internal mobility of populations markedly increased after 2004. In 2003 the EU27 witnessed the movement of 1.3mln people; in 2007 it was almost 50 per cent higher – about 1.8 million. All the Member States experienced an increase in the share of immigrants from other Member States (cf. Figure II.18); the values confirm the increased popularity of countries such as Ireland, the United Kingdom and Spain. However, with regard to absolute numbers, the highest flows were between Germany and Poland, and after the accession the intensity of returns from Germany even increased. The migration of Poles to the United Kingdom (despite its increased absolute value) was much less significant in relation to the overall number of immigrants from Poland.

Flows from large countries were the most significant in migration after the 2004 and 2007 enlargements, but the growing percentage of Slovaks that moved to the Czech Republic - the second most important receiving country after 2004 – was also notable.

Figure II.18. Percentage of immigrants from other EU27 states in the populations of individual countries in 2003 and 2008.

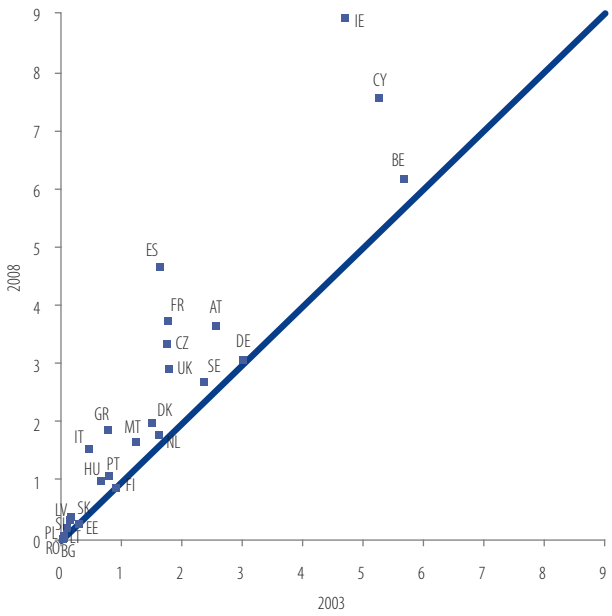
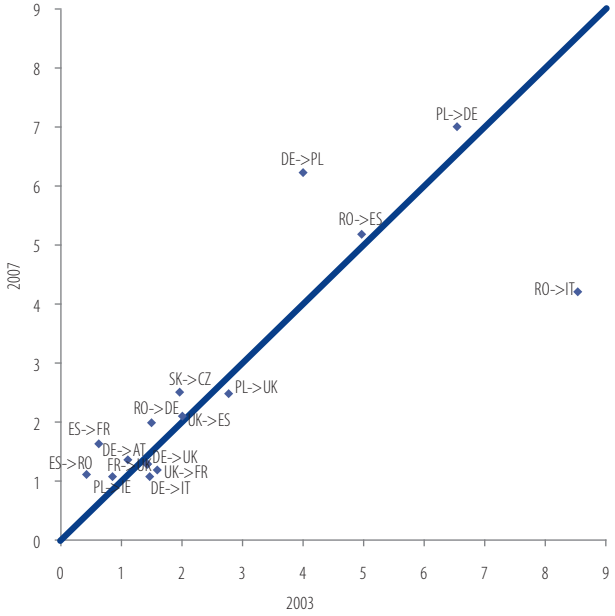


Figure II.19. The most important directions of migration in 2003 and 2007 (share in the total flows among the countries of EU27 in a given year).



Note: The left Figure omitted Luxembourg, where the values were significantly higher than in the other countries – an increase from 34.6 per cent to 39.9 per cent.

Source: MIMOSA.

Formal restrictions connected with starting legal work by NMS12 citizens before accession only to a limited extent had impeded mobility between those countries and the EU15. Since 2002 about 85 per cent of all migrations from that area have gone to the 'old' Member States and the East-West flows (and vice-versa) are much larger than the scale of movements within the EU15. However, it is possible that this is just another 'statistical' fact, resulting from unrecorded flows among the countries with open labour markets.

The EU enlargement in 2004 has been the greatest in terms of absolute number of new EU citizens. However, the percentage of the new EU population (19.3 per cent) is comparable to that in 1986 when Spain and Portugal joined the EEC (16.7 per cent). Also then the 'old' Member States were expressing their concerns related to the potential massive inflows of immigrants to much more developed economies.

That did not happen, which is sometimes explained by the fact that the stock of immigrants from the poorer South had already been high in the countries of the Community (e.g. labour markets in Germany and France had already been saturated with foreigners from Spain and Greece). It was different with the NMS whose citizens were also present in Western Europe before the accession but not in the scale comparable to the Spaniards and Portuguese. Hence the increased international mobility of citizens of Central Europe, including Poles, after 2004.

2.2. Determinants of mobility in the enlarged European Union

2.2.1. Individual and aggregated determinants of migration

International migrations depend both on 'push factors' (existing in the sending country, such as low wages, high unemployment, relatively higher cost of living), and 'pull factors' (in the receiving country, such as higher wages, lower cost of living, and dynamic increases in employment). Decisions on moving out are made taking all these factors into account.

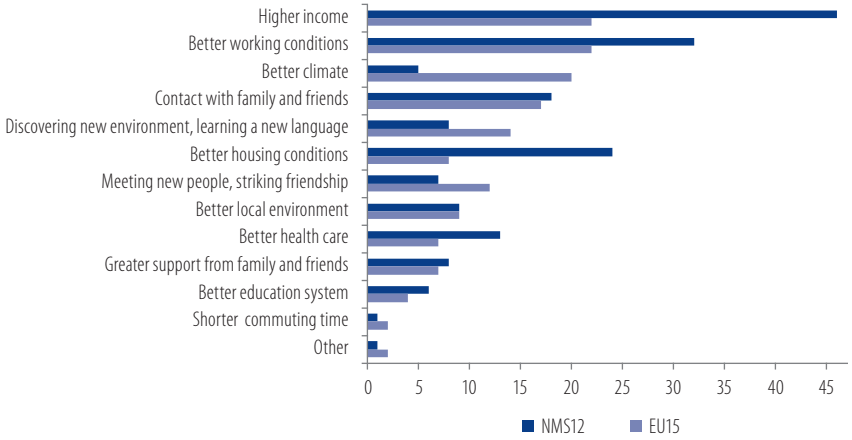
Literature presents determinants of migration at individual and aggregated levels. The former indicate factors that influence the decisions of individuals to migrate. The latter show the potential number of people who in a given period decided to leave a given country or enter a given country (Grubel, Scott, 1977). Analysis of social surveys (cf. Figure II.20) suggest that economic motivation is the strongest factor at the individual level.

Microeconomic determinants of migration are associated with the perception of migration as a kind of investment. A decision on leaving is taken after the estimation of associated profits and losses. These calculations include differences in wages, difficulty with finding

a job and the cost of job-seeking. Another important aspect is the comparison of the cost of living in the homeland and the destination country. These aspects are especially important in the NMS12, with a relatively lower level of economic development than the EU15, and relatively low costs associated with migrating.

These are not the only reasons why people decide to face difficulties connected with going to another country and living there. There are also social and cultural factors (reuniting families, re-emigration to the country of parents, etc.) and also in exceptional situations political factors (especially conflicts and wars in the country of origin, in comparison with the security and political freedom in the target country). Not without significance is the feeling of emotional loss (broken family ties) and the necessary adaptation to the new environment.

Figure II.20. Causes of migration among EU citizens (per cent of responses).



Note: The respondents could choose a maximum of three responses.
Source: European Commission (2008a).

Decisions to emigrate are also influenced by aggregated factors, i.e. common to the large immigrant communities. These include characteristics of the receiving and sending economies, and institutional conditions; this especially concerns the immigration policy that has shaped the directions of migration from the NMS after 2004 to the United Kingdom, Ireland and Sweden, i.e. countries that opened their labour markets. Notably, a similar policy has had a significant effect on migration flows to Canada.

The aggregated determinants of migration include the following (Ministry of Labour and Social Policy, 2007):

- differences in average wages between the sending and receiving country
- differences in employment and unemployment rates
- transaction costs associated with starting a legal job (or the risk resulting from illegal work) in the receiving country, the distance between the two countries, the size of the diaspora in the target country
- differences in the average cost of living
- risk of relative deprivation in the sending country – not only absolute level of wealth matters but also the relative one, compared to neighbours
- barriers to the use of knowledge in the receiving country (cultural and language differences)
- costs resulting from breaking off social and family ties, the necessity to adapt to the new environment: significance of the family in the sending country, structure of population, living conditions, degree of urbanisation.

The alternative socioeconomic theory of migration by Richmond (1993) places migration between two extremes: unequivocally proactive and reactive. Between these two poles exists a continuum of types that combine the elements of the two extremes.

Proactive migrations are characterised with the rational behaviour of people that decide to migrate (maximising their net gain resulting from material and non-material factors). Reactive migrations result from panicky escape from a crisis (individual or collective) which occurs in a given country or in the life of the migrant, and the associated threats. In proactive migration, most migrants are influenced to migrate by both categories of incentives: their decisions to migrate result from economic, social, cultural and political reasons. More frequently, proactive migrants are professionals, entrepreneurs, pensioners and temporary migrants employed on fixed-term contracts (Richmond, 1993). The opposite reactive attitude is more common among people who change their place of residence because of external and unexpected economic reasons (the collapse of the economy), political circumstances (wars, revolutions, etc.) or due to natural catastrophes (famine, flood). Importantly, the factors that encourage or discourage immigration are similar to those that decide return migration (cf. Table II. 11).

Table II.11. Favourable and unfavourable factors for return migration.

Groups of factors	Favourable factors	Unfavourable factors
I. Success of migration and the significance of the macroeconomic environment	Excessive expectations with regard to living standards in the receiving country due to incomplete information	Good knowledge of the language of the host country
	Difficulties with integration	Sustained difference in the level of wages (min. 30 per cent) between the homeland and the receiving country
	Considerable number of people aged 60+ living abroad	Possibility of full access to the social infrastructure in the receiving country
	No possibility to realise professional plans in the receiving country	
	Positive changes in the country of origin	
II. Preference for consumption in the country of origin	Perspectives of using one's skills and money acquired abroad in the country of origin	
III. Saving for the purpose of investment		Changes in the exchange rate
IV. Forming human capital	Relatively higher wages obtained by returning persons	
	High level of education	Low level of education
V. Serial migrants: repeated and circular migrations	Having a family in the country of origin	
	Longing for a lifestyle in the country of origin	

Source: Own elaboration based on (2007) and OECD (2008).

Given that migrations of people from the NMS take place mostly due to economic reasons (better wages, working conditions, and access to apartments in the EU15), these migrants can be described as proactive, contrary to people that come to Europe from other continents who are more affected by political factors (wars, revolutions). The latter are dominated by the current flows from North Africa (Tunisia, Libya) to Italy.

2.2.2. Return migrations in the EU

The neoclassical theory treats return migrations as negative anomalies. This reasoning is based on the assumption that an individual emigrates to maximise income, at the same time taking into account the costs of mobility, and hence prefers permanent residence in the destination country. In the eyes of the neoclassics, a return is a double failure of the immigrant: they have failed to improve their incomes and also must incur the costs of return. In contrast, the New Economics of Labour Migration present migrants as very attached to their home countries, so they will stay abroad until reaching their income objectives. Hence their return is planned and shows success rather than failure. Then the structural approach focuses not on a migrating individual but the environment; it emphasises the permanent character of differences between centres and peripheries. The differences are so high that return migrants are not capable of using their human capital and effectively investing their savings. Instead, they are forced to incur the cost of rejoining their local communities, which is often associated with consumption for effect and eschewing the norms the immigrants have already adopted abroad. Yet other approaches emphasise the role of ethnic and social ties in the decision to return.

Return migrations occur in all countries that experience a strongly negative net balance of migration – e.g. in Spain, Ireland and Portugal after their accession to the EU (Duszczyk 2007). In Spain this phenomenon was taking place mainly in the 1980s, in Ireland in the 1990s (currently the net migration balance of the Irish is negative, and the greater inflows and outflows are caused by the movement of other nationals), while Portugal has seen the increase in recent years. These differences make it difficult to find any regularities, although it may be supposed that along with the diminishing differences in wages and living standards between the country of origin and the receiving country, we may expect an influx of people returning to their home country. The most recent experiences of Poland in this regard are discussed in Box II. 15.

To sum up, migrations take place mainly due to economic, political and cultural reasons. Among the citizens of the NMS, material factors are most dominant, while the migration of people within the EU15 is more determined by weather conditions, families, etc. A significant portion of migrants decide to return to their country of origin after some time abroad, which is connected with decreasing differences in living standards, and also with longing for family and friends, or failure in the labour market in the receiving country.

Box II.15. Return migration in Poland.

Return migration in Poland is to a great extent associated with significant improvement in domestic economic situation. It seems that stable economic growth after 1992, and therefore improving living and working standards, gradually encouraged a growing number of returns to Poland. There were two main streams of re-emigration: immediately after the system transformation in 1989 and after accession to the EU in 2004. The former is related to the democratisation of social and political life in Poland and new career opportunities for the well educated immigrants from the 1980s. This first wave involved mostly professionals and middle level managers who perceived the transformation as a chance to return and lead a wealthy life in their homeland. There were a lot of young people (28%), including the children of immigrants, born abroad but willing to study in Poland.

BAEL (LFS) data from 2008 shows that from 1989 to 2008, Poland saw the return of more than 1 million people. Since 2000 that trend has been swelling. At the beginning of the period there were about 40,000 returns a year, but in 2007 there were 200,000 (Grabowska – Lusińska 2010). The growing positive net balance of return migration can be ascribed to the gradual diminishing of the gap between the Polish and Western European incomes, closer unemployment rates, growing chances of substitution for permanent migration (e.g. cross-border commuting), and also difficulties finding work in the destination countries. The latter include people with a similar situation to those covered by the seasonal employment programme in the 1990s - escaping unemployment in Poland by going abroad, but at the same time worsening their situation in the local labour markets. This resulted in a greater risk of permanent unemployment and deactivation (Fihel et al., 2008).

Return migrants to Poland were surveyed by Iglicka (2009)[18] at the time of the economic downturn in the second half of 2008. They were asked about their situation in the labour market before their migration and after their return. Three fourths of those surveyed had decided to come back according to their initial plan, and just one fourth returned due to external factors (loss of job or difficulties with finding a job, family matters). Hence it can be supposed that some of the migrants are attempting to wait out the crisis abroad. Before migration, 10 per cent of the respondents were jobless; after their return this number increased four times (especially with regard to women with high education and people aged 20-25). 40 per cent of those surveyed expressed their will to migrate again in the close future (usually to a different country, especially among those who returned from Ireland).

Research in Lower Silesia, SW Poland, shows that about 75 per cent of returning migrants have savings, which are higher than the Polish average. They are mainly intended to be spent on consumption, or the purchase of a car, while only 7 per cent of the returning migrants invested the money into starting their own business. Migrants point out both positive and negative results of their migration. On one hand, they appreciate the acquisition of new 'soft' skills (groupwork, communication), learning new solutions, techniques of work and technologies, and on the other understand the problems associated with their absence from the Polish labour market, the 'gap' in their CV associated with work below their qualifications. Nevertheless their situation in the local labour market in Lower Silesia was better than before migration – with a higher percentage of employed and having their own business (or sole proprietorship). Almost half of the respondents planned to migrate again.

2.3. Effect of mobility of workers on the EU Member States

2.3.1. Introduction

Migrations determined by economic factors, i.e. those that occurred in the EU, especially within the Community, result in the raised supply of labour in the receiving countries and the decrease in the sending countries. It is widely agreed that migrants gain economic advantages in the form of higher wages and potential *learning-by-doing*, but some express their fears of the negative impact of immigration on the labour market and on native workers in the receiving country (decreased wages, and/or risk of unemployment among local workers), and on the labour market in the sending country (increased wages, competence deficits).

2.3.2. Immigrants and economic specialisation of the local population

The theory of economics indicates that if in the receiving country labour is a relatively scarce production input and is present in excess in the sending country, then the migration flows are economically advantageous in both places. A similar mechanism can be expected for an adjustment in capital; i.e. higher investment allows maintenance of the employment infrastructure at the level before the inflow of immigrants. Empirical studies show that although benefits of migration concern mainly the inflowing migrants, the effect on the receiving country is still moderately positive.

The European Commission (2008) shows that in European countries there is not a unequivocal dependence between the percentage of the foreign-born population and the situation of the local population in the labour market (employment and unemployment rate), or between the situation of the foreign and local population in the labour market. In other words the elevated inflows of migrants do not deteriorate job perspectives in the receiving country, and in certain situations, if the skills of immigrants and local workers are not complementary, they may even slightly improve it.

[18] Although the results of this study show certain patterns, they do not have to be representative as they were conducted on the sample of 200 persons from 40 towns.

D'Amuri & Peri (2010) examined the impact of immigrants on the economic specialisation of the citizens of the receiving countries at similar ages and education, and their employment rate. It turned out that although foreigners do not contribute to increased unemployment among the local population, they affect their economic specialisation. Immigrants more often take elementary manual occupations and 'push' the natives to more abstract and complicated jobs that are also associated with higher wages. This effect, in accordance with earlier research by Angrist and Kugler (2003), is the highest in those countries with more elastic labour markets and higher general job mobility.

2.3.3. Effect of immigration on the level of wages

Many empirical studies on the effect of immigration on wages (Glover et al., 2001; House of Lords Select Committee on Economic Affairs, 2008) indicate the marginal effect of migrant inflows on the wages of local employees, although it can be negative in some categories of jobs, especially low-skilled jobs. Münz et al. (2007) shows that this effect can be observed in construction. Longhi et al. (2004) conducted a meta-analysis of studies on the effect of immigration on wages in various countries of the world and came to the conclusion that a 1 per cent increase in the proportion of immigrants among those economically active decreases the level of wages by 0.1 per cent (on average in the sample of estimates by various authors). Hence the effect is negative, but very insignificant.

Migration flows can also affect the labour market of the sending country. Most analyses in this area focus on migrations from Mexico to USA, indicating a moderate elasticity of wages in Mexico – 0.3-0.4 per cent (Aydemir, Borjas 2006), although this effect may vary in individual regions that differ in intensity of immigration (Hanson 2005). In Poland, Budnik (2008) shows that the outflow of workers at 4.5 per cent of the workforce in 2002-2006, resulted in a very moderate increase of wages by about 1 per cent.

2.3.4. Migration as an adjustment mechanism in a time of economic crisis

Given the small scale of the effect of migration on the aggregate macroeconomic situation both in the sending and receiving countries, a question arises of how significant the migration is as an adjustment mechanism during an economic crisis. Such a mechanism could function in the following manner: when an economic situation deteriorates in the receiving country, migrants react rapidly to the increased level of unemployment and other negative phenomena (e.g. decrease in wages), and move to countries that are not affected by the downturn, which in turn makes it easier for the markets they had left to recover from the crisis. However, empirical studies show that only a slight percentage decide to change their place of residence; most migrants decide to wait out the crisis in their host country.

Results of estimates for West Germany, France and Italy (Puhani 1999) show that a change in the unemployment rate has a statistically significant although very low effect on migration flows (an increase in the unemployment rate in West Germany by 1 per cent, ceteris paribus, results in a decrease in the local population by 0.008 per cent). Small changes in relative wages[19] do not have any effect on the mobility of the population (including domestic and international movements). With such a low reaction of migration to changes in employment, unemployment shock could be absorbed after at least 4 years. Another study of 38 EU regions shows that migration contributes to a decrease in the employment gap between sending and receiving regions by 3 per cent in the year after departure, and after 5 years the gap decreases by about 16 per cent (data from 1996 – 1999, Cavelaars, Hessel 2007). Hence migrations contributed only slightly to quelling economic crises and decreasing differences in the development of the sending and receiving countries.

It is difficult to draw conclusions on the absorption of the recent downturn by migrations using research from the 1990s, as the mobility of the population in Europe has increased. A study case on Ireland (Ahearne et al. 2009) indicates a high cyclicity of migrations and their significance in the time of boom and downturn. In good times, foreigners help complement deficits in the labour market of the receiving country, and during downturns they may become a sort of buffer protecting the citizens against a loss of employment. This buffer works in two ways. On one hand, migrants are over-represented in jobs that require low skills and in those sectors that are most likely to dismiss employees in downturns. On the other hand, the likelihood of firing an immigrant is higher than for a native citizen with similar education, skills, etc.

Econometric models, based on data from 1983-2006 on the inflows of immigrants to the EU15 from various countries, including NMS, show that the increase in unemployment rate in the receiving country has a high significance for persons considering immigration. In other words, a potential immigrant takes into account the costs of job seeking in the balance of profits and losses associated with going abroad (an increase in the unemployment rate in the sending country is less important, due to a lower level of uncertainty in finding a job in a familiar environment). In this way, the inflow of foreigners is decreasing in countries affected by crises, even when the country of origin is also affected by the downturn (such a situation could be observed in Hungary and Baltic countries).

Ahearne et al. (2009) also predict that although migrations will fall from those NMS that have been less affected by the downturn than the EU15 (Poland, the Czech Republic, Slovakia and Slovenia), immigration from the Baltic states and Hungary may soon intensify due to their expected lower rate of real convergence to the EU15 average.

[19] Ratio of wages in the homeland to wages in the receiving country.

2.3.5. Attitude of public opinion to foreigners and the economic situation

Research shows that in a deteriorating economic situation in the receiving country, its citizens are more likely to blame the immigrants for the downturn, and postulate more restrictions in governmental migration policies. This negative attitude results not only from economic reasons – crises are accompanied by an increase in negative stereotypes of the immigrants from various countries. The potential causes of anti-immigrant resentment are discussed in Box II. 16.

Box II.16. Theories explaining anti-immigrant sentiments in Europe.

Rustenbach (2009) classified factors that may cause xenophobia into eight categories (taking into account individual, regional and national levels), and then evaluated the significance in 20 EU Member States from Eurostat data and the *European Social Survey* from 2002 and 2004. These are the following theories (by the size of their estimated influence):

- *Societal attachment* – immigrants are often blamed for increased unemployment and crime, which is connected with a lack of trust;
- *Human Capital Theory* – natives with lower education will be more likely to have anti-immigrant attitudes. Lower education is related to having a narrower set of experiences (i.e. travel) which leads individuals to have a narrower perspective. Those with less education may also have higher anti-immigrant attitudes because they more frequently compete with them for low skilled jobs;
- *Economic Competition* – lower skilled natives will be more likely to have anti-immigrant attitudes because they are in competition with the low skilled immigrants that are entering the country; competition may also result from the many portrayals in the media of poor immigrants moving to richer countries to attempt to improve their lifestyles;
- *Political affiliation* – people who are alienated politically may be looking for others to blame, and consequently may be more negative toward immigrants; those in favour of right-wing parties also support immigration control more than those on the left.
- *Neighbourhood safety* – a feeling of a lack of safety in the neighbourhood may be correlated with natives attributing higher levels of violence or crime to immigrants.
- *Cultural marginality theory* – people will be more likely to have anti-immigrant attitudes when they cannot relate to the culture of the immigrants, due to high differences in language, religion, customs and history; they feel there is a lack of common factors on which to build trust.
- *Contact theory* – if the size of the minority group increases, the majority may feel they are going to have to compete for scarce resources or cultural hegemony. Prejudice also increases in times of recession because the majority group blames the foreigners for the economic problems.
- *Foreign Direct Investment* – according to the world systems theory, when nations in Europe decide to invest overseas, information concerning poorer countries becomes more prevalent in the media and business. Increased knowledge about who the immigrants actually are and the harsh conditions they face in their nations of origin may increase understanding and lower anti-immigrant attitudes.

To sum up, anti-immigrant sentiments are mainly related to economic factors and are associated with the perception of immigrants as competition in the labour market for low skilled jobs, the lack of trust and blaming them for increased crime in the neighbourhood.

Source: Work of foreigners in Poland. Report from the survey, CBOS 2010.

Deterioration in the social atmosphere is confirmed in the annual Marshall Fund *Transatlantic trends: immigration survey*.[20] Between 2008 and 2009 there was a distinct increase in the percentage of people that perceived immigration as a negative phenomenon. It could be observed in France, Germany, the Netherlands, Italy, the UK and USA. Out of eight countries included in the survey,[21] only in Canada did the majority of society consider immigration to be an opportunity for the country. Almost half of UK respondents thought there were too many more foreign-born nationals in their country.

Comparing the results of European countries, immigrants were more accepted in Spain and Italy, where their presence is not perceived by the public as competition in employment, or a factor that erodes wages, etc. In Northern countries, citizens are in favour of more restrictive government actions (such as the burqa ban in France, or expulsion of the Roma) or exert pressure to restrict migration policy (limits on the number of incoming high-skilled third-country nationals in the UK).

[20] http://trends.gmfus.org/immigration/doc/TTI2010_English_Key.pdf
[21] Canada, USA, UK, Italy, Germany, Spain, the Netherlands, France

Box II.17. What do Poles know and think about immigrants?

A CBOS (Public Opinion Research Centre) survey from October 2010 shows that only one person in four personally knows a foreigner living in Poland (which has not changed over 10 years). Poles who have met immigrants are mostly university students or people with university education, residents of large cities. The most frequently mentioned nationalities are consistent with official data – Ukrainians (6 per cent), Belarussians and Russians (2 per cent each), Germans (4 per cent) and British (3 per cent) among EU citizens. The Vietnamese are the most known Asians, which is consistent with data from the Ministry of Labour and Social Policy.

About 4/5 Poles are positive about employing foreigners in Poland, but about ¾ think that this employment should be motivated solely by the inability to find a Pole for the job. There is popular opinion that the presence of immigrants from Eastern neighbours have adversely affected the situation in the country during this economic crisis. There was an increase in the percentage of those that think the Polish government should try to limit the employment of Ukrainians, Russians and Belarussians in Polish companies (from 53 per cent in 2008 to 65 per cent in 2010), but these opinions are mainly voiced by people who have never worked with foreigners.

Source: Work of foreigners in Poland. Report from the survey, CBOS 2010.

Aversion is more directed towards immigrants from non-EU countries than from the NMS. An increase in anti-Polish sentiments has been noted by the British and Dutch press (the Dutch government has threatened to deport NMS migrants if they have been unemployed for more than 3 months), but more attention is being paid to the problem of the inflow of immigrants from the war-stricken areas of North Africa (mainly Libya and Tunisia). In this context, some postulate the temporary reinstatement of border control in the Schengen area.

2.3.6. Effect of migration on the forming of human capital in Europe

The mobility of the European Union population affects the development of its countries through impact on the level and rate of accumulation of human capital. In this context, an important question arises for the NMS10: how does the facilitated employment of their citizens abroad, including the best educated, affect the potential of their economies? In particular, how significant are the processes of brain drain and brain waste?

A comparison of the education structure of the domestic and immigrant populations in individual groups of the EU Member States shows that the problem of brain drain does not significantly affect the NMS, in the sense that in the population of immigrants there is no over-representation of highly skilled workers. The proportion of best educated was higher among those leaving than in the domestic population, but the differences were small, especially in comparison with the EU15 (cf. Figure II.). Importantly, the proportions presented in the Figure can be distorted because of the omission of the immigrants to the UK, one of the most important destinations for the well-educated.

Box II.18. *Brain drain, brain gain, brain waste.*

According to the classical definition of *brain drain* by Grubel (1968), it is the intention of holding permanent employment in a country other than that in which a person was educated up to a specified high level. This phenomenon results in the outflow of human capital abroad. Initially, the mobility of skilled workers was treated as an unambiguously negative phenomenon which weakened the economic potential of the country of origin. However, further studies (e.g. UNITAR[22] 1978) showed that the majority of highly qualified people who have emigrated to more developed countries return to the country of origin after some time spent abroad. Since then, the immigration of highly skilled persons began to be seen as the search for a job that allowed an effective use of their human capital.

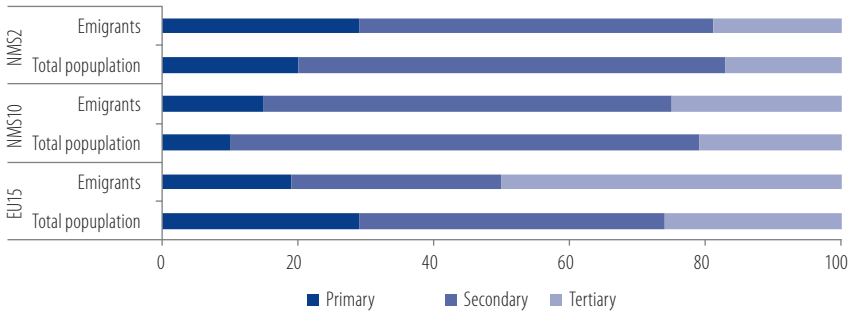
Brain gain is a net inflow of human capital to the country. An alternative mechanism also exists of the positive influence of openness of labour markets to highly skilled individuals. The possibility of obtaining a higher return on higher education abroad results in an increasing level of human capital in the sending country, as more people participate in education to achieve better wages after migration (although in the end not all of them decide to migrate).

Brain waste occurs when migrants obtain jobs below their qualifications.

Source: Own elaboration.

[22] United Nations Institute for Training and Research.

Figure II.21. Structure of education of immigrants in comparison with the total population of the sending country (per cent).



Note: Immigrants in the UK are not taken into account due to a lack of reliable data.
Source: EC (2008a).

On the other hand, immigrants from the NMS are more likely to get unskilled jobs (cf. Table II, 12); and they often undertake jobs below their qualifications, although they show a higher level of human capital than the local population in the destination country (Dustmann et al. 2007). Therefore we may talk about brain-waste in relation to immigration from the NMS12 to the EU15.

Table II.12. Immigrants from the EU15, NMS10 and NMS2 by occupation in 2007 (per cent).

Occupation (ISCO-88)	EU15		NMS10		NMS2	
	Total population	Immigrant population	Total population	Immigrant population	Total population	Immigrant population
1. Legislators, senior officials and managers	8.8	11.7	6.8	2.6	3.9	:
2. Professionals	13.9	26.6	14.0	4.3	10.6	3.1
3. Technicians and associate professionals	17.4	16.8	14.1	5.2	9.8	2.4
4. Clerks	11.9	9.0	7.5	4.4	5.3	2.0
5. Services workers and shop and market sales workers	13.9	11.9	12.6	17.6	12.3	16.0
6. Skilled agricultural and fishery workers	2.5	:	7.6	:	17.2	2.9
7. Craft and related trades workers	13.6	8.3	17.3	16.0	17.0	28.3
8. Plant and machine operators and assemblers	8.1	5.5	12.2	18.0	12.3	4.4
9. Elementary occupations	9.9	9.9	7.9	31.0	11.8	39.1

Note: ':' – number too low for a reliable estimation based on the sample.
Source: EC (2008a).

Although the first generation of immigrants may have been affected by overeducation, many data indicated the widespread character of education ambitions among the children of immigrants. School results of immigrant children in Germany are better than their counterparts in the sending countries (at 15 years), although still worse than among German children (these results are distinct for families that speak German). Luthra (2010) analysed (allowing for demographic factors and origin) the results of standardised PISA tests in 2003 and 2006 and compared the results of immigrant children from Italy, Turkey, Poland, the former Yugoslavia and former republics of the Soviet Union, against the results from children in the sending countries.

A question arises whether the results are more influenced by the different system of education in Germany or by being the child of immigrants. In the case of Polish children, the difference in the average results of the PISA tests between Germany and Poland were small (504 and 495 points, respectively). Significant differences do occur in the return on the characteristics of parents (education, occupation), which especially concerns 15 year olds with the highest test results. It means that although the results of immigrant children were worse than those of German children, they are still better than in their country of origin, which may be considered as a benefit of immigration. The author also postulates that the gains of the children of immigrants from underdeveloped countries should be even higher.

2.3.7. Mobility of the population and education decisions in Poland and other NMS

In the context of research on changes in the mobility of the enlarged EU, it is also interesting to analyse the education decisions taken by students and adults on the choice of university faculty and professional education, and their changes before and after the enlargements from 2004 and 2007. Although researchers agree that migration and education are intertwined, they tend to focus on dependences between the level and field of education, and the situation of an immigrant in the labour market of the receiving country, or on the departures to start education abroad, than on education with the intention of immigration in the sending country. (Dustmann, Glitz 2011).

Economic models indicate a positive dependence between the opportunity to get a job abroad and the education effort before leaving (Stark, Fan 2006, Dustmann, Glitz 2011). The most important factor is the timeframe of the planned migration – whether it is a permanent or temporary migration. In the latter case, there is more of an expectation of the future return on education gained in the country of origin. Unfortunately, in literature there are no reports on the chosen faculties of university studies or vocational education. However, Eurostat data provide for the analysis of education trends in the EU15 and NMS12.

2.3.8. Trends in second-level education

From a Polish perspective, the potentially most sought-after specialties are hospitality, tourism, restaurant management, construction, care for the elderly and nursing - the most frequent occupations of Polish immigrants. Analysis of changes in the proportions of these specialties chosen by the students of vocational and post-secondary schools, leads to the conclusion that the opening of the Western European labour market could have contributed to a relative increase in the attractiveness of these specialties.[23] Similar conclusions are indicated by the numbers of graduates in construction, personal and social services.[24]

Figure II.22. Share of architecture and building graduates in the total number of graduates of schools at the level of ISCED-3 (per cent).

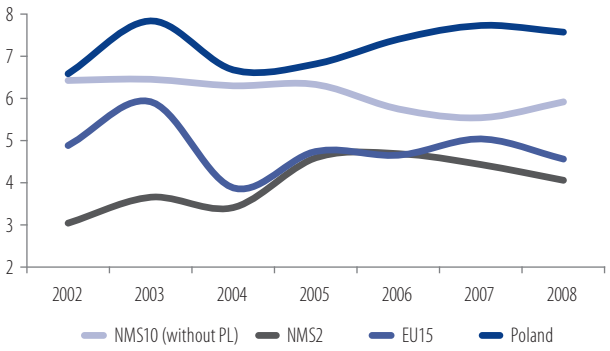
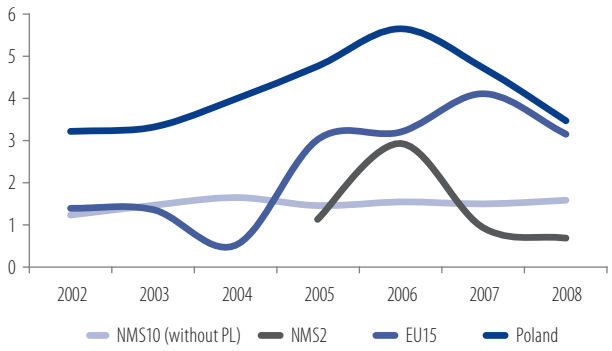


Figure II.23. Share of social services graduates in the total number of graduates at the level of ISCED-4 (per cent).

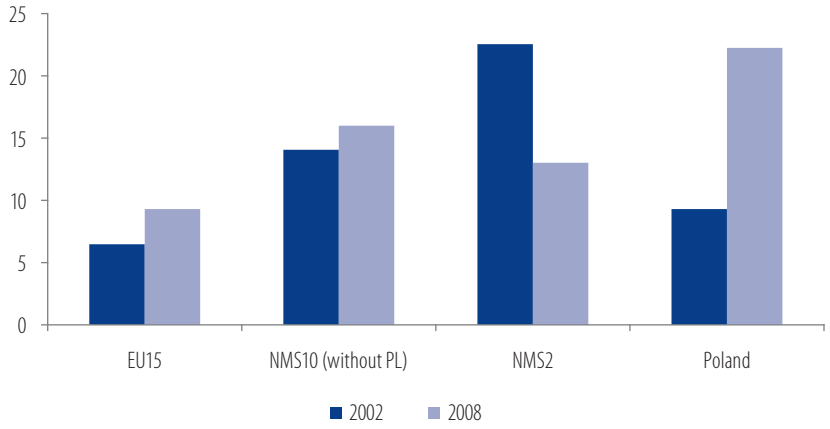


Note: No data for UK or Cyprus.
Source: Eurostat.

This is confirmed by data from the Worker Registration Scheme (WRS) on sectors which employ immigrants from NMS (called A8 by the Home Office – the Czech Republic, Estonia, Lithuania, Latvia, Poland, Slovakia, Slovenia, Hungary). In the period from May and December 2004, hotels and restaurants employed ¼ of the applicants from A8; in 2008 it was still the second most important sector for immigrants from A8, despite the downturn in the UK. Higher interest in construction and social care among workers from the NMS12 is probably connected with the economic boom in the receiving countries (Germany, the Netherlands), and in Poland with the demand in the domestic labour market. It needs to be emphasised that the dominance of management, business and administration in the WRS is not necessarily connected with employing foreigners for highly skilled managerial positions, as these people found work through recruitment agencies and work in different sectors of the economy. In WRS registration statistics, management, business and administration include all jobs offered by recruitment agencies, which provide intermediation in searching workers for various positions, not necessarily those requiring high skills.

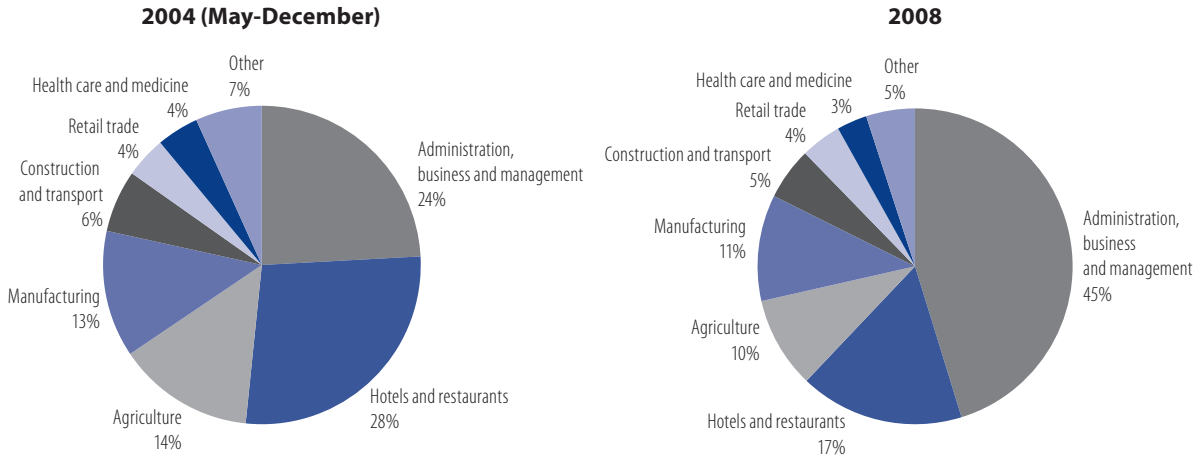
[23] The discussed types of schools take into account school for adults who are more likely to response to the boom in foreign labour markets. In the case of junior high school graduates, the decision to choose a profession is motivated more by interests, opinion of parents, friends, etc. (results of a survey on students of schools in Poznań and Białystok).
[24] These are data on the graduates of schools at ISCED97 levels 3 and 4; in Poland these are: basic vocational schools, specialist high schools and complementary high schools (level 3) and post-secondary schools (level 4) (average time of education is about 2 years, and maximum 4 years).

Figure II.24. Share of graduates of faculties associated with services (hospitality, catering, hairdressing, tourism, housework etc.) in the total number of graduates of school at the levels of ISCED-3 and ISCED-4.



Note: Data for the UE-27 and the Euro area are Eurostat estimates.

Figure II.25. Work permits in the UK in 2004 and 2008, by sector (per cent).



Source: Own elaboration based on the Home Office data - Worker Registration Scheme.

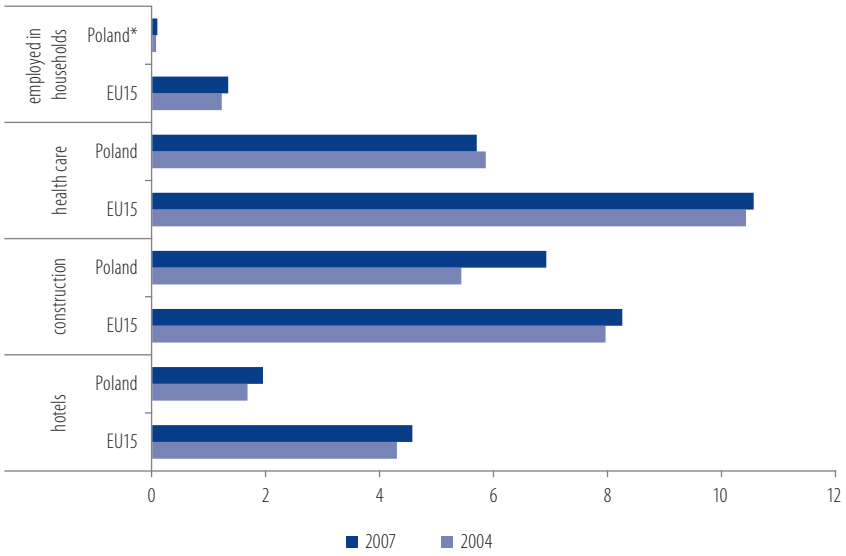
The high popularity of hotel education in Poland may also result from demand in the domestic labour market. Since 2004 employment in this sector has been growing and the number of hotels is still insufficient in comparison with the EU15 (5 collective accommodation facilities per 100 inhabitants in the EU15, less than 1 per 100 in Poland).

2.3.9. Trends in third-level education

Due to the relatively longer duration of third-level education (compared to vocational education), it is difficult to suppose that the choice of a specific faculty is motivated by a plan of immigration to another country. Moreover, given that most immigrants find employment in jobs below their qualifications, it may be argued that those that plan to leave do not invest time in acquiring specialist third-level education. Brain waste is considered to be related to insufficient knowledge of immigrants (not knowing about vacancies in their professions, or about institutions that could support them in finding a job matching their skills), and also among employers that are not able to assess the value of diplomas presented by foreigners (CEDEFOD 2011).

In the context of integration and improvement of EU competitiveness, it seems worthwhile to analyse what kind of differences and similarities occur at the beginning of third-level education. In the NMS, the relatively more popular faculties are social sciences, economic, legal and pedagogical faculties, and much less popular are humanities, arts, science (although its share significantly increased between 2002 and 2008), health and social care.

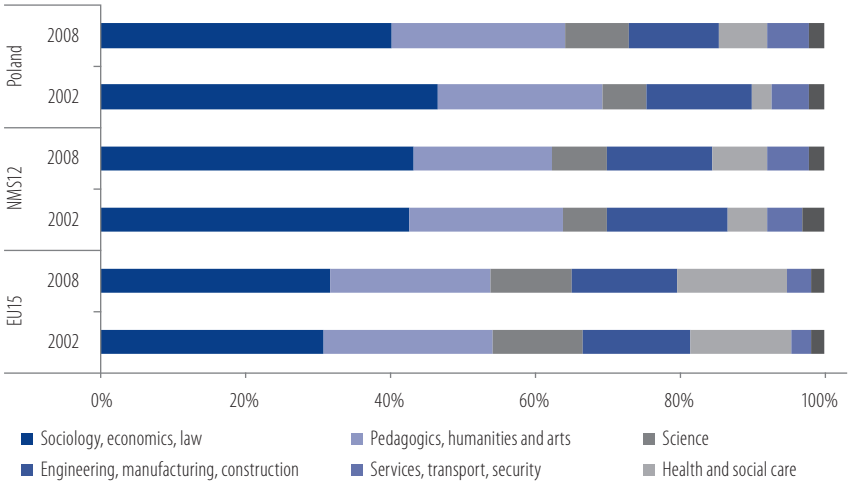
Figure II.26. Employment in selected sectors of the economy in the EU15 and Poland in 2004 and 2007 (per cent).



* unreliable or incomplete data.

Source: Eurostat.

Figure II.27. Most frequently chosen faculties in third-level education in EU countries, 2002 and 2008 (per cent).



Source: Own elaboration based on Eurostat data on the number of people enrolled in schools at levels 5 and 6 in ISCED97 in 2002 and 2008.

In summary we can say that the Eastern European Union enlargements in 2004 and 2007 affected both the growth of mobility among Member States, as well as migration trends. Despite public concerns, the expected wage decline caused by the inflow of poorly qualified people from the NMS did not occur. The share of migration from the NMS within the EU27 remained at the same level as before 2004 (85 per cent), but the overall mobility of the population of this region clearly increased, which also resulted in stronger flows into Western countries.

While in the new Member States migrations are usually caused by economic factors, in the case of the EU15 social determinants (e.g. family reunions) and weather are more important. Immigrants from both groups of countries (NMS12 and EU15) are usually better educated than citizens remaining in the sending countries and tend to work below their qualifications. Many plan only temporary migration and intend to return to their country of origin. Those who have returned are characterised by higher entrepreneurial and soft skills than those remaining in the country. Many of them allocate their savings to improving their standard of living, which translates into a limited macroscale effect of re-immigration. In the case of permanent immigrants it is important to obtain validation of their qualifications and retraining in order to get jobs more related to their profession. In the UK Polish professionals set up companies specialising in construction and decorating (building, plumbing, assembly, etc.). Although effects of migration for the sending countries are negligible, mobile persons benefit from accruing new skills and improving living conditions. Children of immigrants also profit - their performance in school is usually better than that of their peers from the country of origin.

Box II.19. Which professionals does Germany need and how willing is it to employ them?

Germany has been experiencing a deficit of engineers since 2006. The number of vacancies in technical occupations is growing and it takes more and more time to find a suitable candidate for a vacancy (Brücker 2007). Also the number of suitably qualified applicants for these positions is dropping. The problem is not just engineers - more and more vacancies appear in technical occupations (welders, locksmiths, assemblers, etc.). There is also a growing shortage of doctors (DIW 2010). Although the scale of the problem is small, forecasts of labour market development (taking into account demographic trends) indicate its deterioration and by 2030 labour shortages are expected in almost all occupations (IAB 2010,[25] VBW 2008). The difference between supply and demand for labour may even reach 25 percent in areas such as **science, pedagogics, engineering, medicine, art**; 20 percent among those with vocational education (secondary) - **languages, culture, sports, nursing and health services, services (finance, banking, hairdressing, beauty salons)**.

Given the growing shortage of doctors in the German labour market, high expectations were attached to the immigration of Poles after EU enlargement in 2004 (Fellmere 2007). However, in connection with concerns about an excessive influx of labour from Poland, the German government decided to introduce a two-year transitional period before the opening of labour markets to the citizens of NMS10. In 2006 it was extended for another 3 years, despite positive British opinions about rectifying the shortage of British medical personnel by Poles in England. The medical profession in Germany is at the same time becoming less popular due to lower incomes and uncomfortable working conditions (difficulty with work-life balance).

In Poland the number of medical students is still increasing (cf. Figure II.17). Wages and working conditions are relatively worse, which should favour the influx of Polish doctors to Germany. However, given that going to Germany is associated with obtaining work permits and arbitrary recognition of qualifications by offices issuing a Green Card, immigration to the UK and Sweden appears to be more attractive. The popularity of Germany as a destination country could indeed rise slightly after the abolition of the obligation of an exam to renew qualifications after one year (in order to extend the work permit), but things like the practical inability to participate in integration courses (EU citizens are admitted only if there are free places) have a rather discouraging effect.

It is estimated that in order to maintain the current level of prosperity, Germany requires substantial inflows migrants – much-cited United Nations Population Division report even argued that inflow of up to 3.6 million immigrants per year in 2000-2050 will be needed (focus Migration 2005). Consequently, the country faces a huge challenge associated with managing its migration policy (addressed to all migrants, not just to selected professional groups) and integration policy (Brücker 2007). At the same time the country must popularise job mobility in order to combat unemployment and public concerns about the takeover of jobs by foreigners.

Differences in educational trends between the EU15 and NMS12 confirm hopes of tackling labour market shortages in the EU15. This applies in particular to fields such as medicine, social care, services and tourism - the growing shortages in these professions are observed for example in Germany which in May 2011 opened its labour market to new Member States.

After 2004 Poland observed an increased flow of emigration and its role as a receiving country has remained small. The main source of inflow from abroad is return migration, and the popularity of Poland as a destination country among people from other EU countries is minor. More often, immigrants from third countries are from the East and from countries further afield, such as Vietnam or China, whose mobility is hampered by regulatory and institutional barriers. Immigrant communities in Poland (mainly Ukrainians) are faced with a number of problems related to the legalisation of their residence and finding a job outside the grey market, but after tackling these problems, their labour market situation tends to be good and they are rarely affected by unemployment. Immigrants are generally accepted in Polish society and by employers, but these are rather ex post opinions, resulting from positive experiences of having employed a foreigner.

[25] Institute for Employment Research (IAB), Nuremberg, Germany.

Summary

This part of *Employment in Poland* has focused on evaluation of the impact of globalisation and European integration on population mobility in Europe, with special attention to economic migration. We divided the population movements into external immigration (non-EU) and internal migration of EU citizens within the EU, as well as within Member States. We have examined the characteristics of migrants and differences between those who arrived from third countries and the NMS. Where possible, we made a comparison of individual phenomena with their counterparts in the United States.

Table II.13. Main Community regulations creating the legal framework of migration in Europe.

Scope	Main legal acts	Degree of implementation
Free movement of people	Schengen Agreement	The objectives have been achieved. Yet a few Member States do not participate in the Agreement.
	Directive 2004/38/EC on the right of citizens of the Union and their family members to move and reside freely within the territory of the EU and EEA member states.	Directive in the advanced stage of transposition to national legislations.
Free movement of services	Bolkestein Directive	The final shape of the directive strongly deviates from its primary objectives. Implementation has not been completed.
Immigration from third countries	Directives: introduction of a standard form of permits for work, permanent residence, seasonal work, movement of workers within companies, interns	Their final shape has not been agreed yet.
	Common Visa Code	Visa policies of the Schengen Area countries are close to full unification.
	Blue Card Directive	First stage of implementation. The document seems to be key for managing immigration to the EU in the future.

Source: Own elaboration.

In the first chapter we presented the general picture of migration in the EU, indicating that although the inflows of people from third countries are more numerous than flows of EU citizens among the Member States, the accession of Central European countries in 2004 and 2007 increased the intensity of flows caused by economic factors.

The European Union is increasingly often chosen by third-country nationals as a permanent location. These are mostly poorly educated people, often coming from previous European colonies in Africa and Asia. The number of immigrants is similar to USA, Canada and Australia, but the EU seems to be losing the race for talent. The initiatives of the EU to attract the best skilled immigrants, especially the Blue Card, have come somewhat too late but may give some good results in the future.

The openness of the EU to immigration has increased in recent years. The stock of immigrants in the EU is still lower than in the USA, although in some Member States it has reached a similar level (Western countries), and it can be expected that in the close future this level may also be reached in the countries of Southern Europe. A similar process is taking place in flows within the EU – the percentage of internal migrants is slowly reaching that of the USA (interstate migration). The acceleration of internal migration has been facilitated by the open borders of the Schengen Area and its successive enlargements. However, increasing resentment towards immigrants in many countries shows that the process of real European integration is far from being accomplished.

Table II.14. Summary of the scale and effects of migrations in Europe.

Process	Scale (2007)	Effects	Positive/ negative
Immigration from third countries	1.8 million people (0.36 per cent of the EU population, the same as in USA)	Problems with integration and acceptance of the immigrants in society, especially during economic downturn	-
		Immigrants as buffer during downturn, additional 'engine' during boom	+/-
		Deficit of highly skilled among immigrants – over-representation of people coming to join the family, or asylum seekers	-
		Rejuvenation of society in small countries (mainly Luxembourg)	+
		Negligible pressure on wages	+
Migration within the EU	1.77 million (0.36 per cent of population in comparison with 1.7 per cent in the USA)	Integration of labour markets	+
		Negligible pressure on wages	+/-
Cross-border commuting	1 million people in the EU15, 350 thousand in NMS10	Undereducation in construction or services	+/-
		Substitution to immigration, in the case of people with aversion to risk-taking	+
Movements after 2004	Increase from 1.2 do 1.8 million from 2003 to 2007	Brain waste and overeducation in services and elementary occupations	-
		Dominance of economic determinants of migration	
		Dominance of flows between Poland and Germany, including return migration	
		Increased significance of the UK, Ireland, Spain and Italy	
Return migration	Mainly in NMS, also in Portugal	Increase in consumption spending, less significant use of soft skills acquired abroad and entrepreneurship	+/-

Source: Own elaboration.

In the second chapter we analysed changes that occurred in the international movements of the population after the accession of the NMS from Central and Eastern Europe. We presented the potential causes of these changes and the effects on the sending and receiving countries. Migrations of NMS citizens, including Poland, have been conditioned by the differences in the level of expected wages and costs of migration, associated with the economic, social and cultural factors. Another crucial factor was the attitude of individual EU15 countries to opening their labour market to workers from NMS. The United Kingdom, which opened its labour market in 2004, replaced Germany as the main receiving country in Europe. However, flows between Germany and Poland are still the greatest in the migration from the NMS to the EU15. Research on economic consequences of migration indicates that although at an individual level it is immigrants that benefit from the opening of labour markets, the increased migration has only a moderate effect on wages and overall labour market conditions in the receiving and sending countries.

The analysis of the structure of the migrant population and the jobs undertaken in the receiving countries shows that brain drain does not generally occur in the EU. There is, however, a high risk of brain waste, which can be prevented by the recognition of qualifications obtained in the country of origin (often meeting the needs of labour markets in receiving countries), as well as participation in training in the receiving country. The institutional framework of the European law is supposed to facilitate these changes. Although so far the existing community institutions of the labour market are not adequate for the demands of the integrating market, the legal framework allows for their creation, development and modification in the future.

Part III. Foreign investment and relocation of jobs

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LIST OF TABLES

LIST OF BOXES

LIST OF FIGURES

LIST OF MAPS

LIST OF DIAGRAMS

Introduction

The unprecedented intensification of international trade over the last twenty years and the associated growth in global foreign direct investment (FDI) has resulted in the increased interest among policy-makers and societies in developing and transforming their economies. Active attraction of foreign capital has become the priority of governments in most countries of the world. Also in Poland the central government, through specialised agencies and local and regional authorities, aim to increase the investment attractiveness of the entire country, individual regions and municipalities.

In this part we discuss direct foreign investment with a particular focus on its effect on the labour market in Poland and Central Europe. Our analysis is started from the global perspective, presenting the most important trends. In the first chapter, we summarise theoretical literature concentrated on the questions of definitions and channels through which FDI influence the economies of exporters and importers of capital.

In the second chapter, we focus on Europe and determinants of FDI in the regional dimension. Our analysis starts with a short theoretical introduction. In the next chapter we use input-output matrices to estimate the effect of trade between the EU Member States on their labour markets and productivity in individual sectors. Then we show how the distribution of FDI in Europe (especially in its central-eastern part) depends on the comparative advantages of trade, and we emphasise the general regularities in the inflow and stock of FDI in the NMS10 and EU15, with particular emphasis on Poland.

In the third chapter, we focus on Central Europe and Poland, analysing the stock of FDI in the sectoral and spatial dimensions. The focal point of the chapter is the formal analysis of FDI determinants at the level of sub-regions performed using econometric models for all NMS10 and Poland. In the latter case our analysis is augmented with in-depth interviews with the representatives of enterprises – the investors and Marshal Offices involved in the promotion of FDI.

The fourth chapter describes policies used by local governments to increase the volume of FDI. In the review of literature we present an evaluation of effectiveness of individual instruments and include their advantages and disadvantages. The summary includes the most significant conclusions and analyses of the influence of individual incentives for investors in both the international and regional dimensions.

1. Investment in the integrating world.

1.1. What is foreign direct investment?

The standard OECD definition (cf. OECD (1996)) underlines the importance of the long-term relationships between a subsidiary and a holding company located overseas as the necessary condition to classify a given project as a foreign direct investment (FDI). It is also important to have effective control over the newly created or purchased company, and it is widely accepted that FDI requires at least 10 per cent of company shares.[1] If the involvement of capital is lower, this investment is classified as a portfolio investment. The value of FDI, according to the OECD guidelines, is calculated as the sum of retained profits, invested capital and the balance of intra-company loans.

The notion of FDI is inseparably associated with the multinational corporation (MNC). According to the definition used by OECD and UNCTAD, it is an enterprise that is involved in international investment projects and controls the manufacturing activity in more than one country. Across the world there are about 82 thousand multinational corporations (cf. UNCTAD data (2010), generating 11 per cent of the global GDP. In 2009 they employed about 80 million workers, i.e. 4 per cent of the global workforce. Hence multinationals are, on average, more than three times more productive than the global economy. A distinct majority of MNCs (72 per cent) have their headquarters in developed countries.

According to the 2010 ranking of the *Fortune 500*, of the 500 largest corporations only 85 were located in developing countries. Over the last 20 years, MNCs have increased their focus on developing countries, especially China, although developed countries continue to attract a greater part of the total global flow of FDI. Another distinct trend resides in the gradual decline of relative importance in the manufacturing sector for FDI in favour of services – both for companies and individuals.

The contemporary economic theory of FDI was initiated by the seminal article by John Dunning (1981) who summarised and extended the previous theories of economic location. He indicated that investment requires the fulfilment of three conditions. Firstly, an enterprise must have some assets which build its competitive advantage over other companies and which are internal characteristics of the company. These may be better technologies, trademarks, higher organisational and managerial skills; better access to markets or specific raw materials, or the ability to use the economies of scale or diversify risk. Secondly, investment should be more beneficial than other strategies for competitive advantages, such as outsourcing production to local companies or licensing. Thirdly, it is necessary to have specific benefits from the location of economic activity in a given country which justify the transfer from the home country – e.g. patent protection, the possibility of easing duties, lower costs of production costs or supply, etc. Individual categories include ownership advantage, location-specific advantage and internalisation-specific advantage. All of them are described as the O-L-I paradigm and are often cited as the justification of FDI. These advantages depend on the specific enterprise-investor and the specific characteristics of a given country.

Box III.1. Foreign direct investment – a division according to the mode of entry.

Apart from the described typology of FDI, depending on the motive, the literature often mentions the division of FDI by the mode of entry. Although this typology is less significant from the economic point of view, it is useful for policy makers.
Three major types of investment include the following:

Greenfield investment – the investor builds a new company from scratch, from the organisational structure to the new production plant, etc. The name comes from the image of an investor starting his business in a completely fresh area – a meadow without any infrastructure or buildings, so everything has to be built from scratch.

Brownfield investment – the investor takes over a plant or enterprise on the verge of bankruptcy and builds his own structures on this basis. Often an investment of this type is associated with a changed purpose of economic activity and is always connected with modernisation and reorganisation of enterprise structures.

Mergers & acquisitions – the most frequent form of FDI, consists of the purchase of shares in the existing company in the destination country. The investor continues the activity, hence acquiring access to the market or assets. In this case, the range of activities of the investor is much lower thanks to brownfield investments, and often the structure of the acquired company changes very little, except in the bookkeeping records.

Policies meant to support FDI usually concern projects of the first and second type. The benefits of those investments are the greatest as the appearance of such investors results in more changes in the local economy. The productivity of the sector grows much more than in the case of mergers and acquisitions.

Source: Own elaboration.

[1] In some cases the 10 per cent threshold is too low for the parent company to have an effective ifluence on the investment decisions in the enterprise.

The most common FDI typology, accounting for the possible economic motivation of investors comes from the Behrman's paper (1972). It included four basic types of investment:

- Resource-seeking investment;
- Market-seeking investment;
- Efficiency-seeking investment;
- Strategic-assets-seeking investment.

The first motive concerns a situation where a company chooses to locate production abroad in order to gain access to natural resources that are impossible or costly to acquire in the home country or other alternative markets. Resources which are sought by investors can be different - usually these are minerals or fossil fuels (e.g. in African and Arab countries). They also may include a local workforce, as in the case of Western corporations investing in Asia or U.S. companies building factories in Mexico (so-called *maquiladora industries*); or the tourist attractiveness of Mediterranean countries' cultural heritage and natural environments. A special case of this type of investment consists in gaining unique knowledge, experience or organisational skills, e.g. contemporary examples of Korean companies investing in automotive design centres in Europe or a similar expansion of Indian steel corporations in Germany.

Market-seeking investment occurs when a company desires to broaden the base of its customers. Almost always it is preceded by export activity and the investment is induced by the opportunity of avoiding duty or quota restrictions. This was the motive of Japanese steel companies in the U.S. in 1980s (see Part IV). In some industries, whose specificity makes long-distance transport difficult or even impossible, market-seeking investment can have a technological foundation. This happens in the automotive industry where products may be transported by sea only at high cost, making it less cost-effective than investment in production plants in the target market (see Part IV). Unlike other types of investments, building a plant is often treated as a separate entity within the corporation, characterised by a high degree of autonomy e.g. in adapting products to local conditions. Dunning and Lundan (2008) report that in the late 1990s such investments constituted about 40 per cent of global FDI.

Efficiency-seeking investments are usually made by large corporations with subsidiaries in many countries. These investments include the optimisation and transfer of production so as to maximise the advantages of differences between the endowment in production factors and their prices; and to exploit economies of scale to enhance productivity. Often such projects include the concentration of production or manufacturing operations in one location and require well-integrated markets, allowing the free movement of goods between the different branches of the company. An example of this type of investment is the activity of clothing companies, white good industry and consumer electronics, which establish production in one place, and the design, management and marketing in other places (see Part IV).

Table III.1. Summary of the different motives of FDI.

type of investment	Investors	target	examples
Resource-seeking	All MNCs,[2] often the first investment	gaining competitive advantage through access to unique resources	oil companies investing in Russia, MNCs investing in the factories in China
Market-seeking	enterprises - exporters	gaining competitive advantage by adapting products to local markets to avoid tariffs or quota restrictions	the acquisition of Polish producers by MNCs, e.g. after transformation in the local food industry
Efficiency-seeking	developed MNCs, with subsidiaries in many countries	improving the use of assets, arbitration, to obtain a competitive advantage through better use of relative prices of factors of production	transfer of production between MNCs branches in different countries
Strategic-assets-seeking	developed MNCs and debuting investors	implementation of long-term company strategic objectives, to improve its global competitiveness	Asian MNCs taking over the European and American companies (or parts of companies), for example the acquisition of an IBM subsidiary by Lenovo

Source: Own elaboration.

The last type of FDI is motivated by the search for strategic assets. It is a relatively new form of this type of activity, usually involving the purchase of shares or acquisitions of other companies in order to achieve long-term corporate objectives and improve competitiveness. FDI of this type is made by companies with a strong position in international markets, but also by debutants in this field. The goal is to increase the advantages of a business or weaken the position of competitors. More and more companies from developing countries use this type of investment, hoping to increase their productive capacity; acquire *know-how*, trademarks or experience and to diversify risk. In addition, this type of investment can be motivated by the implementation of corporate strategic goals, such as the acquisition of a specific company in order to forestall a competitor achieving a monopolist or monopsonist position in the market.

[2] Multinational corporations.

Many leading global IT companies are investing in this way – they acquire new innovative companies with unique technologies enabling the entry to new market segments.

The aforementioned motives are not mutually exclusive - in fact, Dunning and Lundan (2008) show that the majority of FDI conducted by multinational corporations today is motivated by the overlapping of different spheres which influence the final investment decision. Investment motives change with increasing experience of the corporation and its size - at the beginning the projects are carried out in order to gain new markets or access to natural resources; only at a later stage is the company able to relocate production and increase its efficiency.

1.2. Direct investment in the world and Europe

In recent decades foreign direct investment has become an important element of the global economic landscape. UNCTAD data show that in the 1970s and 1980s, the global flow of FDI was about 0.5 per cent of the global GDP. This figure began to grow as late as 1985, markedly accelerating in 1997-2000. FDI reached a historical peak in 2000, when the value reached almost 4.5 per cent of the world's output. In the next two years, due to economic slowdown in developed countries, the global volume of FDI fell dramatically, but then recovered together with the global economy. The recession of 2008-2009 was associated with the weakening flow of global capital, which has not yet started to grow again.

Figure III.1. Global FDI flows in relation to GDP compared with global basic macroeconomic indicators in 1990-2010.

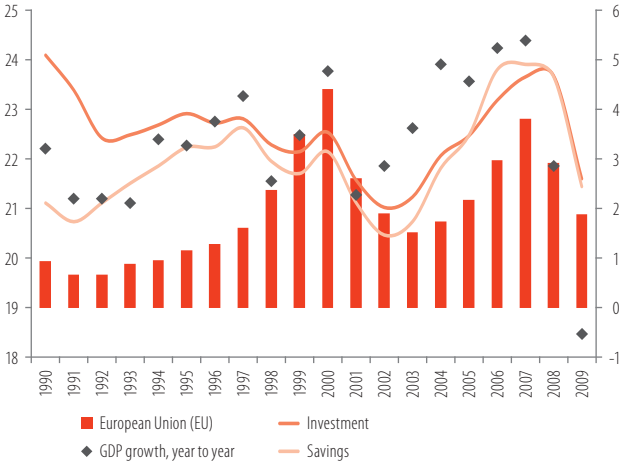


Figure III.2. Global GDP in constant prices (billion dollars from 2005).

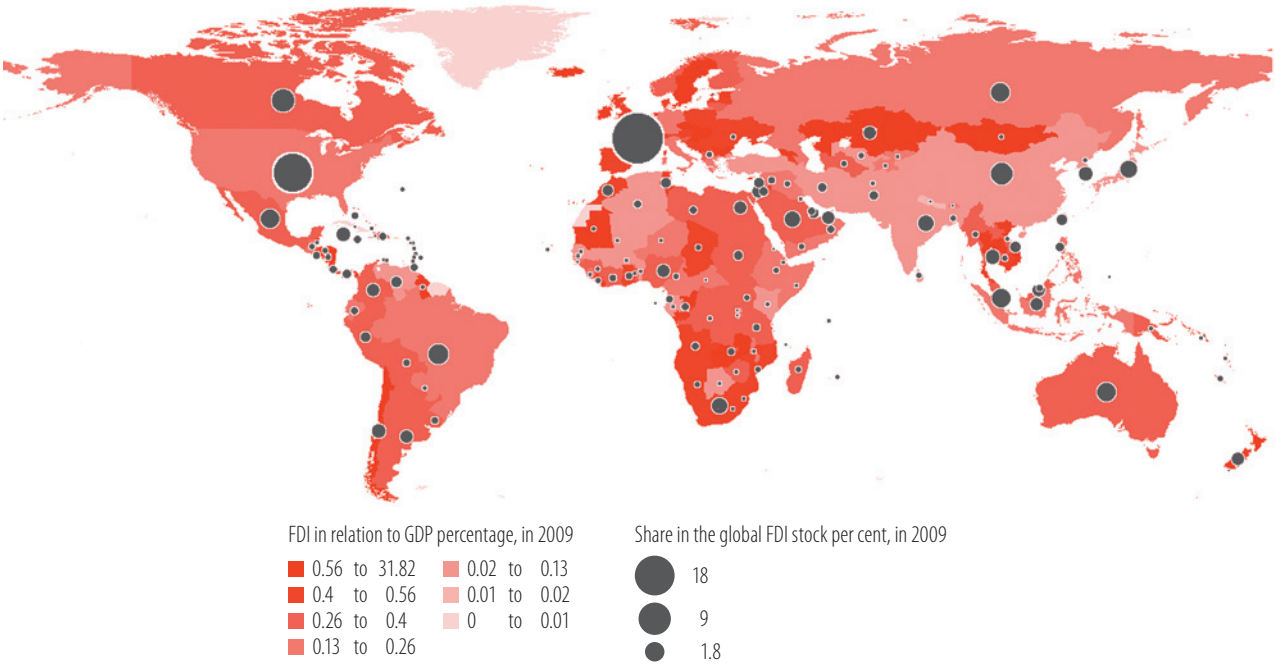
Source: Own elaboration based on UNCTAD data.

Map III.1 shows the distribution of world FDI stock in 2009. In each country, the FDI stock (expressed as a share of GDP) divided by 2.5 times gives a rough measure of the fraction of the economy which is owned by foreign capital.[3] Despite the rising role of China as a destination of FDI in recent years, the majority of investment remains concentrated in Western Europe and the United States. The share of China in the global stock of FDI is comparable with that in Australia or Italy. Although the stock of FDI relative to GDP in African countries does not differ from those observed in other countries, they have received a smaller part of total foreign capital globally, as their output is also smaller. This is consistent with the results of research in development economics (e.g. Lipsey, Sjöholm, 2004, Carkovic, Levine (2002)) indicating that the presence of foreign capital in itself does not contribute to the eradication of poverty and economic growth in Third World countries. For FDI to translate into improved welfare of the nation, other factors are also necessary, such as human capital and a stable regulatory and institutional environment.

Trends in global investment indicate that economic prosperity plays a dominant role in both the volume and direction of FDI - international capital flows, as well as aggregate investments, behave pro-cyclically, with an increase in aggregate investments preceding the increase in FDI flows, whereas in times of economic decline FDI flows decrease earlier than the output. This regularity, combined with stronger amplitude of fluctuations in foreign investment, shows that with the signals of economic recovery, companies first increase capacity in their home countries and only later decide to expand in other countries. On the other hand, in times of crisis foreign enterprises are liquidated first. However, the time cycles concerning these indicators are relatively short and observation of relevant aggregates has only been possible during the recent two recessions.

[3] Relation of the capital stock to annual GDP in market economies is about 2.0-3.0, depending on a country (cf. Part I)

Map III.1. FDI stock in the world in 2009.

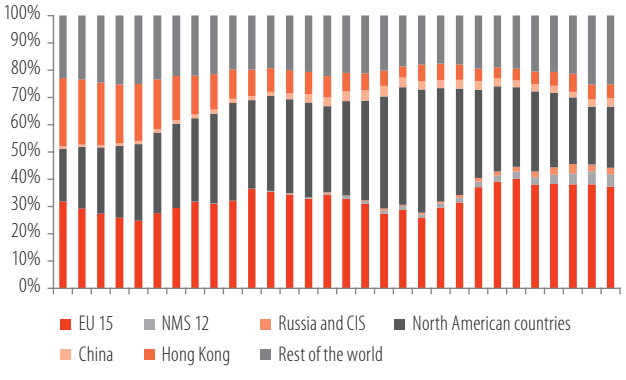


Note: The bubble in Europe shows accumulated investment stock in all European countries. The bubbles are scaled logarithmically.
Source: Own elaboration based on UNCTAD data.

Graphing of global FDI compared to other economic indicators helps to capture the differences between the evolution of stock market movements during the Internet bubble (with a peak in 2000), the real estate bubble in the markets of developed countries, and the financial crisis in the U.S. in 2007. At the turn of the century a collapse of the trends in FDI occurred exactly at the same time as the decline in total investment, whereas in recent years companies started to withdraw from foreign investment a year earlier than in total investment. Moreover, during recovery from the recession in 2002-2005, aggregated investments began to rise earlier and faster than FDI. Although there is a lack of direct data on this subject, the latest publications (e.g. UNCTAD, 2010) indicate that recovery from the recession of 2008-2009 should occur in a similar way.

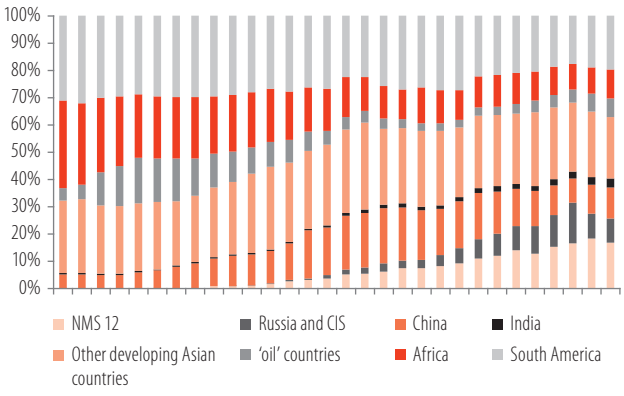
The increase of FDI in the 1990s was exponential and uninfluenced by fluctuations in that period. This pattern indicates that it resulted from factors other than economic fluctuations. These factors include the development of ICT sectors and falling costs of this type of investment, as well as political factors - the liberalisation of foreign trade and increased government support for FDI, especially in Asia and Central Europe.

Figure III.3. Evolution of global distribution of FDI in 1980-2010 (per cent).



Source: Own elaboration based on UNCTAD data.

Figure III.4. Distribution of FDI stock in developing countries (per cent).

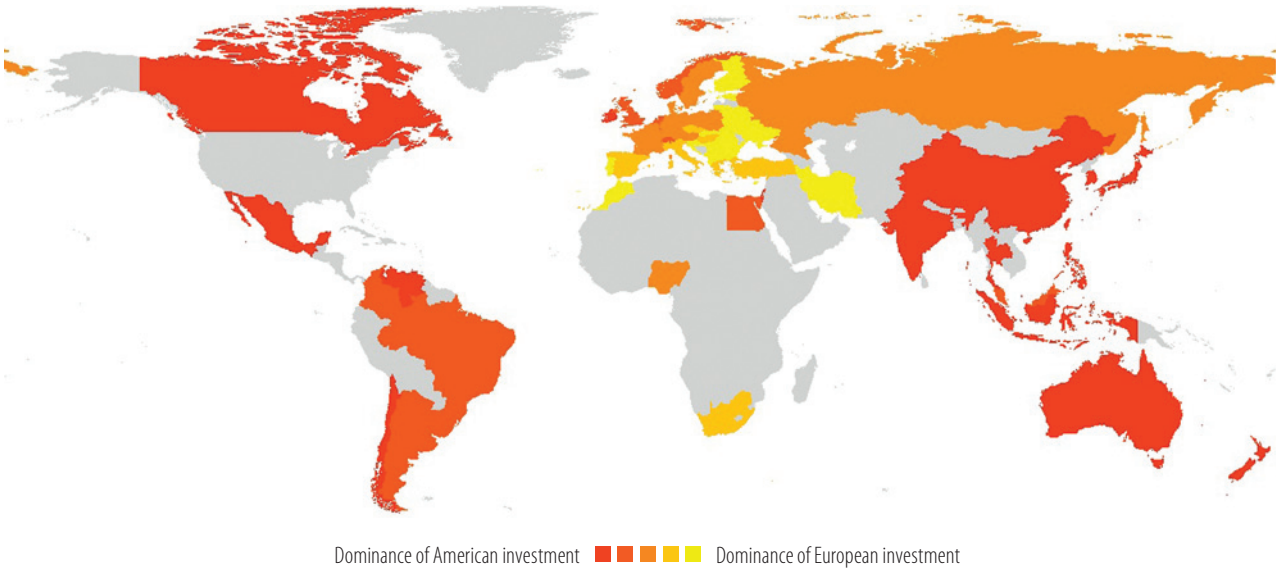


Source: Own elaboration based on UNCTAD data.

Factors affecting the evolution of FDI flows over the past thirty years may be better understood by analysing the changes in their geographical distribution. The volatility of FDI has been most influenced by changes in developed countries, particularly in Europe. The main reason is the sectoral structure of investment in these countries - dominated by services, in particular by financial intermediation where investment is high but most sensitive to developments in world financial markets. Figure III.2 shows the changes in the allocation of capital investment over the past three decades. Despite the growing role of China, India or NMS, the largest foreign capital is located in the EU-15 and NAFTA[4] - in the 2000s the share of foreign capital located in NAFTA countries declined in favour of the EU15. This points to growing economic integration both in the more developed European countries as well as the newly acceded EU member states. In 2009 two thirds of the stock of foreign capital in the EU15 came from other countries in this group, so the increasing volume of FDI in the countries of Western Europe results from foreign investment by local businesses. This observation confirms the growing importance of investment from other EU15 countries in the last decade. In 1998 56 per cent of capital managed by foreign companies belonged to the owners from other EU countries; in 2009 it was already 66 per cent. Hence the growing stock of FDI in developed countries is largely due to investment from within this group of countries. This investment remains relatively high despite the growing role of projects carried out in emerging economies.

The Figure III.4 provides interesting information on the impact of globalisation on the stock of FDI in developing economies. In contrast to investment in highly developed countries, capital investment in developing economies is associated with greater risk. After the oil crises in the 1980s, there was a sharp increase in FDI in the oil-exporting Gulf countries (mainly Saudi Arabia) and Venezuela. In the early 1990s there was also a rapid increase of the importance of FDI in China. In just three years the value index describing the inflow of foreign capital into China in relation to GDP increased six times, while the stock of FDI in the Chinese economy tripled. At the same time the importance of foreign capital invested in African countries significantly decreased, not due to the withdrawal of foreign investors from Africa (both gross flows and those in relation to GDP were growing), but to the rapid growth of investment in China and the much slower economic growth of African countries. Also, FDI inflows into other Asian countries increased at that time, though the pace was less spectacular than in China.

Map III.2. Distribution of USA and European FDI in 2009.



Note: Map shows the ratio of FDI stock originating from EU-15 countries and the United States. The greater the value of this ratio, the more yellow a country is and investments from Western European countries have relatively more importance in relation to investments from the United States. The map does not show countries for which the value of investments coming from the EU15 and the USA was equal to zero or was not available.
Source: Own elaboration based on OECD data.

In the late 1980s and early 1990s, the third wave of globalisation included countries of the Second World (see Part IV), especially Central Europe. A stream of foreign investment into Central Europe started to flow quickly at the very beginning of the transition from a centrally planned economy to a market economy. This trend, although interrupted by a short-term decline in 2004-2005 continued until 2009. Interestingly, the access of Central European countries to the European Union in 2004 and 2007 did not result in acceleration of FDI in the region. Investments in Russia and other CIS countries started to flow a little later than the NMS, probably due to lower political stability in these countries and their greater geographical remoteness resulting in the preference for investments targeting the local market which was stagnant at that time. Dynamic growth in importance of foreign capital invested in Russia occurred after the turn of the millennium thanks to increased political stability and improved enforcement of property rights under the rule of Vladimir

[4] NAFTA includes United States, Canada and Mexico, but most if the foreign capital (about 80 per cent) is located in the United States.

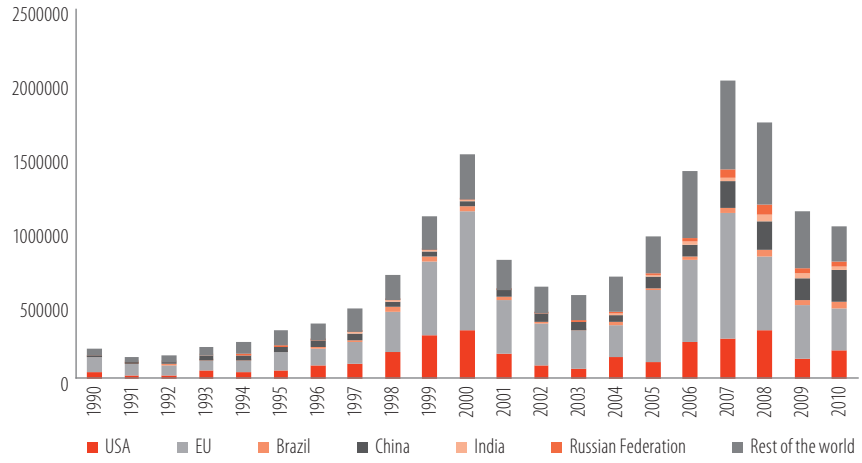
Putin and the increased purchasing power of Russians due to rising prices of raw materials. In contrast to NMS, these investments were targeting the Russian market and not export-oriented. This growth trend was reversed in 2007 due to an economic collapse which was strongly felt in Russia.

In the 1980s, FDI in South America accounted for a significant share of all investments in the world. Then its importance began to decline gradually and significantly slower than in Africa. Hence the growing importance of foreign capital invested in China and NMS10 have occurred at the expense of slower investment growth in Africa. Moreover, sustained high FDI flows in South America are due to the fact that they come mainly from USA, while European companies are the most common investors in Poland and other NMS. (Cf. Map III.2).

Map III.2 illustrates the relationship between FDI stock from EU15 countries and America in several dozen countries for which data are available. While the predominance of American investments in South America or Australia is natural due to cultural or geographical proximity, the size of U.S. investments in Europe compared to China and India shows a more global approach of U.S. companies compared to their European counterparts. Moreover, it is worth noting that investments in search of raw materials (as in Nigeria, South Africa and Russia) are made by investors of both USA and EU15 and the cultural or geographical proximity is less important.

In summary, increased globalisation in the 1990s led to a sharp increase in the intensity of FDI in the world. This phenomenon has affected developed countries (members of the European Union and the United States), as well as developing countries, particularly in Asia. A significant increase in FDI, both flow and stock, has also been observed in countries which have undergone economic transformation in Central and Eastern Europe and republics of the former Soviet Union. FDI grew the slowest in Africa and the relative importance of foreign capital invested in that continent has declined over the past two decades.

Figure III.5. Global flows of FDI in 1990-2010 (millions of dollars).



Source: UNCTAD data.

Global capital flows declined in 2010 in comparison to the situation before the economic crisis and also to the year 2009. This slowdown in FDI inflows is due in particular to the fiscal crisis of the European Union. In the United States FDI increased in 2010, which seems to be a sign of recovery. Spectacular increases have been recorded in emerging markets such as Brazil, China and Indonesia where the level of FDI has been greater than ever before. It appears that in the eyes of investors the crisis has reduced the competitiveness of the economies of the European Union in comparison with the USA and the newly industrialised countries of Asia and South America. In part this effect may have resulted from reduced levels of investment in services and financial intermediation in the most crisis-affected countries - Great Britain, Ireland and Spain.[5] Nonetheless, detailed analysis will be possible only after the publication of more recent data on the structure of FDI in the EU27.

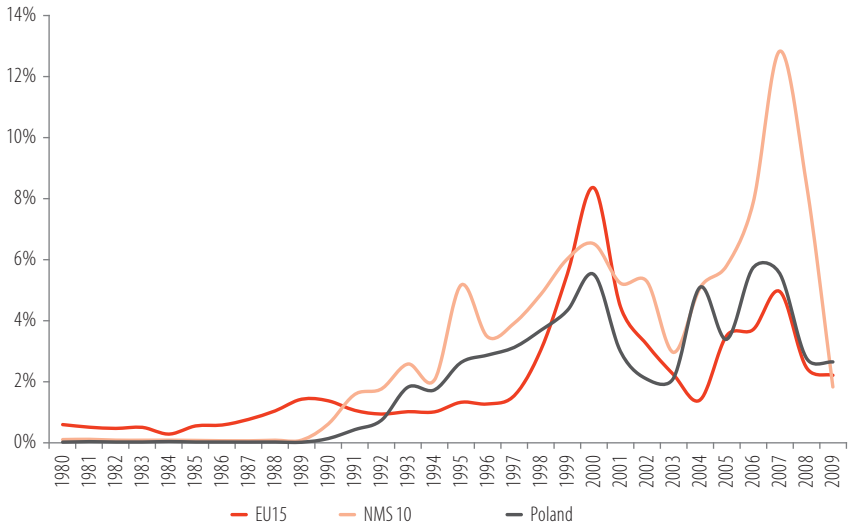
1.3. Poland and Central Europe in the European map of FDI

Over the past two decades the trajectory of foreign direct investment in Poland and other new EU Member States has developed similarly to the world. In the 1990s flows increased annually at a steady pace until their collapse at the turn of the century. Then the FDI to GDP ratio continued to decline until 2003. The following year the index rose sharply, which was probably related to the Polish accession to the European Union and the end of a lull lasting several years in the EU and Poland. During the recent crisis, the value of FDI to GDP ratio fell again from 5.5 to 2 per cent GDP, although unlike the rest of the continent, Poland has not recorded a recession.

[5] In the EU and USA, these sectors are relatively most important.

Similar trends have also been observed in other NMS, albeit the decline in their case was more severe than in Poland, also due to the fact that before the crisis in several countries (the Baltic republics) FDI inflows reached 12-13 per cent GDP because of the inflow of portfolio capital.

Figure III.6. Inflow of FDI in relation to GDP in Poland, NMS10 and EU15.



Source: Own elaboration based on Eurostat data.

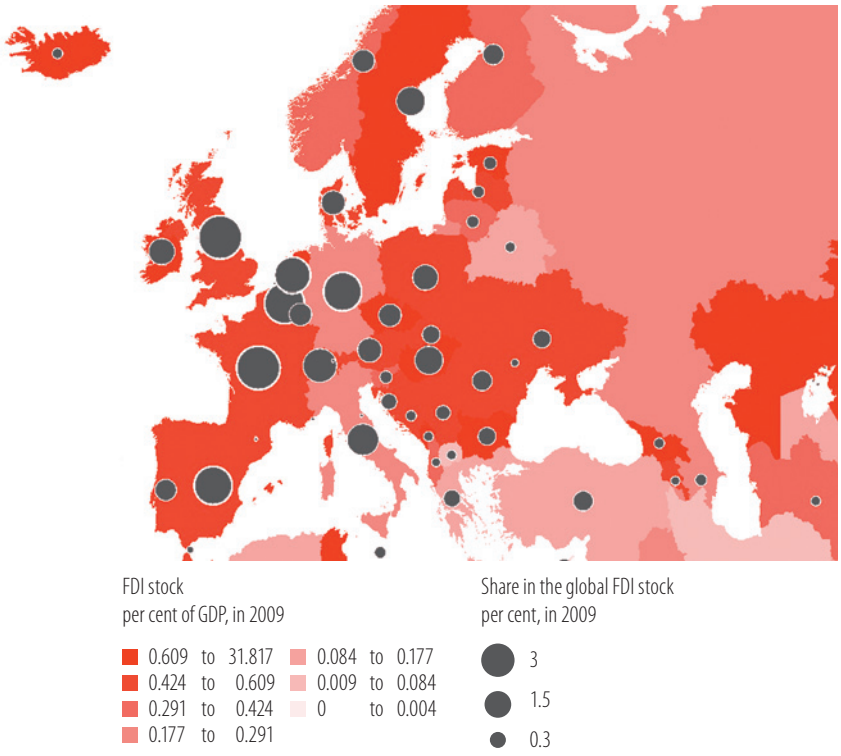
Over the last 20 years the Polish FDI to GDP ratio was lower than for the NMS in general and also less variable. This effect may be partly due to the size of the country. Smaller countries obtain relatively greater benefits from trade, and therefore also from FDI. At the same time they are more susceptible to imbalance between their portfolio and long-term investments. Shallow domestic capital markets in small Baltic economies and the refinancing credit boom in the Scandinavian banks have contributed to the disruption in flow of FDI to these countries. Poland, where banking sector lending activities were much more supported by domestic deposits, has not been similarly affected by the sharp drop in liquidity in global financial markets in 2008. Moreover, as the largest country in the region, it has long been the leader in terms of absolute value of FDI flow among all NMS10. Consequently, although the relative importance of FDI for the Polish economy is smaller than in other Central and Eastern European countries, still there has been a stream of investments coming to Poland over the past two decades, the highest in the region. As a result, FDI flows to Poland in financial services have been relatively stable compared with other countries in the region, and the variation in the volume of FDI inflows to Poland have been mainly due to changes in other sectors excluding financial types of services, in particular changes in the trade and repair sector.

The importance of FDI inflows to the economy is a relatively good measure of its openness. In this context a comparison of indicators in the NMS and the EU15 shows the extent to which individual countries integrate with Western Europe economic ties. It turns out that in the early 1990s the volume of FDI relative to GDP in most NMS10 countries exceeded the average in the EU15. The reasons for this situation can be seen in mature Western European markets and the desire of multinational corporations to attract new customers in Central Europe and in intensive privatisation by which many state-owned enterprises were taken over by Western companies. The differences between investment in the NMS10 and developed EU15 countries are better understood after analysis of the sectoral structure of investment:

- There is a significant disparity between the importance of investment in manufacturing and service sectors; except the Czech Republic, Latvia and Estonia, in almost all cases FDI plays a similar or greater role in manufacturing than in the services sector. In the EU15 FDI in the services sector plays a much greater role than in any other economic sector.
- Furthermore, there is a notably large share of the electricity, water and gas supply sector in FDI in different NMS10 (e.g. Lithuania in 2005 and Slovakia in 2002 resulting in privatisation of utilities and energy companies. This sector plays a relatively small role in the sectoral structure of investment in the countries of Western Europe because of the already formed structure of ownership).
- The decline of investment in NMS10 countries in the aftermath of the crisis was much more significant than in the EU15, and even a decline in FDI stock has been reported in some sectors. In the Czech Republic and Hungary this happened in the manufacturing sector and in Lithuania and Latvia in the services sector – primarily in financial services.

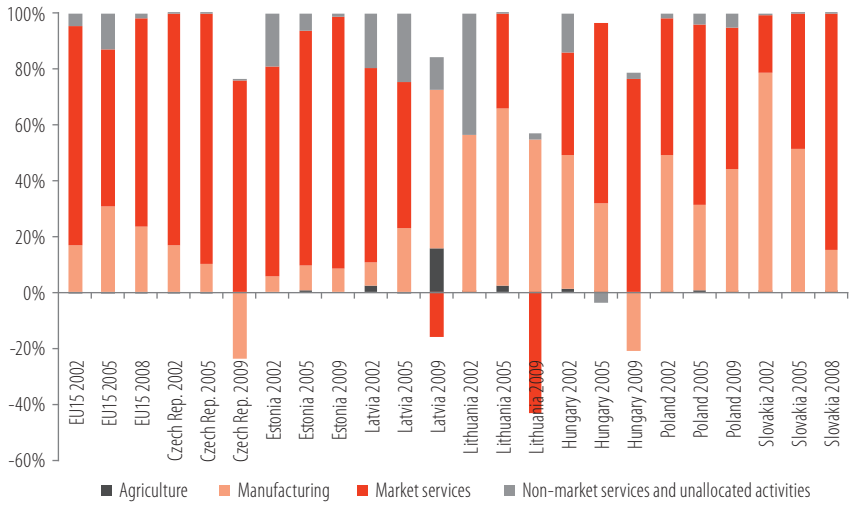
Convergence of the sectoral structure of investments in the NMS to the EU15 is occurring very slowly. In both parts of the continent, FDI in services varies considerably, much more than in manufacturing and accounts for the lion's share of the variation in the investment inflow. Financial intermediation is an important sector here and is responsible for most of the volatility of aggregate inflows. While in most NMS10, services are the main sector attracting FDI, Slovakia remains an exception. In 2004-2006[6] investments in the manufacturing sector were the most significant, which is associated with the specialisation of the country e.g. in the automotive sector. Only recently has the service sector in Slovakia started to become more attractive for foreign investors.

Map III.3. FDI stock in Europe in 2009.



Source: Own elaboration based on UNCTAD data.

Figure III.7. Sectoral structure of FDI inflow in the EU15 and selected NMS10 in 2002, 2005 and 2009 (2008 for the EU15 and Slovakia, due to lack of relevant data).



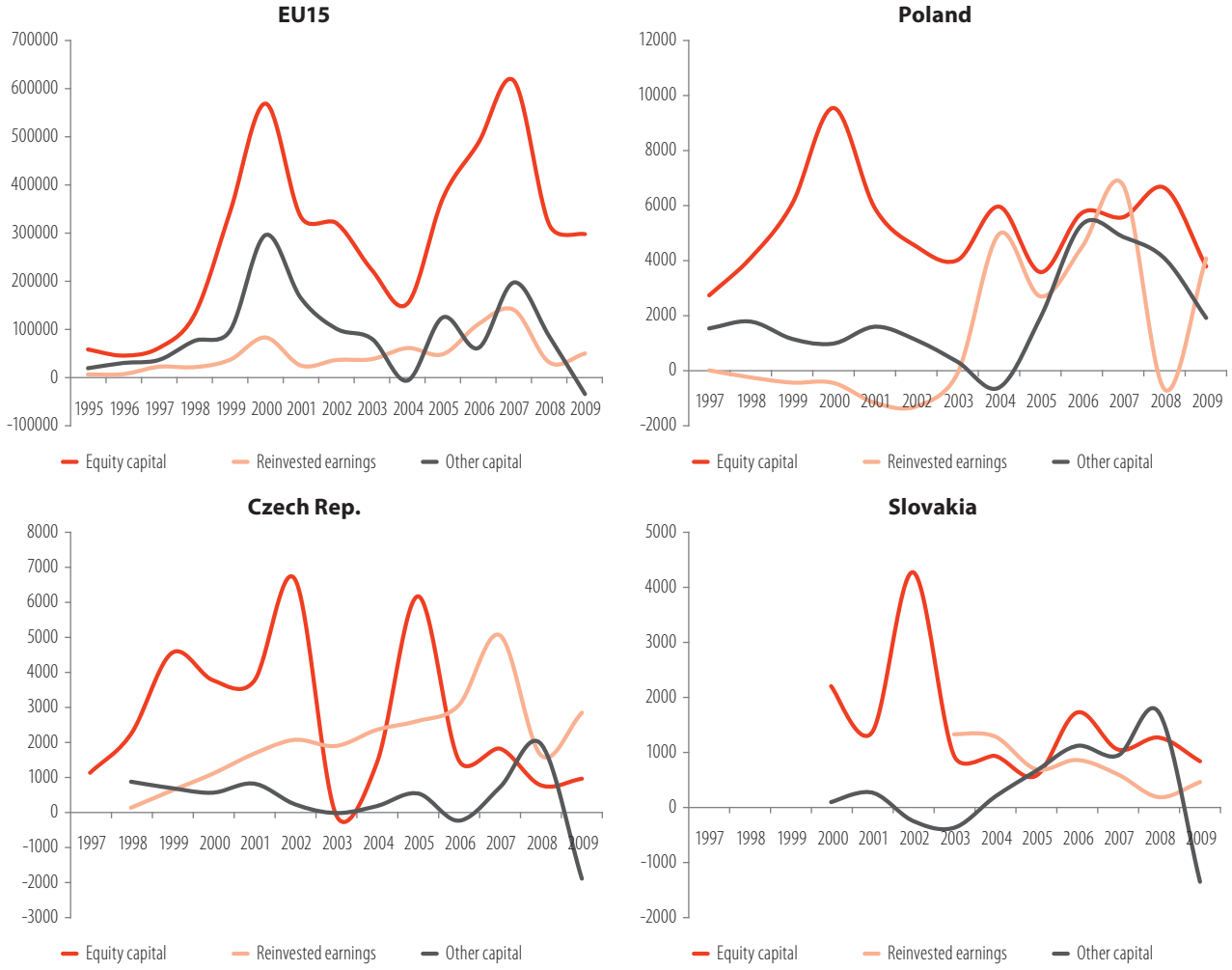
Source: Own elaboration based on Eurostat data.

[6] The data are available for 2002-2008.

Interestingly, in the most industrialised NMS, the Czech Republic, the importance of FDI in the industrial sector has been rather low. The national capital has been responsible for the high investment rate more than in other countries in the region. Although investments in the manufacturing sector in the NMS countries are, on average, a greater part of total investment than in the EU15, they are slightly less volatile than total investment. Moreover, despite the high volatility of spending in the manufacturing sector in individual countries of Western Europe, the aggregate indicator of FDI flows in all EU15 countries is surprisingly constant. This is due to strong internal integration of the European Union and the fact that most[7] FDI in the EU15 occurs between those countries. In other words, significant fluctuations in the flow of FDI in the European Union result from fluctuations in investment flows between the countries of Western Europe.

In the EU15 there is also a systematically increasing share of **equity capital** at the expense of other types of investment. The share of reinvested earnings throughout the period of 1995-2009 changed with the rhythm of the business cycle in the wake of the changing profitability of companies. FDI inflows through reinvested earnings of companies have been subject to the much smaller fluctuations than other categories of investment.

Figure III.8. Trajectory of selected FDI components in Poland and three NMS – 10 (millions of Euro).



Source: Own elaboration based on Eurostat data.

A slightly different pattern can be observed for FDI components in Poland. There is a clear advantage of equity capital in the mid-1990s, when corporate profits were either small or mostly paid to the owners. Later, the reinvested earnings became a growing part of FDI inflows into Poland. Foreign companies expanded their operations by using capital generated on the spot. A similar trend was observed in the Czech Republic, Hungary and the Baltic republics, while in Slovakia the relative importance of this category for the inflow of FDI has been declining since 2003, indicating the importance of *greenfield* and *brownfield* projects in the country. Due to lack of data we cannot determine the size of FDI through reinvested earnings in Slovakia in earlier years, but one should assume that their trajectory has been similar to that in other NMS. The flow of FDI through reinvested earnings decreased significantly in 2008, but in almost all countries in 2009 it started to grow again. The size of reinvested profits correlates with their volume, so one can assume that the growth

[7] In 2002-2008, from 62 per cent to 68 per cent, depending on a year.

of this component in 2009 is the first sign of recovery from the recession. The Baltic Republics, Spain and Greece are a characteristic exception which have been affected by the crisis to an extent far greater than any other EU Member States and which have relatively greater difficulties with returning to the path of economic growth.

Figure III.9. FDI balance by type (in billions of EUR).

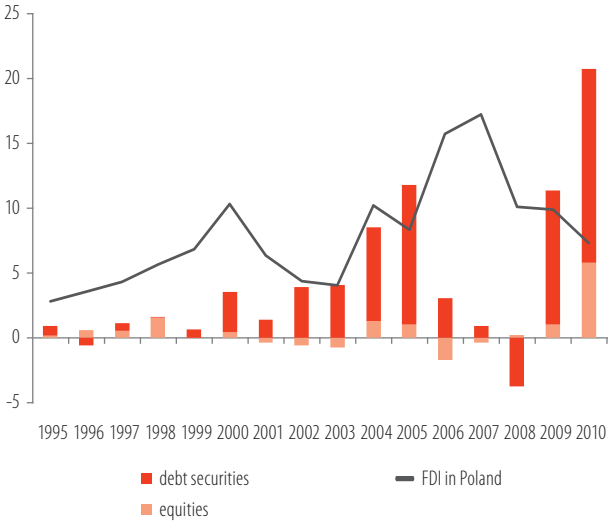
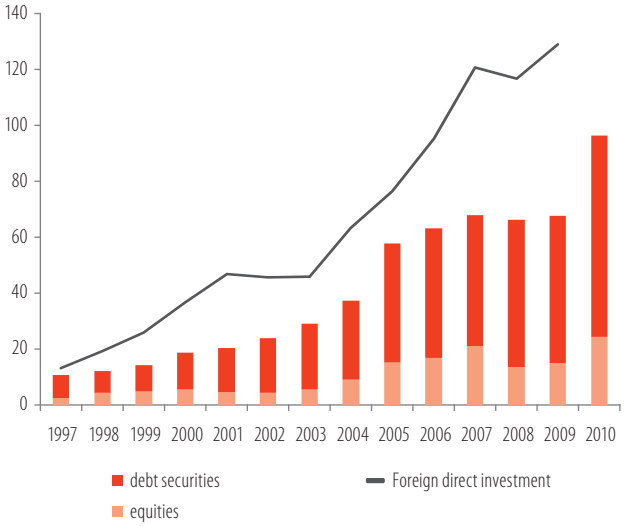


Figure III.10. FDI stock in Poland by type (in billions of EUR).



Source: Own elaboration based on Warsaw Stock Exchange (WSE) and National Bank of Poland (NBP) data.

Box III.2. FDI, portfolio investment, and the development of the capital market in Poland.

According to the standard definition, FDI requires a long-term relationship between the subsidiary and the MNC located in a country other than the country of origin of the investor. It must also have effective control over the company, at least 10 percent of shares. If the capital engagement is smaller, the venture shall be classified as a portfolio investment (see OECD (1996)). Both literature and policy makers focus on foreign direct investments, which are considered a better source of building capital than portfolio investments. This is due largely to lower volatility of such flows as the withdrawal of FDI is typically harder than selling shares on the Stock Exchange. In addition, portfolio investments are primarily done by financial institutions, so they do not generate the benefits attributed to FDI, such as technology development or an impact on suppliers. This type of investment, to a small extent, also contributes to job creation. Despite this, portfolio investments are a sure indicator of the level of trust for financial institutions in the market.

Figure III.11. Structure of portfolio investment (right axis) and FDI in Poland (left axis) (million EUR).

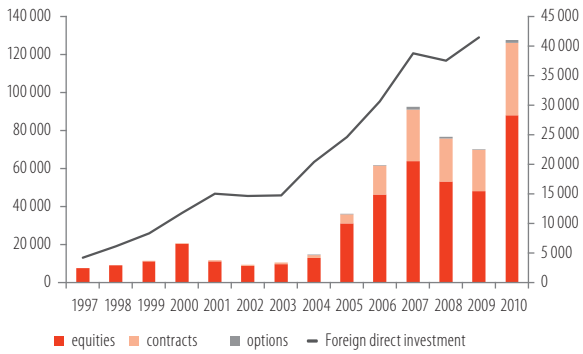
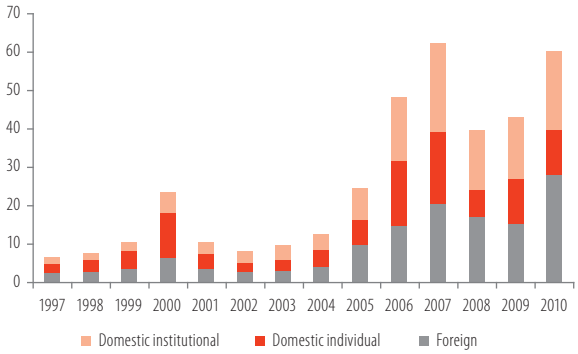


Figure III.12. Structure of turnover at the Warsaw Stock Exchange by investors (billion EUR).



Source: own elaboration based on WSE and NBP data.

Turnover structure at the Stock Exchange in Warsaw shows that shares are the most popular instrument purchased by investors and investors from abroad account for an increasing part of turnover in this market. In 2010 the value of shares traded by foreign investors was greater than any other investor groups (domestic institutional and individual investors). Furthermore, the turnover generated by foreign investors in the stock market is more stable, which positively affects the image of the Polish market in the world and is beneficial for businesses. On the other hand, interest in instruments such as options or contracts is marginal among foreign buyers, which probably stems from an underdeveloped Polish market and the relatively low popularity of derivatives.

Source: Own elaboration.

High investment volatility in the financial sector is closely linked with similar volatility in portfolio investment, which is not surprising given the ease of access to and withdrawal from such investment. This phenomenon is shown in Figure III.10., comparing the activity of foreign investors in foreign direct investment and portfolio investment in Poland. Similar to the inflow of FDI, portfolio investment balance is procyclical and can be considered to precede boom and recession indicators. In 2000-2005, the trajectories of resources invested in both types of investment were similar, though in 2004 FDI inflow to Poland was significantly larger than portfolio investment. The fact that until 2003 the inflow of portfolio investment was relatively low was due to the early stage of development of the Polish capital market. In October 2003, the Warsaw Stock Exchange saw the debut of the first foreign company. In the next 7 years stock market turnover increased six times (cf. Box III.2), which has contributed to increased interest in the Polish capital market among foreign investors.

Another interesting observation is the trajectory of both indices over the past four years. The volume of portfolio investment began to fall much earlier than the volume of FDI, but the first signs of recovery from the crisis resulted in its growth. This is largely related to ease of access to and withdrawals from stock market investments. They are often short-term in nature and therefore very sensitive to economic information and changes in market sentiment. A high rate of FDI sustained throughout the decade, however, shows that despite short-term fluctuations, investors believe in the foundations of Polish international competitiveness, and this trust is stable and does not depend on short-term economic turmoil.

1.4. Impact of FDI on the receiving economy

1.4.1. Benefits of FDI for the receiving country

In the theory of foreign direct investment (cf. OECD, 2002), there are three channels of impact on the economy:

- Firstly, FDI increases the aggregate stock of capital in the economy, leading to increased productivity at the macroeconomic and sectoral level.
- Secondly, FDI is much less sensitive to economic fluctuations and changes in political climate than other sources of capital (e.g. portfolio investments), thus its impact is more durable and stable.
- Thirdly, FDI contributes to international integration in the host country, induces positive externalities or accelerates structural reforms that would not be possible using solely the national capital.

The main charge brought against FDI is strengthening of social structure stratification and deepening of income inequalities. A similar, although short-term effect, is attributed to most policies aimed at accelerating economic growth, urbanisation, or even innovation.

Besides the direct impact on economic growth and foreign trade, which we discuss in later chapters, FDI influences economic growth in the receiving country in an indirect manner by stimulating the accumulation of production factors. In particular it concerns the transfer of technology, knowledge and human capital. FDI also significantly changes the market structure and competitive pressure exerted on domestic firms and may have important social implications.

Diagram III.1. Channels of FDI impact on the destination economy.

Source: Own elaboration.

One of the key motives of FDI promotion by host country governments is the hope for a transfer of more productive technology by the investor to its subsidiaries in the country of destination. This transfer may be due to both vertical and horizontal linkages within a given industry, which means the company's impact on its customers, suppliers and competitors. Other motive may be the hope that the domestic company will conduct research and development activities in cooperation with its parent company and that highly-skilled workers will migrate. Vertical links depend largely on the investor's decision and may involve customers (*forward linkages*) as well as suppliers (*backward linkages*). The existence of such a relationship largely depends on the multinational corporation's decision to choose a particular source of supply, and the specificity of the sector. Channels of investor's influence on the environment include restrictive quality standards that must be met by companies wishing to supply the production plant, training, or support used by corporations in relation to suppliers. In addition, the investor sometimes supports local companies which buy the appropriate intermediate goods in world markets and also helps enhance the quality of management. The impact in the opposite direction is less important – Aitken and Harrison (1999) show its negligible in terms of business productivity. Despite this, the OECD (2002) argues that thanks to more competitive products manufactured by companies resulting from FDI, the home business, MNCs contractors, may become more productive.

Other channels of FDI influence on growth are horizontal linkages, resulting from competition between the subsidiary and the local companies on the domestic market, and from imitation. Saggi (2000) indicates that these relationships largely depend on the situation in the destination country: its human capital, or research and development potential of local scientists; universities, and research institutions. Frequently, the success of a new technology implemented by the investor reduces the risk for domestic companies and convinces them to implement it. Moreover, according to economic theory, intense competition has a positive effect on productivity growth and consequently, on the level of economic development. Nevertheless, the results of empirical studies are inconclusive. For example, Aitken and Harrison (1999) and Konings (2000) pointed to the negative impact of FDI on the efficiency of enterprises in the host country, while Cheung and Lin (2004) observed the opposite phenomenon.[8]

The results of research on microeconometric panel data indicate the existence of vertical linkages (cf. e.g. Smarzynska (2002) for Lithuanian companies, Blalock and Gertler (2008) for Indonesia and Kohpaiboon, (2009) for Thailand). This results from the fact that the relationships of this type generate benefits for both investors and their suppliers in the investment-receiving country. Furthermore, MNCs choose the location of their undertakings in such a way as to minimise the costs resulting from the possible imitation and copying of their products (Blalock and Gertler, 2008). A literature review in the paper by Gorge and Greenaway (2003) proves that the positive impact of FDI is more often observed in highly developed countries, which indicates that the external effects depend primarily on the ability of domestic enterprises to absorb innovation. These conclusions are confirmed by the observation that in African countries, despite relatively high inflow of foreign capital into certain sectors of the economy, there has been no acceleration in economic growth.

Another channel of influence of FDI on economic growth, which has particular importance in the context of the labour market, is the relationship between FDI and the mobility of workers in the destination country. MNCs modify the local human capital by providing their employees and business partners with training and learning-by-doing techniques for new working and management methods. These workers then go to other local firms or establish their own business so that gained knowledge contributes to aggregate productivity growth in the host country. Formal research on this channel of FDI externalities has a relatively short history (cf. OECD, 2002, Smeets, 2008). These papers have been microeconometric in nature and their results indicate a significant and positive effect of investment on both the wages of workers (Markusen, Trofimenko, 2009, Poole, 2007) and the productivity of local firms (Gorg and Strobl, 2005). On the other hand, a study conducted by Csengődi et al. (2008) indicates no such regularities after acquisitions. In such cases, employees who have working experience in the MNCs do not receive higher wages when in other companies. Similar conclusions result from our IDI research described later in this Part. The majority of respondents from a group of managers of multinational companies declared that wages were at market levels.

The motivation of FDI is an important factor affecting the potential impact of investment on human capital. In the case of efficiency-seeking FDI, MNCs are more likely to invest in areas already having a properly educated population than train it themselves for the purposes of their specific production. However, some authors (e.g. Geshenberg, 1987, Blömstrom, 1992) indicate that employee training in foreign companies is a bit more frequent than in local firms, but this may be due to a larger average size of foreign-owned companies or sectors in which they operate (see also *Part IV – Employment in Poland 2008 - Work over the life course* (IBS/CRZL 2010)). Improving human capital is also important in the case of strategic asset-seeking investment. In such cases staff training is perceived by the company management as a continuation of the investment. In addition, in the acquisition of another company, e.g. carried out in order to eliminate competition or obtain new technology, it is necessary to adapt the acquired company employees to the existing organisational structure. Although as indicated by some studies (e.g. Aitken et al. Gershenberg 1996 or 1997), skilled workers in multinational corporations are unlikely to start work in local businesses as they often start their own business. Additionally, MNCs have a higher average corporate culture than local companies and their employees tend to acquire personal characteristics that are desired in the market economy.

[8] Paper with wide reviews of literature include Hayakawa et al. (2009), Görg, Greenaway, (2003) or Smeets (2008).

Table III.2. Impact of FDI on the host country.

Channel interaction	Object of interaction	Potential impact	Additional conditions:
Transfer of know-how	Contractors	Increased contractor productivity.	Minimum human capital of entrepreneurs.
The impact on workers' mobility	Employees	An increase in general human capital of workers, which is used later in other companies.	Investment entry mode: brownfield or greenfield.
Training of employees	Employees	Acquisition of specific skills, so far not available for the local population.	Adequate initial stock of human capital, the investor's attitude to training.
Impact on the structure of markets	Markets of goods and services	Intensified competition between enterprises.	Greater impact of FDI on competition is observed in countries with lower levels of development.
The direct increase in productivity of the acquired companies	Privatised enterprises	Better use of resources and effective management of the acquired state-owned enterprises.	Competition in the sector of activity of the acquired company.

Source: Own elaboration.

Similar to technology transfer, in order to fully benefit from the emergence of foreign investors, a country should have the initial resource of human capital at the appropriate level (above a certain minimum threshold). An OECD Report (2002) shows that FDI, by offering higher wages to local educated workers, helps to minimise the negative effects of brain drain. Moreover, FDI often allows the country to attract highly skilled managers and encourages return-migration (cf. e.g. Gouchu and Wenjun, 2001). According to economic theory, FDI both decreases and intensifies competition in the host markets. The former occurs when the investor-company has a competitive advantage; giving it practically a monopolistic position in the country/sector. Over recent decades globalisation has resulted in a growing number of mergers, acquisitions and strategic alliances, resulting in an increasing concentration of international production. As indicated by Lall (2000), acquisitions of domestic enterprises (e.g. privatisation) can protect them from bankruptcy, but lead to an increase in market concentration, to the detriment of customers. On the other hand, the entry of a new player to the local market may intensify competition between companies and encourage them to improve product quality.

Although the direct impact of new investment on competition occurs only in the case of market-seeking FDI, every type of FDI indirectly affects the production structure in the host country (e.g. through effects on prices and demand for capital and labour). Due to the difficulty in measuring competitiveness, there are few empirical studies indicating which effect prevails. Sembenelli and Siotis (2002) estimated a model for microeconomic data from Spanish firms and indicated that while in the case of companies outside the R&D sector the appearance of FDI has a positive effect on competition,[9] in R&D enterprises this effect is smaller. Driffield (2001) argues that the emergence of foreign investors in the UK has reduced concentration and increased competition and Bourlakis (1987) showed the same for Greece. In general, a greater impact of FDI on market concentration is noticeable in less developed countries. Moreover, an adequate competitiveness policy can reduce the risk of monopolisation.

An important benefit of FDI, especially in the context of economic transition in Poland over the last two decades, resides in the possibility of privatisation through the sale of shares in state-owned enterprises to multinational corporations. The acquisition of inefficient plants by companies with knowledge, management skills and their own production *know-how* can increase their productivity which, in turn, translates into economic growth and improves the situation of employees and customers in the macroeconomic scale. The results contained in the review of the literature (OECD, 2002) clearly show that the privatisation of enterprises can increase their effectiveness but is also associated with a reduction in employment. Most studies provide evidence that the companies managed by foreign investors are more efficient than those that have been taken over by local companies, although the results are not as clear as in the case of *greenfield* investment. However, most of the acquired enterprises are those which are attractive to any potential investors, i.e. those with the greatest restructuring potential. In this context, there is an important problem of natural monopolies (e.g. community services). Privatisation may lead to the imposition of excessive prices and windfall profits at the expense of customers. Potential solutions to this problem may include stronger supervision from regulatory agencies or opening a given sector to competition.

1.4.2. Hope for economic growth and government support for FDI

Both developing countries and those in transformation seek to attract foreign direct investment in the hope of higher growth and faster convergence with the developed economies of the West. The economic theory points to two main channels through which this

[9] I.e. results in lower windfall profits of local enterprises.

hope can be realised. On one hand, capital inflow allows its faster accumulation, and on the other hand positive externalities induced by investment, and the acquisition of new skills by employees and subcontractors, stimulate production efficiency in the macroeconomic scale (OECD, 2002).

In the traditional *two-gap model*, used for example by international organisations, developing countries are in the poverty trap - the low level of capital does not allow efficient use of other resources and low purchasing power of residents inhibits the progress of trade. Foreign investment contributes to the reduction of both gaps, making a positive impact on economic growth. In addition, it increases employment and the profitability of local investment. These assumptions do not imply, however, greater impact of FDI on economic growth compared to domestic sources of capital. Moreover, the hypothesis of *two gaps* is not strongly supported by data (e.g. Easterly, 1999, 2002, Burnside, Dollar, 2000). It also does not explain the presence of FDI in developed countries. These defects are absent in another description of the impact of FDI on economic growth based on positive FDI externalities. Modern growth models suggest that these externalities include especially the accumulation of knowledge and *know-how* both in the form of patents and licenses as well as through *learning-by-doing* techniques. In addition, foreign investments often result in migration of subcontractors - and thus intensify further capital inflows. De Mello (1999) also points to the specific complex nature of investment and indicates the greater influence of FDI on growth in developing countries due to lower substitutability of existing technologies and new solutions.

The advantage of FDI over other forms of investment is also apparent in periods of economic volatility. As indicated by the OECD (2002), direct capital flows to the emerging markets are, as opposed to portfolio investments, relatively stable in a business cycle and do not cause an increase in the foreign debt. As a result, FDI, unlike loans and credits, does not expose the country to the risk of currency crisis. The main reservation with regard to FDI is a big concern about the occurrence of the effect of crowding out domestic investment and reducing local entrepreneurship. The literature also mentions the problems of the deterioration in the balance of payments caused by investment-induced imports.

Significant fiscal, infrastructural and regulatory support for FDI in developing countries (cf. Box III.3.), seen in different kinds of subsidies or tax exemptions, makes it very important to discuss in detail the impact of such investment on economic growth. It is not a priori obvious that public support for foreign investment brings adequate economic or social benefits. Therefore, empirical research focuses on the identification of whether FDI causes higher growth, increases productivity or factors of production, and also allows assessment of the extent to which FDI crowds out domestic investment. Evaluation of these relationships, however, faces two major problems:

- *Causality problem* - FDI can promote economic growth and higher growth may cause the inflow of FDI as expanding markets begin to tempt an increasing number of international corporations.
- *The problem of omitted variables* - factors such as the developed democratic system, well-functioning institutions and effective protection of property rights, are correlated both with economic growth and the interest from investors, so one can not *a priori* exclude that the observed effect of FDI on productivity is only artificial - both productivity dynamics and the inflow of FDI may depend on a third directly non-observable factor, e.g. an institutional environment.

The results of empirical studies estimating the scale of externalities of FDI are ambiguous. Some studies conducted at the enterprise level simply do not identify their occurrence (e.g. Aitken, Harrison, 1999, Gorg, Greenaway, 2003). In addition, an often used argument indicates that companies using foreign technologies have a stronger incentive to protect their knowledge and do not share it with local business partners. Herzer et al. (2006) in a study carried using the data for 28 countries indicated only a few cases with a significant correlation between the level of FDI and economic growth. They explain that FDI represents only a small percentage of GDP, so their impact is limited and in some cases the negative impact of investment on growth is greater than benefits. Most studies indicate that the positive relationship between FDI and economic growth and productivity depends on many factors, such as form of investment, sector, institutional environment and the capacity of domestic firms to absorb the new solutions and *know-how* (Lipsey, Sjöholm, 2004).

At the same time, a broad segment of the literature does not share this scepticism, pointing to the positive impact of FDI on economic growth at the macro level. This applies especially to studies based on macroeconomic data. For example, Borensztein et al. (1995) argues that FDI positively influences the level of economic development if a country has sufficient human capital (above a certain threshold level), enabling workers to learn quickly. Moreover, they indicate the existence of a complementarity between domestic and foreign investments. FDI can help increase the volume of aggregate investment by amounts greater than the cost of the project. In accordance with an article by de Mello (1999), the impact of FDI on economic growth is primarily long-term and that effects observed in the short term are ambiguous and depend on factors specific to the country. Alfaro et al. (2006) shows that FDI brings more benefits to the economies of countries with better developed financial markets. Lensink and Morrissey (2006) argue that in less developed economies, high volatility of FDI flow significantly reduces the possibility of obtaining positive results. Carkovic and Levine (2002) argue that although FDI does not affect growth in itself, a sensible government policy may increase both the inflow of investment and accelerate economic growth.

Box III.3. Incentives for investors used by local and national administration.

According to OECD (2003), incentives used by governments to attract FDI can be divided into three basic groups:

- **Regulatory incentives** – consist of repealing or amending the existing law to facilitate economic activity of an investor. Generally such a support applies to areas such as environmental protection or labour code, when the repealed regulations constitute an additional burden for the investor. Incentives of this type are usually associated with a specific national strategy to attract FDI, are sometimes are also applied to a particular corporation willing to start a particular investment. They are usually negotiated individually by the relevant authorities with the company interested in a particular area.
- **Fiscal incentives** - the most common stimulus, especially in developing countries that do not have adequate funds for direct financial support. Tax incentives often require statutory changes and are offered in packages containing a number of tools to help investors. These include:
  - *Reduction of tax on corporate profits* occurring in the form of reduced tax rates, tax holidays (exemptions for a specified period of investment), or special zones where taxes are lower and foreign investors have priority in investing their capital.
  - *Support for capital accumulation*, including incentives to leave the profits earned in the host country instead of paying their parent corporations. These include special tax rules, for example deducing capital expenditure from profits or the use of higher tax depreciation rates; special tax reductions, which are calculated as a percentage of the amount which would have to be paid by the domestic company; or rules that allow a deduction of reinvested profits from income.
  - *Reduced taxation of cross-border operations*, which allows the investor to reduce the cost of transfer of profits to the parent country. This group of incentives includes the abandonment of taxation of international transactions, the reduced tariff rate for subcontractors or lower taxation on labour.
  - *Other tax incentives* - the last few years have seen the development of tools not included in the aforementioned categories. In some countries, investors enjoy the possibility of lower VAT or cadastral tax, other investors may benefit from long-term deduction from paid tax.
- **Financial incentives** - are motivated by three basic arguments. The first lies in the fact that a specific area can be seen as less attractive than others because of poorer accessibility or infrastructure. Actions taken to bridge this gap consist in adequate assistance for the investor. The most commonly used incentives include subsidies for the construction of infrastructure and staff training.

  Financial incentives are also recommended because despite the increase of the company's productivity in the new location, the investor may resign from the move because of administrative costs, poor adaptation to the new institutional environment, etc. The most commonly used incentives to reduce the cost of relocation (e.g. refunds covering the cost of housing for managers), include administrative assistance during the movement (often used by Polish departments of investment promotion at the respective offices) and temporary wage subsidies for new employees.

  The third argument is based on the assumption that the appearance of a foreign investor will cause some external effects beneficial for the local community. This assumption means that measures for direct support of a particular investor are profitable because the expenditures will bring benefits in the future. Incentives motivated by this argument include preferential loans to investors, corporations, real estate sale at a lower cost than market value, or participation in the financing of investment (direct or indirect through suppliers).

Typically, the above-mentioned types of support appear in a package and are often negotiated individually with the companies intending to invest in the area. Polish Special Economic Zones are an example of incentive packages, offering investors a number of facilitations from each of the three main categories. The scope of tools used depends on the specific location and is usually negotiated individually (especially large investments by multinational corporations).

In summary, although economic theory allows for the positive impact of FDI on economic growth, *strictly* empirical results are ambiguous in this aspect. Externalities of FDI depend on other factors such as the level of human capital in the country, policy, level of development of financial markets and the stability of capital inflow. On the other hand, the gap between the productivity of local firms and multinational corporations is smaller in more developed countries, thus FDI can be easily replaced by local investments. Furthermore, although the impact of such projects on the economic growth at the country level is difficult to assess, on a local scale FDI can be an important factor in improving the economic situation. We discuss this issue further in Part IV.

1.4.3. FDI and foreign trade patterns

One of the main arguments for the development of FDI is the observation that they strengthen the international trading system, which helps increase the production efficiency in both markets involved in trade.[10] This is demonstrated, for example, by an OECD study (2002) according to which trade between different parts of related companies is responsible for a growing portion of international trade across the globe. If it is true that FDI intensifies foreign trade (and vice versa), and the trade in goods and services between countries directly affects economic growth (which is a common result in the theoretical and empirical literature), trade is one of the channels through which FDI influences the welfare of a country.

[10] Cf. chapter 3, in which we show the impact of trade on labour market and productivity.

One of the most important recent works on the theory of FDI evolution is a widely commented article by Markusen and Venables (1998), which shows a model explaining the choice between trade with another country and opening a factory there. Simultaneous dynamic growth of trade and FDI in recent years is explained by the integration of markets in different countries and also by the increasing role of intra-company trade. Goldberg and Klein (1997) argue that FDI increases imports from their countries of origin, consisting mainly of intermediate goods. The important role of imports of factors of production can be explained in three ways - by *outsourcing*, the increasing role of multinational corporations' networks and *global sourcing*.

According to the first hypothesis, firms move certain stages of production to countries with comparative advantage in the specified scope. According to a second explanation, the growing share of intermediate goods in foreign trade is a result of increasing the stock of FDI in the economy; as such enterprises typically rely on imported raw materials. The concept of *global sourcing* refers to situations in which big companies do not obtain the factors of production from one sub-contractor but instead each time look for the best solutions for themselves by using all available opportunities. Consequently, the country from which means of production are imported may vary depending on the project. Such solutions have been made possible by the technological progress that induces a decline in transaction costs (it is easier to negotiate with a potential contractor thanks to modern means of communication and easy travel opportunities across the globe) and lower costs of shipping.

Kleinert (2003), using input-output matrices for six OECD countries, indicates that although there is no convincing evidence that *outsourcing* is the cause of the parallel growth in FDI and international trade, he confirms the hypothesis indicating the roles of MNC network and *global sourcing*. On the other hand, Markusen and Maskus (2001) argue that the increase in turnover between a foreign subsidiary and its parent company is affected by factors such as the amount of revenue and the similarity of the countries in which they are located.

A common argument of politicians and lobbyists used to promote MNC investment in a developing country or those undergoing transformation is their expected impact on the size and structure of exports. This reasoning is based on a belief that foreign companies have trademark rights and *know-how,* giving them access to world markets, and can also help overcome the capital limitations of the host economy. Such a viewpoint is valid only for efficiency-seeking investment - for example FDI created in order to better penetrate local markets fail to achieve the desired effect of export growth.

Box III.4. Hypotheses explaining the simultaneous growth in trade and FDI.

Outsourcing:
The concept of ***outsourcing*** means transferring part of the production process to another country. In the beginning ***outsourcing*** requires foreign investment in a subsidiary, which then exports the products to the home country of the corporation.

Corporate Networks:
MNCs establish their subsidiaries in different countries based on many motives. The activitiy of those subsidiaries are based on the imported goods (e.g. import of *know-how* or the production factors from the country of origin or sharing sources of raw materials with other parts of the corporation), which have a positive impact of FDI on trade.

Global sourcing:
MNCs supply all its subsidiaries by buying materials in bulk, using diversified sources of production factors. The suppliers of the company may change over time, and corporations renegotiate terms of supply in search of the best solutions.

Source: Own elaboration.

Empirical examination of the impact of FDI on exports is possible using different approaches and diversified data. On one hand, thanks to research at the macroeconomic level, it is possible to capture the external effects of FDI and export growth not directly resulting from investment, but rather from a higher internationalisation of the economy. On the other hand, microeconomic studies make it possible to take into account the mode of investment, its motives, use of incentives, etc. Early analyses published in the works by Lipsey and Weiss (1981, 1984) show that FDI of American companies in most sectors has a positive impact both on the export of the United States and in host countries. Similar conclusions are presented by Clausing (2000), who examined FDI of U.S. corporations. He argues that investment and exports are complementary to each other, especially in trade within companies. The Pfaffermayr (1996), using the Granger causality test, concludes that although FDI intensifies trade, causality also occurs in the opposite direction.

Research at the level of industries and companies shows dual implications, although most authors point to the complementary relationship (e.g. Lipsey and Weiss, 1981, and Pfaffermayr Oberhofer (2008)). Similar results were obtained by Marchant (2002) who analysed the processed food market in the Free Trade Area of the Americas. Substitutability between exports and FDI is easier to demonstrate at the product level - the occurrence of this effect is indicated by Bloningen (1999) for the automotive industry (car manufacturing)

and by Türkcan (2007) for final goods. On the other hand, these two studies indicate a certain complementarity between FDI and exports of intermediate goods. In summary, although the corporate strategies for the implementation of new products in the foreign exchange markets assume a relationship between exports and FDI, it is certain that higher FDI entails an increase in trade of intermediate goods - raw materials for production.

Discussion on the consequences of FDI for the host country mentions a frequent problem of transfer pricing pursued by the company-investor. It consists of imposing unnaturally high or low prices for products or services provided for the subsidiary by the parent company in order to avoid taxation in the host or sending country.[11] Empirical literature on the scale of this phenomenon is relatively poor, but it is possible to note a number of regularities. Azemar and Corcos (2009) show that the correlation between tax rates in destination countries and the capital invested by Japanese companies is highest in case of units engaged in research and development, which results from the smaller possibility of transfer pricing (foreign subsidiaries buy relatively less *know-how* and technology from parent companies). Bernard et al. (2008), in their influential article, suggest that the prices of U.S. companies-exporters are significantly lower for their subsidiaries than for other contractors, and the size of this difference depends positively on the degree of processing, company size and share of exports in its production. Simple calculations presented in that study indicated that the transfer pricing resulted in 5.5 billion lower U.S. budget revenues from taxes and a 15 billion trade deficit the U.S. in 2004. Similar conclusions are presented by Dischinger (2007), who estimated a model based on microeconomic data from the AMADEUS database of European companies.

2. Benefits of trade and FDI in the European Union

2.1. Introduction

In this section we estimate the impact of trade on employment in European countries. The demand for jobs in each sector is calculated on the basis of an input-output matrix. This approach has several advantages, including the possibility of testing the indirect effects of foreign trade resulting from supply chains and taking into account the varying degree of processing of manufactured goods. Details of the methodology are shown in Box III.5.

Box III. 5. Method of estimating the effect of foreign trade on employment using the input-output matrix.

On the basis of input-output matrices we calculate the demand matrices for intermediate goods in various sectors of the economy, which is then multiplied by net imports of finished goods within each sector. The last step is multiplying the obtained matrix by the vector of labour demand. The estimation formula is as follows:

$$\Delta E = E \times (I - A)^{-1} NX$$

where,

ΔE – denotes a change in the number of jobs in various sectors;

$E = \left[\frac{E_j}{Y_j}\right]$ – vector of labour demand in various industries (per unit of output)

I – identity matrix;

$A = \left[\frac{X_{ij}}{Y_j}\right]$ – input-output matrix;

$NX = [NX_j]$ – net imports in each sector (imports - exports).

The simplicity of the method requires a number of strong assumptions:

- Productivity factors are constant, therefore the advantages and disadvantages of scale are not included;
- There is no difference between tradeable and non-tradeable goods;
- It assumes perfect substitutability of imported and domestic goods. For this reason, the analysis excludes mining - in this sector the assumption of substitutability is not very reliable, due to the uneven distribution of natural resources;
- Trade is costless;
- The method does not take into account the long-term impact of foreign trade on productivity of production factors, e.g. through external influences.

Source: Own elaboration.

[11] Depending on where the tax is lower.

To our knowledge, this method was applied for the first time by Groshen et al. (2005). In that article, the authors argue that *off-shoring* has little effect on the number of jobs - they estimate the related decline in the U.S. to be 2.4%. In this section we adapt their methodology, albeit with two major enhancements:

- We estimate the change in the number of jobs for most European Union countries in 2005.
- In addition to the number of jobs, we calculate the differences in the efficiency of individual sectors, dividing the final consumption (understood as the sum of private consumption, government spending and investment, adjusted by net trade) by the number of people employed in the sector.
- Due to the specific nature of the mining sector (C according to NACE Rev 1.1) and the limitations of the method (which assumes perfect substitutability of mining products in the country and abroad), the results for this sector have been excluded from the analysis.

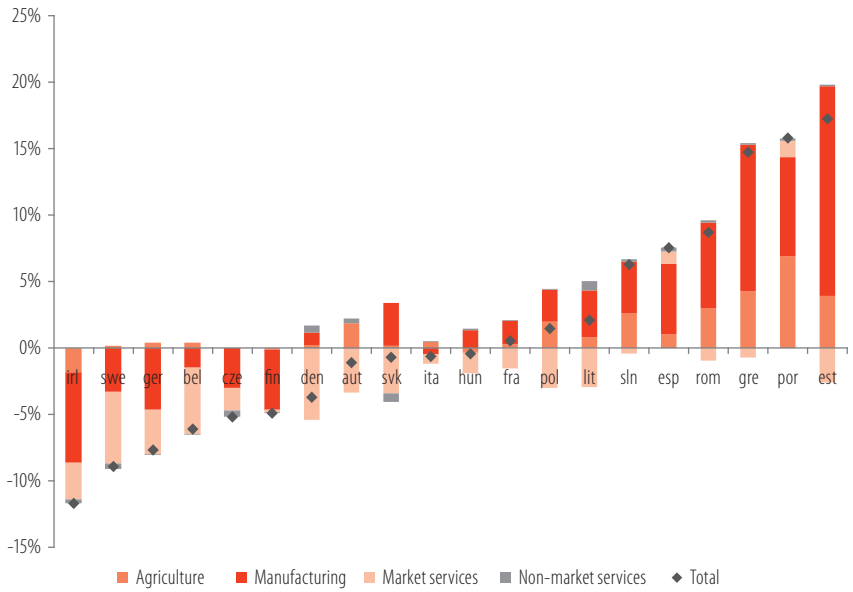
Moreover, as in the work of Groshen (2005) and Lurweg, Westermeier (2010), we examined the impact of trade on labour supply and productivity in 2000 and 2005. Unfortunately, due to lack of data, determination of the dynamic interdependence between foreign trade and the number of jobs was not possible. Therefore, we conducted an analysis in a comparative static framework. The data comes from Eurostat, which ensures comparability of results. Data on the labour market came from the LFS for individual countries.

2.2. Trade and employment in the EU

Figure III.13 shows the change in the number of jobs in the economy, induced by sudden closure of borders in twenty European countries. There is a notable correlation between net exports in a sector, and the benefits derived from foreign trade. In a situation of autarky, countries that are net importers would increase employment in those sectors where import is greatest, and in the exporting countries there would be similar job cuts. At the same time, closing the borders in almost all economies would cause a significant decline in employment in market services. This is mainly due to job losses in trade and transportation sectors, which would be an obvious consequence of introducing autarky. Only Portugal would see a slight increase in employment in this sector, as a consequence of the need to increase hiring in finance and real estate, which are currently imported. Moreover, a rise in the importance of manufacturing and real estate would increase the demand for commercial services (these sectors exhibit significant indirect demand for commercial services), which in contrast to most other countries, would also increase employment in Portugese transportation, after a hypothetical closing of borders.

The greatest relative changes after the introduction of autarky would be observed in the smallest countries, highly integrated with the European economy, both through imports (such as Estonia, Greece and Portugal) and exports (e.g. Ireland, Sweden and Belgium). This comes from assuming the substitutability of domestic and foreign goods that makes small countries more strongly involved in international trade. In practice they cannot easily replace imported goods with domestic production, in the hypothetical situation of autarky and being forced to produce goods locally. Hence, autarky leads to an increase in domestic output at the cost of a reduction in the diversity of consumption, which is impossible to analyse using the aggregate macroeconomic measures (e.g. imported agricultural goods from other climate zones are replaced by native products).

Figure III.13. Change in the number of jobs induced by trade in countries of the EU (per cent of the initial value).



Source: Own calculations based on Eurostat data.

Autarky would acutely affect agriculture, especially when comparing the impact to the current size of this sector in European economies. The reason for this would be the lack of substitutability between agricultural commodities and products in other sectors. Appropriately, countries which import agricultural products would increase domestic production, while exporting countries would do the opposite. However, countries that export agricultural products would experience relatively increased demand for food, due to the increased importance of manufacturing, which would result in total consumption of the accumulated surplus. Since most European countries are net importers of agricultural products, autarky would increase employment in this sector throughout almost the entire EU. The increase in agricultural employment in most countries would be followed by a respective decrease in labour productivity, which is shown in detail in the next section.

Closing the borders would have very little effect on the number of jobs in non-market services. In fact, this sector is extensively linked to trade, and most manufactured goods in it are not substitutable by goods from abroad. Figure III.13 shows the specialisation of different economies – visible in the autarky-induced structure of employment decrease in Belgium and Finland. In both countries, the number of jobs would be reduced to a similar degree. However, in Belgium the job losses would occur mainly in the service sector, while in Finland - in manufacturing. Similar differences can be observed between Germany and Sweden, or Portugal and Estonia.

Comparatively, the outcome in Poland would be average - the cessation of trade would result in a slight increase in employment in manufacturing and agriculture, but this rise would be largely offset by the elimination of jobs in the service sector - the net effect of such a change would be close to zero. Poland does not have a significant trade imbalance, and the openness of its economy primarily gives the benefit of higher diversity of available consumer and investment goods, as well as productivity gains arising from specialisation in the production of certain goods. In this respect, Poland lies within the European average, not standing out compared to other Central European countries. The introduction of autarky would result in greater change than in the Czech Republic, Slovakia or Hungary, but smaller than in the Baltic republics.

2.3. Trade and labour productivity in the EU

Previous works (e.g. Groshen et al., 2005, Lurweg, Westermeier, 2010) estimating the impact of trade on the labour market with an input-output matrix focused on examining the impact of *off-shoring* on the labour market in Germany. Thus, the general benefits of trade between EU countries are not extensively covered nor studied quantitively in literature. In this part of the report we show that the benefits from trade consist primarily of productivity growth across the EU, while in the next section we will we look closely at interdependence between FDI specialisation in Central Europe and the benefits of trade in the region.

The classical foreign trade theory indicates that the primary incentive to engage in trade is the existence of comparative advantages (e.g. Obstfeld, Rogoff, 1996). In essence, it is the possibility of cheaper production of certain goods at the expense of others in specific countries. Although the theory is derived from the 19th century work of David Ricardo, it still helps to explain how trade affects productivity (cf. Part IV). The impact of trade on the number of jobs in European countries allows the estimation of its impact on productivity in different sectors. The used model indicates what change in the labour market would be necessary to preserve the existing structure of consumption in European countries.

Although in autarky the number of countries in which it would be necessary to increase employment is similar to the number of countries in which a reduction of the number of people employed would be required, the EU-27 countries would have to have nearly 2.5 million employed more than today in order to retain the current structure and level of consumption. This is despite the fact that the total net import of the whole EU is negative, i.e. the EU is a net exporter. This dependence itself already shows the scale of productivity growth induced by trade. This measure allows a closer look at the productivity changes across countries and sectors, and then compares them with a specialisation of European countries in FDI.

Table III.3 shows the percentage of change in productivity in individual sectors caused by a hypothetical transition to autarky. Due to the nature of the measurement, productivity in each sector is defined as the volume of total consumption (the sum of private and government consumption, and investment) per employee in each sector. The numbers in the table can also be interpreted as the portion of productivity in each sector resulting from participation in trade. The bottom row shows the economy's aggregate change in productivity induced by the cessation of trade in each country. The green colour indicates significant benefits of trade, red - little benefit or losses.

At first glance, the most important conclusion from this table is the assertion of the fact that all surveyed European countries benefit from international trade (an average 5.8 per cent of the productivity in the economy, in the examined sample). It is no surprise that net importers benefit most. Thanks to trade and importing goods from other countries where the production is cheaper, they can maintain their structure of consumption with lower employment than in autarky. In other words, trade allows countries such as Greece and Poland to maintain a higher level of consumption at a lower level of economic activity (see Part I of this report). In a slightly different way, trade benefits exporters such as Germany, Ireland and Sweden. Lurweg, Westermeier (2010) argue that 7 per cent of the total number of jobs in Germany exists thanks to trade. A similar situation occurs in Sweden and Ireland and to a lesser extent in the Czech Republic or Slovakia. In this case, trade allows the countries to minimise unemployment and increase the overall prosperity of their citizens.

Differences in productivity between sectors are an interesting illustration of the concept of comparative advantages in individual countries. Along with Figure I, they indicate why in the autarky model certain sectors would have fewer jobs and some would have more. The first, more obvious observation concerns the relatively small benefit for the least internationalised sectors - government, education and health care. Hence, further analysis will focus on the first lines of the table. Calculations show that in those countries and sectors where the benefits of trade are greatest, employment would fall most (the correlation coefficient for these countries and sectors is 61 per cent). A simple illustration of this fact is the expected autarky-induced decline in employment in Ireland, Finland and Germany's manufacturing sectors. Productivity gains in these countries resulting from participation in trade are the highest in manufacturing (which comes from the ability to sell goods to foreign partners). In countries such as Belgium, the Czech Republic or Denmark, greater benefits from participation in trade are achieved in the services sector, although the Czech Republic is already the part of the industrial heart of Europe.

On the other hand, in importer-countries the inability to bring in products would result in increased employment mainly in those sectors where currently foreign goods are particularly important. Consequently, in the hypothetical situation of autarky, in Greece most of the 'extra' workers would find employment in manufacturing, while in less productive Portugal - in agriculture. In the case of imported goods the benefits of trade result primarily from the benefits of technology and capital in other countries which make imported goods cheaper than those produced domestically. Thus, it becomes possible to use that workforce in other sectors.

Table III.3. Change in productivity induced by closed borders (taking into account the balance of trade).

	irl	swe	ger	bel	cze	fin	Den	aut	svk	ita	hun	fra	pol	lit	sln	esp	rom	gre	por	est
Agriculture	n.d.	-6.9%	-14.0%	-17.2%	0.3%	2.2%	-6.1%	-25.4%	-4.2%	-10.2%	-24.9%	-6.7%	-10.0%	-6.0%	-22.3%	-16.4%	-8,3%	-25,1%	-36,0%	-42,1%
Mining	Excluded from the analysis due to sector's specificity																			
Manufacturing	-54.7%	-23.3%	-19.3%	-7.5%	-15.7%	-36.2%	-6.4%	-0.3%	-9.1%	-6.6%	-4.5%	-9.6%	-11.0%	-14.3%	-11.4%	-22.7%	-21.3%	-44.3%	-26.7%	-39.8%
Energy	n.d.	3.8%	2.8%	-20.9%	-4.5%	0.7%	-9.3%	-4.0%	-10.5%	-4.1%	-6.9%	-8.6%	-9.4%	-26.2%	-5.6%	-14.4%	-19.2%	-26.0%	-17.9%	-21.9%
Construction	0.1%	3.2%	-0.6%	-34.2%	-20.5%	-0.1%	-0.5%	-1.5%	-3.2%	-0.1%	-22.7%	-0.3%	-10.1%	-28.6%	n.d.	-1.3%	-1.3%	-3.2%	-2.2%	-3.0%
Trade	n.d.	-10.3%	-2.8%	-19.7%	1.0%	1.5%	-15.6%	-9.1%	-31.4%	-4.0%	-9.6%	-9.4%	-23.3%	-22.0%	-6.6%	-9.8%	-22.7%	-18.9%	-8.7%	-25.3%
Hotels and restaurants	3.3%	3.4%	-1.9%	-2.7%	-8.4%	-9.7%	0.8%	0.3%	-13.5%	-3.0%	-1.6%	0.2%	0.6%	-12.8%	-13.0%	-1.5%	-5.7%	0.3%	-2.5%	-6.2%
Transport	3.4%	3.3%	1.3%	-21.4%	-8.4%	-3.8%	-36.1%	-5.7%	-21.4%	-3.5%	-15.9%	-16.0%	-11.2%	-45.6%	-23.6%	-21.2%	-25.1%	-34.6%	-22.5%	-47.1%
Finance	-22.3%	-4.4%	-0.6%	-1.1%	-8.6%	-0.3%	-5.4%	-11.8%	-4.3%	-1.0%	-5.2%	-3.7%	-4.2%	-9.8%	-2.2%	-7.1%	-8.8%	-14.6%	-13.0%	-9.9%
Real estate	-8.2%	n.d.	3.9%	0.5%	-1.2%	-5.8%	-0.2%	-2.8%	-2.3%	-0.8%	-9.6%	-1.3%	-1.4%	-3.0%	-5.4%	-7.0%	-6.2%	-7.0%	-7.0%	-6.0%
Administration	0.3%	0.6%	0.4%	0.0%	-0.1%	1.1%	0.4%	0.0%	-0.2%	0.0%	-0.5%	0.0%	0.0%	-2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.3%
Education	0.0%	0.5%	0.7%	0.1%	0.0%	0.2%	-0.2%	-0.8%	-2.2%	0.0%	-0.3%	-0.4%	-0.1%	-1.2%	-0.7%	-0.8%	-0.3%	-0.1%	-0.6%	-1.0%
Health care	0.6%	0.2%	0.0%	-0.1%	0.0%	0.0%	-0.1%	-1.5%	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.1%	-1.0%	-0.4%	-0.3%	-0.1%	-0.4%	-0.8%
Other	2.0%	3.2%	0.1%	0.6%	0.5%	-0.3%	-10.4%	-3.8%	-0.4%	-1.1%	-1.9%	-0.7%	-1.2%	-9.8%	-2.1%	-4.3%	-6.9%	-3.3%	-3.6%	-1.9%
Aggregate productivity change	**-8.1%**	**-4.8%**	**-4.0%**	**-3.9%**	**-3.6%**	**-5.1%**	**-1.2%**	**-3.7%**	**-4.1%**	**-1.6%**	**-0.8%**	**-1.5%**	**-3.0%**	**-9.0%**	**-5.9%**	**-7.0%**	**-8.0%**	**-12.8%**	**-13.6%**	**-14.7%**

Source: Own calculations.

In the European Union, trade brings the largest productivity increase in agriculture, manufacturing, and the energy sector (although to a lesser extent). This is understandable, given the ease of trade in such goods, as well as the difficulty of substitution of imported goods with domestic production (especially in agriculture). Moreover, the classical economic theory suggests that productivity growth induced by technological progress is much faster in manufacturing (and to a lesser extent, agriculture) than in services, which means that thanks to trade less developed countries can benefit from the fruits of growth in countries with better developed technology. The result of this approach is the identification of comparative advantages in each type of European country. Exporter-countries should specialise in those areas where trade gives them the most benefits. These advantages should be reflected in the structure of the FDI stock - in a model economy FDI would be targeted mainly at the areas of comparative advantage in the country, where investors can receive the greatest benefits. Gains from trade can thus be interpreted as a benefit resulting from the use of differences in relative productivity in different countries. Higher benefits of trade mean important differences in the productivity of individual countries.

Figure III.14 shows the actual structure of the economy in Poland in comparison with the hypothetical autarky in 2000 and 2005. In absence of foreign trade, the convergence of the Polish economy to the developed countries would be much slower - in 2005 employment in agriculture and manufacturing would have been larger than in reality, with the consequence of a significantly smaller share of employment in services. The trade with foreign countries induces a reallocation of labour from agriculture to services (primarily to trade); importantly, in 2005 this was much greater than five years earlier, suggesting that the beneficial effect of trade on sector structure intensified after Poland joined the European Union and openness of the Polish economy increased.

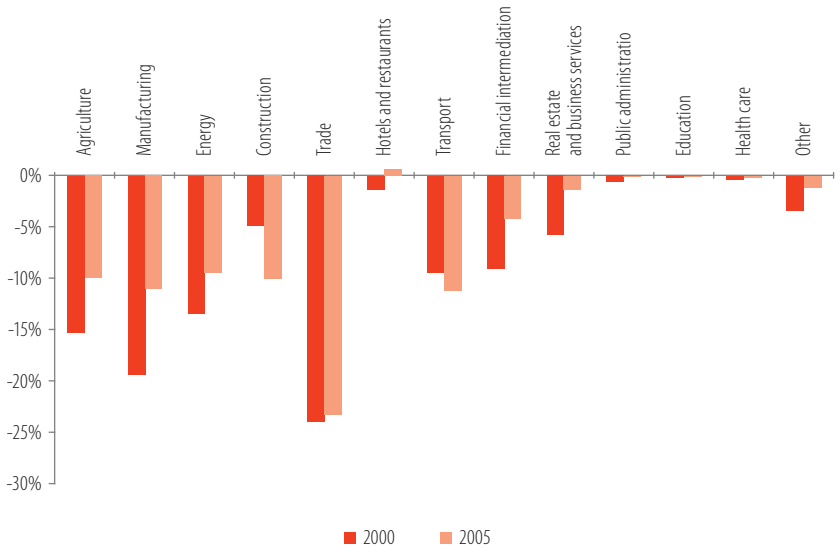
Figure III.14. Sector structure of the Polish economy in comparison with the hypothetical autarky, in 2000 and 2005.

Note: Pie charts illustrate the structure of employment by sector in 2000 and 2005, in autarky and an open economy. Bars illustrate the difference between the number of jobs in a closed economy and an open economy in 2000 and 2005.

Source: Own calculations based on Eurostat data.

The total impact of foreign trade on employment was higher in 2000 than 2005. This is a result of booming exports and an improvement in the competitiveness of the Polish economy, understood as the ability to produce products valued in international markets. In Germany, the transition to autarky and the abandonment of trade would have resulted in loss of jobs. Meanwhile, maintaining the consumption level and structure with borders closed in 2005 would have require a smaller increase in manufacturing employment than in 2000. This results from reducing the productivity gap in manufacturing between Poland and its trading partners. In addition, due to the increasing role of trade in the economy, 2005 job growth induced by international trade in this sector was almost twice as high as in 2000. If this trend is maintained in the future, it can be expected that Poland will join those European countries where, similar to Germany and Belgium, benefits from foreign trade lie mainly higher level of productivity and prosperity.

Figure III.15. Labour productivity decline that would occur in Poland in autarky, divided by sector, for 2000 and 2005.[12]



Source: Own calculations.

Analysis of gains in trade-induced productivity in 2000 and 2005 indicates a growing improvement in the competitiveness of the Polish economy. For the sectors in which Poland was a net importer (in manufacturing, real estate, business services and financial intermediation) profit from trade fell significantly, reflecting the decreasing productivity gap between Poland and other European Union countries. On the other hand, in sectors with net exports, such as construction or transport, profits from trade increased in 2000-2005, which is a sign of a growing advantage for Polish business over foreign partners. These changes are reflected in the evolution of FDI flows – its part in real estate, in which the difference between the benefits of trade in 2000 and 2005 was the greatest, grew the fastest.

2.4. European trade and FDI structure in Central Europe

2.4.1. Sector FDI specialisation in the NMS

Formal analysis of interdependencies between comparative advantage and FDI, using the measurement calculated above, is somewhat difficult because of its imperfections. Small differences in indicators, illustrated in Table III.3, should not bte interpreted directly. In addition, the location of FDI depends on a number of different factors that are not reflected in this measurement. These factors have been examined by numerous studies using formal methods (see e.g. review by Bloningen, 2005).

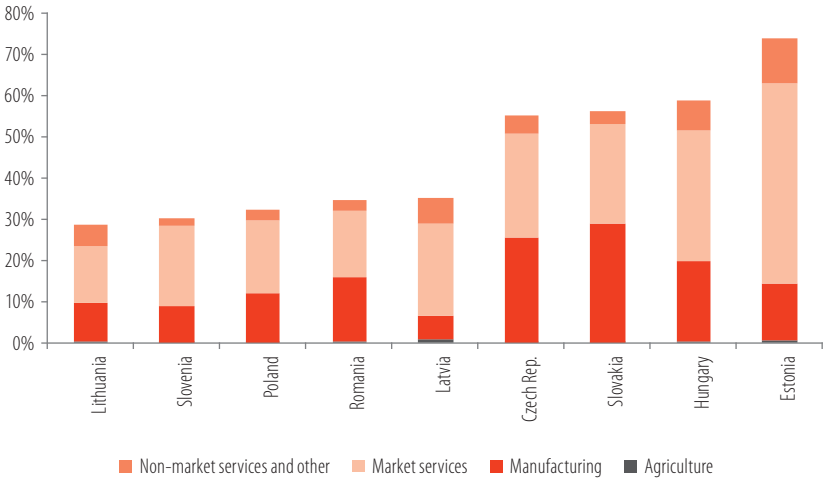
Figure III.16 shows the sectoral structure of FDI in NMS10 countries - in each sector it has been shown as the respective percentage of GDP. Although, in general, sectoral structure is similar throughout the region, the Figure shows several characteristic patterns. Firstly, the share of FDI in the government sector and agriculture is very small in NMS10. A similar situation occurs in all European countries. In the case of public services this stems from the fact that most public service providers are controlled by governments, financed from taxes and thus difficult to exchange (education, medical services, etc.), while European agriculture is highly regulated, with a very high share of subsidies in value-added and special preferences for individual farming. FDI in manufacturing has concentrated in Central Europe - in the Czech Republic-Slovakia-Hungary triangle, and to a lesser extent in Romania and Poland. This is a consequence of the sector's export orientation and the logic of location decisions, preferring regions closer to the European industrial core, which includes Bavaria, Austria, the Czech Republic, Slovakia and a part of Poland and Hungary. This pattern is discussed further in Part IV.

The table shows that the countries of the region (particularly the Czech Republic and Hungary) have a comparative advantage in manufacturing - yielding significant benefits through trade in manufactured goods in comparison with services. Moreover, thanks to the location in the central part of Europe, the transport of durable goods and machinery from Central Europe is easier than from more peripheral regions (the Baltic republics, eastern and northern Poland). Again, location issues are discussed in detail in Part IV.

[12] Change in productivity was calculated as the change in the numer of employed necessary to maintain consumption structure. As the calculations had to be based on input-output matrix, the latest data concern 2005.

In Baltic countries FDI has concentrated in the services sector - particularly in financial services and real estate. To some extent, this distribution of FDI is a result of the identifiable advantages of Lithuania and Estonia (in Latvia they could not be estimated due to lack of data for the input-output matrix) - the productivity benefits arising from foreign trade in the financial sector in these countries are higher than in other NMS and among the largest in the European Union. The main factor, however, has been the liberal regulations in the banking sector, which before 2007 led to an explosion of mortgages which had to be refinanced by loans from foreign banks, due to low domestic savings. Table III.3 helps explain a very significant share of certain sectors in the FDI structure. Advantage in the Hungarian sector of real estate, the greatest in the European Union, helps explain its balance between FDI in the financial and real estate services, different from other NMS. In turn, the energy sector's share of manufacturing in Slovakia and Lithuania may have been the result of the privatisation process.

Figure III.16. FDI in NMS in individual sectors in 2009 (percentage of GDP).



Source: Own elaboration based on Eurostat data.

In summary, the analysis of regional distribution of FDI in the NMS countries indicates that although its structure in different countries is generally similar, we may observe specialisation resulting to some extent from comparative advantages and location (Czech Republic, Hungary, Slovakia) and partly from regulations and institutional arrangements (the Baltic states).

2.4.2. Sector-specific FDI in Poland

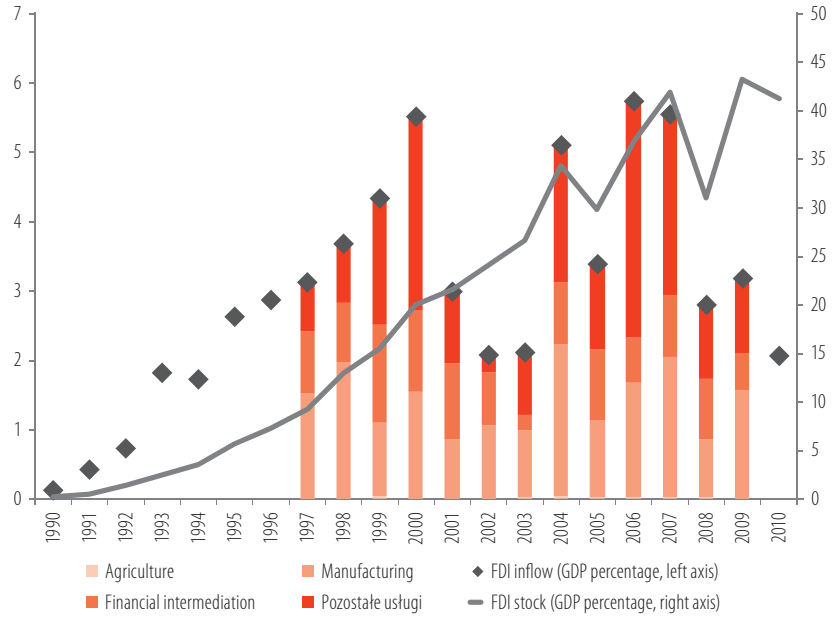
Foreign direct investment in Poland over the last twenty years has been gradually increasing, but there has also been a strong dependence of FDI on the economic cycle. After a period of dynamic growth in FDI in the first decade of economic transition, after 2000 the FDI to GDP ratio fluctuated, following the rhythm of the economic cycle and hovering around the average level of 3-3.5 per cent. This development of FDI inflows and accumulation is associated with the fact that the period immediately following the transition was also a time when Poland was building its own competitive advantages. Growing integration with the countries of Western Europe spurred an increase in the attractiveness of investments in the country overall, and especially some of its regions (see Part IV), and the cycle was less important than the advantages of investing in Poland. Additionally, during this period, in Europe and globally, there was a relatively good economic situation of crisis without significant events. This situation changed in the last decade, when the cyclical fluctuations have become a much more important determinant of FDI than in the past. The autonomy of domestic investments has caused a situation, where not only the inflow of FDI but also accumulated FDI began to undergo considerable fluctuations under the influence of macroeconomic disturbances.

Throughout the analysed period, the FDI sector structure in Poland has been dominated by services, while its share in total FDI inflow has varied greatly. This is due to the relatively greater ease of postponing investments in this sector in response to fluctuations, visible especially in the financial sector that reacts quickly through a change in the volume of loans in periods of recovery and economic crises. Investment in manufacturing is generally more stable, and its time frame is longer, so momentary fluctuations do not affect the viability of return on investment so much that advanced projects should be interrupted.

While changes in the structure of FDI inflows to Poland help assess the formation of short-term investor behaviour, the development of FDI stock in the economy sheds some light on changes in the relative attractiveness of the Polish economy and its sectors (cf. Figure III.18).

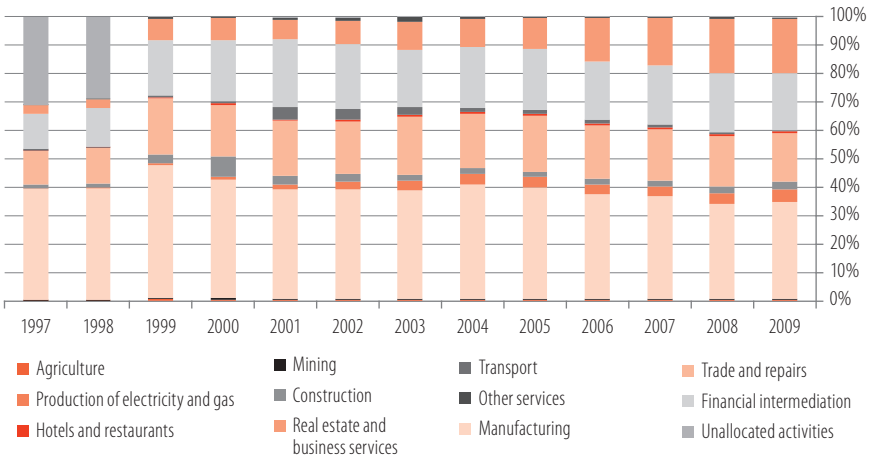
The developing direction of foreign investment in Poland is consistent with general trends in the Polish economy. In most sectors, interest from investors has remained relatively stable over the last decade - particularly so in the trade and financial sector, amounting to about 20 per cent of the total FDI stock in Poland. The most distinct trend of the last decade was the ever-increasing importance of the real estate and business services, where total FDI has more than doubled in Poland. This phenomenon may be linked to the overall development of the Polish economy, accompanied by a rapidly growing demand for new warehouse and office space, as well as to the growing importance of Poland as an exporter of business services (see Part IV). This increase has occurred at the expense of the importance of FDI in manufacturing, although the lion's share of foreign capital invested in Poland is still in the latter sector. Closer analysis of this phenomenon, based on the list of the largest foreign investments is presented in Box III.6 (the Polish Information and Foreign Investment Agency).

Figure III.17. Inflow (left axis) and stock (right axis) of FDI in Poland (per cent of GDP).



Source: Own elaboration based on NBP data.

Figure III.18. Sector structure changes in FDI stock in Poland, 1997-2009.



Source: Own elaboration based on NBP data.

Box III.6. FDI in real estate and business services.

As indicated in Figure III.18, in recent years Poland has observed a growing importance of FDI in real estate and service companies. It turns out that this is due primarily to a substantial increase in FDI in other business services, particularly in consulting, market research and IT. This increase appears to have been stable (since 2006 FDI flows have remained at a constant level, much higher than before), therefore it seems worthy taking a closer look at this phenomenon.

The Polish Information and Foreign Investment Agency annually publishes information on the largest foreign investments in Poland. Most new ventures (compared to 2006) were established in 2009 in the computer industry, IT and related to technological development. Poland has seen investments from corporations such as Google, Microsoft or SAS Institute. Moreover, global corporations create IT or research and development centres in Poland, therefore these projects contribute to the growth of innovation in services and reflect the skills of the local workforce and increasing quality of education at Polish universities. It is worth noting that such projects are located in urban centres, near universities, and not in the periphery or rural areas, as in the case with manufacturing investments. Further, there is a clear correlation between the quality of academic centres and large investments – the Warsaw University of Technology and the Wroclaw University of Technology occupy the top two spots in *Perspektywy* magazine's ranking of universities for 2011, in the category of 'technical and IT faculties.' Universities from these cities also appear in the world rankings - Warsaw University is in the top hundred in the category of Computer Science and the top two-hundred in Mathematics in the *QS Top Universities* ranking.[13] Moreover, the Warsaw University, Jagiellonian University and the University of Wroclaw are the only Polish institutions, which have been placed in the Shanghai ranking.[14] Although even in these cases the level of education is relatively low compared to the rest of the world, these institutions are beginning to be recognised by global corporations that look for the best-educated workforce.

Market research, data collection and processing and consulting are other sectors with a significant increase in the number of foreign investors. Most investment has been located in Warsaw, and 21 new ventures have appeared in the consulting division, in comparison with 2006. In this case, both the location (mostly Warsaw) and the nature of the investments indicate that the primary motivation is the search for a market – it has been mostly related to multinational corporations opening branch offices in Poland. Another common type of investment in Poland are customer service call centres. Projects of this kind, though they undoubtedly help reduce unemployment on a local scale, do not increase the innovation of the local economy, because of the low-skilled workers and their low productivity. Similar moves came from companies in advertising and marketing. Since 2006, that industry has seen 19 new investments, almost all in Warsaw and usually consisting of an extension of existing offices. Along with the development of the economy, Poland is becoming an increasingly attractive market for global corporations, as evidenced by projects of such advertising giants as Mediacom, TBWA Group and McCann Erickson. All these projects are located in Warsaw and are driven by the search for market, not for the human capital of Polish workers, as in the case of Google and Microsoft.

The increasing significance of FDI in real estate and business services has also resulted from investment in construction and property management. In 2006-2009 there were 9 new projects, mainly in Warsaw. Most of them can be classified as market-seeking investments, as they have concerned the development and construction of shopping centres - two such investments have been located in Opole and one in Warsaw.

Observing the development of investments in Poland in the service and real estate companies in recent years, it is possible to notice some industry specialisation. The projects of global IT corporations are undoubtedly a positive sign - they confirm the common opinion that Poland has highly skilled IT professionals.[15] On the other hand, the projects carried out by consulting firms and advertising agencies indicate that Polish workers in these industries are still less attractive than their counterparts from more developed countries, and that the growing Polish market is the key factor in attracting investors.

Source: Own elaboration.

3. Foreign direct investment in local dimension

3.1. Geographical factors and localisation of foreign direct investment in Central Europe

3.1.1. Introduction

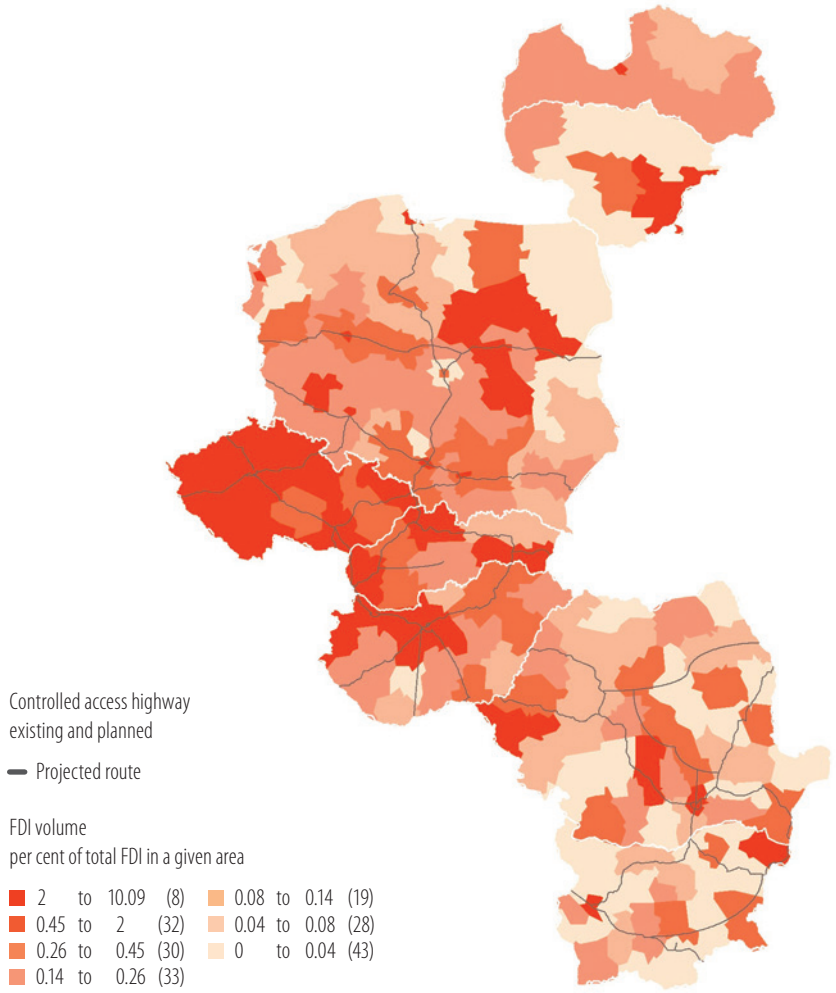
Research aimed to identify the determinants of FDI at the national level indicates that political situation, stability of legislation and regulations are the main factors that affect the behaviour of investors (see Chang and Kwan, 2000, Jun and Singh, 1996). In addition, incentives for foreign capital also include infrastructure or low labour costs (per unit of GDP) together with qualifications of workers. The effects of agglomeration are also important, resulting in clusters of investments in the neighbouring regions (see Part IV). In the interregional variation within countries, the role of the institutional environment is less significant, as it is, in fact, similar in all regions or parts of the country (Amitie and Javorcik, 2008). On the other hand, factors such as labour costs, accessibility, and collaboration with

[13] www.topuniversities.com.
[14] Academic Ranking of World Universities, by Shanghai University.
[15] This opinion is based on the successes of Polish computer science students in the international contests. For example in 2011 students of the Jagiellonian University were 9th and Warsaw University students 13th in the International Collegiate Programming Contest.

local investors gain importance at the local level[16] (Boermans et al., 2009). A wide review of the literature on the determinants of FDI can be found in the article by Na and Lightfoot (2006), whereas in this edition of Employment in Poland, locational factors are discussed in greater detail in Part IV. Here we present the distribution of FDI at the level of voivodeships in Poland and explain its determinants using econometric models.

3.1.1. Geographical distribution of FDI in NMS10

Map III.4. Distribution of FDI in NMS10 (per cent of total FDI in the entire region).



Note: FDI in individual countries were estimated at the NUTS3 level (cf. Appendix).
Source: Own elaboration

Map III.4 shows the estimated distribution of FDI in sub-regions of Central and Eastern Europe (FDI estimation methodology at NUTS3 level is presented in the appendix). In the map, darker colours denote regions where FDI stock is the greatest, i.e. those which are most attractive for investment. The analysis reveals a number of regularities:

- Firstly, investors tend to have high regard for the proximity to the economic core of Europe. Most of FDI is located in southern Poland, Czech Republic, western Slovakia and northern Hungary, as those places have a significant localisation advantage.
- Secondly, much darker colours can be observed for areas near capitals. It concerns all countries except Bulgaria, and to a lesser extent, Romania (Sophia and Bucharest).
- Thirdly, there is a distinct role of efficient transportation routes (highways and expressways) as factors supporting FDI location. It especially concerns the central part of NMS10 – the greatest number of investments are located along the road that connects the capitals of Prague-Bratislava-Budapest. Similarly, in Poland most investments are concentrated along the highways A4 and A2.

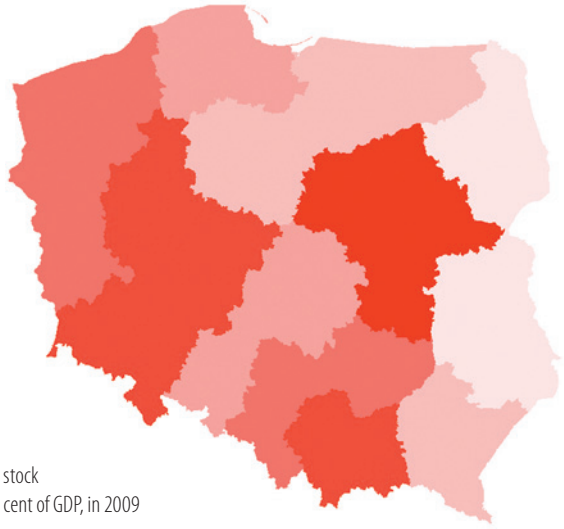
[16] Realised in Poland for example through Special Economic Zones.

- Fourthly, in some cases there is a visible dependence of FDI on the proximity of ports. Such situations can be observed in Lithuania, with the significant influence of Klaipeda, and in Romania in the case of Constanca. In Poland, concerning the Szczecin subregion, FDI is greater than in its neighbouring subregions, which is probably due to the proximity of the port and western border.

A detailed subregional analysis of the institutional determinants of FDI localisation is presented in Part IV of this report.

3.1.3. Territorial distribution of FDI in Poland

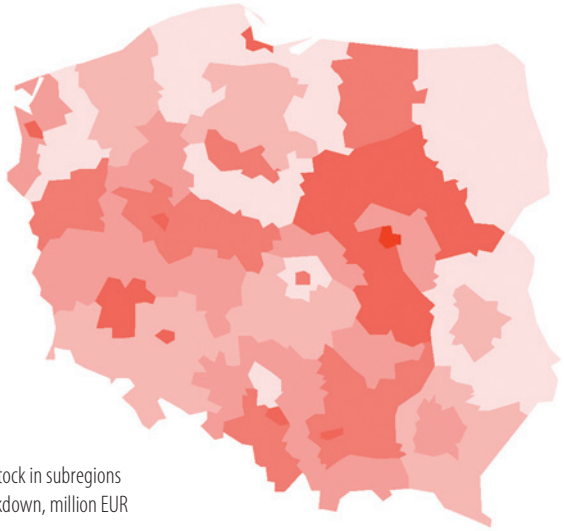
Map III.5. FDI stock in Polish voivodeships in 2009 (percentage of GDP in a voivodeship).



FDI stock
per cent of GDP, in 2009

219 to 220	40 to 61
89 to 219	32 to 40
61 to 89	8 to 32

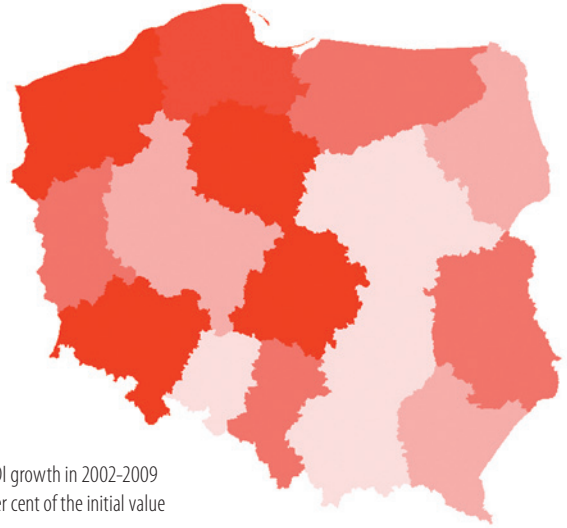
Map III.6. FDI stock in Polish subregions in 2009 (millions of EUR).



FDI stock in subregions
breakdown, million EUR

10 000 to 41 336 (1)	591 to 994 (14)
1 810 to 10 000 (11)	205 to 591 (13)
994 to 1 810 (13)	30 to 205 (14)

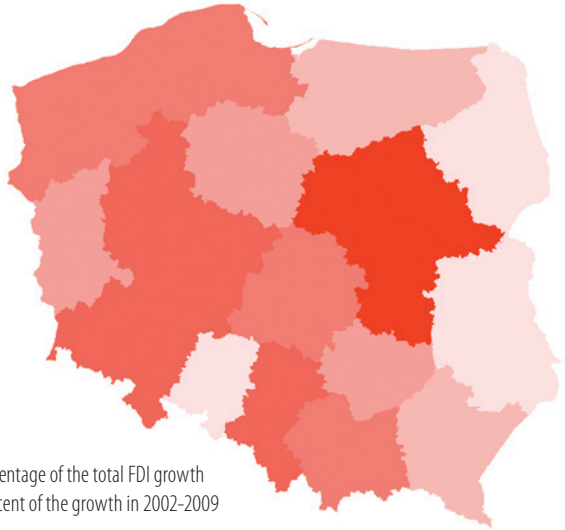
Map III.7. Total FDI inflow to Poland in 2002-2009, (percentage of the initial value).



FDI growth in 2002-2009
per cent of the initial value

126 to 286	44 to 74
117 to 126	28 to 44
74 to 117	

Map III.8. Distribution of FDI inflow to Poland in 2002-2009 (percentage of the total FDI).



Percentage of the total FDI growth
per cent of the growth in 2002-2009

over 20 (1)	1.9 to 3.4 (3)
7.5 to 20 (3)	1.2 to 1.9 (2)
3.4 to 7,5 (2)	0.1 to 1.2 (5)

Source: Own elaboration.

Due to the lack of direct data, the estimation of territorial distribution of FDI inflow is relatively difficult. There are data on the greatest foreign investors, but they are relatively imprecise. In consequence, in order to estimate the FDI located in individual voivodeships we decided to break down FDI stock (from the balance of payments data) using regional distribution of foreign capital of companies.[17] This approximation will be used to show changes in the territorial distribution of FDI stock in time, and identify determinants of capital investment in Poland using panel regression models.

Map III.5 shows FDI stock in Polish voivodeships in relation to output. The highest FDI stock is in the Mazovian (Mazowieckie) voivodeship (de facto a metropolitan area of Warsaw – cf. Box IV.10) – FDI/output ratio in this area was almost two times greater than in the second voivodeship in the ranking – Lower Silesian voivodeship (Dolnośląskie). This is partly due to the natural role of the Polish capital as the administrative-business centre, but agglomeration effects and comparative advantages of the largest city in the country, with the most modern social structure and highest human capital, are also significant. The majority of enterprises locate their headquarters and management in Warsaw and locate production sites in other areas.[18]

The map indicates that apart from Warsaw, the greatest stock of foreign capital has been located in the Dolnośląskie, Małopolskie and Wielkopolskie voivodeships, i.e. in the vicinity of large cities. This effect cannot be observed in the Łódź and Silesian regions, which may be due to the small number of SEZs in those areas. On the other hand, in both these voivodeships, and also in northern Poland, an increase in FDI stock has grown fastest over the last 7 years. It is partly associated with the lowest initial level, as none of these voivodeships have managed to shorten the distance from Wielkopolskie or Małopolskie voivodeships.

The proximity of the western border is undoubtedly a factor that attracts investors, albeit not the only one. Voivodeships such Opolskie or, to a lesser extent, Lubuskie, despite their clear localisation advantages, have failed to attract a significant number of foreign investors. According to the econometric model it has partly resulted from low road density and low economic activity amongst the local population.

Box III.7. Characteristics of FDI in Poland – IDI survey results.

An IDI survey of managers shows a series of regularities influencing the decisions on investment in Poland. Interviews were carried out with 10 managers from multinational corporations. The companies were conducting their activities in different sectors and the motives of their investment varied, including market-seeking, resources-seeking and efficiency-seeking.

These motivations resulted in different localisation preferences reported by the representatives of companies. Managers from the services sector indicated mostly human capital as the crucial factor, and in manufacturing transport infrastructure was the most important. The potential of the market in Poland was mentioned by the managers from the construction and food sectors, i.e. manufacturers of goods which are difficult or impossible to transport over long distances.

The surveyed managers also indicated the limited impact of short-term policies meant to attract FDI. Most often, the cooperation of investors with local authorities was not profound or occurred via SEZs. These results support the results of the econometric analyses that we present below, showing the significance of SEZs in attracting multinational corporations. Moreover, although short-term activities to attract FDI do not bring significant results, most investors mentioned the political stability of Poland and the relatively advantageous institutional environment (in comparison with Poland's eastern neighbours) as the factors responsible for Poland's role as the starting country in their eastward expansion.

Some information regarding the determinants of FDI is provided by the responses of investors to the question about the risk of withdrawal from investment. Although generally the respondents argued that the invested funds are so high that such a decision would have to be preceded by numerous analyses, they most often mentioned the change in the global economic situation and increased cost of economic activity in Poland (administration and wages). It appears that the relatively low price of production factors in Poland (in relation to their productivity) is still a strong incentive for investors. Similar conclusions are provided by the econometric analysis, in which unit labour costs proved to be a strong predictor of FDI stock, regardless of the model specification.

IDI surveys with representatives of local governments showed that although in recent years we have observed their increased activity in supporting FDI, it is rarely oriented to achieve specific goals. Most often it consists of general support for the investor or for the development of SEZs. There are no long-term, structured plans of FDI promotion in voivodeships, which results in the fact that activities of local governments are not appreciated by investors (the surveyed managers did not mention the favour of local authorities among the significant factors influencing localisation of investment).

Source: Own elaboration based on an IDI survey.

[17] Breakdown at the subregional level was performed through the calculation of theoretical FDI based on econometric models estimated on the basis of panel data for the country. Then FDI values for voivodeships were divided into subregions using projections from the model for Poland. As a result, FDI data at the level of subregions have a too high error to explain territorial FDI variation.

[18] The instrument used to breakdown the data from the balance of payments (size of foreign capital in companies) additionally contributes to the deepening of this effect – the used data come from accounting reports.

3.2. Determinants of FDI territorial distribution in Poland – econometric analysis

The determination of the FDI territorial distribution in Poland is a relatively difficult task due to the multiplicity of factors influencing the decisions of investors. In this paper, we used panel models, which are most suitable for this purpose, estimated on data covering the area of 16 voivodeships in 2002-2009.

Due to lack of relevant data, estimating models using panel data for subregions proved to be impossible. However, at the level of voivodeships we managed to indentify certain regularities in terms of FDI stock. Given the specificity of the Mazowieckie voivodeship (where investment is much higher and depends on different factors than the rest of Poland), the models were estimated in two versions; one excluding the Mazowieckie voivodeship and one with a dummy variable denoting Warsaw. The results of the final estimations are presented in Table III.4. The estimated parameters of the individual models and the applied variables do differ significantly, which signifies the resistance to changes of the coefficients in data specifications. Moreover, it has also been confirmed in samples carried out with different variables (not shown here).

The presented models allow a much better explanation of the variation of FDI stock between regions than its fluctuations over time. This means that it is much more difficult to identify causes of FDI variation in time than in location. Despite this, the results of both a literature review and a description of global trends in FDI in the first part of this report indicate that the development of FDI in dynamic terms is largely dependent on the economic cycle.

The primary observation is that there is a positive relationship between the state of infrastructure and the presence of investors in the area. A higher density of roads increases the interest of investors in a given area, and this result is very resistant to changes in the model specification. A change in road density by one standard deviation (for example, from the level in the Podlaskie voivodeship in 2009 to a higher level in the Wielkopolskie voivodeship in the same year) can increase FDI stock by about 10 percentage points. The impact of expressways and highways seems smaller, but this is due to the small length of those kinds of roads in Poland, as well as their relatively short time of existence, as regions with a relatively well developed road infrastructure did not have it only a few years ago, when location decisions were taken by foreign investors. At the level of voivodeships, no other type of infrastructure (e.g. water supply and sewage) has been statistically significant, regardless of the specification. A similar conclusion applies to social infrastructure and tourist attractiveness (which is in contradiction with some conclusions of representatives of local authorities, who indicate that the attractiveness of the local landscape can help attract investors).

Box III.8. Panel models and variables used in the research.

The term 'panel models' refers to econometric models which are estimated based on the same sample during a specific time span. In this chapter, we use data for 16 voivodeships in 2002-2009.[19] The main advantage of panel models is the ability to control the differences between individuals and the larger number of observations that provides an increase in degrees of freedom. In addition, by using panel data in this study we were able to identify both factors which affect the variation of unemployment both in time and location.

As indicated in Chapter IV of this part of *Employment in Poland*, from a theoretical point of view FDI stock in regions is influenced by a wide variety of factors. Taking all of them into account in a formal analysis is not possible due to their often immeasurable character. Despite this, we tried to obtain reliable estimates of the impact of various factors using appropriate instrumental variables. For clarity of argument, Table III.4 presents only those variables that proved statistically significant in many different configurations. Importantly, the tested models included many more variables and are classified in categories such as:

- *Availability of infrastructure*: in addition to road infrastructure, we also examined the correlation between FDI stock and municipal and social infrastructure (variables such as density of water supply networks, sewage network density and number of hospitals *per capita*).
- *Human capital*: variables such as percentage of population with higher education, the proportion of students studying in technical fields, the total number of students, the number of students per 10 thousand residents.
- *Market potential*: used variables are: gross disposable income, the number of employees, the population of working age.
- *Tourist attractiveness*: the number of available beds, the use of beds.
- *Labour market*: apart from the variables shown in Table III.4, we also tested the following variables: percentage of long-term unemployment, the registered unemployment rate and the rate of long-term unemployment, wages and salaries by sector, and the number of employees by sector.
- *Regional policy*: in addition to special economic zones, also included is expenditure in voivodeships with budgets by category.

All variables not shown in Table III.4 proved to be statistically insignificant or the results were not resistant to change in specifications. This does not indicate a lack of correlation between FDI stock in voivodeships and those aspects, but an accurate measurement of their impact requires more sophisticated techniques based on microeconomic data from companies.

Source: Own elaboration.

[19] Data for explanatory variables were available only for this period.

Table III.4. Results of the panel model estimations explaining FDI stock in voivodeships.

	Model										
	1	2	3	4	5	6	7	8	9	10	11
Length of motorways	2.1	3.5	8.6***	-	-	2.8	-	-	-	-	2
The length of expressways	1.0	1.8	9.6***	-	-	1.6	5.5**	5.2***	12.1***	12.1***	5.6**
The density of paved roads	11.8***	10.5***	10.9***	13***	12.8***	11.2***	12.6***	12.2***	14.7***	14.5***	12***
Unit labour cost	-2.6*	-5.8***	-8.1***	-2.6*	-2.5*	-2.1	-4.3***	-7.5***	-9.9***	-10***	-4**
The unemployment rate t	-	-8.4***	-	-	-	1.0	-	-9***	-	-	0.4
The unemployment rate t +1	-10.2***	-	-	-10.6***	-11.3***	-11.9***	-10.8***	-	-	-	-11.1***
Activity rates	-	-	-	-	2.7	3.3	5.1***	3.2*	-0.8	-	5.4***
Special economic zones	17.2***	16.6***	13.5***	18.6***	19.1***	17.5***	21***	20.9***	21***	21.1***	19.6***
Mazowieckie Voivodeship	-	-	-	-	-	-	86.5***	90.5***	89.5***	88.7***	91***
Constant	39.6***	40.3***	32.8***	42.6***	42.7***	38.6***	43.8***	46.2***	46.3***	46.3***	40.7***
R-squared within	68 per cent	63 per cent	45 per cent	67 per cent	68 per cent	69 per cent	69 per cent	65 per cent	47 per cent	47 per cent	69 per cent
R-squared between	74 per cent	74 per cent	70 per cent	74 per cent	73 per cent	73 per cent	93 per cent	93 per cent	91 per cent	91 per cent	93 per cent
R-squared overall	72 per cent	72 per cent	63 per cent	72 per cent	72 per cent	72 per cent	90 per cent	90 per cent	86 per cent	86 per cent	90 per cent

Note: FDI stock in voivodeships in relation to GDP was the explanatory variable in all cases. ***- indicates significance at the 0.01 level, **- 0.05 * - 0.1. All variables excluding the dummy variable for the Mazowieckie voivodeship were standardised to the distribution of mean zero and variance equal one. Models 1-6 were estimated on a sample for years 2002-2009 with the exception of the Mazowieckie voivodeship, and 7-11 on the entire sample.

Statistical significance was also not obtained for variables correlating with the market size (such as the presence of a large city,[20] the number of employees or gross disposable income). This stems from the fact that according to an IDI survey of managers of enterprises, most manufacturing in companies with foreign capital is export-oriented, so for them local markets are of lesser or no importance. Importantly, the indicator of unit labour costs is statistically significant regardless of model, and the value of this parameter for the variable is similar in each model.[21] Thus investors are looking mainly for productive employees with competitive wages. This observation is confirmed by the fact that in some models, variables such as remuneration in manufacturing or labour productivity proved to be statistically significant. The indicator of unit labour costs, however, proved the most resistant to change in specification and therefore this variable was used in all models.

Labour market potential measured by an economic activity rate was statistically significant in some specifications, with the sign consistent with theoretical predictions. Interestingly, in contrast to work by Billington (1999), unemployment was a negative predictor of FDI. A closer look at the relations between unemployment rates and FDI at the level of voivodeships points to the source of such a situation. Its inclusion into a model poorly explains the variation across voivodeships, but helps to explain changes in unemployment over time. In the case of the model for the Polish voivodeships, this variable is an instrument associated with changes in an economic cycle. Additionally, FDI in a given period has more influence on unemployment in the subsequent period. There are two alternative explanations of this phenomenon. The first is based on the assumption that the investor is responsible for economic recovery in the region and thereby contributes to job creation and elimination of unemployment. The second explanation is consistent with analysis of FDI at the global level, by treating FDI as an indicator preceding the peaks of the economic cycle. When the economic situation begins to deteriorate, foreign investments start to fall, preceding increased unemployment by about a year.

[20] more than 500 thousand inhabitants.
[21] Unit labour costs are obtained by dividing expenditure on wages by the output volume.

Given that the scale of investment is usually too small to significantly affect local labour markets (as mentioned by both groups of IDI survey respondents, representatives of the local governments and company boards), the second explanation seems to be closer to reality, but the resolution of this problem requires further studies using larger data bases.

Difficulties associated with the measurement of the intensity of policies meant to attract FDI and the lack of consolidated data on this issue hinder the inclusion of this aspect into the formal analysis. In the case of the presented models, we decided to use a number of special economic zones, and met with success. In all cases this variable was statistically significant at all levels of importance. According to the results of the analysed models, the creation of a special economic zone results in a long term increase in FDI stock in the region in relation to GDP by nearly 20 percentage points, which represents almost 40 percent of the average value in the sample. However, these results should be treated with caution. In the past, SEZs were created in areas that were already attractive to investors and had other advantages which were not reflected by other variables. Nevertheless, the correlation coefficient between the number of SEZs and the FDI stock to GDP ratio at the level of voivodeships in 2009 was almost 79 per cent (71 per cent excluding Mazowieckie voivodeship). Partial correlations after excluding other variables are similarly high, which indicates the high efficiency of this instrument, especially after excluding the impact of other factors on corporate investment decisions.

In summary, the presented models show that business location decisions at the level of voivodeships are most influenced by a density of road infrastructure, unit labour cost, as well as the existence of special economic zones. In each voivodeship, FDI stock changes over time result largely from economic fluctuations. These results are resistant to both changes in model specification, and inclusion of additional variables. Figures III.19 and III.20 show diverse explanations of differences in the FDI stock to GDP ratio by road density and unemployment. Relatively small changes in the horizontal dimension on the chart on road density is an explanatory variable, meaning that this value is relatively constant over time, while the vertical shifts suggest growth of FDI unexplained by the used model. Nevertheless, with increasing road density at the voivodeship level, the trajectories move higher, which shows the scale of the impact of road networks on FDI stock.

Figure III.19. FDI stock in voivodeships vs. paved roads density per 100 sq. km.

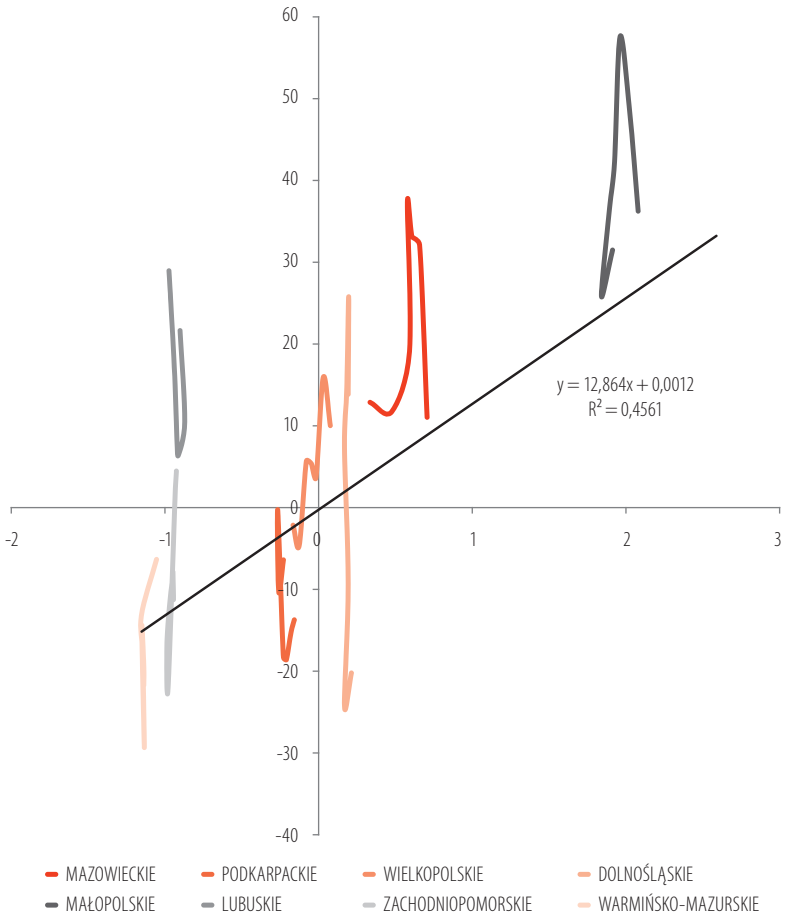
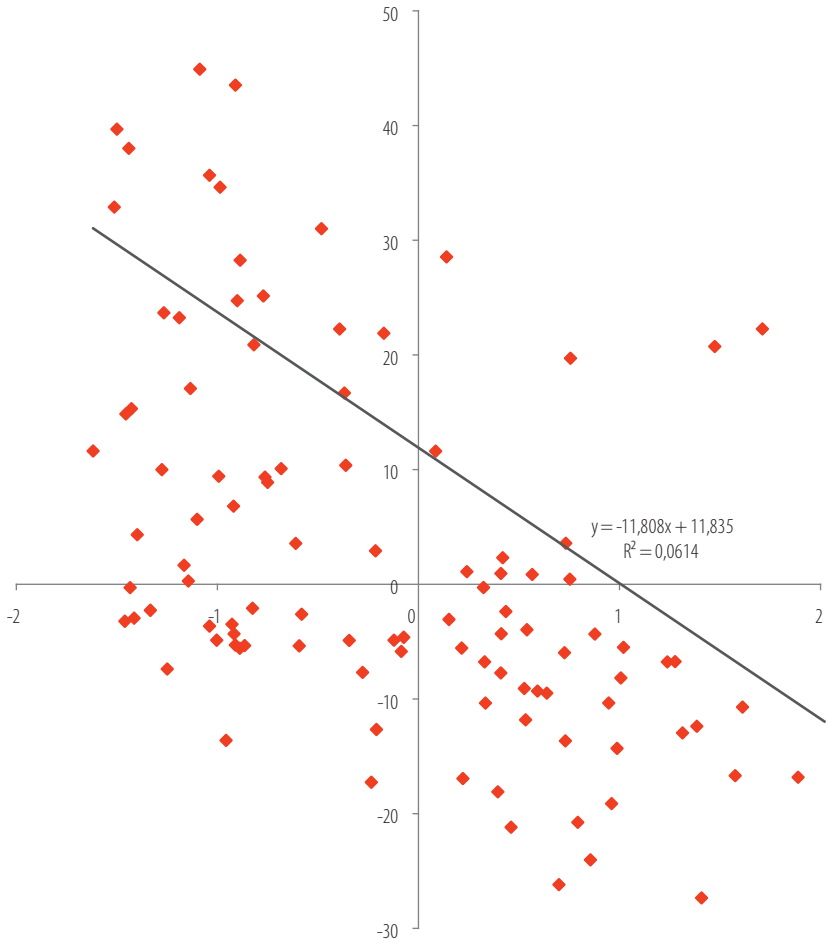


Figure III.20. FDI stock in voivodeships vs. economic activity rate.



Note: The explanatory variables were standardised to an average equal 0 and the variance 1. FDI stock values were adjusted for the impact of other factors resulting from the model (based on model 5). Figure III.19 shows the trajectories.
Source: Own calculations.

Unemployment helps explain changes in the stock of FDI in a different way. Trajectories for the majority of voivodeships are parallel to the trend line. This means that the FDI stock fluctuates with the rhythm of changes in unemployment rates, and the distance of the trajectory from the trend line is the result of factors unexplained by the model that drive the differences across voivodeships.

Trajectories are shaped in a similar way concerning the impact of expressways on FDI, based on model 7. Figure III. 21 demonstrates the long-term nature of this interdependence. In Silesia and Warmia-Mazury road construction did not result in the rapid growth of FDI stock. Nevertheless, as a rule, in the regions with a greater length of roads, FDI plays a more significant role in the economy than in regions with less dense road networks. Although a relationship between the employment rate and the inflow of FDI is ambiguous, Figure III.22 suggests its long-term nature. As short-term fluctuations in economic activity rates are correlated with the economic situation, the figure is not as clear as in the case of expressways. This dependence can also have the opposite perspective i.e. in regions with higher productivity; wages are higher, which increases the economic activity rate and the intensity of FDI inflows.

Figure III. 21. Adjusted FDI stock in voivodeships vs. the length of expressways.

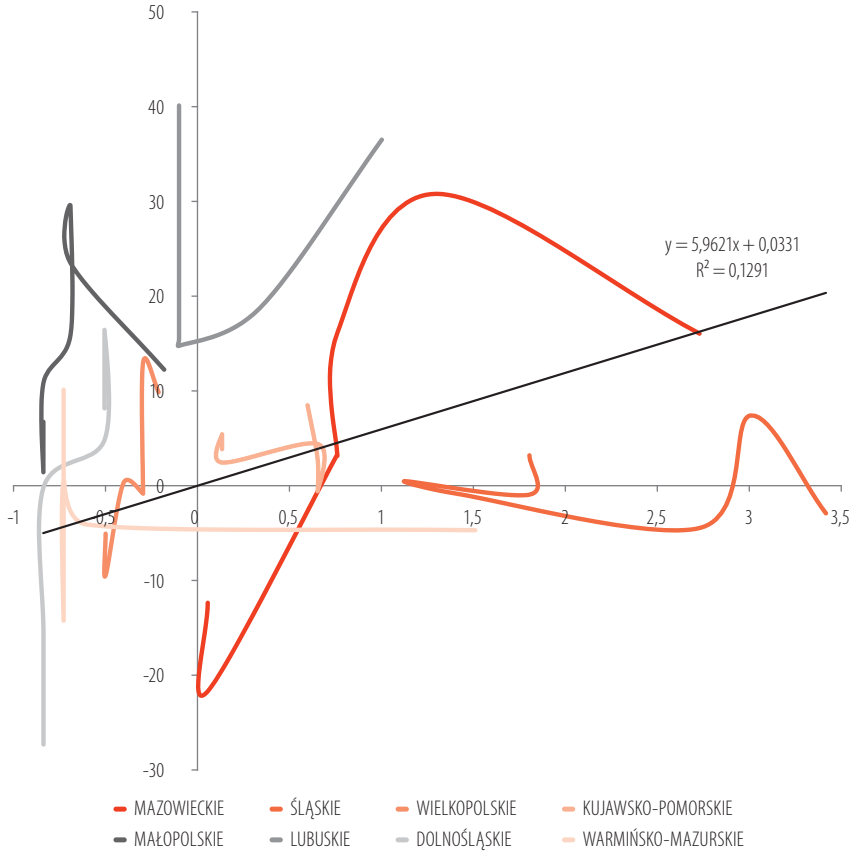
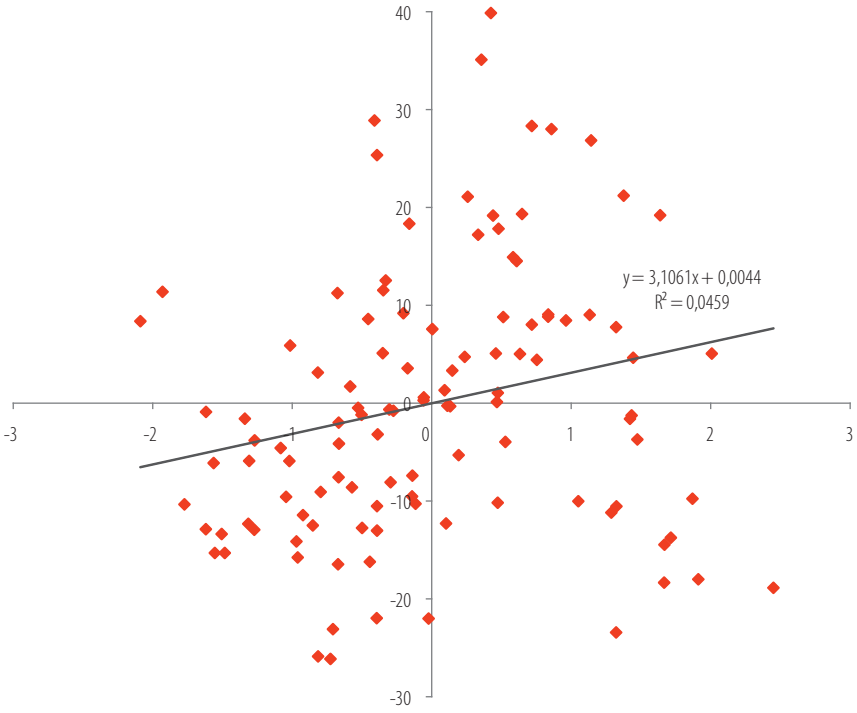


Figure III.22. FDI in voivodeships vs. economic activity rate.



Note: The explanatory variables were standardised to an average equal 0 and variance equal 1. FDI stock values were adjusted for the impact of other factors resulting from the model (based on model 5). Figure III.19 shows the trajectories.

Source: Own calculations

4. Policies used to increase FDI

The aforementioned arguments for the positive impact of FDI on foreign trade, economic growth and productivity mean that governments or regional authorities in many countries pursue policies aimed at stimulating investment. This chapter will discuss the theoretical justification of such policies, as well as global trends in this area. Due to the more important role of *inward* FDI rather than *outward* FDI in Poland, as well as a wider range of literature in this field, we will focus on policies aimed at attracting foreign investments, rather than maintaining them.

4.1. Interdependences between governments and multinational corporations

Governments directly influence the institutional environment of the economy, infrastructure, and provision of public goods, and in this way may increase their country's locational advantages and affect potential company benefits. Furthermore, sometimes objectives of private firms and government are divergent, which is reflected in the conflicts that sometimes arise between the authorities and large corporations. Additionally, in the part of the labour market (in Chapter IV of the study) it is indicated that the intensive development of multinational corporations may induce an increase in social inequalities. These factors are reflected in development of relationships between MNCs and governments in the 20th century.

Dunning and Lundan (2008) divided the history of these relations into 3 phases. First came the postwar 'honeymoon' period, when U.S. corporations with technology, organisational know-how and capital were an important part of rebuilding Europe's productive capacity. Then in the 1970s, the relations entered the 'confrontation phase'; the role of MNCs in the economy began to be questioned, mainly due to the expansive behaviour of corporations, and their unwillingness to fulfill unreasonable expectations of governments in relation to the MNC impact on economic growth and reducing inequalities. In the 1980s, governments in both developed and developing worlds, having learned by their previous experience, changed their policy on FDI, thus encouraging MNCs to become more sensitive to the needs of the host countries, and since then the idea of Corporate Social Responsibility has gained in popularity. FDI has also been influenced by the increasing awareness of public authorities in regards to the role of government and private sectors in the economy, and, more importantly, the importance of MNC from smaller and less developed countries. In the past decade, interactions between governments and corporations have evolved towards conscious cooperation and have strengthened the institutional environment in those areas where the objectives of governments and corporations converge (e.g. improving the quality of legislation and court systems, the modernisation of tax systems, construction of infrastructure, supporting competition, etc.).

The primary justification for the promotion of FDI by the public authorities is associated with the assumption that the additional benefits of investments (as the externalities described above) are not included in the calculations of profit-maximising enterprises, and therefore the level of FDI is suboptimal. National governments should, therefore, intensify efforts to increase the inflow to a socially optimal level. The main channels that facilitate this are taxes (various incentives and subsidies), public infrastructure and institutional environment for business.

4.2. Tax incentives

The theoretical literature on tax incentives (or tax competition) is derived from works published in late 1980s (e.g. Zodrow and Mieszkowski (1986), Kehoe (1989)). Standard modelling strategies include the assumption that government maximises the welfare of citizens and households by allowing consumption of both government and private goods. Provision of public goods is financed by taxes on corporate profits from invested capital, the flow of which is not restricted. Marginal productivity of capital is negatively correlated with total capital stock, which results in a situation that only part of the investment is transferred to a country with lower taxes. Tax competition is modelled as a game with government participants who compete with one another, and the variable is tax rates. In equilibrium, taxes are too low and sub-optimal supply of public goods is provided. Razin and Sadka (1991) have shown that in the case of perfect capital mobility and the possibility of labour taxation, tax rates on capital tend to fall to zero.[22]

Extensions of the basic model include the following factors:

- Asymmetric tax competition (between a small and large country). Bucovetsky (1991) showed that in this situation a small country sets a lower tax rate and is an importer of capital.
- Repealed assumptions about a benevolent government. Then the competition between governments can lead to increased public sector efficiency and minimise corruption (Sheifler and Vishny (1993), Brennan and Buchanan (1980)).
- More rigid budget constraints and externalities. In this case, problems result from interdependences of taxes between central and local governments. In the case of flexible budget constraints at the local level, lower taxes at the central level can result in the higher alternative costs of government bankruptcy, so the budget constraint becomes more binding (Qian and Roland, 1998). The external effects occur through increasing competition for investment among local governments. Tax cuts by the central government, then by local governments lead to lower than optimal taxation of investors (Treisman, 2007).

[22] Detailed review of literature can be found in the paper by Madies and Dethier (2010).

One of the most popular forms of attracting foreign investors to the country are *tax holidays* i.e. partial tax exemption in the early years of the investment. Doyle and van Wijnbergen (1994) justify this solution by claiming this increases the bargaining power of the state, explaining the withdrawal of an investment after a certain time induces very high costs for MNCs and makes it more unlikely. The central government usually cannot pledge to maintain lower taxes in the distant future. Bond and Samuelson (1986) assume the existence of two countries, one with low and one with high productivity. *Ex-ante* productivity in the country cannot be forecasted, therefore, tax holidays serve as a signal about the return on investment in the country. The government (who knows the productivity of its citizens) is aware that at a high return on investment, the company will remain in the country for a longer period, and will be able to pay higher taxes, hence expenses on attracting investors will be balanced. Salmon (1987) explains the tax competition phenomenon based on the asymmetric information between voters and government. Voters assess a party based on the comparison of the economic situation in the country and abroad. In this situation, governments decide to use tax competition to increase the likelihood of re-election. Janeba and Schjelderup (2002) suggest that such competition may even have a positive impact on the welfare of voters.

In a manner similar to tax incentives, investors are encouraged through the development of infrastructure (such as roads, railway tracks, water and sewage infrastructure). Excessive competition between countries can lead to overinvestment in the 'losing' area, which is a classic result in the literature on tax competition (e.g. a broad overview by Madies, Dethier, 2010). Improved models including differences in infrastructure between regions (Justman et al., 2005) or the influence of public goods on the productivity of enterprises (Zissimos and Wooders, 2006), show more optimistic results because governments are competing for different investors. On the other hand, as indicated by Jayet and Paty (2006), in France there is a problem of vacant buildings in industrial districts, which indicates that local authorities may exaggerate the development of this type of infrastructure. They claim that authorities engage in competition in the supply of public goods with no certainty as to the location preferences of firms. In this situation, even an optimal and omnipotent planner will overexpand the infrastructure trying to maximise the likelihood of attracting investors. More on the consequences of competition for FDI among local governments is presented in Part IV.

Empirical literature on the effectiveness of tax incentives is relatively abundant. A broad overview can be found in the works by De Mooij and Ederveen (2003), Hines (2000) and Feld and Heckermeyer (2009). The results of these studies are clear. Nearly all of them point to the positive impact of tax incentives for FDI, which indicates that, to some degree, tax measures are effective and fulfil their role. These results are independent of the choice of variables, the country samples or estimation techniques.

4.3. Infrastructural investment and institutional changes

Neither tax nor infrastructure incentives are free from drawbacks. Madies and Dethier (2010) mention the following problems:

- High costs of administration and difficulty with precise determination of costs;
- Susceptibility to corruption and *rent-seeking*, and inefficient incentives (in the case of applying them to each investment;
- Susceptibility to transfer pricing and manipulation (e.g. creating a new company after termination of tax benefits)
- Varying efficiency of these types of incentives across sectors, which can lead to distortion in the invested sector;
- Benefits of lower taxes in the host country may be offset by higher taxes in the sending state;
- The problem of overly fierce rivalry between governments (and local governments) may lead to a transfer of wealth from citizens to foreign companies.

In the case of institutional changes in the economy, these problems are not crucial because these changes improveme the situation of both foreign investors and domestic enterprises.

The first and most important determinant of FDI is the fairness and transparency of procedures used by the national and local government. Corruption and lack of transparency increase the risk of doing business and only rarely the benefits of investment are large enough to offset the increased risk. Moreover, corruption and excessively complex procedures lead to a negative selection of investors. Those companies which are chosen for the implementation of projects may be dishonest. Consequently, although transparency of operations and procedures is not in the short-term interest of the authorities, in the longer term it can increase the productivity of local enterprises and attract foreign investors. In addition to transparency and governance procedures, FDI is also enhanced by strict standards that give entrepreneurs possibilities to enforce their rights in the event of non-performance of contracts by contractors and freedom of choice of suppliers. OECD (2002) shows an empirically grounded negative correlation between the level of FDI and corruption. It points to examples of countries with significant potential to attract MNCs which can not be utilised due to lack of policy transparency – i.e. Russia, India and Ukraine. A theoretical model describing the impact of corruption and unpredictability of the economic environment on FDI is the gravitational model of La Porta et al. (2000). Another example is the Aizmann and Spiegel model (2002), based on the efficiency wage theory, in which MNCs have more difficulties with enforcing contracts with workers.

Box III.9. Regulatory problems in Poland and their effect on competitiveness.

The level of labour productivity across the globe is correlated with the quality of the regulatory environment and public institutions. Wealthier countries usually have better legal and institutional environments relating to economic activity. This is partly because wealthier countries spend more resources on critical assessment of the quality of legislation, institutional reform, and training public service employees (cf. OECD 2011). However, more importantly, those countries which are currently among the most developed countries in the world are also those which made better choices in the past when shaping their economic regulations and public institutions. Countries that created laws that were more restrictive towards entrepreneurs have deterred investment and reduced the investment efficiency. This has resulted in lower economic growth and falling into the underdevelopment trap.

The authors of the Long-term National Development Strategy (DSRK 2011) argue that among European Union countries, both in the opinion of citizens and international institutions, Poland ranks as having law and public institutions of the lowest quality. In public opinion surveys commissioned by the Ministry of Justice, 40-45 per cent of Poles negatively evaluated the quality of work by courts, prosecutors and other parts of the judicial system. Prepared by the World Economic Forum, the Global Competitiveness Index ranks Poland only 103rd in the world, much lower than most countries of European Union and North America which stay in the first thirty. The World Bank's Worldwide Governance Indicators show that the cause of Poland's low positioning is (compared to other OECD countries) the relatively low effectiveness of the Polish administration and other public institutions.

Specifically, Poland is doing poorly in the areas of government effectiveness, regulatory quality and law enforcement. In all cases, Poland is estimated at around 25-35 per cent below the world's leaders. The aforementioned strategy projects reads as follows: *'the problem of [Polish] social life is inefficiency of public administration institutions resulting mainly from inefficient management of resources (staff and financial resources). These institutions are characterised by low productivity and poor adjustment to changing social needs and necessary changes'.* According to its diagnosis, successive Polish governments have ineffectively responded to social, civic and economic challenges, and instead have focused primarily on activities with immediate effects. This situation results from structural factors such as low operational efficiency and limited ability to develop and implement internally coordinated plans of the administration (cf. DSRK 2011).

This diagnosis is supplemented by Bukowski and Rymaszewski (2010) who indicate that *'regulations can be divided into those that determine the basic economic activities which may or may not generate unnecessary costs of doing business, and those that actively promote or undermine economic efficiency'.* Most regulations belong to the first category, but the administration tends to perceive them as belonging to the second group. This results in over-regulation, i.e. the introduction of successive laws in an unsuccessful try to 'facilitate entrepreneurship'. In countries with low levels of internal regulatory legislation (which also includes Poland), companies lose distance from foreign competitors due these systemic problems; especially because overregulation is often associated with low quality legislation.

This state of affairs can be rectified by an overhaul of existing law-making procedures, in particular lengthy and inefficient social consultation. In addition, the Regulatory Impact Assessment (RIA) should become a real tool, utilised in government decision-making. Most importantly, however, is capability to determine economic solutions which would enable the rapid withdrawal from poor decisions once identified.

Source: Bukowski, Rymaszewski (2010), Long-term Strategy of National Development – draft (2011).

In addition to general factors such as transparency of procedures, political stability and law enforcement, and the institutional environment, there exists an especially important factor for investors – employment legislation. According to classical theory of economics, the flexibility of adjusting the number of workers to changing economic conditions can reduce labour costs, thereby strengthening the country's competitive advantage in this area. It is clear that these factors will play a bigger role for investments in labour-intensive production and operations for which the primary motive is looking for cheaper employees. Smarzynska and Spatareanu (2004) show that countries with more flexible labour markets are more attractive to foreign investors.

Empirical studies devoted to the interaction between FDI and the quality of institutions are comparatively numerous, and they include not only the degree of transparency and corruption, but also other institutional measures such as property rights, difficulties doing business, political stability and judicial system. Except labour market regulations, which are, to some extent, independent of the democratisation of the country, all these aspects are associated with wider economic freedom. One of the first works in this field was a paper by Wheeler and Mody (1992), which allowed the comprehensive assessment of the impact of the institutional setting on FDI. Lack of correlation identified in their work may have resulted from the very construction of their measurement, which did not allow for the isolation of the impact of various institutional variables. In later papers, implications were in line with intuition and economic theory.

For example, Wei (2000) indicates that the gap between the level of corruption in Singapore and Mexico is equivalent to twenty percentage points difference in the tax burden. In turn, Daoud and Stein (2007) show that one standard deviation change of the variable specified as *regulatory quality* raises the inflow of FDI by more than 100 per cent. Pajunen (2008) classifies countries using the control theory of fuzzy sets and examines the consequence of belonging to a group of countries with a stable institutional environment on FDI. It turns out that individual countries may attract FDI if they introduce a clear system of taxation or flexible employment regulations and address corruption. At the same time, improvement in one aspect does not always produce significant results.

Ali et al. (2008) estimated the models on panel data for 107 countries, and observed an interdependence between the institutional environment and FDI that was statistically significant and highly influenced by changes in model specification. This impact is most significant in the services sector, while foreign direct investment in agriculture is, to a small extent, shaped by the institutional environment. Similar to other authors, Ali et al. (2008) shows that political stability and a transparent legal environment are more important to investors than taxes or infrastructure.

4.4. Institutional determinants of FDI in NMS10 – econometric analysis

4.4.1. Description of data and modelling assumptions

The main task of econometric models in this chapter is to determine the institutional factors affecting FDI in Central Europe. In other words, we try to identify the causes of various degrees of interest from foreign investors in various regions of new EU Member States, which we have described in chapter three. All the constructed models are estimated at the subregional level (NUTS-3), which seems to be best suited for the study of this subject matter. On one hand, this approach provides most of the potential explanatory variables, and on the other hand it is possible to estimate the local stock of FDI on the basis of larger aggregates and instrumental variables. Moreover, according to our IDI survey, the level of subregions best reflects the direct impact of a single investment on the labour market, which interests regional authorities when they engage in a policy of encouraging FDI in their area.

Table III.5. Results of econometric model estimations.

	Model number																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
GDP per capita (EUR)	1.02 ***	1.22 ***	1.21 ***	1.24 ***	1.02 ***	1.05 ***	0.93 ***	1.05 ***	1.04 ***	0.95 ***	0.89 ***	0.89 ***	0.89 ***	0.89 ***	0.8 ***	0.8 ***	0.91 ***	0.94 ***	0,93 ***	0,93 ***	0,58 ***	0,87 ***
Unit labour costs	-	-	-173 **	-	-	-124	-160 *	-113	-	-	-	-161 *	-161 *	-161 *	-157 *	-154 *	-166 *	-163 *	-164 *	-164*	-148	-161 *
Wages	-	-	-	-243	-	-	-	-	-15	-300	-	-	-	-	-	-	-	-	-	-	-	-
Number of students per 10 thousand, residents	-	-	-	-	-	-	-	-	-	-	183	188	188	188	-	-	207	-	-	-	-	212
Unemployment rate	-	-	-	-	-	-	-	-54	-62	-	-	-	-	-	-	-	-	-	-	-	-	-
Economic activity	-	-	-	-	-	-	645 **	-	-	671 **	561 **	647 **	647 **	647 **	817 ***	807 ***	622 **	630 **	640 **	640 **	1098 ***	669 **
Capital city	-	-	-	-	3948 **	3328 **	4821 ***	3444 **	3892 **	5049 ***	5205 ***	4764 ***	4764 ***	4764 ***	6105 ***	6179 ***	4293 ***	4491 ***	4548 ***	4588 ***	8730 ***	4893 ***
Dummy variables for countries	-	4/7	4/7	4/7	1/7	1/7	1/7	1/7	1/7	2/7	1/7	1/7	0/6	0/5	-	-	-	-	-	-	-	-
Level of CIT	-	-	-	-	-	-	-	-	-	-	-	-	-54049 **	-14282	-	-	-23335 ***	-32203 ***	-24894 ***	-23034 ***	-	-21477 ***
The amount of VAT	-	-	-	-	-	-	-	-	-	-	-	-	-	-59651	-	-35019 **	-	-	-	-	-	-
The minimum capital for the creation of a company	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-8 ***	-	-5	-	-	-	-	-
Coverage of credit information	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	347	-	-
The time required to set up a company	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-22	-	-	-	-
The cost of starting company	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-26	-	-	-
Doing Business Index	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-7 **	2
Constant	-4020 ***	-4761 ***	-4721 ***	-4957 ***	-3466 ***	-3688 ***	-2841 ***	-3689 ***	-3591 ***	-3033 ***	-2519 **	-2564 **	6084	11651	-2172 ***	4422	803	2279 *	834	-1385	-	-
Number of observations	193	193	193	193	193	193	193	193	193	193	193	193	193	193	193	193	193	193	193	193	193	193
R-squared	64.9%	71.7%	72.3%	71.8%	72.8%	73.1%	73.9%	73.3%	73.0%	73.5%	73.5%	74.0%	74.0%	74.0%	71.8%	71.6%	73.5%	7s3.4%	73,2%	73,2%	77,0%	80,8%
Adjusted R-squared	64.7%	70.5%	71.0%	70.4%	71.3%	71.6%	72.3%	71.6%	71.4%	71.9%	71.9%	72.3%	72.3%	72.3%	71.1%	70.8%	72.5%	72.5%	72,3%	72,4%	76,4%	80,1%

In all the models we constructed, we assumed the actions of investors can be divided into two stages. Firstly, they choose to implement the project in a specific country and then select a specific location/region. The decision on the country where the investment will be located is determined by a set of institutional variables reflecting the quality of the legal environment for business, while independent variables that do not depend on the law (e.g. geography, demographic potential, human capital and infrastructure) influence the choice of location/region. This strategy justifies the standardisation of non-institutional variables at the country level. An additional advantage of such a transformation resides in the elimination of the lack of direct comparable data from different countries. Each of the countries surveyed have their own statistical regime and definitions of variables. Consequently, apart from the GDP per capita expressed in euro, dummy variables that identify national capitals and already standardised indicators which measure the quality of institutions, have all been standardised at the country level.

Detailed descriptions of data sources on which the individual variables have been determined, and the method used to estimate the explanatory variable, i.e. FDI stock at the subregional level, are presented in the Appendix.

4.4.2. Economic and geographical determinants of decisions of foreign investors

The value of GDP per capita is the primary determinant of the FDI stock at the subregional level. This indicator was statistically significant in each parameter configuration, and the value of the output itself accounts for almost 65 per cent of FDI stock variation per capita in sub-regions of Central and Eastern Europe. According to numerous scientific articles there are many reasons for this situation, including the following:

- Bigger market potential, tempting potential investors
- Agglomeration effects - in areas where economic activity is concentrated, it is easier to find potential employees, suppliers or customers
- Causal dependence also occurs in the opposite direction – FDI strengthens economic growth

The Granger causality test did not indicate clear causality between FDI and GDP. In some countries the causality occurred in both directions and in some it was non-existent.[23] This means that determinants of co-existing high levels of FDI and GDP are diverse, and assessment of their relative importance is difficult and requires a broader study focused on individual regions.

An important advantage of Poland, often cited in the media and IDI surveys, is the availability of skilled labour. In our regressions we took into account two variables that reflect the characteristics of the labour market relevant from the investor's point of view - labour supply determined by the employment rate, labour costs measured by wages, and unit labour costs, i.e. wages per unit of output. The employment rate was statistically significant in almost all configurations of explanatory variables. This means that, in fact, a large availability of labour raises FDI regardless of other potential determinants of investment decisions. Proximity to the capital city or the number of students suggests the availability of the best skilled workers. Interestingly, when it comes to the unemployment rate, which in the literature (e.g. Billington, 1998) is often used as an indicator of the availability of workforce, the results are not so unambiguous.

Lack of statistical significance of the unemployment rate and a relatively strong dependence of FDI on employment rate show that unemployment in Central and Eastern Europe may be a structural issue both in regions which enjoy a high interest from foreign entrepreneurs as well as those where development is slower and which attract relatively less investment. In particular, this may relate to regions undergoing intensive restructuring of their economic base, especially the traditional centres of manufacturing (see Part IV). The newly formed companies (including those with foreign capital) do not employ those unemployed whose qualifications correspond to the historical structure of the region, but instead search for workers with human capital desired by investors. Simultaneously, high population density and economic activity in these regions provides them with an adequate supply of potential employees in the same way as it happens in regions with better initial economic structure in which structural unemployment does not occur. The lower unemployment rate appears primarily in more economically developed areas, tempting investors with a large market and better qualified and more experienced workers. As a result FDI is located in Central European regions where the employment rate is already relatively high compared to the entire country, without a direct relationship with the local unemployment rate.

The cost of labour was negatively correlated with the FDI level in subregions, but was significant only when measured per unit of output. It turns out that despite a doubling of the GDP per capita in most NMS10 over the last ten years or so and with higher average qualifications of the local staff, low labour cost is still an important factor in determining the location of foreign investments in the region. This conclusion is strengthened by the lack of statistical significance in the number of students per 10 thousand residents, which estimates the quality of human capital. This may be associated with the specificity of FDI in Central Europe, which has been dominated by medium advanced industries (white goods) or simple services (trade and transport), so those which need mostly semi-skilled workers (cf. Part IV).

[23] In both directions – Estonia and Hungary, in neither – Poland and Slovakia, in the Czech Republic a GDP growth precedes FDI increase in the Granger's sense. There are no sufficient data for other countries to estimate model with two delays. Time series estimated for subregions are too short and do not allow the examination of causality.

This leads to two important implications. Firstly, such patterns in FDI lead to divergence between regions within individual countries. According to the extensive literature on this subject (cf. Chapter I), FDI can help accelerate economic growth in a multidimensional way. By focusing on better developed areas it causes a further improvement of their importance on the economic map of Europe, while the relatively poorer areas, unable to attract sufficient capital, develop more slowly. Thus, FDI strengthens the known effect of inter-regional divergence in transition countries trying to bridge the development gap, a phenomenon that diminishes when the best developed areas get close to the global technology frontier and growth dynamics slow down as a result (cf. World Bank, 2009).

Secondly, the significant impact of the employment rate, and the lack of the statistical significance of the number of students per 10 thousand people and the unemployment rate, show the profile of an employee that is sought by investors. As demonstrated in the first chapter (see also Part IV), manufacturing is more strongly represented in the structure of FDI in Central and Eastern Europe than it is in the western part of the European Union. Employers are looking for skilled machine operators and experienced workers in this sector. Many of them (cf. Box III. 6) go to the brownfields located close to the industrial heart of Europe (see Part IV). At the same time, the proximity to the capital is also a very strong factor that attracts FDI.

The dummy variable that determines such a location is statistically significant in all models and parameters for each configuration. This demonstrates the presence of agglomeration effects. In each of the countries surveyed the capital city is by far the largest city, and often there are no other centres comparable in size. Larger cities attract investors operating in the service sector (financial sector, business services, IT) rather than manufacturing. This leads to varying locations of manufacturing and service investment, with the latter typically located in smaller towns, and the former directly in larger academic centres. At the model level, this phenomenon is manifested in the absence of correlation between FDI and the percentage of students in the population.

Finally, there is an interesting lack of influence of other non-institutional variables on FDI stock, such as road density, tourist attractiveness, crime rate, or indexes linked to social infrastructure. The density of roads (defined as the length of roads per 100 km^2) presents a general stock of road infrastructure, not reflecting its quality, especially the most important motorways and expressways. In addition, the attractiveness of tourism is significant only above a certain minimum threshold e.g. in some regions, such as northern Bulgaria and southern Romania, the proximity of the Black Sea plays an important role. Crime is concentrated in cities and is correlated with GDP per capita, so it is a redundant variable in terms of econometric modelling. At the same time, in each case, dummy variables for the country turned out to be statistically significant. This indicates that investment choices of foreign companies are potentially influenced by country-specific variables that are not directly visible in macro-economic statistics. Natural candidates for these hidden determinants are geographical location and quality of institutions. Analysis of these factors is presented in the next section.

4.4.3. Institutional determinants of FDI

The inclusion of institutional variables into the model clearly indicates the role of taxation of capital as a significant determinant of FDI. Adding CIT results contributes to the loss of statistical significance of dummy variables for countries, while the model fit decreases only slightly. This means that the level of tax on corporate profits best explains differences between countries (while controlling other factors). Other tax variables are also statistically significant, and the sign of the parameters is consistent with intuition (negative) but their correlation with the level of FDI is much smaller. The estimated elasticity coefficient indicates that a lower corporate tax rate by 1 percentage point will increase the value of FDI per capita by 200-300 euro. This result is surprisingly resistant to change specifications and models and addition of other explanatory variables. This is fully consistent with theoretical economic predictions, including the Ramsey rule according to which the most flexible factor of production, capital, should not be taxed when the goal of the economic policy is maximisation of total output in the economy. CIT effectiveness as an instrument used to attract FDI is presented in Box III.10.

VAT has a similar effect, although on a much smaller scale. Also, in this case, the parameter is statistically significantly different from zero, albeit the R^2 coefficients for the respective models are much smaller, and the partial correlation coefficient is about one-third smaller than for CIT. This result is consistent with intuition and shows that increase in FDI is further supported by a reduction in tax on corporate profits and the practice of compensating for the loss of budget revenue by raising other taxes. It should be noted that VAT may be an approximation of the total level of fiscal stringency in the country, while CIT, due to its relatively small role as a source of revenue in most countries, cannot be treated as such.

Table III.6. Partial correlations between institutional variables and FDI.

	1	2	3	4	5	6	7	8
The number of procedures needed to start a business	-36%***	-38%***	-31%***	-28%***	-30%***	-7%	0%	-7%
The time required to set up a business	2%	2%	1%	0%	1%	-12%	-6%	-13%
The cost of starting a company	-30%***	-32%***	-24%***	-22%***	-24%***	-7%	5%	-6%
The minimum capital needed to start a business	-26%***	-27%***	-22%***	-21%***	-22%***	-10%	2%	-10%
The number of procedures needed to obtain a building permit	25%	28%	21%	16%	18%	5%	5%	7%
The time it takes to get a building permit	-28%	-29%	-23%	-21%	-23%	-4%	4%	-3%
The cost of obtaining a building permit	13%*	13%**	14%**	14%**	14%**	6%	1%	5%
Strength of legal rights of lenders and borrowers	4%	5%	3%	2%	2%	-7%	5%	-6%
Availability of credit information	31%***	33%***	27%***	24%***	26%***	8%	-4%	8%
Coverage of public credit information registries	30%***	31%***	25%***	23%***	24%***	-7%	-8%	-7%
Coverage of private credit information registries	-34%***	-36%***	-26%**	-23%***	-24%**	-4%	0%	-5%
Extent of disclosure of management activities	20%***	23%**	15%	10%	12%	3%	6%	5%
Extent of director liability	0%	0%	0%	1%	1%	11%	1%	11%
Ease of shareholder suits	-26%***	-28%***	-21%**	-18%**	-19%*	-16%	-8%	-17%
The overall investor protection index (average of the three above)	2%	3%	-1%	-3%	-3%	-2%	3%	0%
Number of tax payments during the year	8%	8%	6%	4%	4%	14%	10%	16%
Time spent on compliance with tax obligations during the year	0%	-1%	5%	7%	7%	-10%	-9%	-12%
The total amount of taxes	-9%	-10%	-5%	-3%	-4%	12%*	6%	11%*

Note: Removed impact of influence of the following variables:
Model 1 – GDP per capita in euro
Model 2 – GDP per capita in euro, unit labour costs, employment rate
Model 3 - GDP per capita in euro, unit labour costs, employment rate, location near the capital city
Model 4 - GDP per capita in euro, location near the capital city
Model 5 - GDP per capita in euro, unit labour costs, employment rate, location near the capital city, the number of students per 10 thousand residents
Model 6 - GDP per capita in euro, unit labour costs, employment rate, location near the capital city, the number of students per 10 thousand residents, CIT
Model 7 - GDP per capita in euro, unit labour costs, employment rate, location near the capital city, the number of students per 10 thousand residents, CIT, VAT
Model 8 - GDP per capita in euro, unit labour costs, employment rate, location near the capital city, CIT

Other policy-dependent variables, excluding the impact of CIT, are not significantly correlated with FDI stock. It is important to note that they do apply to both the synthetic indices and disaggregated indicators from *The Doing Business* report. Most variables that are significantly correlated with FDI after excluding variables independent from politics, are collinear with CIT levels. For example, correlation between the number of procedures required to set up a business and FDI is only an artefact, as countries with higher taxes also have more complicated regulations.

Interestingly, neither the number of procedures nor time spent paying taxes correlate statistically significantly with FDI stock, even when we exclude the impact CIT on FDI. The results of our models suggest that other institutional variables are much more important for investors. A similar conclusion applies to regulations on the issuance of building permits. The likely reason for the lack of correlation between FDI and quality of policies is a very small variance of these indices in the countries of Central and Eastern Europe. Moreover, bureaucratic barriers are a major obstacle for small and medium-sized enterprises, and multinational corporations have enough money and power to overcome them. In addition, most FDI is supported by specialised cells of the local administration or the national foreign investment agencies, whose tasks include assistance to investors in overcoming bureaucratic barriers.

Box III.10. Ireland's economic success and the role of FDI.

Overview of literature presented in the first section of this chapter shows various channels of impact through which FDI influences economic development. In the econometric sections, we have shown that high FDI stock is statistically significantly correlated with the institutional quality indices and, above all, with the level of CIT. A spectacular example of economic success, which has been largely due to FDI, is the 'economic miracle' in Ireland, which took place in the 1980s and 1990s. That success has been mostly due to the reforms carried out in the late 20th century which led to a sharp increase in FDI stock in Ireland.

After World War II, the economic situation of Ireland was in bad condition for far longer than in other Western European countries. Until the mid-1960s, the country used protectionist policies, even when most Western countries turned to free trade almost a decade earlier (Barry, 2004). The Irish policies were meant to protect the domestic industry and production against imports from the United Kingdom. Reductions in tariffs began as late as 1966 under the Anglo-Irish Free Trade Agreement, and the last duties were abolished in 1978, five years after the accession of Ireland to the European Union (Görg, Ruane, 1997). In years 1970-1985, the Green Island was in an extremely bad economic situation. Poor growth (2 per cent a year) was combined with very high unemployment (17 per cent), and high debt (114 per cent GDP). Mass emigration from the island, mainly to the USA and Great Britain, was another major problem. It was not until 1980s and 1990s that these trends were reversed, growth accelerated and the position of Ireland changed so drastically that it was named the Celtic Tiger. The literature mentions two main catalysts of this breakthrough: the inflow of funds under the EU Structural Funds and the significant increase in FDI from not only from the EU, but the United States as well.

After opening to foreign trade, abolishing tariffs and the accession to the European Union, Ireland saw an increased FDI inflow, primarily in the pharmaceutical and computer sectors. The inflow of FDI in Ireland, in addition to trade liberalisation, was also influenced by the actions of the Irish government. Ireland became an attractive place to invest because of their favourable tax system, especially its low CIT. Ireland made an important step - 'Social Agreement' signed and negotiated annually by the government, trade unions, employers and employees. It allowed sometimes painful financial and economic reforms with no public protests, which resulted in an increased economic growth, higher employment, and changes in the tax system. This contributed to an increase the attractiveness and competitiveness of Ireland, which ultimately resulted in the inflow of foreign investment (Barry, 2000). Promotion of FDI became one of the main objectives of a special institution - the Investment and Development Agency (IDA). By carefully examining the competitive advantage of Ireland, the agency could profile its policy and focus on specific industries which would best utilise Ireland's potential. The advantages, identified in the course of the research, primarily included English, Ireland's national spoken language, its strategic location (closest European country to the United States), and skilled workforce, especially in the fields of science and engineering. Investors' decisions also depended on low labour costs compared to other EU countries and high spending on research and development. IDA activities aimed at attracting foreign investors have contributed to the development of human capital, infrastructure and telecommunications, which further raised the country's attractiveness in the eyes of investors.

A large proportion of foreign investments came from the United States. Most projects involved pharmaceuticals and information technology. Leading representatives of these industries opened their subsidiaries in Ireland, including Microsoft, IBM, Oracle, Dell, GlaxoSmithKline, Johnson & Johnson and Merck. Their presence in the Irish market contributed to the influx of other investors. FDI played a key role in the development of Irish manufacturing. It also contributed significantly to improving the economic situation in the country. Unemployment fell to around 5 per cent, production costs decreased and GDP increased. About 50 per cent of employment came from jobs created by foreign companies, which was the highest rate in Europe. The presence of major international companies created greater opportunities for new entrepreneurs, who could initially gain experience in foreign companies, and then open their own businesses. Foreign companies investing in Ireland were oriented primarily to export to European Union countries and employ a highly skilled workforce, while domestic companies produced for the UK and employed unskilled workers (Barry, 2000). These factors point to a significant impact of FDI on the economic development of Ireland which in recent decades has been focused on attracting investors, primarily from high-tech sectors. This case shows how FDI can be a catalyst for economic growth and contribute to greater prosperity of the nation. On the other hand, troubles of Ireland in recent years may provide good lessons for policy makers. Along with the increase in the level of development in poorer countries, investors are moving their factories. A glaring example is Dell Computers' relocation from Limerick to Łódź. Moreover, an intense influx of investors and rapid economic growth is associated with the threat of speculative bubbles with imminent risks for fiscal and monetary policies.

Source: Own elaboration.

4.5. Trends in institutional change

According to the UNCTAD report (2010), in the last two decades the world has observed a progressive liberalisation of regulations on foreign trade and FDI. Although the dynamics of this process in the last five years has fallen slightly, there is still a clear advantage of liberalisation reforms and FDI-supportive regulations over changes in the opposite direction. UNCTAD (2010) also notes a continuous reduction of tax burdens on businesses.

A decline in the dynamics of economic liberalisation in recent years has been due to the global crisis and the conviction of governments that it is necessary to stimulate the economy, but on the other hand, this decline is also due to increasing concerns over strategic resources and security. An additional motivation, justifying the need for government intervention, consists of a need for more even income distribution within a society and prevention of food crises. Most crisis-induced activities have been carried out within G20 and concern the automotive or financial services sectors. As they were not limited to domestic companies, MNCs could benefit from these actions.[24] In addition, supervision over beneficiaries of state assistance could affect their operations carried out abroad. UNCTAD (2010) also indicates an increasing number of agreements between countries (both agreements on taxation and multilateral agreements to promote mutual investments), as well as the continuous improvement in their quality and precision.

Policy on FDI in recent years, therefore, has been aimed at reconciling two seemingly conflicting goals - on one hand we have the protection of domestic producers against the crisis, and on the other hand, trade liberalisation and provision of sufficient incentives for foreign investors.

[24] There is also a possibility of hidden protectionism in an arbitrary choice of enterprise which are given help.

Summary

Foreign investment is an important element of the economic landscape in the modern world. Although the development of policies for FDI support began in the postwar years, when American corporations were an important element of the reconstruction of European manufacturing, the actual explosion in FDI stock in the world took place as late as 1990s.

In the first chapter we presented global trends in foreign direct investment, describing its changes in time and geographical distribution. Despite the continuing apparent dominance of developed countries, emerging economies in Asia, Latin America and Central Europe are gradually growing FDI recipients. The deep recession that has affected OECD countries in 2008-2009 resulted in a profound strengthening of emerging markets on the global investment stage. In 2009, the value of FDI invested in China was higher than that in the United States, for the first time ever. Furthermore, while global capital flows declined in 2010, Brazil, India and Indonesia saw their levels higher than ever before.

Similar to the world, Poland also observed a sharp increase in FDI volume in 1990s, which then was growing almost every year. Moreover, Poland also received a larger stock of capital than any other country in the region. However, if we take into account the scale of individual economies, other NMS-10 countries took better advantage of investors' interest in Central Europe, and consequently the inflow of FDI in relation to GDP and populations in the Czech Republic, Slovakia and Hungary were higher than in Poland. At the same time, the sectoral structure of investments in the region differed from that observed in Western European countries; a greater participation in manufacturing and less in services.

In the next chapter, we took a closer look at FDI determinants in the EU-27, with a particular emphasis on Central and Eastern Europe. We started from the calculation of the impact of trade within the European Union on national labour markets. For this purpose we constructed a measure based on input-output matrix for 21 European Union countries, and indicated how employment and labour productivity in Europe would be affected by a hypothetical withdrawal from economic integration and the introduction of autarky. We anticipate that such an operation would lead to employment growth across almost the entire European Union, but it would also involve the significant loss of productivity. The differences between the benefits of foreign trade in individual sectors are helpful in explaining the unusually great importance in FDI inflow to certain sectors of the economy in Central and Eastern Europe.

In the third chapter, we analysed the determinants of FDI in the local dimension, focusing on Poland. To this end, we presented a general picture of FDI inflows in Poland, indicating that investment flows in manufacturing are much more stable than in services, but their scale is smaller. Then, in terms of static-comparative approach, we showed the impact of FDI on the convergence of the sectoral employment structure to European Union countries. Without trade, economic growth would have been much slower and the number of workers needed to maintain the structure of consumption would have to be greater. Next, we described differences in the geographical distribution of FDI in Poland and its determinants, identified using panel regression models. FDI volume in voivodeships depends mostly on the density of roads, unit labour costs, and the existence of special economic zones. In addition, the unemployment rate helps explain FDI fluctuations in time as it is correlated with the overall economic situation.

Table III.7. Effectiveness of individual policy tools at the level of countries (based on literature review) and voivodeships (based on econometric analyses).

Tool	Effectiveness of the tool – results of international research	Results at the regional level
Fiscal incentives	Effective.	Very effective in the local dimension (SEZs results in increased investment), but also globally (CIT changes significantly influence FDI).
Infrastructure development	Relatively effective, but susceptible to the problem of overinvestment.	Effective in the field of road infrastructure, moderately effective in other areas (although there is a correlation between the number of SEZs with adequately prepared areas and FDI, the general density of sewage and water supply does not affect FDI). Large road projects are most important.
Liberalisation of labour market regulations	Effective, albeit results are scarce and ambiguous.	Moderately effective (indirectly through increased economic activity rate).
Improvement of the general institutional stability and tackling corruption.	Effective, only after significant improvement.	Impossible to examine at the level of voivodeships. At this level the effect of institutions has not been found, which may result from relative similarity of the countries in this regard.

In the fourth chapter, we presented an overview of the most important institutional incentives used by policy makers in order to increase the inflow of FDI to their countries and regions. The most important factors affecting the growth of FDI include the overall institutional design and political stability (which is similar for all regions, hence elusive in econometric models estimated for data for voivodeships) and local infrastructure. Fiscal incentives are also relatively effective, which is confirmed by the estimated econometric models (fiscal stimuli are correlated with the number of special economic zones in the regions and they are used mainly in those zones). Summary of the effectiveness of these tools is presented in Table III.7.

We finished this part of the report with the econometric analysis of the institutional and economic determinants of FDI at the level of sub-regions of Central Europe. It shows that locational decisions of firms in NMS-10 are primarily influenced by an initial level of economic development measured by GDP *per capita*, which means that companies tend to invest in already developed areas. But considerable influence is also exerted by basic characteristics of the labour market, such as price and supply of labour. Among the national institutional characteristics, CIT is most important, which is correlated with the FDI volume in all models. Consequently, in countries with similar legal and political situations, the reduction of this tax may significantly intensify the inflow of FDI.

Part IV. The local dimension of globalisation

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LIST OF TABLES

LIST OF BOXES

LIST OF FIGURES

LIST OF DIAGRAMS

LIST OF MAPS

Introduction

Poles perceive globalisation as something distant from Central Europe and Poland. It supposedly affects the major economic powers of the modern world - the United States, Western Europe, Japan and China - but not areas in the outskirts or peripheries. The Polish perspective is Eurocentric, rather than global. In other words, while accepting the importance of European integration, and economic and social processes taking place in the EU, Poles tend to be disinterested in the wider global processes. The purpose of this part of *Employment in Poland* is to challenge this stereotype by showing the impact of globalisation not only on the new EU Member States and Poland, but also on its individual regions.

In order to show the transnational and local aspects of global phenomena, we begin our analysis with presentations of technological, economic and institutional sources of contemporary globalisation and descriptions of the associated processes, particularly those that affect production and employment structures in the economies of the developed North and the developing South. At the same time we point out how these processes materialise at a local level. In order to present the experiences of Western countries which have been active participants of global economic transformations for a few dozen years longer than the rest of the world, we discuss two cases of regions most affected by transnational processes – the American Rust Belt and the German Ruhr region.

In the second chapter we focus on the integration of Poland and the entire region of Central Europe into European and global business networks. We highlight and discuss the various forms of participation of Polish regions in globalisation. These include regions that are most actively integrating economically with abroad; those that have undergone restructuring, as until recently they had relied on economic sectors vulnerable to global shocks and losing in the competition with foreign countries; and peripheral regions experiencing an exodus of population to more globalised centres.

While discussing Polish and foreign outcomes of transnational processes, it is helpful to present the situation in a few characteristic sectors of the economy that are strongly affected by globalisation albeit reacting differently, depending on the country and region. These include the automotive industry, steel production, textiles and clothing, and those types of business services that can easily be transferred abroad.

1. The world and regions in the face of globalisation

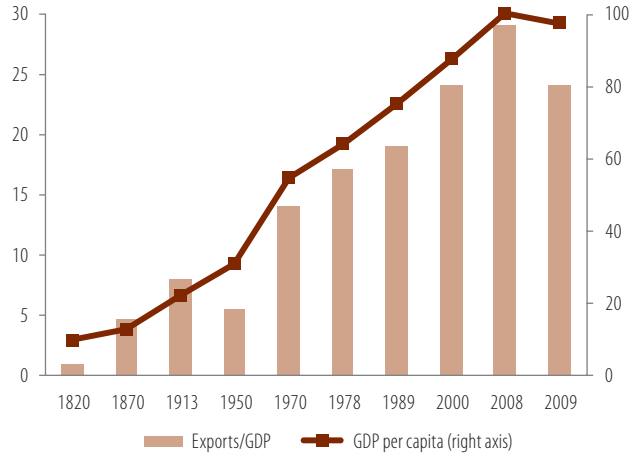
1.1. Global processes, local challenges

1.1.1. What is globalisation?

Globalisation is the process of connecting various continents by increasingly stronger economic, technological, cultural and social ties. In a strictly economic sense, globalisation is the global integration of regional markets through the increasing intensity of multilateral flows of goods, capital, labour and innovation.

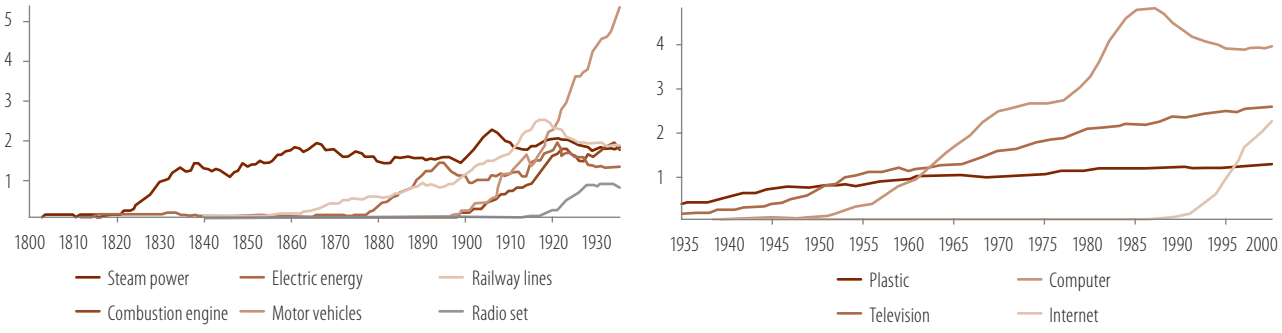
The beginnings of so defined global economy date back to the early 19th century, when a decline in land and sea transport costs resulted in the multiplied volume of trade between Europe, North America and Asia. The industrialisation of the economies of the Western world - Britain, France, Germany, the Netherlands, the United States and Canada - and later of other European countries, Russia, Japan and parts of South America - increased the demand for raw materials and agricultural products from other regions of the world. At the same time, technical innovations such as continental railway lines and oceanic steam ships made it possible for the first time in history to transport non-luxury goods to distant locations at relatively low costs. The boom in international trade (see Figure IV.1) was enhanced by moderate tariff barriers in maritime trade. That first episode of globalisation ended with protectionist sentiments following destruction of the balance of power in Europe after World War I and economic collapse in the 1930s - the Great Depression.

Figure IV.1. Global GDP (2008=100) and global exports as a percentage of global GDP, 1820-2009.



Note: Until 1950 – only the export of goods, after 1950 – export of goods and services.
Source: Own elaboration based on Maddison (2001) and World Bank data.

Figure IV.2. Spreading of important technological innovations in 1st (left panel), 2nd and 3rd (right panel) phases of globalisation.



Note: Horizontal axis – years, vertical axis – frequency of words in the examined corpus of publications in English (left panel – unit corresponds to a 0.00004 per cent share in all the word pairs, right panel – unit corresponds to a 0.0002 per cent share in all words).
Source: ngrams.googlelabs.com

Table IV.1. Technological innovations – chronology.

Technology	Key inventions and events	Year	Globalisation effects
Steam engine and electricity	Steam engines by Thomas Newcomen and James Watt	1712/1769	Decrease in costs; possibility of mass manufacturing thanks to mechanisation; decrease in labour input and more leisure time
	The first mass use of steam engines in manufacturing by John Wilkinson	1783	
	Electric motors by William Sturgeon and Thomas Davenport	1832-1837	
	Commercial use of electric motors	1873	
	The first Thomas Edison power plant	1882	
Railways and steamships	The first commercial river and ocean steamships	1807/1838	Decline in transportation costs; initiation of trade integration between Europe and USA, massive immigration from Europe to the USA
	Richard Trevithick locomotive	1804	
	The first inter-city railway line and the George Stephenson train	1829	
	Completion of the First Transcontinental Railroad in the USA	1869	
Cars and airplanes	The first designs of internal combustion engines by Karl Benz, Gottlieb Daimler and Wilhelm Maybach	1870s-1880s	Decline in costs and higher reliability of passenger and freight transport; enhanced mobility on a national, continental and then global scale. Global tourism
	Car with a combustion engine by Karl Benz	1885	
	The first propeller-driven plane - the Wright brothers	1905	
	Model T belt production line in Detroit factories -Henry Ford	1907	
	The first jet aeroplane – Heinkel	1939	
	Start of commercial aviation expansion	1945	
	The expansion of low-cost airlines	since 1975	
Radio and TV	Guglielmo Marconi's radio	1895	Lower barrier of access to information on world events –emergence of the Global Village
	Harold Power's radio station and the beginning of the Golden Age of Radio	1916	
	Broadcast television picture by John Bird	1927	
	The first television stations in the USA	1941	
	Beginning of satellite TV	ca. 1970	
Computers	The invention of the transistor	1947	Introduction of computer technology to all sectors of the economy, more effective logistics; just-in-time production and supply systems
	Commercial IBM personal computer	1953	
	The first Apple and IBM personal computers	1976	
	Beginnings of mass use of laptops	1990	
Telecommunication	Phone prototypes by Johan Reis, Alexander Bell and Gray Elishy	1861/1876	Reduced costs of seeking business partners, workers and employers, firstly on a regional and national scale, then on a global scale.
	Telephone companies start their operations in the USA	ca. 1880	
	First transatlantic telephone call	1926	
	Intelsat I – beginnings of satellite telecommunication	1965	
	First GSM cell phone in Finland	1991	
Internet	ARPANET	1969	Enhanced access to information, knowledge and know-how; information integration of the world economy, global retail
	Connecting networks from USA, Europe and Japan	1984-1989	
	World Wide Web	1989-1991	
	Commercialisation and the beginning of global Internet expansion	1995	

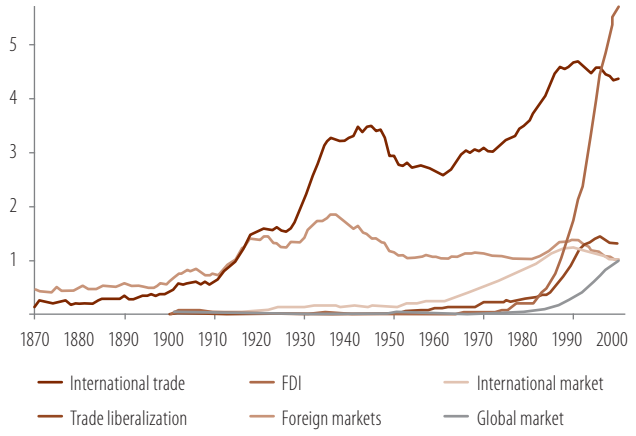
Source: Own elaboration.

The second phase of globalisation coincided with The Glorious Thirty years (French: *Les Trente Glorieuses*), i.e. the period of 1945-1975 during which the rate of economic growth in Western Europe, Japan and South Korea reached 5-6 percent a year, and political relations with the United States were strengthened by the burgeoning international trade and the progressing integration of capital. Just like a hundred years earlier, the globalisation of the postwar period was enhanced by a number of technical and financial innovations, especially those enabling safe mass sea transport, such as containers and container terminals in the most important ports. Jet engines boosted civil aviation, decreased costs and raised the reliability of passenger and freight air transport over long distances. The quality and density of road and rail infrastructure improved significantly in industrialised countries which, together with the supply of cheap fuel from the Middle East, led to a decline in road transport costs and facilitated the effective economic integration of Western Europe. As radio and television spread, the world began to be perceived as a Global Village.

The second episode of globalisation involved much greater institutionalisation than the first. With the establishment of the United Nations (1945), International Monetary Fund (1947), World Bank (1947), GATT (1948), the European Community (1957), OECD (1961) and ASEAN (1967), it became possible to make multilateral decisions at a transnational level, which allowed the construction of a stable network of global economic relations. This provided, for example, mutual interchangeability of major national currencies, abolition of most trade barriers after the rounds of GATT negotiations, and also higher foreign direct investment thanks to the gradual integration of international financial markets. Importantly, the extent of the second episode of globalisation was constrained by political factors, in particular the existence of the Second World, i.e. a group of communist countries excluded from cooperation with market economies. This concerned the Eastern European countries - members of the Warsaw Pact and Comecon, Chinese economy and (to a lesser extent) a number of countries in South America and South Asia under the influence of the Soviet Union.

For this reason, the current third episode of globalisation can be regarded as the result of gradual political and economic liberalisation of the communist countries. This change was initiated by the economic reforms of Deng Xiaoping in China (1978) and Mikhail Gorbachev's *perestroika* in the USSR (1986). It particularly accelerated a decade later in 1989-1991 together with the Autumn of Nations in Central Europe, the collapse of the Soviet Union and a series of reforms liberalising the Indian economy, and then a number of South American and Asian economies. As a result the global economy was joined by dozens of countries and approximately two billion people. Recent years have seen strong liberalisation of the global exchange of goods, especially the reduction or total elimination of tariff and non-tariff trade barriers, obtained through negotiations conducted under the auspices of the World Trade Organization (WTO) - the institutional continuator of GATT. The current phase of globalisation is also associated with a significant acceleration of regional economic integration through the creation of organisations implementing the principles of free trade on a regional scale such as the Asian AFTA (1992) and the American NAFTA (1994). They are based on the experiences of the European Economic Community established in 1957 and transformed in 1993 into the European Union, currently consisting of twenty-seven European countries, including Poland.

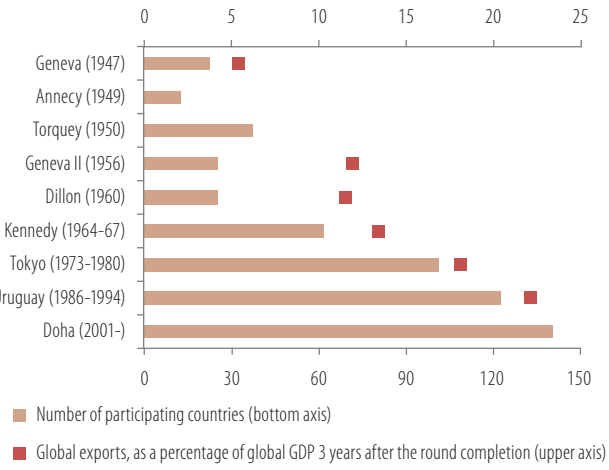
Figure IV.3. Chronology of globalisation processes according to Google ngrams.



Note: The graph presents the frequency of terms occurring in English publications. Horizontal axis – years, vertical axis – frequency of words in the examined corpus of publications in English (unit corresponds to a 0.0001 per cent share among all words or their pairs).

Source: ngrams.googlelabs.com.

Figure IV.4. GATT/WTO negotiation rounds.



Source: Own elaboration based on WTO and World Bank data, and Maddison (2001).

The main technological innovations that facilitated global economic integration in the post-war period occurred in communications. Prices of international calls fell and new highly efficient channels of information exchange were suddenly available to users worldwide: mobile telephones and the Internet eroded financial and access barriers to the flow of knowledge and innovation between countries with different levels of development. This helped double the share of the international exchange of goods in the world GDP, and a significant acceleration of the average economic growth rate in developing and transition economies in the northern hemisphere. The third phase of globalisation also differs from earlier phases due to higher international capital flows, and thus a greater inflow of foreign direct investment to the rapidly industrialising countries of South Asia and Eastern and Central Europe. The last 30 years have also seen an increase in the regional and global mobility of people, both in passenger air transport as well as migration to developed countries and to dynamic Asian economies from less developed areas. In contrast to capital flows and trade, labour mobility in the world is still strongly limited by institutional constraints, although in some strongly integrated areas such as the European Union or to a lesser extent the American NAFTA, freedom of movement is much greater than ten or so years ago.

Table IV.2. Chronology of the 2nd (1940-1978) and 3rd (1978-today) phases of globalisation.

	Political events	Technological innovations	Economic processes	Poland in the globalised world
1940-1949	World War II (1939-1945) UN (1945), IMF and World Bank (1947), GATT (1948) ComeCon (1949-1991) Disentagration of the war coalition (1946) and the beginning of the Cold War between Soviet Union and its satellites and the USA and West (1946), NATO (1949)	The end of the Golden Age of Radio and the beginning of television(1949/1950) Transistor (1944)	Bretton Woods (1944) Marshall Plan in Europe (1948-1957) facilitates the recovery in the postwar period, laying foundations for the Glorious Thirty years (1945-1975)	War destruction, considerable depopulation of the country, movement of the national borders to the west, beginning of the communist regime (1944-1989) Stalin terror and Bolesław Bierut's rule (1944-1956) Baby-boom of the postwar period (1945-1955)
1950-1959	Warsaw Pact signed by the Soviet Union and its satellites (1955) European Community (1957) Soviet military intervention in Hungary (1956) Decolonisation of Africa (1948-1963)	Beginning of just-in-time in the Japanese automotive industry Jet engine in passenger flights (1957-present) Space race betwen the USA and the Soviet Union, Sputnik (1957) and SCORE (1958) - first satellites on orbit	Baby boom of the postwar period (1950-1955) Convertibility of western currencies (1958-1964)	October 1956 and the rule of Władysław Gomułka (1956-1970)
1960-1969	OECD (1961) and ASEAN (1967) Berlin Wall (1961) and Cuban Crisis (1962) increases the tensions of the Cold War and arms race Soviet military intervention in Czechoslovakia (1968)	Invention and beginnings of the commercial use of containers in sea trasnport (1968 - present) First man in space (1961), beginning of the satellite telecommunications (1962) and landing on the Moon (1969)	High growth of the highway network in Europe and USA decreases costs of the road transport and increases demand for cars and oil (1955-1970) Green Revolution in agriculture enables a rapid growth in population of developing countries (1960-1980)	Political crisis (1968) and workers' protests (1970), the end of 'small stability'
1970-1979	EC enlargement - Denmark, Ireland, United Kingdom and Greece (EC11) Joint action of OPEC countries limits the oil extraction (1973) Establishing G7 - an annual meeting of finance ministers of the developed countries (1975)	Spread of the just-in-time technology in the automotive industry (1970-present) First personal computers (1977-1981)	Suspension of the USD convertibility into gold, collapse of the currency system from Bretton Woods (1971) Series of oil crises (1974-1979) Beginning of economic reforms by Deng Xiaoping in China (1978)	Industrialisation during the Edward Gierek's rule, explosion of foreign debt (1970-1980) End of prosperity, increase in foreign debt and productivity crisis, the beginning of the economic crisis (1976) Beginning of the second baby-boom in the postwar period (1975-1990)
1980-1989	EC enlargement - Greece (1981), Spain and Portugal (1986) Autumn of Nations in Eastern Europe, fall of communism (1989)	Gradual expansion of just-in-time technologies in many sections of manufacturing and services (1980-present) Beginnings of cheap airlines (1985-present)	Reagonomics and considerable liberalisation of markets in the USA and developed world The Soviet Union loses an economic race with the USA, deep economic crisis in Poland Beginning of Rajia Gandhi market reforms in India (1986)	Mass workers' protests and Solidarity (1980-1981) Martial Law (1981-1983) Economic crisis during the rule of Wojciech Jaruzelski (1981-1989), failed reforms of Zbigniew Messner Round Table and semi-free elections (1989)
1990-1999	Disintegration of the Soviet Union and the end of the Cold War (1991) European Union (1993) and its enlargement - Austria, Sweden and Finland (1995) - EU15 North American Free Trade Agreement between USA, Canada and Mexico - NAFTA (1994) WTO replaces GATT (1995) G-20 (1999)	Invention and spread of WWW (1989/1991-1999) Popular use of cell phones (1993-present)	Beginning of the systemic transformation introducing market economy to Eastern bloc countries (1989) Crisis of the European Monetary System (1991) Treaty of Maastricht and single market, monetary integration and introduction of Euro (1992-1999) Completion of the GATT Uruguay round - considerable reduction in tariff barriers (1994) Asian crisis (1997) and Russian crisis (1998)	Balcerowicz Plan (1989/1990) Reforms of the transition period (1990-1999) Russian crisis stimulates the second wave of restructuring in Polish companies (1999-2002) Accession to OECD (1996) and NATO (1999)
2000-2009	EU enlargement - 10 NMS from Central Europe, and Malta and Cyprus (2004 and 2007) - emergence of EU27 Starting regular meetings of finance ministers and national bank heads of the 20 most important economies from all continents - G-20 (1999) and its supplementation with the meetings of national leaders (2008)	Information revolution and Internet explosion in global economy (1999-present) Rapid decrease in costs of international telephone calls (2000-present)	Introduction of euro in 12 EU Member States (2002) Rapid increase in the importance of BRICs and other emerging economies in the global economy (2001-present) Formation and Collapse of the Great Housing Bubble in the USA (2001-2007) and the Great Recession in the developed world (2007-2009)	The first downturn during the economic transformation (2001-2002) - explosion of unemployment and decrease in employment Accession to EU (2004) and prosperity of 2004-2008 The second downturn (2009)

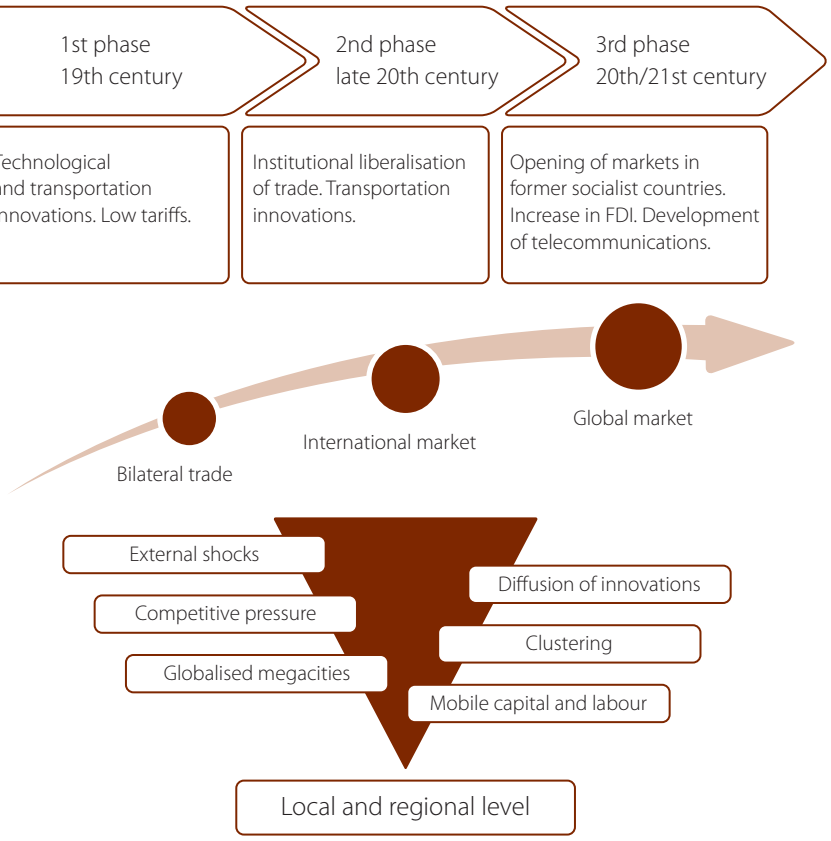
Source: Own elaboration.

1.1.2. Local aspects of globalisation

The distinguishing feature of the current phase of globalisation is the greater force with which the individual economies have interacted with each another. Due to the integration of financial, capital and commodity markets, economic impulses move from one country to another quicker than ever. That promotes an easier diffusion of innovation and also a greater exposure to external economic disturbances. Thus, globalisation results in the synchronisation of booms and busts even in remote regions of the world, and the prosperity of individual countries depends on the success of their foreign partners to a much greater extent than in the past. Regional and global crises have gained in significance: simultaneous, short, but very deep declines in production volume and trade across the whole world or its substantial part. Examples include the Great Depression of the 1930s and the financial crisis in 2007-2009 which led to an economic collapse and a dramatic rise in unemployment in the USA and the majority of developed countries. The oil shocks in the 1970s were also global recessions, albeit of a slightly different nature; they marked the end of the Glorious Thirty years of stable growth in Europe and Japan, and inhibited the process of rapid convergence to the global technology leader - the United States. There have also been some notable events on a regional scale, such as the Asian crisis of 1997 and a year later the Russian crisis, which for several years slowed growth in countries that were highly commercially and financially integrated either with South Korea or Russia.

From the perspective of entrepreneurs operating in national markets, globalisation means not only exposure to external macroeconomic disturbances beyond their control but also the emergence of a stronger competitive pressure than those occurring in a closed economy. At the same time, globalisation opens access to much wider markets enabling companies from smaller economies to achieve large economies of scale and multiply the volume and efficiency of their production. Decreasing barriers in access to information, knowledge and technological know-how, characteristic for the third phase of globalisation, promoted the convergence of productivity in both export-oriented firms and those that focus on local markets. The world market is not only bigger, but more accessible and more competitive. It contains more competitors, and the range of products offered to consumers is more diverse than in an autarky. The larger number of competing manufacturers allows a greater demand price elasticity which reduces margins and puts stronger pressure on cost reduction than in a much smaller closed economy. Companies that fail to respond to this pressure fall out of the market. In globalised industries, businesses tend to form large international corporations that integrate many previously independent companies in a single economic entity. Globalisation has also fostered a new category of businesses - multinational corporations (see Part III) that are concerned with their own competitive position in the global markets, and thus initiate, continue or withdraw from economic activities in a given area taking into account broader, supranational and supra-local economic conditions.

Diagram IV.1. Phases of globalisation and the effect on local and regional economies.



Source: Own elaboration.

Proper selection of the location for doing business has become particularly important, given the expansion of multinational corporations in global markets, the opening of regional markets to stronger than ever competition from imports and foreign companies, and much greater opportunities to reallocate productive capital and finance to regions offering the highest return on investment. In the past the location of economic activity was primarily determined by strictly geographical factors - proximity to sources of raw materials, markets, or access to the sea. In recent decades other factors have become increasingly important - proximity to agglomerations, urbanisation, and institutional and legal environments. Global competitive pressure requires maximum use of the economies of scale that are associated with concentration of production in the most suitable place. Companies therefore try to operate in places where there are other companies in the industry, as it helps them to attract staff with appropriate qualifications and experience, and reduces risks and costs of recruitment. Similarly, employees with skills specific to the sector tend to prefer areas with a high concentration of companies that could hire them. Secondly, investment is attracted by the proximity of potential subcontractors and suppliers, so that companies can expect greater benefits from specialisation in the main field of activity and outsourcing certain elements of the manufacturing process or business services to other companies. Thirdly, in today's economy it is becoming increasingly important to be able to benefit from diffusion of knowledge and innovation from other companies in the same industry and related sectors. This favours the concentration of economic activity in large urban centres and their immediate vicinity where, in addition, the higher labour mobility of workers is facilitated by the relatively easy availability of potential employers. Related agglomeration effects include breaking down the fixed costs of infrastructure, logistics, transport and research and development between many entities and many taxpayers. All these factors favour the development of a metropolis – a large city well connected to the world, with developed infrastructure and a broad creative and research potential.

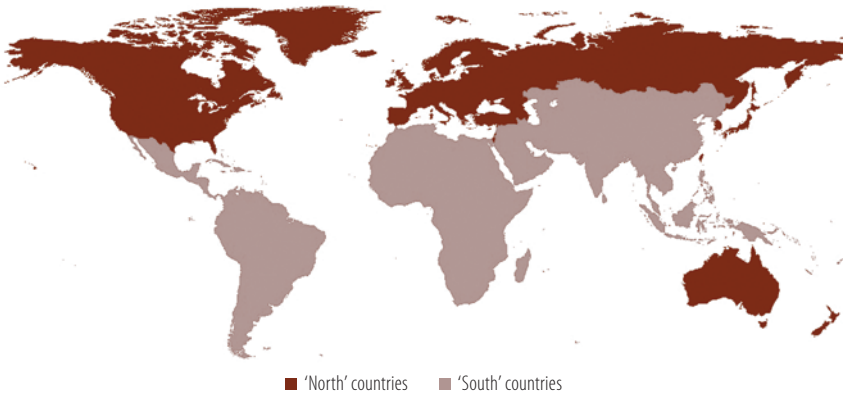
Due to the aforementioned factors, on a local scale the globalising world economy induces accelerated urbanisation of some areas and the (relative) depopulation of others, while encouraging clustering of particular industries and services in individual regions and thus their specialisation. This applies especially to medium-sized centres, whose 'monoculture' in their local economies had made them more vulnerable to economic problems specific to a given sector. On the other hand, regions may benefit from additional productivity growth that comes from the concentration of production and economies of scale. Smaller cities primarily attract companies from technologically mature industries for which the traditional location and specialisation advantages are more important than the effects of agglomeration and urbanisation. Large cities with diversified economic structures and high human potential are attractive to relatively more modern (high tech) industries and personal and business services. This is because highly qualified staff, the key factor of production in those sectors, is concentrated in large globalised urban centres, with the additional advantage of intense flow of ideas and innovations from other industries.

1.2. Trade between the North and South and the international division of labour

One of the main effects of the advancing integration of national economies was the transition from the 'classical' to 'new' international division of labour (Fröbel et al. 1980). In the dominant model of the first phase of globalisation in the 19th century, the international division of labour consisted of the specialisation of relatively less-developed countries (the countries of the South - see Box IV.1) in supplying the world market with raw materials that were then processed by the 'developed' countries of the North where manufacturing was concentrating development. That division continued in the first decades of the second phase of globalisation, i.e. until the end of the 1960s, when labour-intensive forms of production began to gradually move to developing countries with abundant labour and low wage expectations. After 1970, low-end manufacturing started to gradually disappear in developed countries, which then started to specialise in highly-processed goods requiring relatively high skills and investment. The new international division of labour was no longer confined to the flow of raw materials from South to North and a small volume of finished goods going in the opposite direction. It was becoming more and more important to efficiently use existing resources, skills and physical capital in the global economy. As a result of this process, international trade, which before 1970 was dominated by exchanges between the industrialised economies of the North, gradually extended onto the North – South axis, and in the later phase to the South – South axis.

Initially, this meant that the countries of the South took over the work that did not require high skills, allowing the developed economies to focus more on activities requiring relatively higher human capital, still very scarce in the majority of developing countries in 1970s. During that period there was a significant rise in exports of textiles and steel from the South to the industrialised North. It ended in the late 1980s and 1990s when emerging Asian economies began to gradually take over the production of highly-processed goods, for example in the engineering and automotive industries. Finally, after 2000, some of them, especially China and other countries of Southeast Asia (Malaysia, Philippines, Thailand), began to develop the production of high-tech products, particularly consumer electronics. However, so far these countries have focused only on the final part of the supply chain in these industries, leaving the manufacture of components that require the highest stocks of physical and human capital to the highly developed countries, especially South Korea, the United States and Japan.

Box IV.1. Division into the developed North and relatively poorer South.



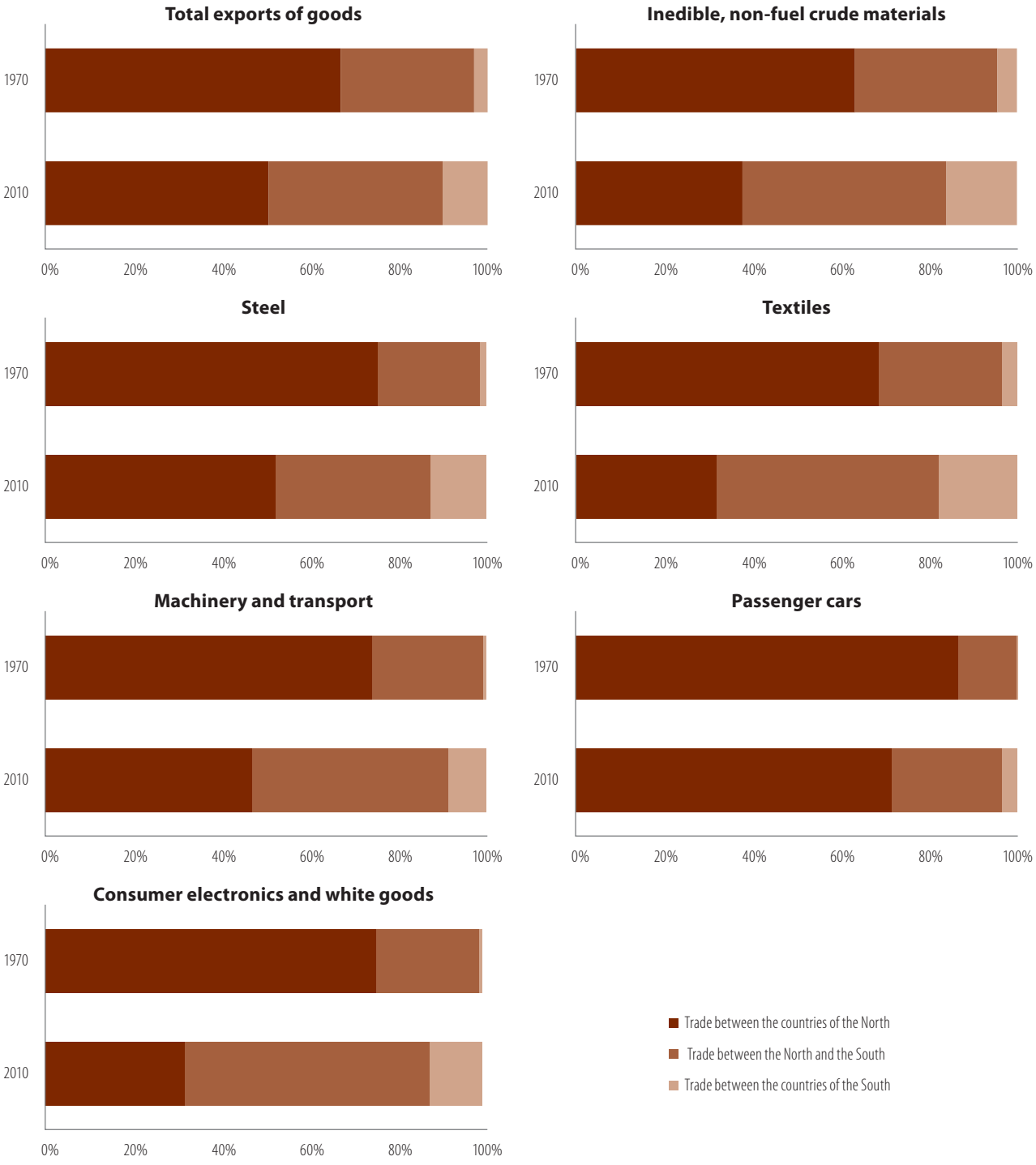
The terms 'North' and 'South' in this section denote relatively better and less developed areas, for example those whose GDP per capita is above or below the global average. The rationale behind this symbolic distinction is a traditional division (spanning over the last 200 years) into the relatively poorer countries lying in the subtropical areas and the relatively richer countries located in higher latitudes, especially in the northern part of Eurasia. This classification of countries is consistent with IMF classification, albeit the 'North' also includes countries which before 1990 were divided into the First and Second World (except China, Central Asian territories of the former USSR, Mongolia and Cuba) while the 'Southern' countries were then termed the Third World and now include China, Central Asia, Mongolia and Cuba. The vast majority of 'Northern' countries generate income per capita higher than the global average (except for some CIS countries), while almost all countries of the 'South' are below the average (with the exception of oil producers and relatively richer parts of Latin America).

A look at changes in the flows of international trade between countries with different levels of income over the past 50 years, confirms increasing specialisation in the international division of labour. Importantly, there has been a general decline in the relative importance of exchange between the countries of the developed North, which in the total volume of world trade is being gradually replaced by the movement of goods between North and South and trade between emerging economies, notably absent before 1980 (see Figure IV.5). The deepest changes in the structure of world trade have taken place in sectors that produce goods that are relatively easy to transport by sea - commodities, steel, textiles, machinery and electronics. In the car industry, where cost-competitive transportation for longer distances is possible only by land, most trade occurs between developed countries, for example within Europe. In this sector, the South's role as a supplier of products to the world market has increased significantly over the last several decades. Comparisons of export flows between countries with different income levels support the thesis on progressive specialisation in the international division of labour and the new role of emerging economies as 'production facilities' for developed countries (see Figure IV.6). The consequence of this process is a change in the specialisation of these countries: from raw material extraction to at least basic and primarily labour-intensive processing. Another notable change has occurred in raw material flows (excluding energy) that have balanced between the North and South, mainly due to their increased export from the United States. Developing countries are becoming more and more specialised in labour-intensive sectors of the economy, such as the clothing industry. The metal industry, also growing in those countries, focuses on less capital-intensive production methods which are gradually becoming obsolete in developed countries. There is a change of focal point in the production of machinery - developing countries are no longer solely importers; they themselves have started to produce and export. The last two decades have seen a very significant move of most of the world production of electronics from developed countries (including Japan and Korea) to emerging economies. Still, the production of components (such as processors, memory, screens, etc.) is located primarily in the North.

The different impact of changes in the global division of labour on individual industries can be seen especially in the case of the three branches of manufacturing: (1) textiles, (2) the steel industry, and (3) production of cars and their parts.

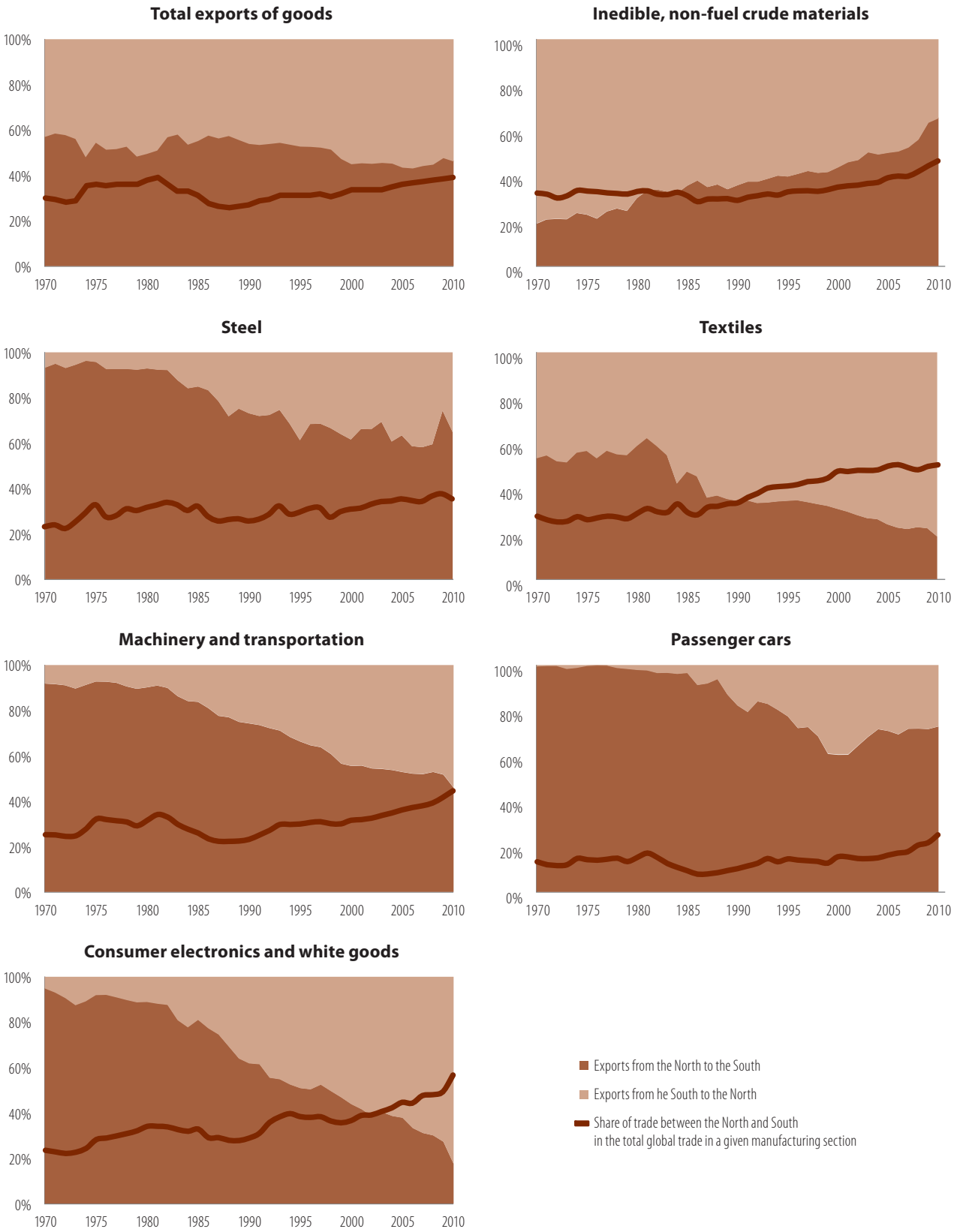
The textiles industry has proven to be extremely vulnerable to production transfer from the North to the South (cf. Fig. IV.6). Over the last thirty years, approximately 75-80 per cent of world exports of textiles and clothing have been taken by developing countries, the main causes being relatively high labour-intensiveness and standardisation of production, low demand for human capital and easy transport of manufactured goods. Simultaneously, technological constraints hindered full mechanisation of the manufacturing process and consequently in developed countries it was not possible to shift towards more capital-intensive yet cost-efficient forms of production in this sector. The transfer of production to the South with its large resources of cost effective labour has become the most commercially viable option from the standpoint of most clothing companies, except those that produce goods with high added value - short series of luxury clothes.

Figure IV.5. Structure of trade exchange (in both directions) between the North and South, 1970 and 2010.



Source: Own elaboration based on UN Comtrade data.

Figure IV.6. Proportion of export of goods from the North to the South, from the South to the North, and the share of trade between the North and South in total global trade, 1970-2010.



Source: Own elaboration based on the UN Comtrade data.

Box IV.2. International division of labour in the light of economic theories.

The concept of the international division of labour and its benefits was first introduced by Adam Smith in the 18th century. According to Smith, international trade improves the situation of countries when they use their absolute cost advantage, i.e. sell goods which are cheaper to produce in the country and import goods that are produced cheaper abroad. This concept was further developed several decades later by **David Ricardo in his theory of comparative costs**, which became the basis of the neoclassical trade theory. He noted that the international division of labour depends on relative rather than absolute differences in production costs between trading partners. This means that international specialisation and trade in goods takes place even when a country has an absolute cost advantage in the production of all goods due to higher overall productivity in its economy. In this case, it will specialise in the production of those goods with the most efficient manufacturing process, and buy foreign goods which would require relatively more input to be produced in the country. In a similar way, the international division of labour involves even those countries that are absolutely less productive in all sectors of the economy.

The source of comparative advantage is explained by the **Heckscher-Ohlin-Sauelson model** which indicates that specialisation is determined by the relative abundance of a resource crucial for the production of a given item, e.g. of capital, raw materials, labour or skills. The relative price of abundant resources in the local market will be lower than the price of scarce resources, resulting in the lower cost of producing goods that require its intensive use and creating an incentive for the diversification of production profiles in individual countries and for international exchange. The resultant trade between countries will equalise the prices of factors of production between them and lead to the **Stolper-Samuelson effect** where division of labour reduces the income of owners of scarce resources and increases revenues of owners of previously widely available resources. One example of this phenomenon is the decreasing gap between wages of workers between more and less developed countries, resulting from the abundance of human capital, and an increasing difference in wages between skilled and unskilled workers in developed countries.

The occurrence of a country's comparative advantage in different sectors does not explain intra-industry trade, i.e. simultaneous exports and imports of goods of the same type. It is a significant part of trade, particularly between developed countries. The explanation of this phenomenon is offered by the **New Trade Theory** which stresses the importance of monopolistic competition between firms as a factor that encourages them to diversify their products offered on world markets. Companies may also take into account an alternative option: increased production of undifferentiated goods. In a small market (in relation to the company's production capabilities) both of these possibilities are mutually exclusive, since a higher diversity of goods reduces the scale of production of each of them. This law, however, does not apply to the global market. By participating in international trade, companies obtain access to a very wide market, allowing them to simultaneously reap the benefits of larger production scale and to diversify their offer relative to competitors. This leads to the presence of producers from one industry in different countries and intra-industry trade between them. In this case, the effects of the international division of labour are limited because the sectoral structure of economies is not significantly affected.

The last potential cause of the international division of labour that is mentioned in literature is the process of **diffusion of innovations and product life cycle**. In this perspective, an item is produced first by an innovator in a developed country, then its production and exports are absorbed by other countries with similar levels of development. Eventually, with the standardisation and widespread use of technologies, production is transferred to developing countries. This mechanism extends the market presence of each product and allows the innovator to reap the benefits of innovation for longer than would be possible in a relatively small closed economy. This means that the product life cycle and diffusion of innovation themselves can be an incentive for the international division of labour.

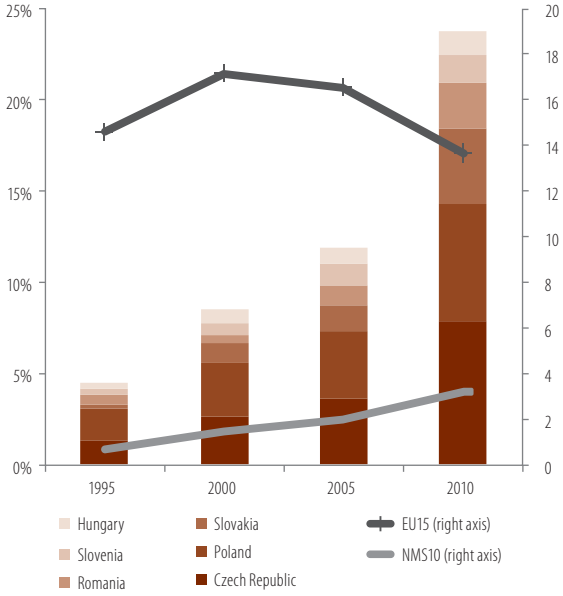
The situation in the steel industry has been different. Although here the traditional plants also had to give way to competitors from developing countries, they were replaced by more technologically advanced facilities, demanding higher levels of physical capital and more sophisticated technical solutions, yet yielding higher value added per unit. Thus, countries such as Japan, USA and Germany, and also Poland continue to occupy a high place among world exporters and producers of steel, although in other segments of this market. The volume of metal production in developed countries fell significantly in absolute terms immediately after the oil shock, but in the subsequent years it recovered in most of them. Changes in the structure of demand for steel and competition from the newly industrialised economies of the South, forced a shift to more efficient forms of production, which together with rigid demand led to a marked fall in prices and employment in this industry while the quantitative volume of production was maintained (cf. Section 1.4.3).

The automotive industry has been the least exposed to globalisation among the three analysed sectors. This applies both to the phenomenon of job cuts following changes in the international division of labour and to changes in the volume of production. Firstly, final production in the industry, especially production of passenger cars, is much more expensive to transport by sea (90 per cent of world freight) than textiles and metals. Therefore the assembly, especially of passenger cars, is made near the markets and hence in highly developed countries. Secondly, the automotive industry, for technological reasons (see Box IV.3), is characterised by a significantly higher intensity of intra-industry trade than the steel or textile industries, and cost competition has led to the adoption of the *just-in-time delivery* principle, according to which parts are delivered to the plant directly on the assembly line, depending on the current demand and production profile. The result is the relatively close location of car parts and components production as well. As a result, intensification of international trade has had limited effect on the position of this sector in the economy of developed countries.

Box IV.3. Division of labour in the automotive industry – global and regional dimension.

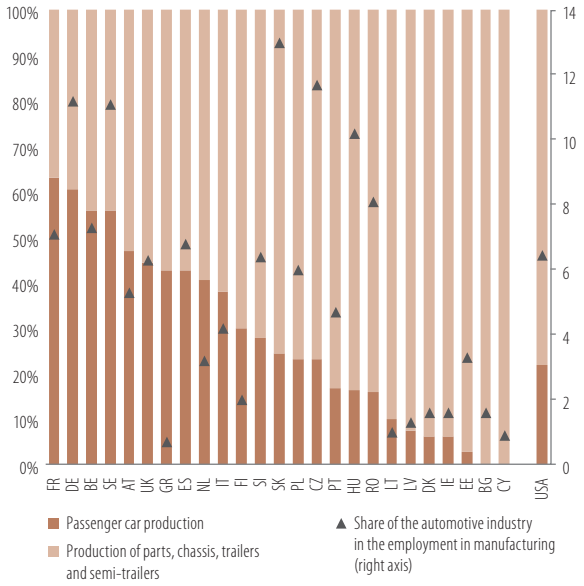
The car industry is a good example of the importance of a division into suppliers and producers of final goods for the international division of labour. In locating its assembly plants, the industry focuses on the proximity of a market, which is associated with inconvenience, risk and the high cost of wholesale long-distance transport. The parts from which the cars are assembled can be transported more easily over longer distances but automotive companies are increasingly switching to the model of *just-in-time production*, where production must quickly adapt to market demand, and inventories of finished goods and intermediates should be as small as possible to reduce storage costs and frozen capital. This model, developed by Japanese companies after World War II, increases the flexibility of firms, reduces production costs and increases return on invested capital. However, its use requires constant contact with suppliers and the timely transport of parts for assembly. Therefore car manufacturers cannot rely too much on supplies from distant parts of the world offering the cheapest intermediate goods - it could interrupt the supply chain and threaten the timeliness of production. Instead, they prefer to look for suppliers in their region.

Figure IV.7. Cars produced in the EU15 and NMS10 (in millions and per cent of EU27 production), 1995-2010.



Source: Own elaboration based on OICA data.

Figure IV.8. Employment structure in the automotive sector and its share in employment in manufacturing (per cent), 2008.



Note: Data for France, Greece, the Czech Republic, Estonia and Ireland from 2007, no data for Luxembourg and Malta.

Source: Own elaboration based on Eurostat and US BLS data.

Hence the division of labour occurs largely on a regional scale, rather than globally. This is evident in the EU where production of vehicles, historically concentrated in the wealthier Western European countries with strong demand for cars and automotive traditions, is being gradually transferred to the countries of Central and Eastern Europe. Importantly, the transfer of final production of cars is occurring much more slowly than the more labour-intensive production of components in which NMS10 countries currently specialise. Two groups of EU countries have emerged in which the automotive industry plays an important role for different reasons - demand factors in the EU15 and supply factors in NMS10. For comparison, the USA, because of its size and location, has limited possibility for the rapid transport of parts from abroad. The American automotive industry has to manufacture both car components and ready assembled vehicles.

Transferring economic activity from developed countries to emerging markets involves not only the production of goods, but also certain services. The development of the international services market has for a long time been limited by their specific properties. Intangible, perishable, requiring personal contact between the company and the customer, services could usually be exchanged between countries only by crossing the border by either party of the transaction. Hence traditionally, trade in services was based on foreign travel and to a lesser extent on opening representative offices abroad, a move which could easily be opposed by national governments and their protectionist regulations (e.g. in the financial sector, insurance, and also health). The first two waves of globalisation brought technical innovations in transport that facilitated the spread of international trade in services. Faster and cheaper transport of passengers led to the development of international exchange, in particular in those services that required the mobility of customers (tourism, business trips). The last thirty years have also seen gradual liberalisation of trade in services, following similar changes in product markets. This process culminated with the signing of the *General Agreement on Trade in Services* (GATS) during the Uruguay Round, which entered into force in 1995.

Table IV.3. Global export of services and total global exports (per cent of the global GDP), changes in the services export structure, 1976-2009.

	1976	1986	1994	2008	2009
Export of goods and services, percentage of GDP	16.9 (100)*	18.8 (111)	19.9 (117)	29.3 (172)	24.2 (143)
Export of services, percentage of GDP	3.6 (100)	4.1 (114)	5.4 (152)	7.4 (207)	6.0 (168)
Transport services and foreign travels, percentage of total exports of services	57.2	58.4	57.4	46.9	44.1

*1976=100

Source: Own elaboration based on World Bank data.

The real breakthrough for trade in services between the North and South, however, occurred as late as the third phase of globalisation, through the development of telecommunications technologies. Over the last ten or so years, this has enabled the rapid trade of information on a global scale, and abolished the geographic commitment of clients in those sectors where face-to-face contact with the receiver is not necessary. This change has been accompanied by an organisational change in companies - in order to rationalise costs, part of the business processes are increasingly being outsourced to third parties, e.g. bookkeeping, telephone customer service, and also the support of IT technology, management and market research. These two processes created the global market for business services, based on both business process outsourcing (BPO) to independent foreign entities and the creation of affiliated units overseas to provide services for the parent company (Shared Service Centres, SSC).

Table IV.4. Types of international services according to GATS.

	Client crosses the border	Client does not cross the border
Service provider crosses the border	–	commercial presence (e.g. bank branch), presence of natural persons (e.g. the travel of a consultant to a foreign client)
Service provider does not cross the border	consumption abroad (e.g. tourism)	cross-border supply (e.g. offshoring of business services)

Source: Own elaboration based on U.N. et al. (2002).

Box IV.4. Case study – Bangalore, the Indian Silicon Valley.

Bangalore is now a thriving hub for high-tech Indian economic sectors such as electronics or biotechnology, but it is best known for its position in the global IT services market. The history of the city's success in this industry shows how the poles of growth in emerging economies can effectively integrate into the global market of intangible goods.

The agglomeration's current strong scientific and R&D base began to emerge after India's independence in 1947. The new authorities decided to strategically place the military industry and the most technologically advanced sectors of the Indian economy away from the borders of the country, in a town situated in the middle of the Indian peninsula. At the same time the state supported the development of education and science in the region. As early as 1972, export incentives were first introduced for local software companies, and in the domestic market the sector was supported by government contracts and investment.

In the late 1970s, the industry was weakened by a policy of restricted access of foreign capital to the local market - large corporations such as IBM withdrew from India, and the sector's main 'export item' was not IT services but programmers who were leaving for the USA in search of work or were sent by local businesses as consultants for American companies (which became known as *body shopping*). However, a pro-export policy was continued, accompanied by considerable investment in the development of telecommunications and science and technology parks. In the 1990s, when the USA government introduced restrictions for Indian immigrants and India re-opened to FDI, the sector started to rapidly develop thanks to labour-intensive task orders with low value-added from foreign companies. The *year 2000 problem* (according to the date notation accepted in the times of first computers, 1999 was to be followed by 1900) was a turning point, as its solution required considerable labour input and was widely delegated by Western corporations to Indian companies.

Development was enhanced by the blurring of cultural differences, thanks to the large number of Indian immigrants in foreign companies. This translated into an increase in confidence in the Indian IT sector in the West. In the last decade, Bangalore has been the fastest growing IT hub in the world. Importantly, the acquisition of the experience of trading partners and foreign investments in R&D facilities have resulted in an increase in the value added in services offered by the local industry.

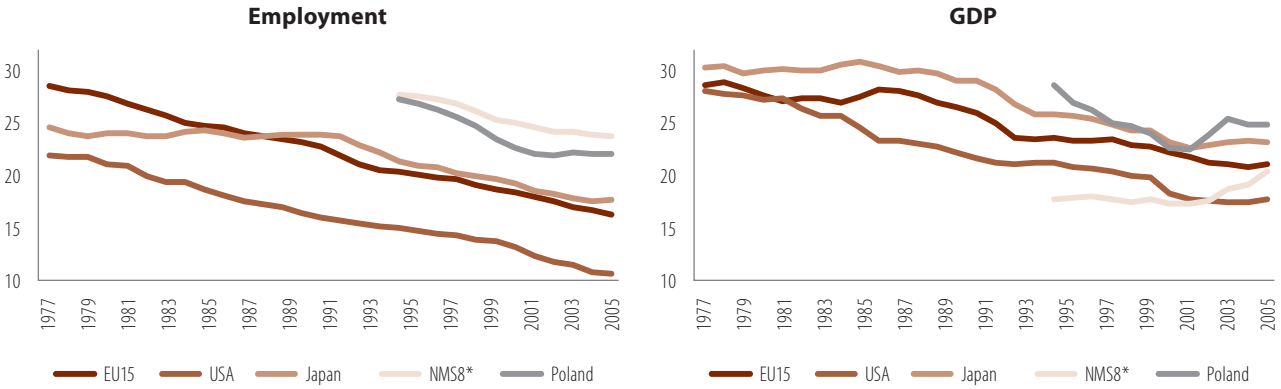
Sources: Basant (2006), Vang and Chaminade (2010).

Under the new conditions it was also possible to transfer activities not related to actual production. Countries of the South, similar to the production of goods, mainly took over simple, labour-intensive processes such as basic accounting, simple programming or telephone customer service. The size of the country played an important role - even at lower enrolment rates, a large developing country may have a similar stock of persons who are trained to work in occupations of a more developed but smaller country. A common language is another important advantage, significantly lowering barriers of cooperation with service providers from developing countries. Therefore, the largest number of offshore business service centres are located in India and the Philippines (cf. Gereffi and Fernandez-Stark, 2010) - large countries with English as an official language. They are followed by China, Mexico and Brazil, and among the countries of the North - the new EU Member States. The effects of globalisation in the business services market are felt strongest in the large cities, both in the North and South, which have become increasingly interconnected by modern technology. The fading of communication barriers has promoted development of new global centres in developing countries, such as Bangalore - an Indian centre with IT and business services - (cf. Box IV.4).

1.3. Looking for lower production costs – deindustrialisation of the North and industrialisation of the South.

Changes in the international division of labour between the North and the South have been most visible in the economic structure of both groups of countries, particularly the gradual deindustrialisation of developed countries and rapid industrialisation of emerging ones. It should be emphasised that these processes are understood here as, respectively, a reduction in the share of manufacturing in total employment in the North and its increased role in the South. It does not necessarily mean a decrease in the volume of industrial production in the North and moving factories to the countries of the South. Northern industrial companies may employ fewer workers with a greater value added per worker thanks to reorganisation and change in the structure and production profile, more efficient use of labour resources, and relying more on tangible and intellectual capital. Thus deindustrialisation has been taking place in the USA and Western Europe for at least 70 years, long before the current phase of globalisation, characterised by the expansion of industrial production in developing countries and their gradual domination of international trade in industrial goods.

Figure IV.9. Share (per cent) of industry in total employment and in GDP, 1977-2006.



* NMS10 without Bulgaria and Romania

Source: Own elaboration based on EU KLEMS data.

This means that a decline in the relative importance of manufacturing in the countries of the North has been first and foremost due to internal processes taking place in their economies, in particular between-sector differences in labour productivity growth and the implications of the income effect for household demand structure, and the structure of relative prices (cf. Box IV.5). Nevertheless, moving production to countries of the newly industrialised South has also played a notable role, although not as significant (Wood, 1995, Brady and Denniston 2006, Kollmeyer 2009). As a result of these parallel processes, developed countries not only significantly reduced the percentage of employed in manufacturing but also saw a decline in the relative importance of this sector in the creation of value added. According to various estimates, these changes have only been caused by the relocation of manufacturing from the North to the South in about 20-30 per cent.

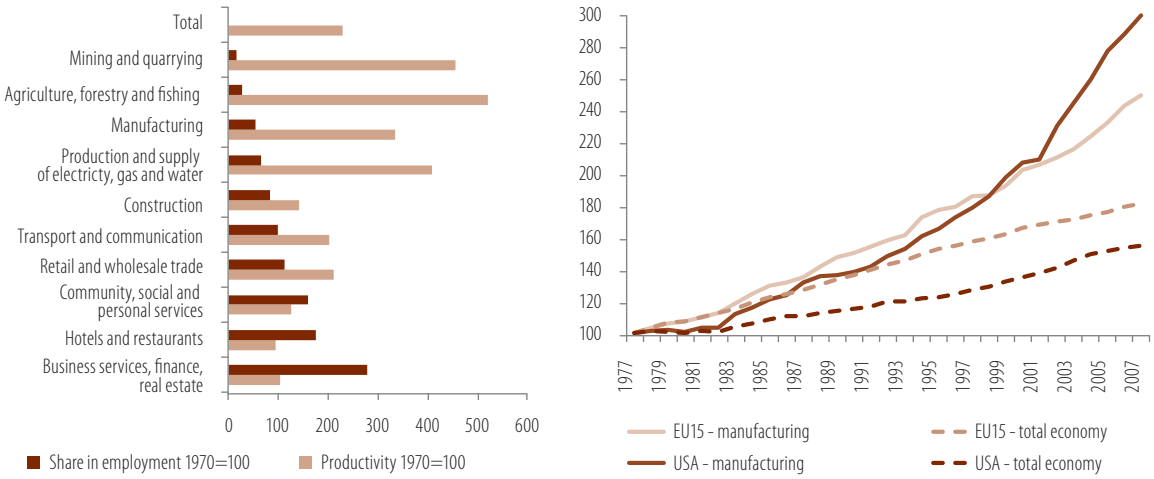
Box IV.5. Nature and causes of deindustrialisation in developed countries.

Deindustrialisation, usually referred to as a decline in the share of manufacturing in employment and output, is one of the major trends observed in developed countries in recent decades. Its causes and possible consequences are the subject of public debate and discussion in the scientific community. Despite widespread belief by the public in the critical role of international competition in this process, economists emphasise its limited impact on employment structure and wage distribution, both in theory and based on empirical data (cf. e.g. Krugman and Lawrence 1994, Krugman 1996).

Deindustrialisation in developed countries resembles a well-known phenomenon of deagrarianisation. In the 18th, 19th and 20th centuries, agriculture dramatically increased its efficiency within a relatively rigid demand from households. This resulted in a large surplus labour force which gradually moved to the emerging industrial centres. For decades, a similar trend could be observed in manufacturing. Economic literature suggests that just as deagrarianisation resulted from the concurrence of a rigid food demand and quickly rising productivity in mechanised agriculture, so the changes in employment structure in the late 20th century and clearly visible deindustrialisation have resulted from changes in manufacturing and services, and from the induced substitution effect.

As indicated by Rowthorn and Ramaswamy (1997, 1999), manufacturing has experienced a much faster productivity growth than services (see Figure IV.10). The result is that over time the relative price of industrial production decreases, while in services it increases. Consequently, manufacturing companies needed fewer and fewer unskilled workers to obtain a given volume of production. Lower prices stimulate demand for industrial goods from services workers, but their production requires much less labour input than in the past. The latter effect prevails, and thus a rapid increase in productivity translates into a shift in labour demand from industry to services. Rowthorn and Ramaswamy estimate that approximately 60% of the drop in the share of manufacturing in total employment in the USA in 1970-1994 can be explained by the influence of the particularly fast-growing productivity in this sector. At the same time, the long-term trend of economic growth in the whole country was shaped by services, a sector with the slowest productivity increase.

Figure IV.10. Changes in productivity and share in employment by sector in the EU15 (left panel) and comparison with changes in the USA (right panel), 1970-2007 (1970=100).



Note: Productivity measured as the volume of value added per hour worked.
Source: Own elaboration based on EU KLEMS data.

Both the processes of deagrarianisation and deindustrialisation are significantly influenced by income and its implications for changes in the demand structure. Income elasticity of industrial goods is less than one, which means that income growth by one per cent results in a relatively smaller increase in demand for industrial goods. In turn, the income elasticity of food is close to zero, and hence the demand is in principle independent of household income. Both these elasticities are different from the income elasticity of services, which is close to one (cf. Falvey and Gemmell 1996). This means that with the increasing prosperity of nations, the share of industrial goods in the consumer basket first grows at the expense of agricultural production, and then falls in relation to services (Clark 1957, Krugman and Lawrence 1993). Kollmeyer (2009), analysing the parallel impact of changes in productivity, income effects and globalisation on deindustrialisation, concluded that an increase in wealth together with uneven productivity growth are responsible for more than half of the employment decline in American manufacturing after 1970, while for trade - a quarter. Besides the aforementioned economic phenomena, some observed effects have been mainly statistical. Firstly, the change in relative prices translates into a decreased share of manufacturing in output calculated in current prices. Calculations based on constant prices indicate a significantly lower decline of manufacturing in real GDP (Rowthorn and Ramaswamy 1997). Statistical effects also occur due to changes in the organisation of a modern enterprise, which manifests in the increased use of external services (outsourcing).

Wood (1995) argues that with the emergence of the less developed countries in the global marketplace, the richer countries of the North began to specialise in industries that required highly skilled workers. In this way they used their Ricardian comparative advantage resulting from their relatively high supply of human capital and its scarcity in the South. According to Wood, capital requirements played a secondary role in the choice of specialisation, as physical capital has a much greater international mobility than human capital - factories can be built within a few years, and what limits profitability of such investments is only local infrastructure. It is much more difficult to cope with a lack of staff with appropriate qualifications. For this reason, the South launched its presence in the global economy through the development of sectors that do not require high human capital, are highly labour intensive and often low capital intensive, while at the same time the rich countries of the North opted for manufacturing that required fewer but better skilled employees. The substitution of domestic production with foreign trade was enhanced by the liberalisation in the international movement of goods and lower tariff barriers achieved during the rounds of international negotiations under the auspices of GATT and the WTO.

According to Wood's estimates, the division of labour induced by the differences in human capital between the North and South resulted in a 20 per cent decline in demand for unskilled labour in developed countries in 1960-1990. In contrast, Sachs and Shatz (1994) argue that the rise of American trade with developing countries (from 29 per cent of imports in 1979 to 36.4 per cent in 1990), in particular importation of industrial goods from countries with cheap labour, caused a smaller employment decrease in American manufacturing - by 7.2 per cent for jobs in production, and only by 2.1% in non-production jobs that typically required higher qualifications than the former. This shows that globalisation processes affected industrial employment in the countries of the North and also widened gaps in income of high- and low-skilled, as most eliminated jobs in manufacturing belonged to relatively low-skilled workers.

Box IV.6. Chinese economy – ports as the window to the world.

Under Deng Xiaoping's reforms of the late 1970s and 1980s, opening of the People's Republic of China to the world started in isolated areas. Since the beginning, their location was based on access to international transport routes in order to facilitate international trade and foreign direct investment. In 1980, the first four Special Economic Zones were established in coastal areas. Also the next centres were started by the Pacific ocean (fourteen coastal cities, three deltas, the island of Hainan) or had otherwise improved access to foreign markets (ports on the Yangtze River, border cities). Currently, coastal regions are home to the main export industries in China, such as manufacturing of electronics, textiles and clothing. They have a lower concentration of metallurgy and petrochemical industries which are also present further inland and whose production is directed mainly to the domestic market (He 2009). The regions bordering the Pacific Ocean are characterised by a faster growth rate than the rest of the country and attract massive waves of migrants from low-globalised, agricultural western areas of the PRC (Huang, Luo, 2009).

Sources: He (2009); Huang, Luo (2009).

Differences in the nature of the industrialisation of the North and South are reflected in its different effects on individual regions. During the wave of industrialisation in the 19th century, industrial centres were oriented to meet the needs of local markets, and exports were less important. Hence international trade was also relatively insignificant - newly industrialised countries were then the richest and fastest-growing economies, and in addition, all of them had protectionist policies where import was to be substituted by local production. Focus on local markets influenced the location of the old industrial centres of the North - mostly in the central areas of individual countries, close to local transport routes (e.g. Ruhr in Germany, the Rust Belt in the USA – cf. section IV.1.4).

Industrialisation of the emerging economies of the South at the turn of the 20th and 21st centuries occurred in a completely different manner, under conditions of increasingly intense international trade and incomparably greater absorption of the global market in relation to domestic markets. The location of new industrial centres was caused by exports to the North - industrialisation of the South involved mainly coastal areas which, thanks to access to maritime transport which is less and less expensive over time, have much better access to global markets than locations further inland. That is why these areas are the focus of the export-oriented policy adopted by many countries of the South, particularly in Southeast Asia. That is also the way the Chinese economy was opened to the world –the most developed areas are located near the Chinese coast (see Box IV.6).

Box IV.7. Free trade and combating global warming – will carbon leakage result in the next wave of deindustrialisation in the North?

The transfer of manufacturing from developed to developing countries is significantly associated with the commitment of the North to fight global climate change by reducing greenhouse gas emissions. The main tools used for this purpose - emissions taxes and the emissions trading system (e.g. EU ETS) - when not applied by all the participants of the global market, may cause the risk of a so-called carbon leakage. It involves the transfer of manufacturing to countries where emissions are less subject to control and are taxed at lower rates, or not at all. This results in a double inefficiency. First, an increase in carbon dioxide emissions in countries not covered by this policy means that the actual reduction of greenhouse gas emissions on a global scale is smaller than in countries which have introduced a climate policy - the scale of this effect is estimated at ten or so per cent of reduction (cf. Paltsev 2001, Sijm et al. 2004, IPCC 2007), although some estimates show double-digit carbon leakage (Aichele and Felbermayr 2010), and even increased emissions in certain sectors (Babiker 2004). Second, the competitiveness of manufacturers becomes affected by the climate change policy - their goods are being replaced by cheaper imports from countries whose companies do not have to internalise the negative externalities of their activities. This refers mostly to energy-intensive sectors and those emitting large amounts of carbon dioxide – electricity supply, chemicals, heavy industry, and paper production.

The most effective solution to this problem would be to include all countries in a uniform system of taxation or emissions trading (see EC 2010, WTO / UNEP 2009), but in practice this would require a long negotiation process and has little chance of success in the short-term. Therefore, a number of alternative ways can be applied to reduce the outflow of high-emissions industries. The first is to exclude them all from the carbon tax, and in the case of emissions trading provide the most vulnerable sectors with free quotas. This solution, however, reduces the incentive to reduce emissions. A second possibility is to adjust the prices of goods in the country that implements a climate policy by imposing an additional tax on imports, and a tax refund or return of costs of participation in the *cap and trade* system for exports (known as Border Tax Adjustment, BTA). This solution, consistent with the principle of taxation of goods in the country of consumption and taxation of the producer in the country of production, helps to solve several problems. It reduces the outflow of emissions abroad, serves as a stimulus for the introduction of similar regulations in other countries, but also prevents the carbon leakage and the resultant negative phenomena in the labour market - lower employment and higher unemployment. A similar effect can be obtained by the inclusion of foreign exporters to the national *cap and trade* systems. However, there are practical problems with the introduction of the BTA, requiring careful control of emissions of plants outside the country (EC 2010a). There is also the difficulty with adapting BTA to WTO requirements.

The principles of the World Trade Organization, evident in the GATT, include the equal treatment of trade partners (a most favoured nation clause) and foreign goods in relation to similar national companies or products in the local domestic market (non-discrimination and equal treatment). Hence, the introduction of BTA by developed countries faces several important problems in terms of compliance with these WTO requirements (cf. Charnowitz 2003, Pauwelyn 2007; Horn Mavroidis 2010). The first of these is whether the taxes concerning the production process are indirect taxes and can be transferred to the imported goods and deducted from exported goods, in accordance with the GATT, or whether they are direct taxes imposed on producers - and in this case the use of BTA would be unacceptable. The second problem is whether the emissions trading scheme is a form of tax or another form of regulation. Only in the first case can BTA be used, though even then it is harder to determine the level that would discriminate against imported goods than in the case of ordinary tax on emissions. It should be noted that Article 20 of GATT provides a number of cases where countries do not have to adhere to these principles - this includes the protection of human health and conservation of fauna and flora and non-renewable natural resources - but they must prove that the adopted solutions are used in good faith and there is no alternative among the standard actions, which entails a complicated procedure (cf. Low and Marceu 2011). WTO promotes activities that enhance both the fight against global warming and trade liberalisation, e.g. facilitation of trade in *green technologies* that limit emissions (WTO/UNEP 2009).

Due to the above-mentioned difficulties with the introduction of BTA and slow progress in international negotiations on global harmonisation of climate policy, the EU currently prefers to provide vulnerable sectors with emission allowances. However, it is only a temporary solution and in the future it is considering including non-EU manufacturers of imported goods into the ETS (European Commission 2010a).

The European equivalent of the export-oriented policy of Asian countries can be seen in processes occurring between Western Europe and Central and Eastern European countries that have had to overcome many years of underdevelopment. Central European countries that are located close to the EU15 - Poland, the Czech Republic, Slovakia and Hungary - and the coastal Baltic republics, have engaged in intense trade with richer parts of the continent of Europe much faster and more deeply than Eastern European countries - Bulgaria, Romania, Ukraine, Belarus. Hence a developmental gradient running from the West to the East translates into a similar pattern of economic integration. However, thanks to the relatively smaller size of Europe, integration of the NMS into the economic bloodstream may take place by land. The areas which, due to their location and the existence of railways, highways and airports, are well connected to the rest of the continent have a natural advantage in relation to those that are located further away from the industrial core of Europe and do not have an infrastructure that allows overcoming geographical barriers.

1.4. Local effects of deindustrialisation – American and German experiences

1.4.1. Introduction

The effects of globalisation are particularly strongly felt at the local level, when industries that are dominant in the regional economy begin to experience strong competition from abroad in a short time. This can happen for example because of the opening of national economies to international trade or as the result of serious macroeconomic imbalances on a global scale (such as oil shocks, financial and currency crises), or significantly changing sectoral *terms-of-trade*. Companies in industries at risk may, in response to the emergence of a shock, either ask for the protection of the existing *status quo* from the government, or implement technological and organisational changes to allow them to compete effectively with foreign countries. The latter usually involves the restructuring of employment at the expense of less-skilled workers, from the increasing of mechanisation of the production process and accelerating de-industrialisation.

The impact of deindustrialisation processes on the local labour market depend on the nature of the regional economy and intensity of labour market changes in external shocks. If there are no alternative engines of growth and it is difficult to form them, local effects may not only be serious but long-lasting. For example, a transition from labour-intensive manufacturing to development based on high technologies requires profound changes in the employment structure and in the competencies of workers, the existence of thriving research centres and their partnership with the business sector. In this chapter we show that the creation and effective use of 'innovation bases' in industrialised areas takes many years. In addition, there are no guarantees that the newly created potential of the local economy will be comparable with the potential lost due to changes in the international division of labour and the technological change. This means that a return to employment levels and wages before deindustrialisation may not be possible even with a successful transition to a sustainable post-industrial economy.

Technological restructuring and relocation of industries in response to new global processes has happened in the old industrial centres in North America and Europe, such as the so-called Rust Belt in the USA, the Ruhr in Germany or the Midlands in the UK. The global oil crisis of the mid-1970s proved to be a turning point for these areas. It revealed their structural problems: depletion of local sources of raw materials, excessive reliance on a few sectors of energy-intensive heavy industry and engineering, and non-competitive hiring and pay systems. These problems were accumulating in the 1960s, but thanks to the exceptionally good times, especially in the countries of the North, Western companies did not receive sufficient incentives for the modernisation of labour-intensive forms of production, and trade unions put pressure on employers to maintain employment, high wages and social guarantees. The oil crisis, changing relative prices of fossil fuels, energy, labour and capital, forced technological and organisational restructuring, resulting in pressure to move the most material and labour-intensive forms of production abroad. It also created a challenge for the traditional industrial centres to adapt quickly to the sudden change in the structure of the local economy, especially prominent in the labour market.

1.4.2. Transformations in the North American 'Rust Belt'

The Rust Belt is an area in the northeast of the United States which for most of its 150-year history has been characterised by an extremely high concentration of heavy and automotive industries in the local economy. This region has been particularly hard hit by deindustrialisation which began in the 1970s. Depletion of easily accessible coal deposits in the region, the stagnation in demand for steel and the negative consequences of the global oil shocks for the automotive industry, forced the local industrial companies to give up their dominant model of business from relatively simple, labour-intensive manufacturing to the production of fewer but more technically advanced products, which required the use of more capital-intensive technology solutions and, consequently, mass redundancies of workers. The changes were accelerated by competition from Japanese steel and automobile companies, which even before the 1970s crisis had started to use less labour-intensive and more efficient production models (Lieberman and Johnson 1999). Additionally, in the late 1960s and 1970s American companies in the Rust Belt had become increasingly exposed to competition from European companies which had had to rebuild their industrial infrastructure after World War II and hence had much more modern production plants.

The reasons for restructuring the major industries of the Rust Belt – the automotive industry and steel production – were similar in the 1970s, but their paths started to significantly differ over the next forty years. On one hand, this resulted from the different exposure of both sectors to competition from foreign producers, and on the other, from the different actions of US authorities and the steel and automotive corporations taken in response to the need for restructuring. In the following chapter we describe these differences and show how the Rust Belt deindustrialisation was associated with location choices.

The American steel industry in the 1970s was based on large steel mills which had been modernised less frequently than in Western Europe and Japan. The mills were late to adopt European efficient technologies of oxygen conversion, and slow to switch to continuous casting which facilitated the automation of production. The boom of the 1950s and 1960s in the internal market and the growing demand for steel from major customers - the automotive and construction industries - meant that despite the outdated technology, American steel companies fared well in the domestic market. But in the 1970s and 1980s a series of so-called 'steel crises' completely transformed the sector's structure. These crises began with a global oil shock which caused a strong decrease in demand for energy-intensive cars with a large number of steel elements. As a result, the demand for steel significantly decreased. A prolonged period of recession in the late 1970s and 1980s confirmed that the stagnation of demand in the West was permanent and had exhausted the resources of large steel conglomerates which initially counted on a reversal of the trend and a return to rapid growth in demand for their products.

Table IV.5. States of the Rust Belt – share of sectors in employment, 1970 and 2008 (per cent).

1970	Total industry	Manufacturing		
		Total	Basic metals	Transport vehicles
Indiana	43.06	35.87	5.13	5.53
Michigan	42.54	35.92	2.29	13.95
Ohio	42.69	35.62	3.90	4.00
Pennsylvania	42.10	3.12	5.10	1.91
USA	34.39	5.91	1.58	2.79

2008	Total industry	Manufacturing		
		Total	Basic metals	Transport vehicles
Indiana	25.62	19.99	0.10	4.80
Michigan	19.58	15.4	0.61	4.23
Ohio	20.87	15.71	1.00	2.63
Pennsylvania	18.12	12.21	0.79	0.5
USA	17.71	10.83	0.36	1.26

Note: The Rust Belt also covers areas in the states of Illinois, Kentucky, New York, Western Wisconsin, but these are so small that for aggregation and presentation purposes, we will include only the four states mentioned in the table which have the most characteristic employment structure and dynamics for industrial centres.

Source: Own elaboration based on US Census Bureau data.

In response to inefficiencies in the traditional integrated steel industry exposed by the oil crisis, small highly automated mills began to form in the US market (so-called *minimills*) using electrical processes for steel production primarily from recyclables (Ahlbrandt et al. 1996). They were characterised by low starting costs for production and the possibility of a temporary pause (in contrast to the old mills), so they could quickly adapt to changing demand. Over time, technological advances allowed new steel mills to produce steel with high quality, and better adapted to the changing needs of customers, primarily from the automotive industry, which increasingly often used new materials and production techniques to differentiate their offer and to adapt to rising prices of raw materials. At the same time large integrated steel mills were being closed - hence the sector not only experienced a quantitative change (a decrease in the number of firms and workers) due to the lower demand for steel, but also a qualitative change, due to changes in the demand structure.

Competition from Japanese producers played an important role in transforming the American steel industry. Thanks to the development of maritime transport, Japan could develop iron milling without an adequate resource base and also export its production to other countries, primarily the United States. Exports of steel from Japan to the USA increased abruptly during the oil crises because American customers chose cheaper and more modern foreign material, better adapted to their changing needs. In the 1980s, after the US government forced Japan to restrict its exports, Japanese companies began to invest in steel production in the USA. This process indirectly forced technological change by market competition and directly affected the structure of the American industry.

Japanese companies took over some failing steel conglomerates and created new small plants that became part of the supply chain of the Japanese assembly plants constructed in the USA, thus bypassing trade restrictions. Requirements of *just-in-time manufacturing* meant that flexible *minimills* were winning the competition with rigid integrated steelworks. The new plants used existing local resources more efficiently, and in a manner more adapted to the new economic situation.

Figure IV.11. Steel production (in tonnes) in the USA, Germany, Japan and Poland, 1970 = 100.

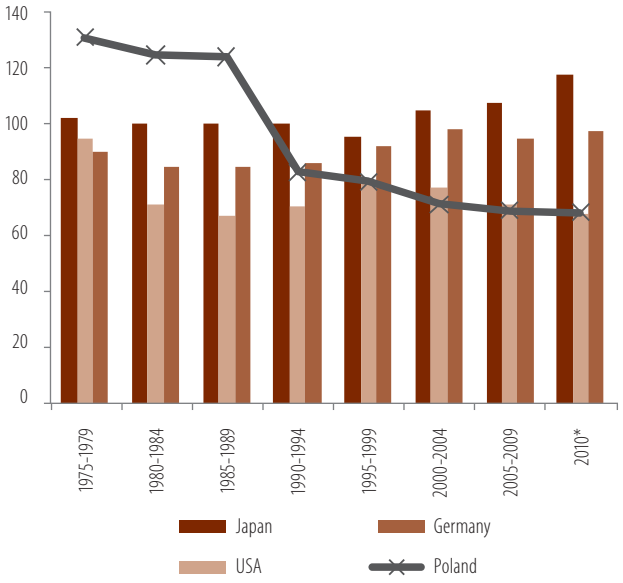
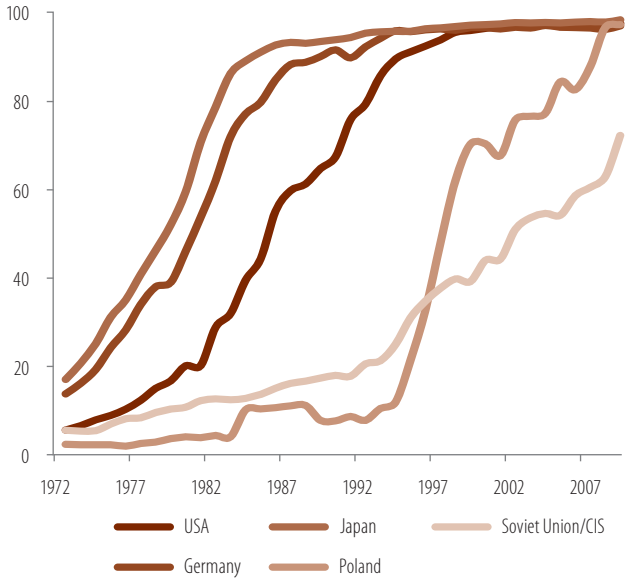
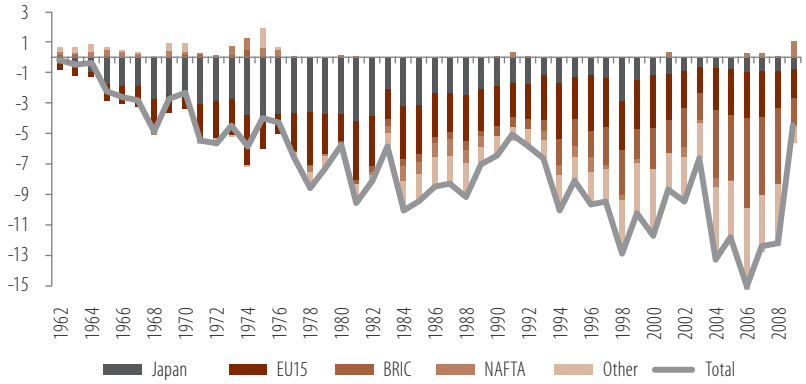


Figure IV.12. Use of continuous casting in steel production (per cent).



Source: Own elaboration based on the World Steel Association data.

Figure IV.13. Balance in steel trade in the USA by country of origin (billion USD in 2005).



Note: Calculations of constant prices used the US BLS steel price index.
Source: Own elaboration based on UN Comtrade and US BLS.

By broadening the resource base with secondary raw materials, the companies could leave the previous centres, not having to use their resources anymore. This resulted in a de-concentration of steel production, and local markets that were rich in iron ore lost a significant part of their traditional advantage of location, which until then caused the strong presence of heavy industry. The local labour markets were significantly affected by the change in the employment structure of the steel industry. Jobs created by new plants significantly differed from those offered by the old mills as they required higher qualifications to operate machinery used in the production process. At the same time, due to increased efficiency, the steel industry as a whole began to employ far fewer workers. The change in the organisation of the steel industry was most felt in cities which had historically developed around large steel mills, such as Pittsburgh (see Box IV.8).

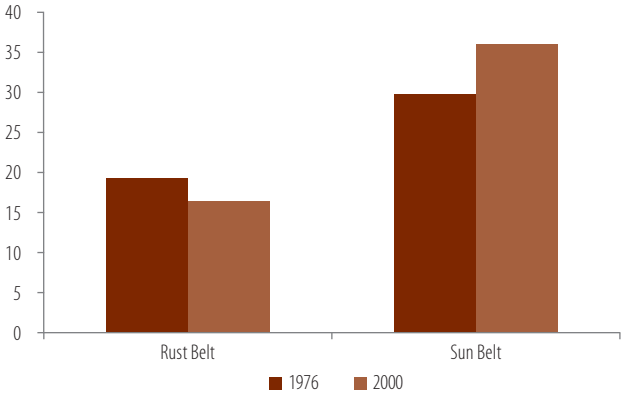
Old plants quickly disappeared due to bankruptcy and reorganisation of American conglomerates. The new mills, smaller and often based on the reuse of scrap, no longer had to concentrate in a few selected centres, and did not employ enough staff to remain the major employers in the region. In addition, this process proceeded rapidly - the fastest decline in the industry took place after the recession in 1981-1982 when steel conglomerates, weakened by previous crises and standing on the verge of bankruptcy, closed many plants and fired many employees. Local labour markets lost an important category of employer in only a few years and therefore had to cope with a sudden increase in unemployment of low-skilled workers who could not find work in their industry.

Table IV.6. Share of flows between the Rust and Sun Belts in migrations outside a given region, 1970-2000 (per cent).

	Actual	Conserving spatial distribution of population from 1970	Gap (per cent)
Flows from Rust Belt to Sun Belt	50.15	34.56	31.02
Flows from Sun Belt to Rust Belt	14.42	25.08	-73.92

Source: Own calculations based on US Census Bureau data and US LBS.

Figure IV.14. Share of Rust and Sun Belts in the economically active population in the USA (per cent), 1976 and 2000.



The adjustment of labour markets, however, occurred rather quickly in a manner characteristic for the US economy due to changes in flows of population. As shown by Feyrer, Sacerdote and Stern (2007), in large part this adjustment consisted of a reduction of inflows to the affected areas. Given the mobility of Americans (about 20-25 per cent of the population of metropolitan areas were exchanged every 5 years due to migration flows in the 1970s and 1980s), this resulted in a significant change in the structure of the local population and labour force. Reversing the direction of population flows was of key importance for demographic changes in the United States after 1980 - the main flows of migration, so far directed toward the Rust Belt, began to gravitate toward the so-called Sun Belt after the economic crisis in the region, i.e. Southern States and California, which in the 1980s had begun to emerge as the economic centres of the United States. Migration from the Rust Belt to the Sun Belt, one-third higher than the levels resulting from the spatial distribution of the population in 1970, significantly changed the stock of economically active populations in both regions. The repulsive force of the Rust Belt was greater than the attraction exerted by the Sun Belt - flows from the Sun Belt were three-quarters lower than the potential level resulting from the distribution of population before the oil crises.

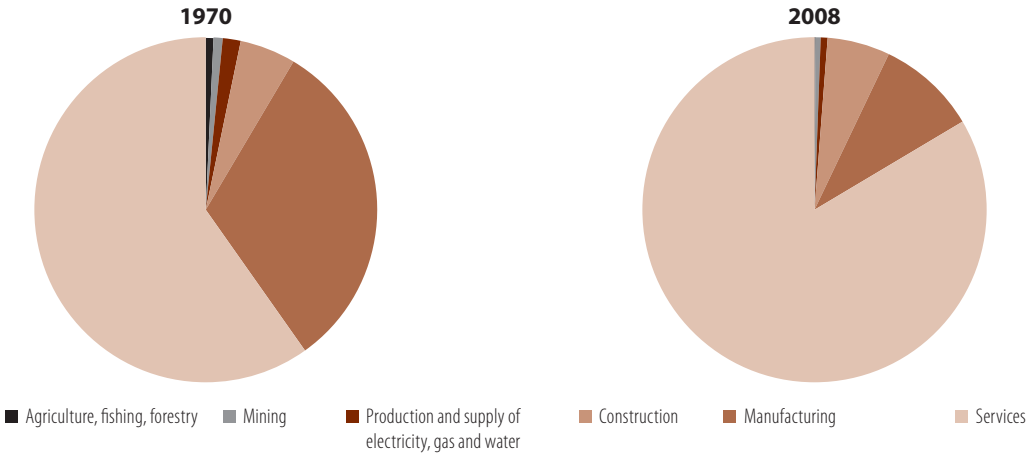
In the case of large cities, outflows in 1980-1985 (not covered by US Census) could have been an important source of changes in labour stocks. A reduction in inflow to areas experiencing deep restructuring of industries occurs rather in the medium-term, reflecting adaptation to the changing potential of the region, while the mass redundancies occur in short-term. This is confirmed by the Pittsburgh case. At the height of the lay-offs which occurred between 1980-1986, employment in industry decreased by 120 thousand, a decline of 43 per cent. Half of the job losses occurred in the steel industry. This affected flows of the population - the city's population decreased by 50 thousand people a year, or about 2.5 per cent. The unemployment rate returned to the national average after the initial shock, which shows that the characteristic high mobility of the US population successfully stabilised the situation in the local labour market. Restructuring of the local economy by increasing employment in the services sector did not give such a result in the short term, as in the 1980s this increase was slower than the average in the US (Deitrick 1999). Thus, migration helped to solve the short-term problem in the local labour markets, while the long-term economic development of cities and hence levels of employment and wages depended on success in restructuring local economies (see Box IV.8).

The automotive industry was another American sector that was strongly affected by the consequences of the global oil crisis in the mid-1970s. In that period the industry was dominated by domestic producers, the so-called Big Three - General Motors, Ford and Chrysler, whose plants were located in major industrial centres of the Rust Belt. In contrast to the production of steel, technology and organisation of production in the automotive industry were not conducive to the fast emergence of new local producers of final goods, which in turn could have created new hub for the production of components and spare parts. The only possibility of the emergence of new companies in the sector was the expansion of foreign companies in the US market by building their assembly plants and manufacturing facilities in the US This process had serious consequences for the location of automotive manufacturing in the United States and the Rust Belt in particular.

Box IV.8. Case study: Pittsburgh – a reborn Steel City.

Pittsburgh is a notable case in the entire Rust Belt. Known as the 'Steel City', it owes its rise and fall, and finally a recent recovery, to technological changes which in the 19th century influenced the entire USA, in the 20th century - all capitalist countries, and nowadays - the whole globalised economic system. The history of Pittsburgh as an important centre in the steel industry began in the late 19th century, when the process of steel production became greatly simplified thanks to new inventions. Located near the largest coal deposits in America, with vast resources of cheap labour and lying on the transport routes of the Great Lakes region, Pittsburgh attracted large steel plants. Heavy industry became the basis for its economic growth in the 19th and early 20th centuries, until a series of crises in the 1970s and 1980s shook the local economy.

Figure IV.15. Employment structure (per cent) in the Pittsburgh metropolitan area, 1970 and 2008.



Note: Estimated values for agriculture, fishing and forestry in 2008 due to low numbers

Source: Own elaboration based on US Census Bureau data (1970 – Census in 1970 from the NHGIS database, 2008 - County Business Patterns)

The transformation of Pittsburgh in recent decades is an example of a successful, albeit long-term restructuring effort of local communities and regional authorities. When the oil crisis came, the city had already had some experience in implementing programs based on public-private partnership. Thanks to the *Renaissance I* program of post-war decades, the city managed to improve the standard of living, reduce pollution and revitalise neglected neighbourhoods. The first reaction of the local authorities to the collapse of the steel industry was the launch of the *Renaissance II*, which involved not only the city and state authorities, but also representatives of local communities and businesses and non-profit organisations. Similar to the previous initiative, the program aimed to make the urban space more attractive through the development of a cultural infrastructure, transport and the creation of a modern business centre. This was meant to modernise and diversify the local economy and improve the quality of life. But the real breakthrough occurred in 1985, with the launch of a cooperation with two local universities (one specialising in computer science, the other - in biotechnology) in order to use modern technologies in the local economy (*Strategy 21*). It proved to be an effective way to change the local economic structure and lead a transition to a post-industrial phase of development. Currently, the health sector and education drive development in the region, attracting research centres of high-tech companies. The University of Pittsburgh Medical Center, separated from the university in the 1980s, is now the largest employer in the city. It is now an $8 billion-worth leading American health care provider.

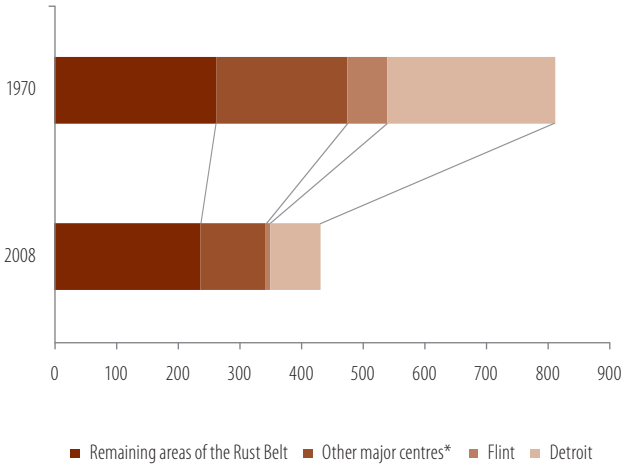
Until the 1970s, the two most important elements of the production chain - production of parts and assembly of finished vehicles - were located in different places. The process of assembling cars in those days was relatively simple, and the individual models were structurally very similar so that one plant could produce several models of cars. This allowed the cheap assembly of the entire line of cars near densely populated cities on the coasts of the United States. Spare parts and automobile components were produced in the Rust Belt - in the central part of the continent between the coasts, at the intersection of transportation routes, near steel mills which offered a key raw material for the industry. It was a solution in line with the neoclassical theory (see Box IV.9) - minimising the costs of delivery to large populations of consumers, as it was cheaper to transport parts rather than steel and finished cars. In addition, suppliers gained the benefits of agglomeration effects. The oil crisis and the progressive development of technology forced corporations to extend and diversify their offer. This meant that the production of several models of the brand in one place became much more difficult. The companies began to build factories that produced only one model of car, which was then shipped to customers throughout the country. Economies of scale in this case outweighed the cost of transport. Assembly plants on the coasts were closed, and, as in the case of production of components, assembling plants were moved to areas located in the hinterland - the Rust Belt and further south, in a strip between highways 65 and 75, important transport arteries. The location of car factories near parts manufacturers was also dictated by the implementation of the aforementioned principle of *just-in-time*, which requires security and timeliness of deliveries to a degree far greater than the traditional model of production.

Box IV.9. Location of production in economic theory.

Economics explains the location decisions of companies from several perspectives. The **Neoclassical theory** is focused on the description of companies making rational optimal decisions based on full information about the spatial variation. In this perspective, minimising the costs of transport of raw materials and intermediate products from suppliers and finished products to customers is crucial for the choice of location. **Behavioural theory** suggests the limited rationality of managers, resulting from incomplete access to information and conflicts between objectives of individual decision makers. In the **structural approach** individual decisions of firms are analysed through the light of the environment in which they operate. It includes, among others, competition and cooperation with other companies in the industry, implementation of innovation, restructuring processes, and globalisation.

The local labour markets of the Rust Belt, dependent on the automotive industry, were affected by globalisation not only indirectly by forcing US manufacturers to adjust their organisation of production, but also directly. Major foreign competitors of US manufacturers, Japanese companies, began to build their own manufacturing plants in the USA. It was connected with the negative attitude of USA authorities towards the import of Japanese car components (which according to the administration was crowding domestic producers out of the market) and difficulties with transportation of finished vehicles by sea. The activity of Japanese companies intensified especially after the oil crisis in 1970s, which showed the relative weakness of the Big Three against the Japanese corporations. Japanese cars were in fact cheaper and more energy efficient and thus more attractive to end customers. Japan initially applied voluntary export restrictions, in order to avoid more stringent restrictions on trade from the USA, but in order to continue expansion Japanese companies decided to build their own factories in the United States. They were usually set in other places than American factories. Although similar to Americans the Japanese preferred to concentrate production in the central parts of the USA, the choice of specific locations was different (Rubenstein 1992).

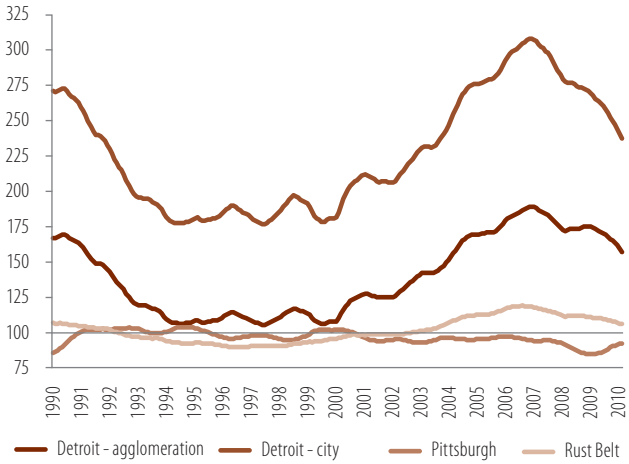
Figure IV.16. Employed in automotive industry by centre, 1970 and 2008 (thousands).



Notes: * - centres in which the automotive industry in 1970 employed over 10 thousand employees, Rust Belt - states of Michigan, Ohio, Indiana, Pennsylvania excluding Philadelphia metropolitan area; the wider metropolitan area in 2008 for Detroit.

Source: Own calculations based on US Census Bureau (1970 - 1970 Census from the NHGIS database, 2008 - County Business Patterns).

Figure IV.17. Proportion between the unemployment rate in the Rust Belt, Detroit and Pittsburgh and unemployment rate in the USA, 1990-2010 (USA = 100).



Source: Own elaboration based on US LBS data.

Instead of choosing the traditional centres of the automotive industry, the Japanese began to build their factories in the smaller towns of the Rust Belt and the South which were well connected with the old centres by highways 65 and 75. Japanese manufacturers could then benefit from the absence of strong trade unions and labour movement traditions in small towns, as well as the positive attitude of local authorities to large investors. At the same time they were near existing resources and logistics bases. Moving from the traditional automotive centres was additionally reinforced by the fact that the Japanese car manufacturers often convinced their national contractors to also open plants in America to be able to reproduce the already developed production process in the new site. They were less interested in cooperation with American subcontractors who already had problems with adapting the quality of production and their work organisation to the requirements of Japanese companies. A similar location strategy was applied by other foreign corporations (Korean and European) which have appeared in America in recent decades. Localisation changes in the US automotive industry over the past 40 years were thus due to economic factors associated with changing transportation costs, behavioural aspects manifest in relations between the Big Three executives and the trade unions, and structural transformation – changes in the environment of the industry as a result of globalisation and the emergence of foreign competitors in local markets.

Effects of low inflow of new investors to the traditional centres and slow localisation changes made by American manufacturers, who also confined their investments there, translated into a significant de-concentration of automotive manufacturing in the US This had a significant impact on local economies, particularly on employment. As Figure IV.16 shows, a reduction in employment in the automotive industry mostly hit the cities of Detroit and Flint, the largest centres before the oil shocks. In Flint the production of cars and parts virtually disappeared as a base for the local economy. Detroit also lost the most jobs in the sector, despite maintaining position as the largest centre of the automotive industry in the region. A similar process, albeit on a smaller scale, took place in the other major automotive centres of the region. However, in the case of smaller centres employing several thousand workers, job cuts were much smaller, and their share in employment in the region markedly increased. From the local perspective, the process of decentralisation of the American automotive industry had two main effects. Cities saw the collapse of their development model based on the large concentration of car manufacturers and their suppliers. On the other hand, it was a major impetus for development in smaller towns where the new factories opened. However, due to the weaker negotiating position of local workers, they could not expect such a level of wages and social guarantees as in the old centres of the industry.

Technological changes in the organisation of production and investments of foreign competitors led to significant transformations in industrial relations in the USA, including the weakening of the traditional role of trade unions (*cf. Employment in Poland 2009 - Entrepreneurship for jobs* (IBS/CRZL 2011)). At the same time local authorities, competing to attract new investors, had to offer the best tax incentives, so finally local budgets did not benefit from the presence of the automotive industry as much as before the de-concentration.

Box IV.10. Case study: Detroit – the fall of the Motor City.

Detroit is the capital of the US automotive industry, with the headquarters of all the companies of the Big Three - Ford, General Motors and Chrysler. They have been present in the city since the beginning of the 20th century, when the US automotive industry began to develop. Until the 1950s, the city grew rapidly, driven by the development of car factories and their subcontractors, and during the war - also by the orders of the US Army (it was then called *the Arsenal of Democracy*). The beginnings of globalisation in the post-war period were beneficial for the city because of the expansion of US corporations abroad. The 1950s and 1960s saw a boom in the US automotive industry, but even then industrial production began to move to the suburbs of Detroit, attracted by cheap land and a burgeoning transportation infrastructure. It was also the time that revealed problems with the situation of African Americans who were not able to find well paid work outside closed factories due to their relatively low qualifications. The unemployed remained in the increasingly poor city districts where real estate prices were lower and the range of social welfare was higher than in the suburbs. As a result, the city experienced serious socio-economic problems even before the arrival of foreign competitors. Tensions resulted in numerous riots, which successfully deterred potential new residents and investors. The relatively high level of unionisation - still characteristic for the city - was another adverse factor for new investments in Detroit. (see Figure IV.18). The United Auto Workers, the trade union of workers in the automotive industry, played a key role. Strict rules of remuneration and social benefits, negotiated by the UAW during the boom of the 1950s and 1960s, were championed by trade unionists even after market conditions changed and thus reduced the competitiveness of plants in Detroit in relation to the newly established factories in weakly unionised areas. It also discouraged investment in the city, perceived as a bastion of syndicalism.

Figure IV.18. Unionised workers in Detroit, Pittsburgh and USA in 1986 and 2004 (per cent of the total employed).

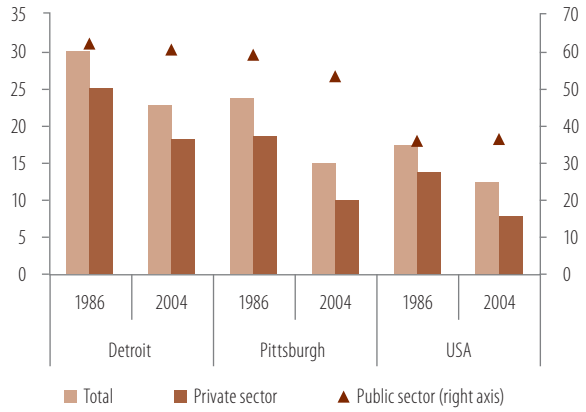
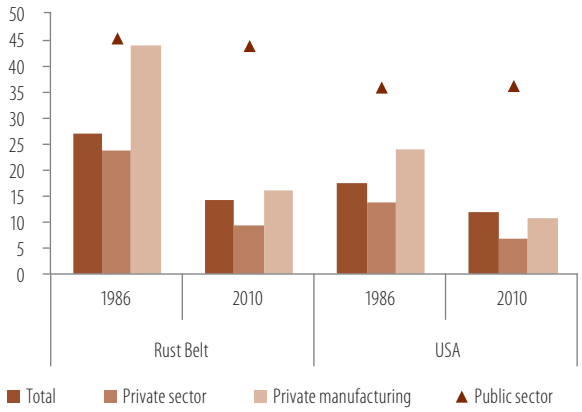


Figure IV.19. Unionised workers in the Rust Belt and USA, 1986 and 2010 (per cent of the total employed).



Note: Separate data for the city of Detroit unavailable after 2004.
Source: Own elaboration based on unionstats.com data.

The oil crises and restructuring of the automotive industry in Detroit strengthened adverse processes with which the local community had failed to cope.

The problems of the city can be seen especially in the background of the entire Rust Belt and Pittsburgh, the leader of transition in the region. This applies especially to the performance of the labour market in Detroit, consistently below expectations over the last 20 years (see Figure IV.17). Unlike other cities in the region and throughout the United States, Detroit did not see the positive effects of the economic boom in the early 2000s. A particularly difficult situation occurred in the city itself, while suburban areas were doing somewhat better. This was connected with the de-concentration of industry on the scale of the city and its suburbs (see Box IV.10). However, in this regard Detroit was clearly lagging behind Pittsburgh which from the beginning of the 1990s had had a similar situation in the labour market as in the entire USA. Reliance of the former Pittsburgh Steel City on modern services meant that in the last decade - in contrast to Detroit - it got rid of the problems affecting the entire Rust Belt, and even became more resilient to economic shocks than America as a whole, as indicated by the relatively weak reaction of the local labour market to the financial crisis of 2008.

In the long run trade unions have been remarkably powerless in preventing job losses in American industry. In the private sector, their position is traditionally the strongest in the steel and automotive industries, which is reflected in unionisation rates in the US and Rust Belt before and after restructuring of the region (Figure IV.19). Despite high levels of unionisation in manufacturing in the Rust Belt, comparable with the public sector even in the 1980s, unions had failed to force companies to maintain the old model of production. This was due to the fact that not only were profits of the owners at stake, but in many cases also the very survival of companies. Moreover, due to the initial uncompromising attitude of unions, corporations preferred to open new types of plants in places where the trade union movement had the weakest potential. This was especially true for Japanese automotive companies. They chose to avoid traditional locations precisely because of the established position of trade unions. Instead, Japanese investors chose small towns where the local community was favourable towards investors and there was no tradition of labour movements. The Big Three US companies had similar motives when they moved part of their production south of the Rust Belt. In their case, however, those actions were limited by the protests of trade unionists from the existing factories and their attempts to quickly set up trade unions at new plants.

Looking at the long-term effects of the activity of large industrial unions, it can be concluded that opposition to reorganisation of production enforced by the global change was not only inefficient but often counterproductive. Even if the company after restructuring remained in the same region, it often changed the place of production, which affected local communities with the strongest trade union traditions. At the same time, due to the fact that union organisations rarely formed at the new plants, the strength of trade unionism in the United States declined along with industrial restructuring.

Local communities have played an important role in overcoming economic problems in the USA. Compared to Western Europe, there is a greater activity of NGOs, grassroots initiatives and a stronger perception of the corporate sector as the main actor of change. Rust Belt cities, affected by unemployment and the decline of sectors key for the development of local economies in the 1980s and 1990s, were involved in a lively debate on the directions of their development after the disappearance of the industrial base. Wilson and Wouters (2003) described the activities of the so-called *growth coalitions*, consisting of local NGOs and entrepreneurs. The coalitions emphasised the progressive globalisation of the economy and the need to compete in the world market of services and modern technologies. They also argued that improving the competitiveness of the metropolis depended mainly on innovative entrepreneurs. Therefore, according to American growth coalitions, the activities of local authorities should be focused on facilitating the development of new companies and private investment which creates a modern economic base and thus gives cities a strong position in the global market and the opportunity of long-term development.

1.4.3. Restructuring in the German Ruhr

The industrial centres of Western Europe were affected by the global steel crisis in the 1970s in a similar way to the American Rust Belt. However, the adaptation to global economic change and the impact on the structure of local economies were different.

The steel industry in Europe played a special role during the period of postwar reconstruction. During the Glorious Thirty post-war years it was one of the main growth engines, and the European Coal and Steel Community became one of the cornerstones of European economic integration. The governments of countries belonging to the European Communities interfered with the activities of metallurgical companies more often than any other sectors of the economy. At the Community level, a number of policies were carried out to adapt to changes in demand and technology in the global market, using such instruments as top-down reduction of the production, introduction of trade quotas, or the creation of a European cartel of steel manufacturers in order to promote exports outside the Community. Despite the limited effectiveness of these policies for the actual competitiveness of the European steel industry, they managed to spread restructuring of the industry over a longer period of time than in the USA. The sector did not experience shocks comparable to the steep reduction in employment in the US steel industry in early 1980s, but in the longer term the regions dependent on heavy industry also had to cope with their decreasing role as the basis for the local economy.

Western European experiences differ from the USA also in terms of the sequence of changes in technology and quality of the steel industry. Europe had to rebuild its factories after World War II and thus already had relatively more modern metallurgical technologies than the USA in the 1950s. It was quicker to introduce new milling methods to streamline the production process, such as continuous

casting, electric furnaces and oxygen conversion. At the same time, however, the replacement of integrated mills with minimills did not occur in Western Europe to the same extent as it had in America, thereby reducing the relative market flexibility of the entire steel sector in Europe. On one hand, this can be explained by the higher levels of public support for major European steel mills and thus less space for the development of new market players. On the other hand – the more expensive electricity in Europe reduced the profitability of minimills based on the use of electricity in steel production. Finally, in the 1990s Western European countries were more affected by the appearance of new competitors from the former Eastern Bloc countries, mainly Russia and Ukraine. Their influence was indirect - they could not compete effectively with European steel mills in their home markets due to a low quality of production and EU trade barriers, but they took over some share of the international market by supplying low-income countries with cheap steel and replaced European exports. Therefore, in the 1990s the export-oriented European steel industry experienced another downturn, this time associated with the appearance of new players in the global trade. The situation improved only at the beginning of this century, when the global demand for steel began to rapidly grow again thanks to the fast pace of industrialisation in Asia, especially in China. At the same time China made a considerable increase in its production potential in the steel industry, so that the country quickly became the world's largest producer of steel, albeit primarily oriented to supply a very receptive domestic market, experiencing a boom in construction and automotive industry.

Currently, the European steel industry, although exposed to global competition, is much better prepared to face it than during the crises of 1970s. Since those times, European metallurgy has come through a period of deep controlled restructuring carried out under the auspices of the European Commission. Initially, the Commission's actions focused on the formation of the European steel producers cartel (EUROFER), which limited price competition. Over time, it also introduced minimum prices for steel and production quotas, and the Member States pledged to reduce the capacities in metallurgy. Excessive production capacities were the main problem of the Western European steel industry, being a legacy of the 1960s when the mills could not foresee the stagnation in the market. At the same time European governments did not allow adjustment of the sector through the collapse of various conglomerates and closing mills; they subsidised them instead, despite an official ban by the Community. Rather than enforce the ban, the European Commission legalised the subsidies, provided that the EU countries would submit plans to reduce the capacities of the subsidised companies. This objective was achieved through consolidation of the industry, which translated into a concentration of investment and modernisation of production in some mills and closing others. The result was a significant increase in productivity in the European steel industry - especially in Germany - together with a large decline in employment (see Table IV.7).

Similar to the USA, developments in the European steel industry had a strong local effect. It could be seen especially in the Ruhr - one of the traditional 19th century industrial centres in Western Europe, rebuilt after the war and the engine of the German economic miracle in 1950-1975 (the *Wirtshaftswunder*). As the birthplace and focal point of the German model of a market economy (see Box IV.11), based on close cooperation between large companies, unions and authorities, in the late 20th century the Ruhr became an example of how local markets with a high degree of regulation and public intervention could respond to global processes.

Table IV.7. Production, employment and productivity in German steel industry, 1970, and 2008-2010.

	1970[i]	1980[ii]	2008	2009[iii]	2010
Production of crude steel (million tonnes)	45.0	43.8 (-2.7)	45.8 (+1.8)	32.7 (-27.3)	43.8 (-2.7)
Production of rolled steel (million tonnes)	34.0	35.8 (+5.3)	43.9 (+29.1)	31.1 (-8.5)	42.4 (+24.7)
Employment (thousands)	374.0	288 (-23.0)	95.4 (-74.5)	92.0 (-75.4)	90.0 (-76.0)
Productivity (tonnes of crude steel per worker)	120	152 (+27)	480 (+300)	355 (+196)	487 (+306)

Notes: In parentheses - the change in relation to 1970 (per cent); i - the peak of the post-war boom and the beginning of the steel crisis of the 1970s and 1980s, ii - the beginning of restructuring of the German steel industry, iii – the peak of the global economic crisis of 2008-2009.
Source: Statistisches Bundesamt and WV Stahl figures from Stahl Online.

Basing the development of the Ruhr on heavy industry was advantageous during the post-war boom, but at the end of the 1950s the coal crisis caused by the stagnation in coal demand and imports of cheap coal from the USA signalled structural weaknesses in the traditional economic model in the region. As a result of stagnant demand for steel and global supply shocks of the 1970s, it became necessary to restructure the region's economy, as the German economic model proved to be inflexible. Supporting large-scale industry was limiting the formation of new small and medium-sized businesses and pushed the already existing ones out of the market. Those that remained were largely suppliers and service providers for the conglomerates. In addition, large corporations used their strong position in the region to prevent foreign companies from opening new production facilities - by refusing to sell land and property (known as *Grundstücksperre* - blocking property). In this way they sought to maintain their central role in the economy of the region and the position of a major employer. The relatively low number of smaller companies that were unrelated to the old economic

base of the region and unfavourable conditions for new large investments from outside meant it was significantly more difficult to restructure the local economy to adapt to new conditions.

After the problem of excessive capacity in the German heavy industry became evident, federal authorities introduced a program of gradual reduction through centrally determined quotas and subsidising the slow pace of restructuring, similar to other Western European countries. At the same time the collectively dismissed steel workers were assured long-term unemployment benefits, and many of them were given the possibility of early retirement to reduce the social costs of reorganisation of the industry. Additionally, in order to help large enterprises, the state took over some of their social obligations such as payment of severance. Such a policy, although in line with the logic of the German model, was highly expensive for the federal budget and limited the overall capacity of the German economy.

Box IV.11. German economic model and structural changes.

German corporatism began to form as a market economy model in the 19th century. The contemporary industrialisation was driven by rapidly emerging large firms and cartels. They were supported by the Empire which saw conglomerates as a driving force of the emerging industrial economy. As a result, the German economic model was characterised by a very strong concentration and the importance of big capital, heavily linked with the authorities both at local and national level, being able to count on their support as a source of wealth and power in the state. In this model, the relations of employers with employees were traditionally based on cooperation. Since their beginnings, German trade unions tended to solve conflicts through negotiations with employers, rather than strikes and protests. After the war, their role further increased - they obtained positions in the supervisory boards of large companies, which further strengthened incentives for cooperation between owners and workers.

These elements formed a coherent socio-economic system, with a characteristic slow adaptation to changes in the global market made possible by the temporary protection of the domestic market by the state. Its aim was to reduce the costs of restructuring for the main participants - large companies and unionised employees. This model reduces the flexibility of the economy, particularly at the level of local economies dominated by a few conglomerates. The successful transformation of any region is then largely dependent on big industry's willingness to recognise the need for restructuring. On the other hand, spreading changes over time diminishes the social costs of restructuring, such as rapid increases in unemployment and the mismatch of the skills of fired workers to the new requirements of employers. However, it may also lower the perception of modernisation as necessary to maintain national competitiveness and jobs. The price of this approach is the need to finance protective measures (industrial and social policies) through the involvement of resources from other regions and industries. The costs of local socio-economic restructuring are then reduced by their externalisation – the transfer to third parties – but are not zero. The overall cost of the German corporatist model is the reduced dynamics of the entire economy.

In the 1990s, another wave of intense global transformations forced further restructuring of the German steel industry. The disintegration of the communist bloc and the opening of Eastern European economies to international trade meant the appearance of new low-cost competitors in the global market for coal and steel. This further weakened German exporters. Positive effects of the West German investment boom in heavy industry after the reunification of Germany were short-lived and could not override the need for its further consolidation. Costs of the reunification and strained government spending resulted in shrinking federal funds for the mitigation of the socially adverse changes in big industry.

German companies quickly realised that the changes in the global steel market were permanent. As a result, they began to look for new areas of activity that would ensure their survival. In order to finance major new projects, they opened up to capital from the USA and the UK. That meant at least a partial verification of the traditional corporatist model, previously supported by the Federal banks, closely associated with local industry (Berndt 2001). Anglo-Saxon investment funds lay greater emphasis on the efficient use of capital, assessing corporate activity on the basis of financial ratios and return provided to shareholders (so-called *shareholder approach*), and not taking into account the impact on the wider range of stakeholders such as local communities (so-called *stakeholder approach*). In this way, opening up to international capital forced faster changes in the German steel industry, including accelerated restructuring of employment. At the same time when conglomerates in the Ruhr diversified their activities they often chose sites in other parts of the Federal Republic.

With the collapse of communism, large German companies also started to open factories in Eastern Germany and Central Europe where labour costs were lower and labour movement was weaker. The ability to easily move production outside the Ruhr area to the east was also a strong argument in negotiations with local unions. Changes in the structure of the steel industry also affected the situation in the local labour market. Similar to the USA, new small mills took over the steel market segment with relatively low value added, making large steel conglomerates focus on the production of high-quality steel, largely for the German automotive industry. At the same time, in a manner typical for globalised low-margin industries, companies controlling the integrated steel industry were continuing their consolidation (in 1962 in Germany there were 13 such manufacturers, in 2008 - only two German conglomerates, and six integrated steel mills mainly controlled by foreign companies - Herrigel 2010). Like the USA, this meant a further reduction in the number and concentration of jobs in the steel industry, which was mostly felt in the Ruhr region, a traditional centre of the industry.

Table IV.8. Employment structure in the Ruhr and Germany by sector, in 1970-2009, per cent.

	Agriculture		Industry		Services	
	Ruhr	Germany	Ruhr	Germany	Ruhr	Germany
1970	1.5	9.1	58.4	49.4	40.0	41.5
1980	1.4	5.3	51.7	45.0	47.0	49.4
1990	1.2	3.6	44.4	40.6	54.4	55.8
2000	1.2	2.5	33.3	33.5	65.4	64.0
2009	1.0	1.7	27.8	28.7	71.2	69.6

Source: Regionalverband Ruhr, Eurostat.

As in the case of large enterprises, the activities of federal and local authorities changed the approach to the problem of restructuring, understanding the irreversibility of global economic changes undermining the traditional industrial base in the region.

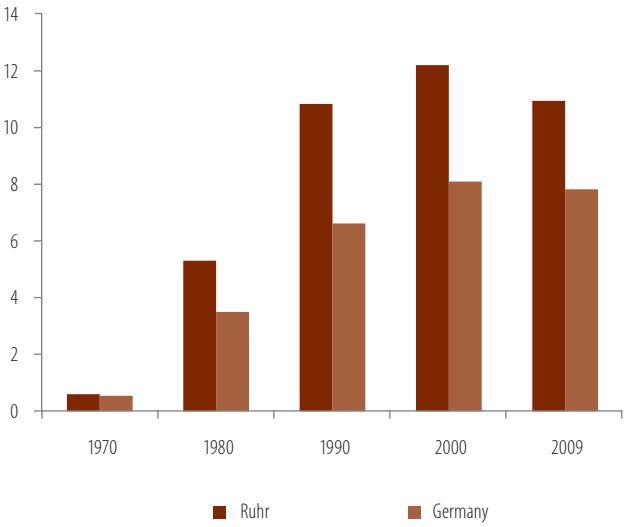
The policy of restructuring the Ruhr area can be divided into two phases (cf. Hospers 2004). The first, introduced after the coal crisis of the 1950s, strengthened in the 1970s after the steel crisis and abandoned in the early 1980s, was an attempt to preserve the existing economic structure of the region through subsidising the existing conglomerates. It was based on a belief that the stagnation in demand for products of heavy industry such as steel is temporary and cyclical. Therefore heavy industry was hoping to recover with an improved business climate, a kind of reindustrialisation of the region. The authorities focused on mitigating the adverse effects of changes, and much less on promoting the diversification of the local economy. During this period public action was taken primarily from the federal level (social policy towards the unemployed, subsidies for steel mills and coal mines), as local authorities did not have sufficient financial resources or legal means to support the restructuring of local economies. Supply-side policies were implemented to improve the efficiency of the steel industry and coal mining, rather than structural changes in manufacturing. The development of third-level education was an important exception; it later created the possibility of developing modern sectors in the Ruhr region.

The crises that followed in the 1980s and increasing pressure on the restructuring of heavy industry forced the public authorities to abandon the policy of waiting out the changes and their move to supply-side policies aimed at creating new bases for local economies. Instead of top-down development plans for the entire region from the federal level, job diversification of local economies were left to local authorities - in the case of the Ruhr to the State of North Rhine - Westphalia and local authorities in the cities of the region (Bross, Walter 2000). Decentralisation and regionalisation of structural policies was more effective in supporting the development of small and medium enterprises and in identifying and making use of local competitive advantages. The role of local authorities was strengthened by access to European funds - in 1989, the Ruhr was aided by the European Regional Development Fund under Objective 2 (to help regions with high unemployment and concentration of traditional industries). After 1990, restructuring activities focused on creating and developing clusters of services and modern technology (including telecommunications, logistics, environmental protection) in the former industrial areas, for instance in two important centres - Duisburg and Dortmund.

Despite the long-term restructuring, Ruhr is still struggling with economic problems, especially in the labour market. The unemployment rate in the region remains significantly higher than the average for the whole country (see Chart IV.20). Employment, after a long-term decline in the 1970s and 1980s and single growth digits after the reunification of Germany (due to the influx of migrants from East Germany), has remained unchanged for twenty years. Unemployment is even higher than in the Ruhr's immediate environment (the remaining areas of North Rhine-Westphalia) and the entire western part of Germany, where since 1990 there has been a significant growth in both population and employment (see Figure IV.21). High levels of unemployment and demographic stagnation are evidence that the transformation of the region is still not completed. There are several factors that account for these problems.

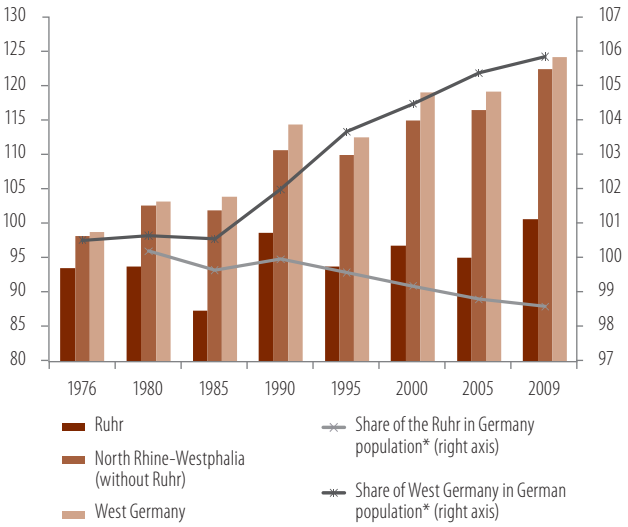
First, for a long time, structural changes were slowed down by the steel conglomerates, federal and regional public authorities for fear of their negative consequences - loss of the dominant position in the region in the case of large enterprises, and high social costs that could reduce political stability in the case of officials. The slow evolution of structure and low flexibility of the local economy meant that the labour market was not able to adapt quickly enough to technological changes in metallurgy, which was unavoidable given the falling steel prices. Reduction of employment in the steel industry, although progressing gradually and strictly controlled by public policy, was associated with a permanent increase in unemployment and decline in employment in the Ruhr. Only a change in policy and accelerated restructuring of the entire regional economy in the late 1980s broke the stagnation spiral, even though the effects of these actions were not immediately effective; a shift to an economic model based on modern sectors of the economy to ensure long-term growth, high employment and low unemployment is always a long-term process.

Figure IV.20. Unemployment rate (per cent) in the Ruhr compared to Germany, 1970-2009.



Source: Own elaboration based on Goch (2002), Regionalverband Ruhr, Eurostat.

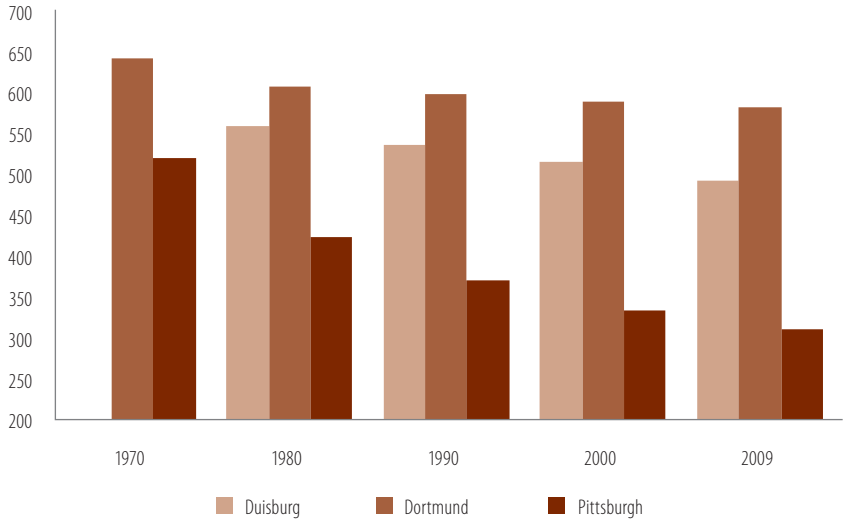
Figure IV.21. Employment in the Ruhr, the remaining areas of the North Rhine-Westphalia and former West Germany (1970 = 100).



* Before 1990 – total for West and East Germany

Source: Own elaboration based on Regionalverband Ruhr, OECD.

Figure IV.22. Population (thousands) of Duisburg, Dortmund and Pittsburgh, 1970-2009.



Note: Comparable data from 1970 for Duisburg are not available because of the change in the city borders.

Source: Own elaboration based on Census Bureau, Landesamt für Datenverarbeitung und Statistik Nordrhein-Westfale.

Secondly, the Ruhr had particularly low migration flows compared with the rest of Germany (Bross, Walter 2000), which did not help the local labour market adapt to the changed economic conditions, as happened in the more flexible US market. Large Ruhr cities have not seen any reduction in their populations on the scale that occurred in Pittsburgh (see Figure IV.22). Their population decrease was due to a negative natural population growth, which - in contrast to most other western Länder of the Federal Republic – was not replenished by the influx of internal and external migrants. Just like in the American Rust Belt, the population changes in the Ruhr were therefore associated with the low capacity of the region to attract new residents. However, the lower overall mobility of residents meant that the population in the cities of the Ruhr reduced to a much lesser extent than in their American counterparts, hindering the absorption of excessive unemployment.

Table IV.9. Global processes affecting the Rust Belt and the Ruhr and the reactions in the regions.

	Examples from the Rust Belt and the Ruhr	Effect on local economies
Phenomena of global nature		
Global, technological and commodity shocks	Oil crises of the 1970s, stagnation in demand for steel due to a decrease in commodity demand of Western economies and the changing structure of demand for automotive production.	Forced restructuring of the affected sectors, moving away from commodity and labour-intensive production methods. When these sectors constitute the region's economic base, such shocks initiate a long process of transformation which can last for decades.
Foreign competition	Crowding American cars and steel out of the market by cheaper and more modern manufacturers, indirect competition from former socialist countries for the German steel industry.	Loss of jobs in centres of industries losing the competition with foreign competition.
Emergence of foreign companies in the national markets through FDI	Japanese investments in the automotive industry in the United States bypassing the traditional centres of concentration.	Accelerated contraction of less cost-competitive old industrial centres. The weakening of the local union structures.
Influx of portfolio investment, inclusion of domestic financial markets into the global system	The opening of the German conglomerates to foreign capital, a partial move from the German economic model.	Accelerated restructuring of enterprises more strongly oriented to obtaining good economic results. In the short term –an increased unemployment problem, in a longer term - enhanced transition of the region to a new economic base.
Reaction of authorities and local communities to global phenomena		
Attempts at maintaining the previous economic structure in the region	The actions of the authorities and steel conglomerates in Germany in the first years after the crisis of steel, the actions of trade unions in Detroit and other major automotive centres in the Rust Belt. Unsuccessful in the conditions of foreign competition.	Temporary inhibition of painful adjustment to new market realities at the expense of reducing the incentives to change the regional economy structure, leading to the prolongation and deepening of problems of the local economy and job market during the transition period. The risk of permanent degradation of economic resources (Detroit).
Attempt at accelerating the restructuring in the region	The actions of local authorities in Germany in the second phase of the restructuring of the Ruhr area, the activities of local authorities and NGOs in Pittsburgh and other cities of the Rust Belt.	Discernible positive effects in the long run. A long process, depending on the initial resources of the local economy.
Changing population flows	A decline in the population of the traditional industrial centres in the Rust Belt and the Ruhr, the greater mobility of Americans.	Facilitated adjustment to the shock in the labour market in the short term (Pittsburgh) and change of the economic potential in the long term.

Source: Own elaboration

2. Polish regions in the network of global connections

2.1. Introduction

Until the early 1990s Poland and the whole region of Central Europe had not been directly affected by the global supply shocks of the 1970s, the foreign competitive pressures forcing innovation and continuous improvement in productivity, and the changes in international division of labour between the North and South. The centrally planned economies of the communist bloc formed a specific para-autarkic and inefficient economic structure, effectively isolated from global processes. Doing business in the Western sense was either impossible (as in the USSR) or strictly regulated (as in Poland during Jaruzelski's rule, or in Kadar's Hungary), while trade between Western countries and the countries of the Comecon (or CMEA) was significantly limited. Comecon countries focused mostly on the creation of their own network of mutual economic links, and always deficient foreign currencies were obtained through limited trade with the West, mainly in natural resources, low-processed industrial products and simple construction services. This offer resulted from the low competitivity of Comecon state-owned enterprises resulting from the lack of incentives to rationalise the production process in the centrally planned economy, and also from inefficiencies in trade, which was monopolised by state-owned conglomerates. At the same time, Western countries, following the logic of the Cold War, limited the export of goods to the Eastern bloc in order to curb the transfer of Western technology[1]. This led to the total exclusion of the Comecon countries from the process of global technological and market changes.

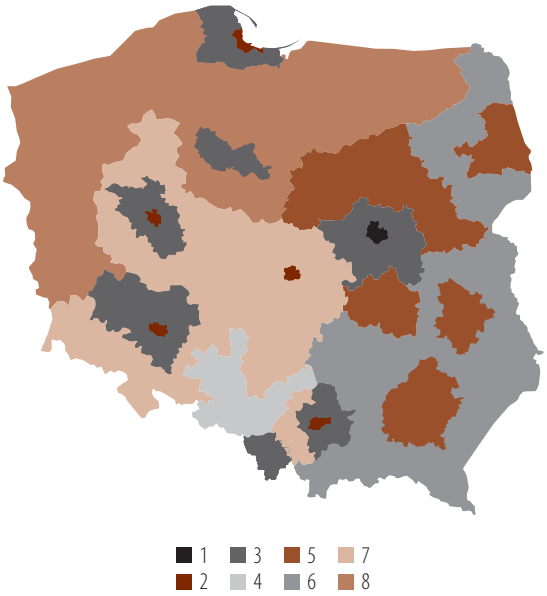
[1] It was a task of CoCom (Coordinating Committee for Multilateral Export Controls).

Box IV.12. Regional differences in Poland.

Given the current state of the Polish subregions in terms of economic, social, environmental and scientific development, and taking into account their internal development potential, Bukowski et. al. (2010) used a statistical clustering technique to divide Poland into eight areas of development: Warsaw, growth poles, metropolitan suburbia, Silesian conurbation, and the Polish peripheries in the eastern, northern and central regions, supplemented by smaller regions of Mazovia and Eastern Poland. With regard to the subject matter of this part of *Employment in Poland* it was more useful to combine these clusters of development into three main groups that differently participate in globalisation.

The first group consists of the Warsaw metropolitan area, other growth poles and their suburbia. These are the largest urban centres (Warsaw, Kraków, Łódź, Poznań, Szczecin, Tricity and Wrocław) along with surrounding areas (except Łódź and Szczecin) and the less-developed duopolis of Toruń and Bydgoszcz. Warsaw and its agglomeration created a specific centre of development, the only fully-formed and globalised metropolitan centre in Poland. On the national scale, growth poles are characterised by a high level of development, advantageous structure of the economy, high productivity, a relatively good situation in the labour market and a strong functional connection with the surrounding suburbs. Despite the differences in infrastructure, innovativeness and availability of transport, all the growth poles have considerable labour resources and human and physical capital. These areas are most integrated with the European economy and globalisation trends - technological change, labour-intensive production transfer to Southern countries, industrial restructuring and outsourcing and nearshoring of business services. Over the last two decades, these centres have undergone profound structural transformation, but only Warsaw has managed to become a multifunctional economic, research and culture centre with not only regional but also international importance, able to actively participate in globalisation.

Map IV.1. Growth poles and peripheral areas in Poland.



1) Warsaw agglomeration, 2) other growth poles, and 3) metropolitan suburbia, 4) Silesian conurbation, 5) smaller centres of Mazovia and Eastern Poland, 6) peripheries of Eastern Poland, 7) peripheries of Central Poland and 8) Northern Poland.
Note: Division at the level of sub-regions (NUTS 3).
Source: Bukowski et. al. (2010).

Peripheral areas of Eastern, Central and Northern Poland, with their relatively stronger urban centres, are a group situated at the opposite end in terms of development. Their characteristic economic backwardness in relation to growth poles is visible both in terms of economic structure and developmental dynamics. Their economic resources are smaller and more dispersed, and participation in the main currents of globalisation are weaker due to lower FDI and mainly local nature of manufacturing and services. These regions, compared to the rest of Poland, have experienced distinctly higher supra-local process of population migration to the relatively more developed Polish regions and over the last decade to foreign countries. The third group, the Silesian conurbation is undergoing a particularly intense process of restructuring of the local economy. A strong economic centre, with the potential to become a growth pole, Silesia is still experiencing the negative effects of the contraction of traditional industries. Similar to other large cities, it participates in most globalisation processes; however, the range of restructuring is greater than in the rest of Poland.

Compared to other Eastern bloc countries, Poland had relatively intensive trade with the West, especially in the so-called Gierek period i.e. 1970-1980 (Edward Gierek, the chairman of the Polish Communist Party in the 1970s). Polish authorities tried to introduce foreign technologies to Poland but although they were better than domestic technologies, they were already becoming obsolete in Western markets due to changes on a global scale in business and technology processes.

Polish technological backwardness was further deepened by isolation and the economic crisis in the Jaruzelski era of the 1980s. Alhough the regime allowed the creation of specific 'islands of capitalism' such as expatriate capital enterprises and joint ventures, the scale of their operations and actual impact on the Polish economy was very limited.

This situation completely changed in 1989 with the initiation of system transformation. From the very beginning Poland opened to foreign trade and competition which increased the efficiency of the economy. This was possible primarily thanks to the introduction of the convertibility of the złoty (Polish currency), liquidation of state monopoly in foreign trade, rapid privatisation of retail and wholesale trade and the liberalisation of regulations on starting and doing business. Similar changes, albeit slightly later, occurred in other countries of the region.

Table IV.10. Global trends in individual sectors and their local consequences in Poland.

Characteristics of product / service	The main factors defining the location	The impact of globalisation on the development of the sector in Poland	Local effects
Simple, labour-intensive, easy to transport, mass products (e.g. textiles, clothing)	Labour costs, basic infrastructure	Moving production to countries with large resources of cheap labour, a decline of employment in the sector.	The deterioration in local labour markets that depend on the large number of jobs in the sector. Example - Łódź.
Complex, mass produced, difficult to transport, a product that requires a considerable number of parts (e.g. cars)	The proximity of suppliers and markets, a large stock of semi-skilled workers	Integration of southwestern Poland into the Western European automotive industry as suppliers and manufacturers of cheaper mass models of cars. The disappearance of the sector in the eastern Poland.	Reindustrialisation of south-western Poland, increased employment in the centres and surrounding areas concentrating final product manufacturers through the development of a network of suppliers. Examples - Gliwice, Bielsko-Biala.
Complex, easy to transport or manufacture in small batches (e.g. appliances, buses)	A large stock of semi-skilled workers, local base of infrastructure and subcontractors	The development of production in large urban centres in the western part of the country, while maintaining existing facilities in eastern Poland	Reindustrialisation of south-western Poland, stopping the deindustrialisation of the centres in the east (COP). Examples - around Poznan, Wrocław, Starachowice
Parts and components for the production of other goods (such as cars, consumer electronics)	An adequate supply of medium-skilled workers, infrastructure, proximity to customers	The development of production in large cities and also in individual plants in smaller towns	Large impact on the labour market in smaller towns of western and central Poland. Examples - Mława, Kwidzyn.
Complex and hi-tech products produced in smaller quantities with high unit value added (e.g. production for the aviation industry)	Availability of high and medium-skilled workers, well-developed production and research infrastructure	Development of Aviation Valley in the traditional location of the aviation industry in southeastern Poland.	Maintaining and increasing employment in the sector. Examples - Rzeszów, Mielec, Świdnik.
Simple business services (e.g. customer service, accounting)	Large stocks of human capital, office spaces and transport infrastructure, institutional stability	Attracting a large number of investments from the BPO industry (nearshoring)	Increasing employment in large urban centres, reducing the problem of unemployment among graduates in humanities and economics, facilitated restructuring. Example - Łódź.
Complex business and IT services, creation of product, technological, and procedural innovations.	Very large resources of human capital, large public expenditures on science and R&D (existing research base), competitive regulatory infrastructure	Island effect of global companies investing in R&D centres in Polish growth poles, the development of Polish IT companies (entertainment electronics, IT services)	The increase in average wages, expansion of the labour market with the highest value added - Examples - Warsaw, Kraków, Wrocław.

Source: Own elaboration.

That change resulted in a rapid growth in foreign trade, with deep technological and organisational restructuring forced by external competitive pressures. In a short time, the economies of Central Europe had to adapt to changes that had occurred in the capitalist countries over several decades. Thanks to the elimination of the greatest inefficiencies inherited from the socialist economy

(high energy and material intensity, lack of cost control, etc.), the ability to import technical solutions as a result of lifting the embargo by Western countries and the internal capacity for effective imitation, in the mid-1990s most Central European countries achieved a high economic growth and initiated the process of real convergence towards the West.

Foreign investments facilitated the restructuring of inefficient post-socialist manufacturing. In a few countries of the region, they rapidly reached levels close to China and other Asian countries. The advantage then of Central Europe over the developing southern countries consisted of distinctly better qualified workers, better state of infrastructure, higher legal and institutional stability and lower transportation costs due to the proximity to important markets of Western Europe. Compared with developed countries, the region had cheaper labour but much less developed technology, infrastructure and research and development base. Naturally, this predisposes Central Europe to compete primarily in those sectors that require an average level of qualifications and proximity to trade partners.

The effect of these processes in various regions of Poland, the largest and therefore most internally diverse Central European country, have varied depending on the initial conditions of the regional economy: its resources, the existing structure of production, location, infrastructure and transport accessibility (see Box IV.12). Warsaw and other large Polish cities became the engine of development of the whole country, integrating with foreign countries through economic, social, cultural and civilisational links. The exposure of these growth centres and the functionally connected suburban areas to global processes has definitely been different from the case of peripheral areas, especially those located in the north and east of Poland. While over the last twenty years the Polish development centres have become included into supra-local economic processes such as outsourcing and nearshoring of business services, technological restructuring of traditional industries, and moving labour-intensive production to developing countries in the South, the participation of Polish peripheral areas in globalisation has comprised mainly migration. The southern region of Silesia is a specific case, still undergoing a process of profound transformation of its economic base in at least three parallel processes - the loss of traditional industrial base that has proved inadequate for the needs of the global market; the population drain to other centres of development; and re-industrialisation, strongly re-integrating Silesia with the southern part of Poland and the wider European industrial core.

2.2. Centres of globalisation – growth poles and metropolitan suburbia

2.2.1. Introduction

The impact of globalisation on the structure of local economies through attracting new industries is manifested most strongly in the big cities. These growth poles connect Poland to the international markets of goods and services, host cultural events of supra-local scale, and increasingly often participate in the creation of innovations that are then applied internationally. This is possible mainly due to the relatively good transport infrastructure, logistics and office space and large stock of skilled workers available to both foreign investors and domestic entrepreneurs entering the international market. Cities such as Warsaw, Tricity, Wrocław, Kraków, Poznań and Łódź, together with their suburbia, attract considerable foreign investment – both in manufacturing and services for the international market.

Locations of plants producing white goods and to a lesser extent consumer electronics are an example of the concentration of foreign investment and economic activity targeted for international markets around the major urban centres (see Table IV.11). Many investments in this sector - both *brownfield* (taking over existing plants) and *greenfield* (construction of new plants from scratch) – are located in already existing industrial centres (e.g. Wronki) with access to numerous local subcontractors and employees with adequate qualifications. Companies in the appliances sector which decided to invest in locations not close to other producers, mainly chose large cities and their surroundings. These centres, even without a tradition in the industry, ensured fast growth thanks to the high potential of the labour market and business infrastructure. In the white goods sector, large investments are often located in smaller towns near large cities, in their suburbia (see Box IV.12), especially those in Special Economic Zones. Fiscal benefits for starting business within the SEZs combined with lower rent costs and greater availability of property, all characteristic for smaller centres, make the locations attractive to large investors, both foreign and domestic, providing access to a sufficiently large labour force. These are the very advantages of locating production in a small town near a large agglomeration.

In Poland, as in many emerging economies (Bonaglia and Goldstein 2007), more local white goods companies have survived and developed over time than in consumer electronics, requiring more spending on research and development.[2] In contrast to the white goods sector, in the case of televisions, there is a lack of large Polish companies supplying foreign markets with final products, and development of the sector depends on the inflow of FDI. As a result, Poland followed the Irish example in this sector, being based on attracting FDI rather than stimulating the development of local companies by investing in research and development (see Box IV.13). A similar situation occurs in other Central European countries (Radosevic 2002). Foreign corporations invest mainly in manufacturing plants, parts of vertically integrated manufacturing. Hence they require less human capital than in centres which carry out research and development, and the impact of the agglomeration effect is lower there (cf. Arita, McCann 2004). Hence the consumer electronics sector has weaker incentives to invest in major national centres, and often invests in special economic zones in smaller towns that along with neighbouring areas provide a sufficient stock of workforce and lower labour costs.

[2] According to the OECD, consumer electronics manufacturing belongs to the high-tech sector, where spending on R&D constitutes about 10-15 percent of production value, while white goods manufacturing is a medium high-tech sector, where the respective share is 3-5 percent (cf. Hatzichronoglou 1997).

Table IV.11. Selected centres of manufacturing in consumer electronics, white goods, and business services in Poland.

Sector	Selected centres in Poland
White goods, final products and parts	Wrocław, Łódź, Wronki near Poznań, Rzeszów, Świdnica, Żarów, Radomsko
Consumer electronics, final products and subassemblies	Łódź, Kobierzyce near Wrocław, Łysomice near Toruń, Biskupice Podgórne near Poznań, Pruszków near Warsaw, Kwidzyn, Nowa Sól, Mława, Tczew, Świdnik.
Business services BPO/SSC	Kraków, Warszawa, Wrocław, Tricity, Łódź, Poznań

Source: Own elaboration based on PAIiIZ, CECED Polska, and websites of companies in the sector.

The national policy of attracting foreign investment, combined with relatively weak support and funding of research and development by the public sector (see Figure IV.32), affects development opportunities of local economies. Foreign investors locate production plants in smaller towns and improve the situation in local markets, reducing unemployment and increasing employment. On the other hand, global companies rarely invest in Poland in those parts of the production chain that yield the highest value added - research and development, launching new products, and developing changes in business processes and technology. This trend affects primarily larger centres, partly depriving them of their growth potential.

Box IV.13. Three routes to a high-tech industry – Ireland, Israel, South Korea.

The development of high-tech manufacturing is a major challenge for economies lagging behind the world leaders in innovation. The main problem is to obtain and develop the latest technologies, achieved by attracting foreign investors with the necessary know-how, through investments in the domestic research and development sector or by the purchase of technology abroad. Examples of these solutions are provided by the history of modern electronics industries in Ireland, Israel and South Korea.

The development of the consumer electronics industry in Ireland is an illustration of growth based on foreign direct investment. Since the 1960s, the orientation of the Irish economy towards exports of increasingly technologically advanced goods, opening up to international capital flows and lower labour costs compared to other Western European countries, attracted large foreign investors including those from the high-tech sectors - manufacturers of computers, telecommunications equipment and its components.

Electronics production in Israel has been based on the activity of local businesses. Their development was fostered by large government spending – both on the development of military technologies and pioneer programs to promote innovative sectors of the economy, implemented since the 1960s. An important role was also played by a large stock of scientists-practitioners, magnified by a wave of immigration after the collapse of the Soviet Union. Significant resources spent on R&D could thus be effectively used.

The development of multinationals in South Korea is an intermediate variant between the Irish and the Israeli policy. South Korea focused on supporting exports through the purchase of modern technologies and the establishment of cooperation between its domestic companies and foreign companies with know-how.

Over time these three models have to some extent started to resemble one other. Ireland has implemented programs to support national research and development, Israel has started to attract FDI in the electronics industry, and companies from South Korea have decreased their dependence on imported technology.

Source: Roper and Frenkel (2000), Chen and Sewell (1996).

2.2.2. Automotive industry and shift of the industrial core of Europe

The integration of Western and Central Europe within the political structure of the European Union is accompanied by the increasing merging of the two parts of the continent into a single pan-European system of economic ties. The new EU Member States most often play the role of the suppliers or producers of final goods with relatively low value added. This process, both at the sectoral and local levels, is evident in the case of the automotive industry, especially its section dealing with the production of passenger cars and their parts.

Car production in Central Europe has undergone a revolution over the past 20 years. While in 1990 the region produced almost 100 thousand cars (Pavlinek 2008), in 2010 it was already 3.2 million units, of which about 3/4 were in the Czech Republic, Poland and Slovakia (according to OICA). This represented almost 25 percent of total car production in the European Union. A significant increase in the volume of automotive production in the Visegrad countries can be explained by a favourable relationship between the qualifications of the employees and their wages, and also by the relative proximity to markets. Reallocation of production to Central European factories was facilitated by the acquisition of existing production facilities with infrastructure and linkages with local suppliers. From the very

beginning of the transition, the Central European automotive industry has been export-oriented. First, globally operating, automotive multinationals invested in production plants in the region according to cost-benefit analysis on an international level. Second, the internal markets in NMS10 have a specific structure, clearly different from Western Europe – Central European countries have a small market for new vehicles in relation to Western Europe. Although the NMS10 have a similar number of cars per household compared to the EU15, their users are guided chiefly by price criterion and so prefer used cars.

Figure IV.23. Trade in passenger cars, NMS10, 1992-2009, billions of 2005 dollars.

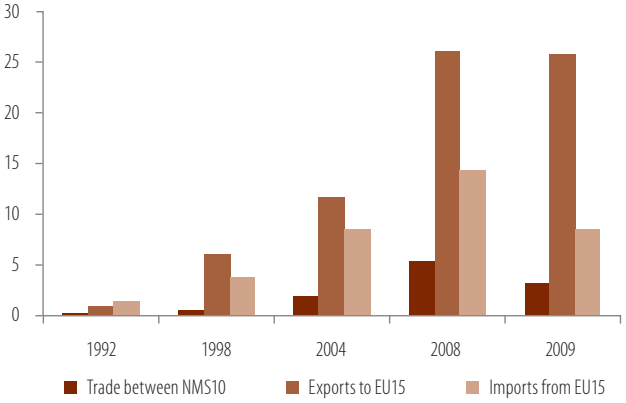


Figure IV.24. Trade in car parts, NMS10, 1992-2009, billions of 2005 dollars.

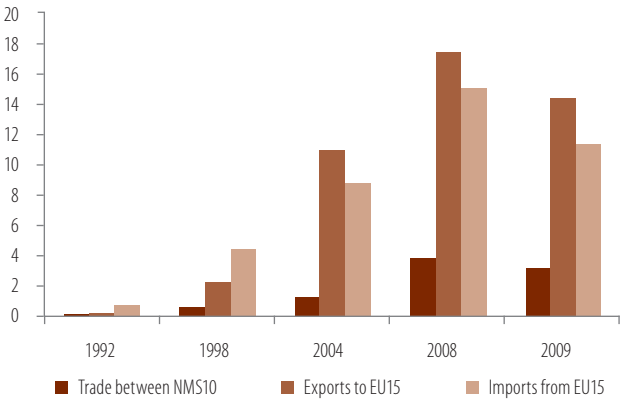


Figure IV.25. Trade in passenger cars, Poland, 1992-2009, billions of 2005 dollars.

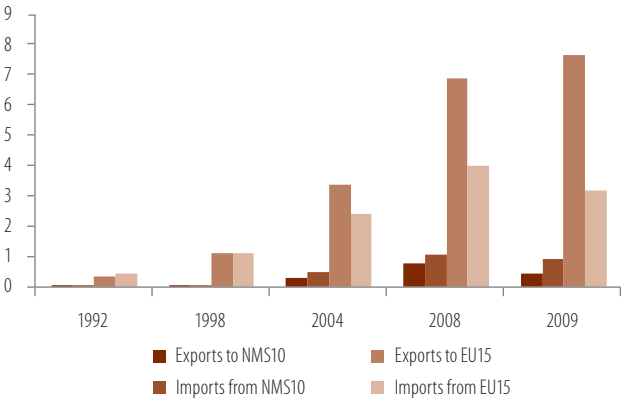
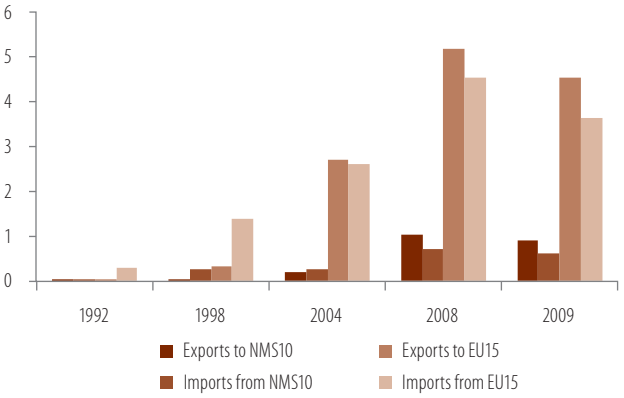


Figure IV.26. Trade in car parts, Poland, 1992-2009, billions of 2005 dollars.

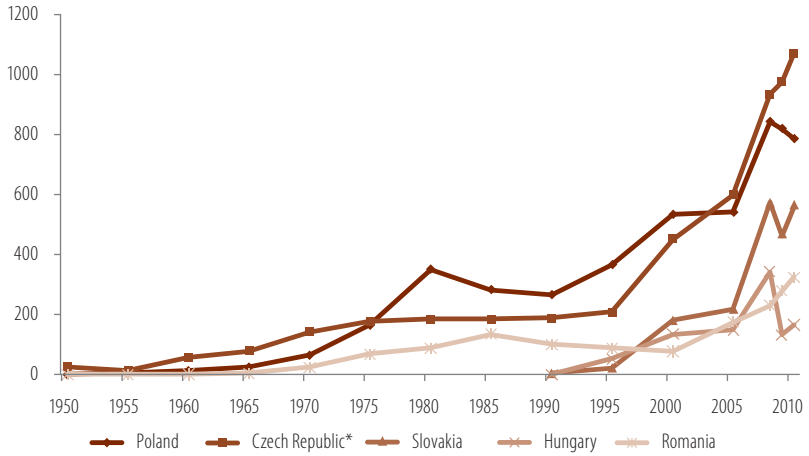


Note: The calculations of constant prices were based on the USA GDP deflator.
Source: Own elaboration based on UN Comtrade data.

At the same time Central European companies are strongly integrated in a single production chain. It is shown by the pattern of trade with the EU15. While exporting a significant number of cars to the EU15, the countries of Central Europe import a large number of parts from Western Europe, which are then used for final production. The increase in the intensity of the intra-sectoral trade also occurs among the NMS10, although it still remains significantly lower than the trade with the EU15. This can be explained by the fact that the components with the highest value added are produced mostly in Western Europe, and those with relatively lower value added – in the countries of Central Europe. This specialisation also explains the similar values of exports and imports of parts from the EU15, despite the much lower share of their production in local employment (see Figure IV.8). However, the production structure of sub-contractors is improving and the share of highly processed goods has started to increase. This is mainly due to new foreign investments (Domanski and Gwosdsz 2009), e.g. the development of engine manufacturing in Poland.

The export orientation of the automotive industry and strong ties within the supply chain lead to the concentration of new investments near the borders of NMS10 with the EU15 and next to efficient transportation routes to suppliers of components and the market for final production. At the level of countries in the region, this results in a smaller number of investments and less dynamic growth of this sector in Poland compared to the Czech Republic and Slovakia, better connected with the Western European road system by their well-developed motorway network. Importantly, the economic crisis at the end of the 2000s did not cause a decline in car manufacturing in the Central European countries (except Hungary), despite the pressure on European companies by the Western European governments to limit the transfer of manufacturing to the new EU Member States.

Figure IV.27. Production of passenger cars (thousands) in selected countries of Central Europe, 1950-2010.



*until 1990 – data for Czechoslovakia.

Source: Own elaboration based on Pavlinek (2008) and OICA data.

The development of the automotive industry in Poland in recent years has concentrated in the southwest and west of the country. This applies both to final production, located in Gliwice, Tychy and Poznań, and parts manufacturers concentrated in the provinces of Silesia, Lower Silesia and Lubuskie. Localisation factors have played a decisive role. Out of two carmakers existing in the times of communist Poland – FSO and FSM (now Fiat Auto Poland), the FSM plant in Tychy is situated closer to the western border and has fared better in the market economy, attracting and retaining international investment (although the second FSM factory in Bielsko-Biala has ceased production of cars, focusing solely on parts). New car factories, built after the fall of communism, have also been built in the southwestern part of the country in Gliwice and Poznań. Location in the Silesian conurbation provides a large number of skilled workers and a relatively close proximity (compared to other major population centres in Poland) to the borders of the EU15 and to major parts manufacturers in the Czech Republic, Slovakia and Hungary. Similar factors – a large resource of skilled workers and the relative proximity to the German border – constitute advantages for Poznań.

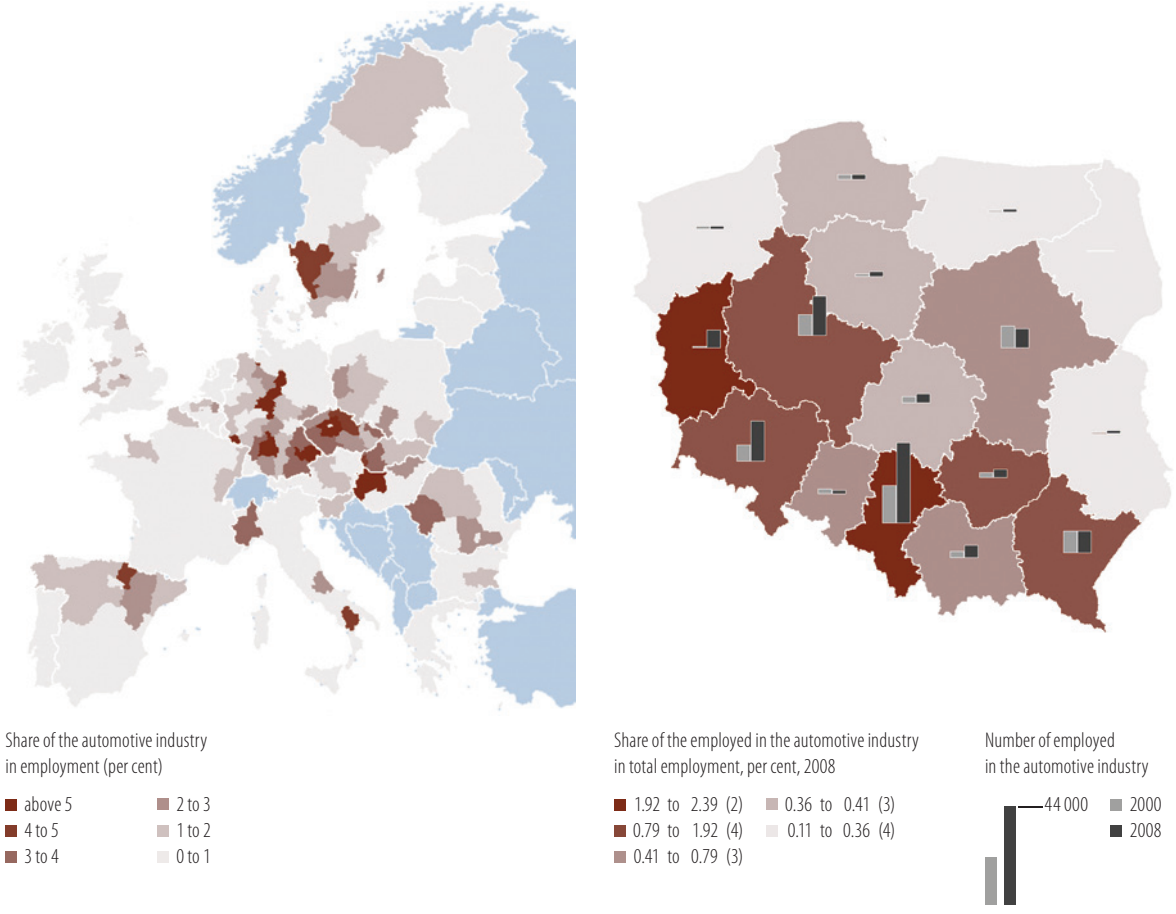
Apart from car factories in large cities, local economies benefit from the clusters of sub-contractors. In the last ten or so years they have most dynamically developed in western and south-western Poland, close to major domestic and foreign customers. However, in the Podkarpackie voivodeship, in a traditional cluster of parts manufacturers even before the marketisation of the Polish economy, employment in the sector has not increased significantly although it still plays an important role in manufacturing in the region. The westward shift of the Polish automotive industry in the direction of foreign counterparties is thus visible also in the case of subcontractors. At the local level, their concentration is mainly influenced by the existence of Special Economic Zones, attracting both foreign and domestic investors. While the imminent elimination of the zones will destroy some location incentives, the existing centres will probably have an advantage over other centres in the western regions of Poland because of the positive agglomeration effects – i.e. ties with subcontractors that were established and developed during the existence of SEZs. On the other hand, the development of these clusters and employment increases in local markets may be hampered by a shortage of skilled workers or the creation of strong local union structures. In this case, new plants will probably be opened in smaller towns, followed by deconcentration of production, as happened in the American Rust Belt in the 1980s. Still, at the regional level, production plants will be located closer to the western and southern borders. The emergence of new centres of automotive production in central and eastern Poland will be possible with increased domestic demand and improved quality of roads linking these areas to Western Europe. The economies of scale in the organisation of production and transportation of several final products to many markets will however block a significant change of focus from the West to East, even if the domestic demand grows considerably. An additional stimulus may come from the development of the automotive market in the Polish eastern neighbours – CIS countries.

Extension and intensification of activities of international carmakers and their suppliers in the region of Central and Eastern Europe, thanks to its opening to foreign capital in the early 1990s, the elimination of trade barriers and joining the European Union, show the benefits of economic integration in Europe. Investments have helped accelerate restructuring on a local scale and assuaged its results through the creation of new jobs. This has been particularly important in the face of job losses in traditional heavy industries and the lay-offs in other overstaffed manufacturing industries. On the other hand, great regional differences in these processes are visible. Europe's industrial centre expands primarily to the areas located in its immediate vicinity and with good transport links with the old centres. Local economies at the logistic periphery of the Union are much less likely to attract new large investments in industrial mass production. Even those that already have an appropriate economic base inherited from the communist era may have difficulty with its maintenance and development.

Box IV.14. Automotive core of Europe.

The automotive industry in Europe is not evenly distributed throughout the continent. A large part of the sector, including both the production of cars and their components, is concentrated in a specific nucleus in the central part of the EU15, including southern Germany, north-west of France and Austria. In addition, there are separate clusters of the automotive industry in the UK, Sweden, Spain, Italy and Romania, i.e. countries with strong traditions in the industry. Overall, the areas of concentration of car production (and their parts) to a large extent overlap with the industrial centre of Western Europe. Given the decrease in importance of the heavy and textile industries, the automotive industry has remained one of the most important sections of manufacturing, closely linked with other major industries such as the chemical and machinery manufacturing industries. The expansion to the new Member States indicates the inclusion of these countries into the European manufacturing network. At the same time, the roles played by individual NMS10 in the European automotive industry indicate the general nature of economic integration of Western and Central Europe – NMS10 take over relatively lower value added manufacturing (car parts; cheaper mass models of cars), while development of close economic cooperation depends significantly on geographical proximity and the quality of the transport network.

Map IV.2. Employment in the automotive industry in EU27 sub-regions (NUTS3) (percent of all employed in 2008*, left panel) and in Poland (right panel, in 2000 and 2008).



*or the latest available data (since 2006)

Source: Own elaboration based on Eurostat and Ward and Loire (2008).

This pattern does not include sectors that produce fewer units with higher value added, not requiring extensive logistical channels to support mass production. In the automotive industry this exception can be observed in the production of buses. Local centres of this industry are located in the north and east of Poland (Słupsk, Starachowice) and have managed to attract foreign investors and maintain and expand their production. Nonetheless, also in this case new investments are usually located closer to Poland's western borders (e.g. Wrocław, Poznań).

Sectors with a smaller production scale but with high value added have another important feature. They provide opportunities for the development of local companies based on local resources – skilled workers or the existing manufacturing base – and their subsequent entry into the international markets. Mass production with relatively low margins (such as in the case of lower-cost models of cars) depends very much on the economies of scale and thus on access to foreign markets, usually an insurmountable entry barrier for local businesses.

Initially local producers of goods with higher value added per unit may focus on the domestic market, which in many cases is absorbent enough to give scope for further development of the company and its foreign expansion. This pattern has been used successfully by a few Polish companies producing public transport vehicles (e.g. Solaris in Poznań and PESA in Bydgoszcz). From a local perspective this is advantageous for several reasons. In addition to the potential multiplier effects of greater proportion of value added remaining in the country and additional employment in the national headquarters, there is also the effect of *home bias* – greater willingness of entrepreneurs to invest in the area where they come from (concerning both portfolio investment in the country of origin and location decisions based on behavioural factors).

2.2.3. Polish growth poles as European centres of simple and complex business services

Poland and other new EU member states, while being increasingly involved in the international trade of goods and attracting investment in production facilities, are also connecting to the rapidly growing global market for services. While the medium-tech sectors (white goods) or high-tech sectors (electronics, automotive) are being located in the suburbia of metropolitan areas and in smaller centres in south-western and central Poland, business service and research and development centres are usually located in the growth poles. This is because the source of comparative advantage of the largest Polish cities in the international markets comes from a relatively large stock of inexpensive human capital, combined with regulatory and institutional stability, and the availability of adequate office space and telecommunications infrastructure, all highly valued by investors. As a result, global participation of Warsaw, Kraków, Wrocław and Łódź is more manifested in service sectors than in manufacturing, which prefers rather smaller centres located in the immediate vicinity of these cities.

The sector of business services is growing exceptionally fast in the largest Polish cities. This happens thanks to independent BPO centres specialising in outsourcing (usually these are Western BPO companies – in Poland they hire about 60 per cent of employees in this sector – cf. ABSL 2010), and shared service centres (SSC), subsidiaries associated with foreign companies. While the development of the IT sector is limited by the relatively small number of highly-skilled professionals, especially compared to the global IT offshoring hub – India, in the case of business services, Poland, similar to other new EU Member States, can offer a large number of relatively well-educated people who know not only English but also other European languages. These language skills give Poland (and the rest of Central Europe) a competitive advantage over India, China and other emerging economies (Gál 2010). In addition, NMS countries are within the same cultural circle as Western countries which are the main recipients of BPO/SSC, and European Union membership provides them with the legal and institutional stability that is crucial for doing business. In combination with lower labour costs, compared to most developed countries, this leads companies from Western Europe increasingly often to transfer part of their business processes to NMS10 – known as nearshoring. For similar reasons, non-EU companies – mainly from the USA but also new emerging economies, such as India – also choose NMS10 countries, including Poland, as the location of foreign investment in the business services sector. Those non-EU companies are encouraged by an additional incentive - the possibility of effective operation in the European outsourcing market.

Box IV.15. Outsourcing, offshoring and nearshoring.

Outsourcing occurs when a company pays an independent specialised company to perform some tasks of its value chain. These may include the purchase of intermediate products from suppliers and managing business processes such as bookkeeping and customer service. Outsourcing allows companies to focus on the activities in which they have the greatest competitive advantage, and subcontractors may use economies of scale leading to reduced costs and prices. **Offshoring** is associated with the relocation of some part of the value chain overseas. It may assume the form of foreign direct investment or cooperation with external companies from abroad.

Table IV.12. Outsourcing and offshoring of business services.

Origin of the business service	Affiliated company	Independent company
Country	Production within the company	Domestic outsourcing
Abroad – offshoring	Creation of foreign subsidiaries (SSC) through FDI	International outsourcing

Source: WTO (2008).

Nearshoring is a special kind of offshoring, when part of the company's activity is transferred to another country in the vicinity of the home country (e.g. within the European Union). The distinction between offshoring and nearshoring appeared in the wake of scepticism towards the transfer of key elements of the business process to too distant countries, also in terms of culture and institutional and regulatory environment. Nearshoring means lesser risk associated with dependence on a situation in unstable regions of the world, while obtaining the desired cost reduction.

The growing importance of business services in Polish foreign trade and its growth after joining the European Union is illustrated in Figures IV.28 and IV.29. There is also a greater diversification of business service customers from the EU15 compared to the total exports of services (see Figure IV.30) where international travel and transport services are the most important, and Germany is the largest recipient. Nearshoring occurs between all of the EU15 and NMS10, not only between neighbouring states. Poland, next to the Czech Republic and Romania, is a regional leader in terms of BPO/SSC growth after 2004.

Although after the Polish accession to the EU the balance of trade in business services has improved, it has not been due to the development of export-oriented segments of the market and cost rationalisation in Western companies through outsourcing, but rather through higher investments of foreign companies in advertising and marketing in Poland, mainly targeting the Polish internal market (see also Box III.5). The services offered by the Polish BPO/SSC, despite a significant increase in sales after 2004, have failed to significantly influence the balance of foreign trade - it remains close to zero.

Figure IV.28. Change in foreign trade in business services* and all services in EU countries, 2004-2009 (2004 =100).

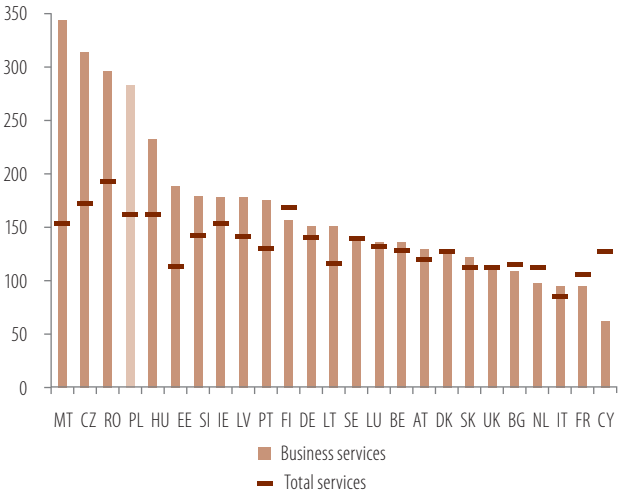


Figure IV.29. Value (percent of GDP) and structure of services export from Poland, 1999-2009.

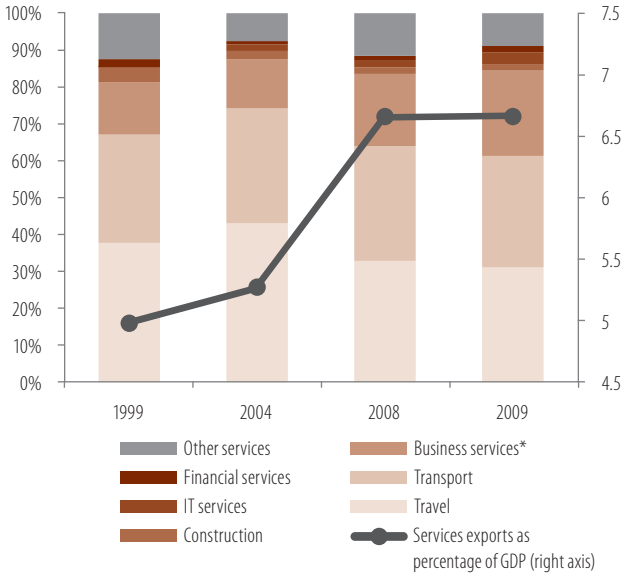


Figure IV.30. Structure of services export from Poland by trade partner, 2009.

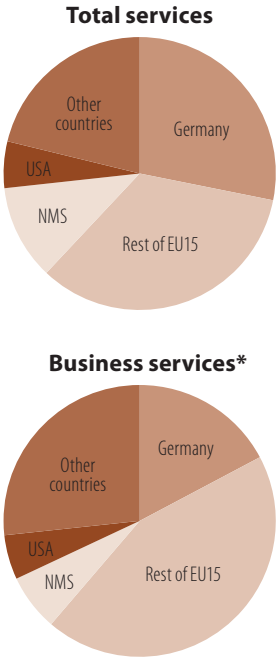
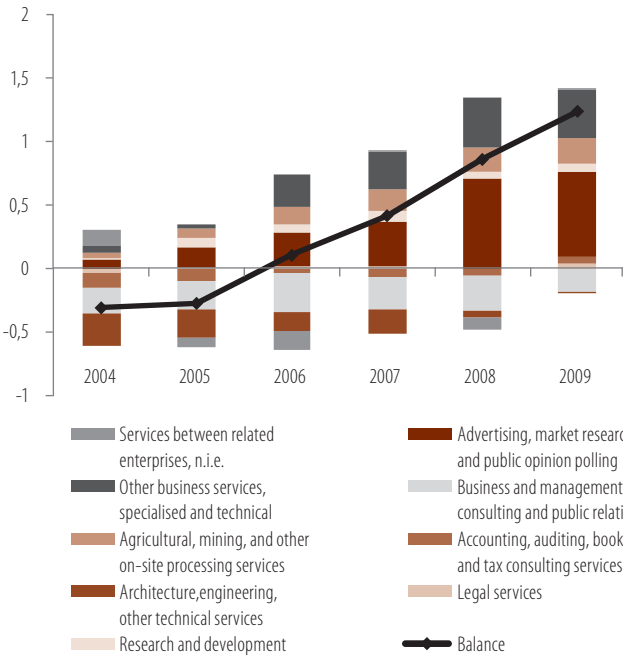


Figure IV.31. Polish trade balance in business services, 2004-2009 (billions of euro from 2005).



Notes: *code 273 in the EBOPS classification (Miscellaneous business, professional, and technical services); no data on business services for Greece and Spain in 2004; constant prices calculated using deflators of foreign trade in each country.

Source: Own elaboration based on Eurostat data.

This phenomenon can be explained by payments for services with high added value provided by the Western corporate headquarters for their national representatives. On the other hand, emergence of business services centres in a city enhances employment, also through multiplier and income effects, although weaker than in manufacturing. According to estimates by an organisation of SSC/BPO companies, these effects account for an additional 265 jobs per 1,000 newly created in this sector (ABSL 2010). Due to the profile of activities and skills required from workers (especially language), it also reduces the problem of unemployment among graduates in humanities and economics. In Poland, investments in BPO/SSC are being attracted mostly by the growth poles (Kraków, Warszawa, Wrocław, Łódź, Poznań). Their advantage consists in their role as the main national academic centres that provide a large supply of potential employees, good transport accessibility and adequate infrastructure (primarily large office space, cheaper than in Western Europe) and often additional investment incentives. Importantly, the vast majority of business services investments in Poland and other NMS10 are characterised by relatively low value added – bookkeeping or customer service (i.e. call centres). Centres engaged in the management of business processes and analytics have so far been a minority, employing only a few percent of the employees of the sector. However, there has been a progressive increase in the complexity of the supported processes which demonstrates a growing importance for the Polish workers' qualifications in the BPO/SSC sector, and decreasing significance of lower cost of their labour (ABSL 2010).

Figure IV.32. Complementarity of government spending (vertical axis) and private spending on R&D (GDP percentage).

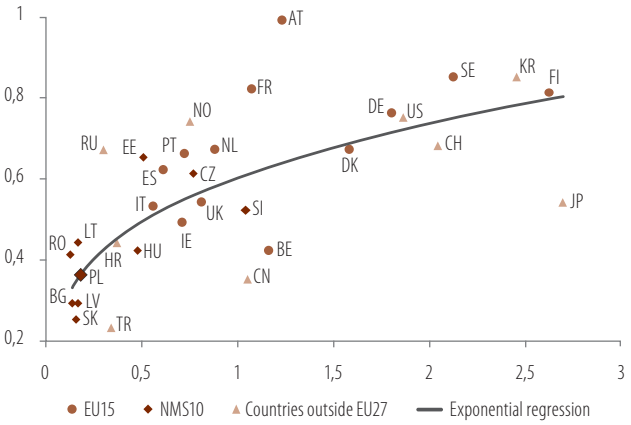
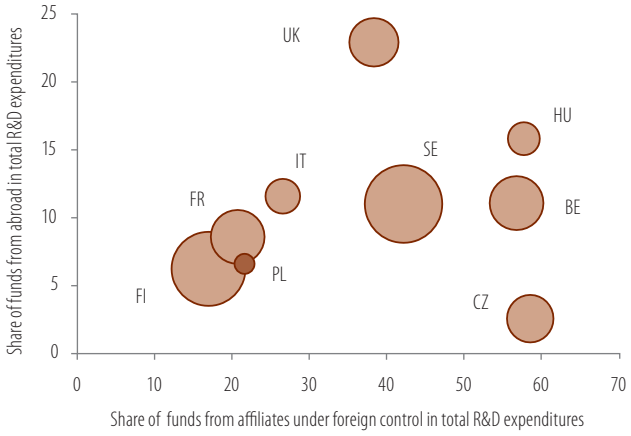


Figure IV.33. Internationalisation of R&D in selected countries – foreign sources of R&D financing, 2006.



Notes: Left Figure – data for Belgium, Denmark, the Netherlands, Norway, and Sweden from 2007, right Figure: size of bubbles – business expenditure on R&D as the percentage of GDP, data for the activity of subsidiaries in Belgium and Hungary from 2005, data on foreign orders for Sweden from 2007.

Source: Own elaboration based on OECD (2009) and Eurostat data.

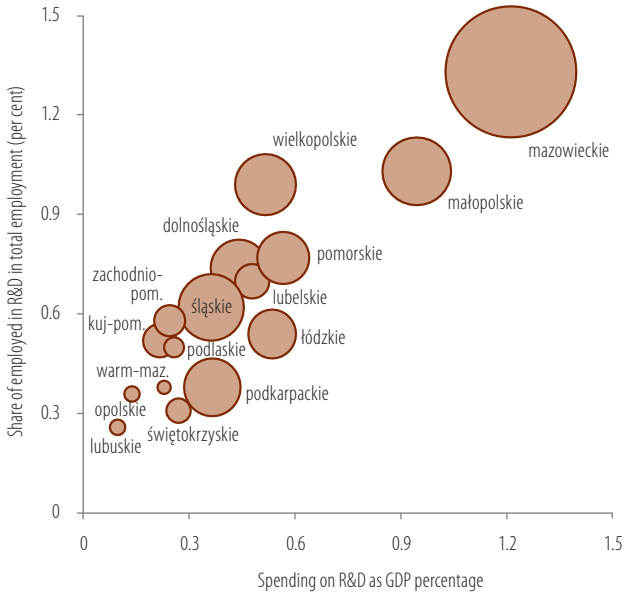
While defining the role of growth centres in Poland in the globalisation process, particular attention should be paid to one of the types of business services - research and development centres (R&D). The R&D sector, the main source of global development, is increasingly globalised. Until recently present only in developed countries, R&D has for a long time been immune to relocation trends. Over the last ten or so years the development of international corporations, shorter product life cycles and the resulting need to increase the intensity of research, improving research infrastructure and availability of scientists in less developed countries accompanied by the emergence of new communication technologies (the Internet) have resulted in the growing relocation of R&D centres abroad in order to optimise costs (Blanc and Sierra 1999, UNCTAD 2005). This relocation is mainly associated with the demand-side factor – the necessity to adapt products and services to the needs of local markets (UNCTAD 2005, Narula and Guimón 2010).

Thus, among developing economies, the largest investments are most likely to be attracted by countries with a large market, adequate research infrastructure and low cost of employment of professionals (Kumar 2001, Athukorala and Kohpaiboon 2010). In the case of developed countries, supply factors are more important, namely the quality and uniqueness of local knowledge resources and competences (Narula and Guimón 2010). Similar processes also occur at the level of the enlarged European Union – corporations rationalise their research and development networks through locating them primarily in the most developed EU countries, while their activities in NMS10 are focused on adapting products to local markets and improving production processes in local factories rather than developing new products for the global market (cf. Hancke and Kurekova 2008).

At the local level, metropolitan centres have the greatest potential for attracting and developing R&D centres. In addition to greater human capital compared with other areas, they have an advantage of closer ties with foreign countries and other metropolises, which allows not only the generation of knowledge based on local resources but also the absorption from other centres around the world (Simmie 2003). This results in the emergence of a global network of cities concentrating research and development centres, connected

by strong telecommunication and transport ties. Peripheral regions, even near the growth poles of development, are involved in this process only to a very limited extent, also when it comes to knowledge spillovers (Hardy 2007).

Figure IV.34. Employment* in R&D in companies (size of bubbles) and share of total R&D in employment* and GDP of Polish voivodeships, 2008.



*in FTE.

Source: Own elaboration based on Central Statistical Office data (GUS).

Table IV.13. Share (percent) of R&D centres in employment* and spending on R&D in companies in selected EU countries, 2008.

		Employment	
	Spending	Total*	Researchers
Poland	28	35.2	33.8
Czech Republic	13.5	16.5	17
Slovakia	28.9	31.1	31.4
Slovenia	5.6	8.6	9.5
Lithuania	12.2	10.4	11.2
Latvia	21.3	19.6	15.4
Estonia	11.5	13.9	14
Romania	18.9	13.1	13.8
Bulgaria	24.7	36.9	38.2
Finland	3.2	3.7	3.5
Spain	20.2	17.2	21.4
Portugal	1.7	2.5	3.2
UK	31.3	4.8	6.2

*in FTE.

Source: Own elaboration based on Eurostat data.

In comparison with the EU15 and Central European countries, Poland's private spending on R&D is low, which results largely from low public involvement in this area. Private and public expenditures on innovation and science are in fact highly complementary (see Figure IV.32). Public resources create a basic scientific research base, both in material (universities, laboratories, etc.) and personal sense (adequately trained researchers and scientists), which then can be used by the private sector to build its own centres. The private sector may then use the spillovers of a strong public involvement in innovation, this way reducing the risk of such activities. Low spending of the Polish state on science results in the poor ability to attract innovative activities of foreign and domestic investors and difficulties with creating national centres of this type. Internationalisation of the R&D sector in Poland is very low, both in terms of direct investments as well as orders from abroad (which in most countries are at a much lower level than FDI, as corporations prefer to maintain direct control over the research process for fear of technology leakage than outsource research to foreign entities).

At the same time, national research and development activity is concentrated in major urban centres. Mazovia, thanks to Warsaw, is a leader both in terms of relative importance of R&D in the local economy and the absolute size of resources involved (see Figure IV.34). In addition, the concentration of research and development in the capital and other cities is influenced by its sectoral structure – in Poland it is concentrated in specialised R&D centres (see table IV.13), while in many other countries in production plants. In combination with the low overall level of expenditure on R&D it indicates the small innovative potential of Polish manufacturing.

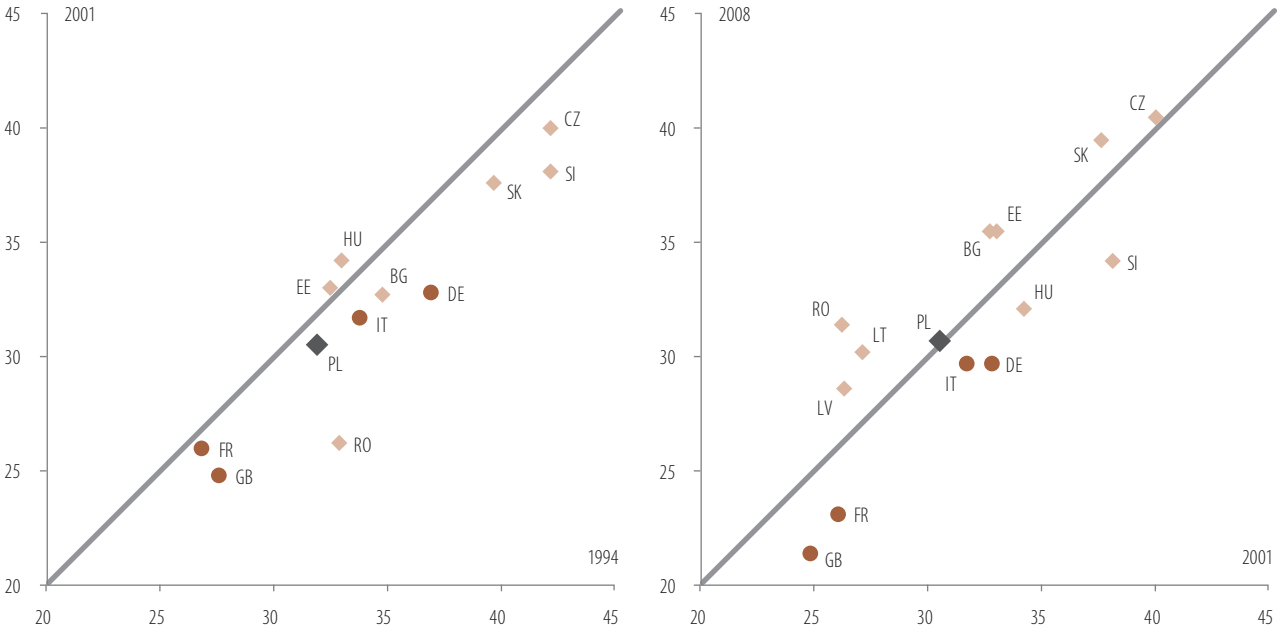
The rapid growth of FDI in R&D centres observed in recent years (see Box III.5, PAIiIZ 2010) shows that in terms of innovation Poland is integrating with the West in two ways. First, it is developing relatively simpler forms of manufacturing, and second, multinationals direct a certain part of their business processes with the highest value added to the largest Polish centres with the greatest human capital. The scale of this second phenomenon is hampered by low activity of the Polish state in financing research and development.

2.3. Silesian conurbation and Łódź – old industrial centres in a time of transition

2.3.1. Introduction

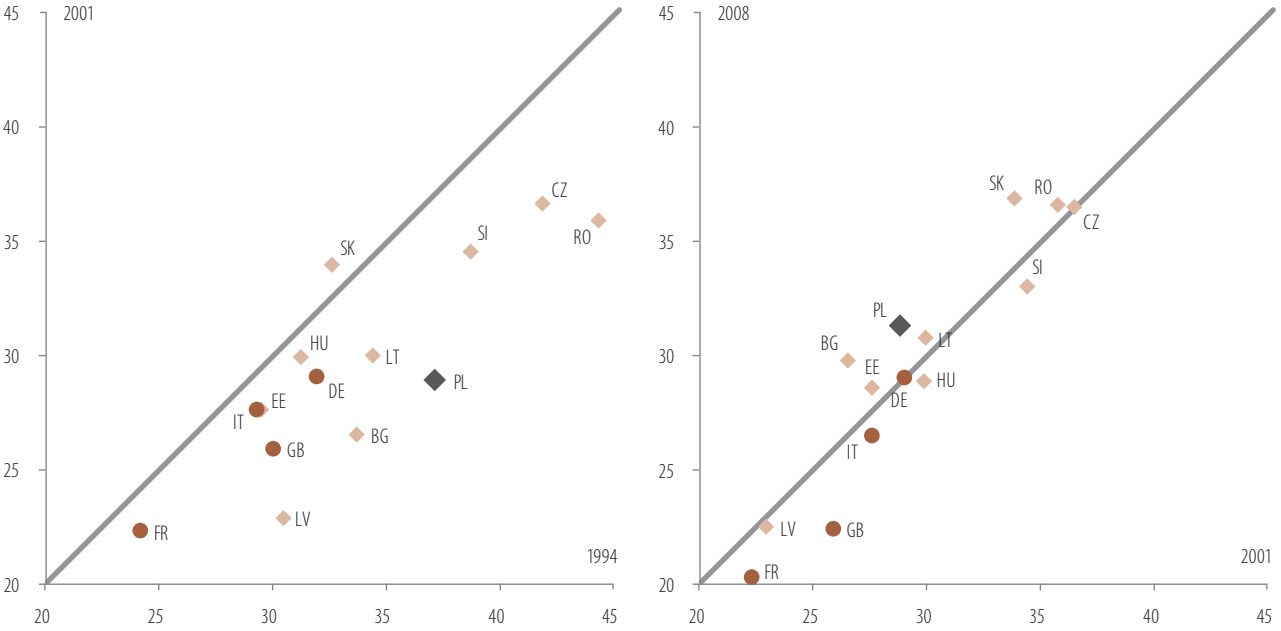
The first decade of transition in Central Europe was a period of intense restructuring of industrial enterprises, reducing the excesses of employment inherited from the centrally planned economy. Simultaneous expansion of the previously underdeveloped services sector resulted in a relative decline in the share of manufacturing in the GDP. This trend reversed after 2000, when most countries in the region experienced re-industrialisation (cf. IV.35 and IV.36 graphs).

Figure IV.35. Share of industry in employment in NMS10 and selected EU15 countries, 1994-2008 (percent).



Note: No data for Lithuania and Latvia for 1994.

Figure IV.36. Share of industry in GDP in the NMS10 and selected EU15 countries, 1994-2008 (percent).



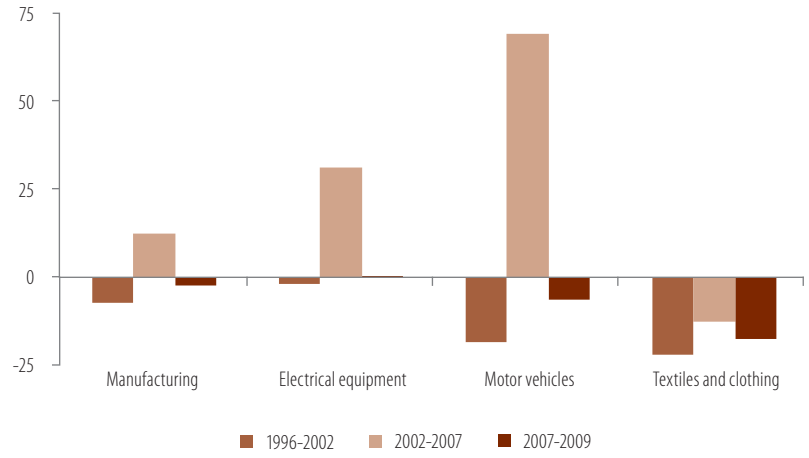
Source: Own elaboration based on World Bank and Eurostat data.

The initial decline in employment in manufacturing can be associated with the rationalisation of production in post-socialist enterprises, reinforced by investment processes eliminating the organisational and technological backwardness in relation to developed countries. The released excess of labour force moved largely to the expanding service sector, while part of the displaced workers became unemployed and economically inactive. In the first decade of transition, Poland and the rest of the post-communist states did not follow the Asian export-oriented model of modernisation, gravitating rather towards European patterns. Despite this, deindustrialisation finally stopped and the importance of the industrial sector in the economy stabilised at a relatively high level.

Many industries have even experienced reversal of the downward trend in employment. This is particularly true for those sectors that, in addition to a large labour force, also require suitably skilled production workers. Automotive and electronics industries are good

examples here. Poland and other regional states, with many relatively low-paid and well-educated workers, can quickly take over some medium-advanced manufacturing from Western Europe, offering in return substantially lower labour costs, higher return on capital, and in many cases a relatively large domestic market. At the same time, in the most labour-intensive industries such as textiles and clothing which require the least human capital, allow shipping over long distances, and hence are exposed to competition from developing countries, the decline in employment and production in all countries of Central Europe including Poland was also observed after the initial period of restructuring. Employment in manufacturing was also strongly affected by the crisis of 2008 – mainly in those sectors whose importance had been decreasing even during fast economic growth due to stronger competition from foreign producers. The economic downturn only accelerated the relocation of production abroad in some sectors.

Figure IV.37. Change in employment in selected manufacturing sectors in Poland, 1996-2007 (percent).

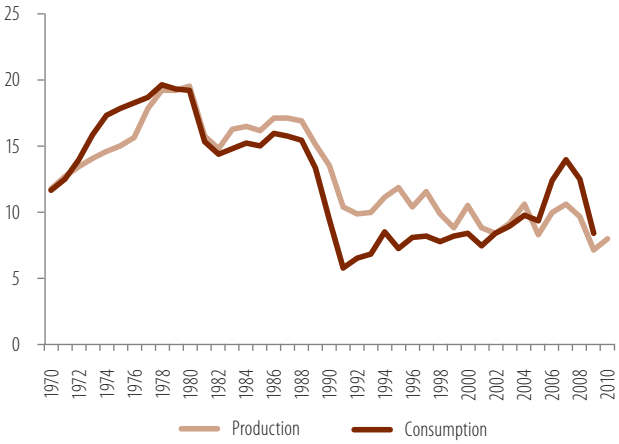


Note: For 1996-2007 classification NACE 2004, for 2007-2009 – NACE 2007.
Source: Own elaboration based on Eurostat and Central Statistical Office data (GUS).

2.3.2. Restructuring in Silesia – traditional heavy industry and globalisation

In 1990 Silesia was the most important region for the Polish economy. It concentrated on traditional branches of the heavy industry – mining and steel industries – sectors that are one of the most exposed to direct and indirect impact of global processes. The systemic transition of the Polish economy resulted mostly in the strong pressure to decrease material and energy intensity of production, which in turn led to a lower demand for steel, cement and energy. It comes as no surprise that given these new conditions, the Polish steel and mining industries had to go through restructuring similar to that which Germany and USA experienced a few dozen years earlier – reduction in employment, reorganisation of production processes, and organisational and capital consolidation.

Figure IV.38. Production and consumption of steel in Poland (million tonnes), 1970-2010.



Source: Own elaboration based on World Steel Association and HIPH data.

Table IV.14. Employment and productivity in the Polish steel sector, 1990-2010.

	Employment (thousands)	Productivity (thousands of tonnes of yearly production per person employed)
1990	147	92.5
1998	78.2	126.8
2008	29.4	330.4
2009	26.3	271.1
2010	25.5	314.0

The requirements of the domestic and global market have played a key role in changes in the Polish steel industry over the last two decades. The beginning of transformation was accompanied by a rapid and almost three-fold decrease in steel consumption in the country, related to the reduction of production in machinery manufacturing, defence and construction, and due to the rationalisation of production in other industries. The changes had to involve not only outdated technological processes but also reflect organisational and business trends in the global steel industry. Growth in exports to some extent mitigated the effects of a decrease in domestic demand, but the shock was so strong that within 2 years domestic steel production fell nearly two times. Although the economic upturn and a return to growth after 1993 did reinforce demand for steel, it was not sufficient to balance the initial decline. Gradual restoration of demand has continued throughout the two decades, but despite doubling of the Polish GDP, the demand for steel has never returned to the levels of the communist era. Additionally, imports of higher quality steel from European Union countries began to grow, resulting from outdated casting techniques used by Polish steelworks. It reflected structural changes that took place in the Polish economy in those years – the abandoning of material-intensive forms of production which were gradually replaced by production of machinery and devices that required higher-quality intermediate products.

In this situation the Polish steel industry required deep restructuring. Despite the long-lasting underinvestment from the period of central planning, the process of technological change in the production structure proceeded relatively quickly (see Figure IV.12). This, however, is mostly explained by the more rapid abandonment of the old capacities that proved excessive in the new conditions, and only to a lesser extent by new investments. At the same time there has been a significant reduction in employment in the sector related to technological change, reduced production and the reduction of overstaffing inherited from the times of the socialist economy.

Figure IV.39. Export and import of steel in Poland (in millions of tonnes) and share in domestic production and consumption (per cent), 1988-2009.

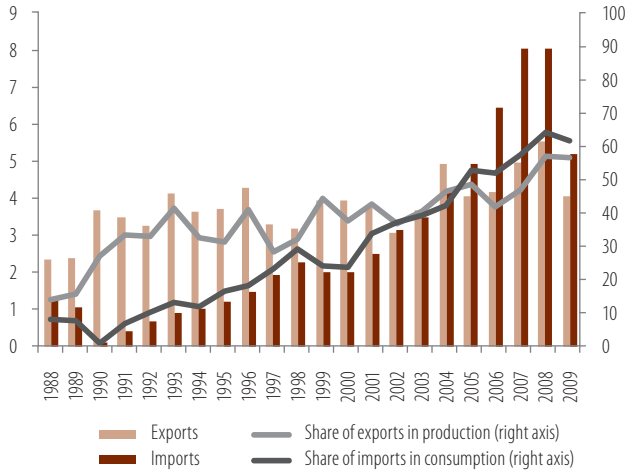
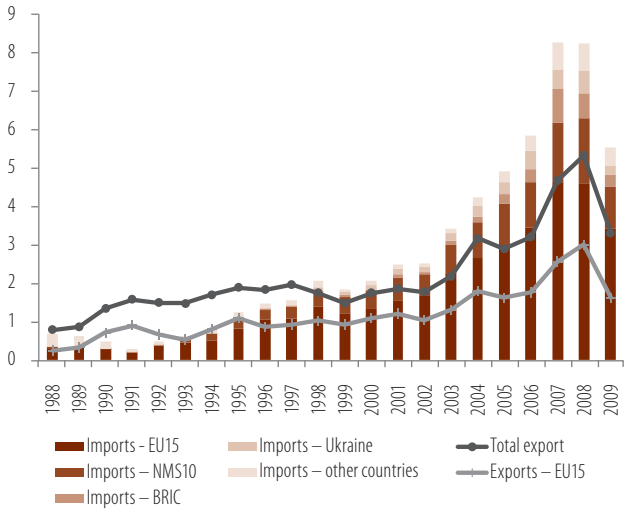


Figure IV.40. Directions of the Polish foreign trade in steel products in 1988-2009 (billions of 2005 dollars).



Note: Constant prices were calculated using the US BLS steel price index

Source: Own elaboration based on World Steel Association, UN Comtrade and US BLS data.

Changes in the Polish steel industry in the 1990s were not sufficient, despite their relatively fast pace (especially compared to Western Europe after the steel crises twenty years earlier). The weaknesses became apparent after the Russian crisis of 1998. The value of exports significantly decreased, accompanied by a further increase in steel imports. In the conditions of the economic slowdown, unsophisticated output targeted at extensive sectors of the economy was losing ground to better quality steel used in the production of higher value-added goods. There are some similarities between the situation of the Polish steel industry in the late 1990s and the problems of US manufacturers in the 1970s and 1980s. In both cases, the industry was not prepared to cope with changes in demand resulting from changes in the entire economy, and hence was losing to foreign competitors; in the USA – to Japanese steel mills, in Poland – to metallurgy in Western Europe and more technologically advanced countries of Central Europe, such as the Czech Republic. In this situation, the restructuring of the Polish steel industry continued with considerable government support – resulting in more job cuts, consolidation and privatisation of the largest producers and change in the production profile of smaller integrated steel mills (see Box IV.13).

Adaptation of the Polish steel sector is not yet complete – its production and export is dominated by goods with a relatively low value added, while higher-quality steel for which there is a constantly growing demand in the country (e.g. metal sheets used in the automotive industry) is still mostly imported from EU countries, enhanced by the integration of the European steel market. Employment restructuring and capital commitment of large multinationals, however, gives the chance of increased investment in new production technologies which could be used to meet domestic demand and improve the competitiveness of exports. This is indicated by data on investment in fixed assets in Poland (see Table IV.16) which after the changes in the 2000s began to get close to the EU average

(similar processes can also be observed in some other new EU Member States). As there still is a substantial productivity gap relative to Western metallurgy this suggests that the convergence will continue, which in the conditions of limited demand should be reflected in a further decline in prices and number of jobs, accompanied by improving productivity in the sector.

Box IV.16 Restructuring of the Polish steel industry after 1999.

Managing and choosing the path of the Polish steel industry restructure depended on the policy of the Polish government, the owner of the majority of Polish mills in the early 1990s. Over three years employment in the sector was reduced by 50 per cent under the protection of the *Metallurgical Social Package* (*The agreement on the terms of social protection of iron and steel sector restructuring*). Steelworks also continued modernisation of production, but their fragmentation and the limited availability of funds meant that productivity and competitiveness had not improved enough for them to survive without subsidies from the state and thus meet the European requirements. Given the need for further restructuring, the Polish government decided to consolidate and privatise the industry. The *Act on the restructuring of the iron and steel sector* came into force in 2001, and in 2002 four major companies merged to form the Polish Steelworks SA concern (Huta Katowice SA, Huta im. T. Sendzimira SA, Huta Florian SA and Huta Cedler SA). In 2003 it was sold to a foreign investor – Mittal Steel Company NV, the largest steel producer in the world (now - ArcelorMittal). At the same time, most of the other mills (e.g. in Stalowa Wola) abandoned steel production, focusing on activities with higher value added, such as steel processing and production of machinery. Over the next several years, the restructuring program was completed and state subsidies were withdrawn from the Polish steel industry.

Table IV.15. Labour costs as percentage of value added in steel production in selected EU countries[i].

	2000-02	2003-05	2006-08
EU27	-	13.8	11.1
Germany	20.7	18.7	13.8
Spain	13.2	12.1	8.8
Czech Rep.	13.9	9.5	9.1
Poland	17.2	9.4	8.3
Romania	14.6	9.3	8.1
Slovakia	11.2	10.5	9.7
Hungary	10.7	11.5	10.6

Table IV.16. Gross investment in fixed assets per person employed, thousand euro (current prices), 1999-2008.

	1999	2002	2004	2006	2008
EU27	-	-	9.1	12.2	15.0
Germany	11.6	9.6	8.3	8.9	13.6
Spain	15.6	13.2	14	14.8	25.4
Czech Rep.	5.9	2.2	3.3	4.8	7.4
Poland	3.0[i]	1.6	2.7	8.4	12.3
Romania	1.9[ii]	2.3	6.3	6.2	8.8
Slovakia	4.3[ii]	5.3	6.8	7.3	7.9
Hungary	3.3	4.0	5.2	7.6	12.0

Note: i) the average of values available in a given period ii) data for 1998, iii) data for 2000.
Source: Own elaboration based on Eurostat data.

Hence, over the last dozen years the Polish steel industry has experienced the accelerated process of adaptation to new conditions, dictated primarily by transnational processes – technological change, consolidation of manufacturers on a global scale (see Box IV.17a) and the intensification of international trade. These processes have influenced the situation on the local labour markets where large steel plants are located. Redundancies were the main challenge – the number of job seekers rapidly increased in the regions of steel production, especially in Silesia. The protective measures included allowances to help the laid-off workers start their own businesses, but they were not used for this purpose on a larger scale and so had a limited impact on unemployment (PARP, 2004). Demand for the steel industry ex-workers decreased due to the reorientation of many mills to less labour-intensive production with higher value added.

The examples of cities in Table IV.18 show local differences in the effects of heavy industry restructuring. In the majority of local labour markets, shocks were not long-lasting. The only exception was Świętochłowice. It is the smallest city in the list and restructuring of steel mills there was accompanied by a collapse of the local mining industry. Given the limited adaptability of the small local economy, combined with a strong shock striking its base, the town has so far been characterised by high rates of unemployment compared to the entire country and the Silesian region. Larger centres have fared much better. Smaller mills which have not become part of larger conglomerates successfully moved from steel-making to steel processing or production of parts and machines. The focus of these mills on new areas of activity with higher margins which do not require large-scale production helped them to survive and preserve a significant part of employment.

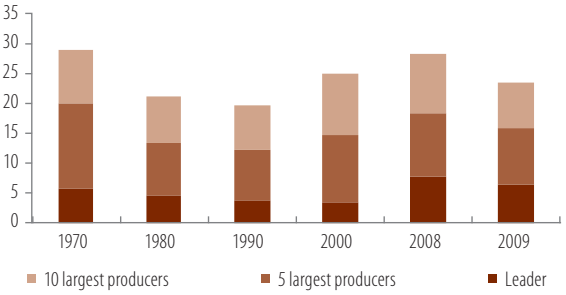
Box IV.17. International consolidation of the steel industry.

After the initial deconcentration of the global steel market in the aftermath of the 1970s shocks, associated with the spread of small producers in the markets of developed countries, the industry re-consolidated in late 1990s. Large factories were forced to reduce their production capacities, losing advantages resulting from economies of scale. It proved necessary to connect individual producers into larger conglomerates. Initially, this process occurred within individual countries, but the reduction of barriers to capital movement in the world and the emergence of new players in the emerging markets accelerated the consolidation of the industry on a global scale. As the major manufacturers saw their market segments shrink, they could not adapt to changes by reducing their own production in the existing plants, as it would incur the risk of losing economies of scale on which their profitability depended. The industry was therefore forced to adapt to the new situation by reducing the number of large companies by mergers. In Poland, the degree of consolidation of the steel industry is now higher than in major Western countries. On the one hand, this is the result of a strategy adopted by the state in restructuring the sector, on the other – the result of the size of domestic production. In contrast to countries such as Germany or the USA, it was not possible to create several entities which could achieve the scale of production that would be high enough to benefit from its positive effects.

Table IV.17. Ownership structure of steel and iron industries in selected countries, by maximal capacity of crude steel production, per cent.

	Poland	France	Germany	USA
Leader	67	63	35	19
3 largest producers	88	77	68	52
5 largest producers	99	84	77	71

Figure IV.41. Share (per cent) of the largest steel producers in global steel production, 1970-2009.



Note: Data for France from 2008, for Poland from 2009, for the USA and Germany - from 2010, for Germany data related to the share in goods produced.

Source: Own calculations based on HIPH, American Iron and Steel Institute, Fédération Française de l'Acier, Wirtschaftsvereinigung Stahl and World Steel Association data.

The situation in Silesia in 1990-2005 is sometimes compared with the problems of traditional industrial centres in Western Europe 10-20 years earlier, and the entire industrialised region of south-western Poland and the Czech Republic is sometimes referred to as the Central European Rust Belt (e.g. Hospers, 2004). However, in contrast to the previously described cases of the American Rust Belt and the German Ruhr area, the process of deindustrialisation caused by the situation in heavy industry in those areas was stopped by the rapid growth in other sectors of manufacturing, especially the automotive industry.

Transformation of Silesian manufacturing is visible in the decomposition of labour productivity changes in 1999-2007. In the decomposition, the overall productivity growth in the period has been broken down into changes of productivity in particular branches of manufacturing and the effects of changes in the employment structure. In the absence of reliable data on value added for each section at the voivodeship level, we used the value of sold production per employee as an indicator of efficiency. In our calculations we used a method similar to that used by Caselli and Tenreyra (2005) in their calculations of the productivity gap between European countries, but instead of comparing two economies in one period, we compared manufacturing in one area (Silesian voivodeship) in two periods.

Decomposition results (Figure IV.42) indicate that a change in manufacturing structure in Silesia has been important for productivity growth in the region, but this effect is almost entirely due to the expansion of the automotive sector whose performance is very high compared to the rest of manufacturing in the area. In turn, the restructuring of the steel industry is responsible for most of the total productivity growth in manufacturing resulting from changes in productivity within individual sectors, despite the fact that this is not a sector with the largest share in employment. In mining, productivity growth looks less impressive. Taking into account the differences between the price dynamics in individual industries, the improvement in productivity in mining has been largely due to higher coal prices in world markets. Higher steel prices have also contributed to improving the efficiency of the iron and steel industry, yet even after taking into account this effect, there is a clearly visible impact of restructuring on the improved productivity in Silesia.

Table IV.18. Local effects of restructuring in Silesian conurbation.

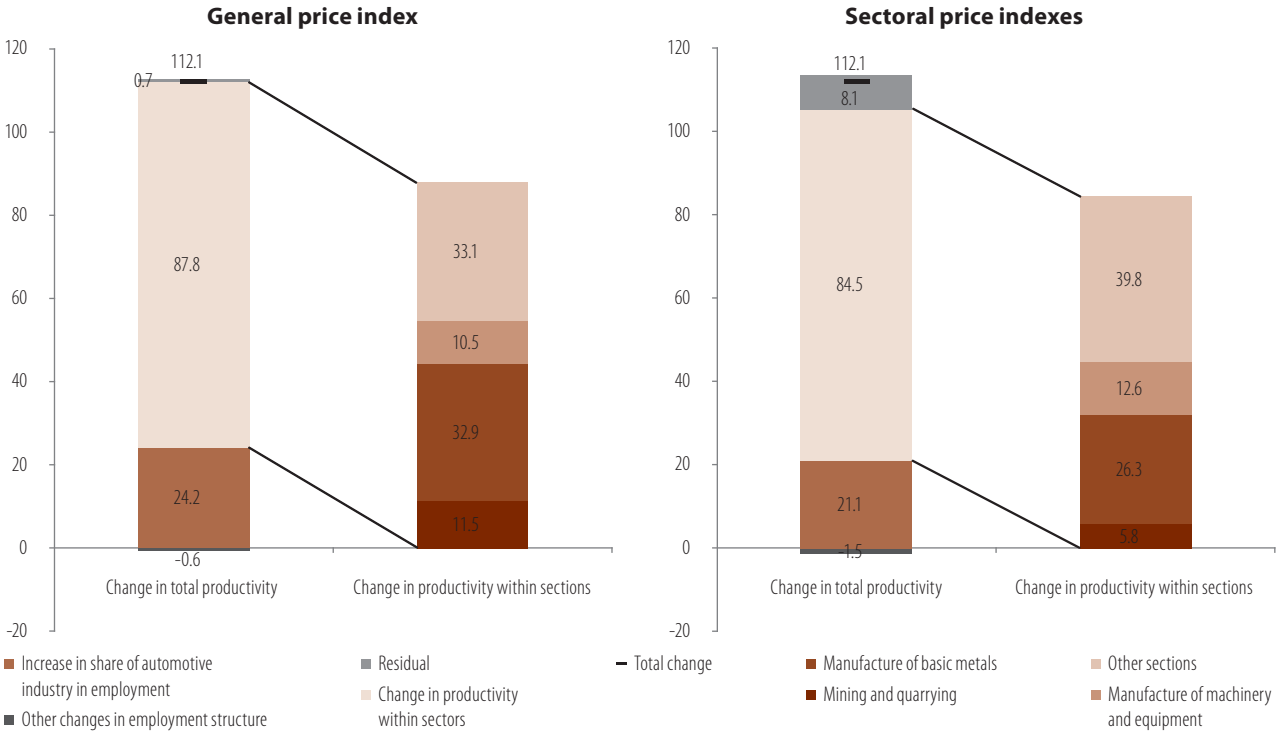
Town	Mill	Effects of restructuring	Unemployment rate at the end of the year (per cent)		
			2000	2005	2010
Silesia					
Chorzów	Batory Steelworks	Ceased steel production, shift to steel processing	16.0	22.2	11.5
	Kościuszko Ironworks	Ceased iron production, separation and sale of the Królewska Ironworks			
Świętochłowice	Florian Steelworks	Merger and privatisation within PHS S.A., currently ArcelorMittal Poland	13.4	25.3	17.2
Dąbrowa Górnicza	Bankowa Steelworks	Ceased steel production, shift to steel processing	16.2	17.9	11.2
	Cedler Steelworks	Merger and privatisation within PHS S.A., currently ArcelorMittal Poland			
	Katowice Steelworks	Merger and privatisation within PHS S.A., currently ArcelorMittal Poland			
Częstochowa	Częstochowa Steelworks	Privatisation – foreign investor	12.0	15.2	11.6
Gliwice	Gliwice Steelworks	Bankruptcy in 2000	10.1	12.8	6.9
	Łabędy Steelworks	Ownership by the Treasury			
Katowice	Baildon Steelworks	Bankruptcy in 2001	4.3	7.7	3.8
	Ferrum Steelworks	Privatisation			
Województwo śląskie	–	–	12.9	15.4	9.9
Centres outside Silesia					
Stalowa Wola	Stalowa Wola Steelworks	Ceased steel production, concentration on machinery production	15.2*	14.7*	14.4*
Kraków	Tadeusz Sendzimir Steelworks	Merger and privatisation within PHS S.A., currently ArcelorMittal Poland	5.0	6.9	4.7
Warszawa	L.W. Steelworks	Privatisation	3.3	5.6	3.4
Poland					
Poland	–	–	**15.1**	**17.6**	**12.3**

* Stalowa Wola powiat

Source: Central Statistical Office data (GUS), PUP (Regional Job Office) in Katowice, PUP in Stalowa Wola.

Analysis of changes in productivity in various manufacturing sections confirms the crucial importance of the two aforementioned global processes for the Silesian economy, namely (i) restructuring of the steel industry and its integration into the world market and (ii) the expansion of the European automotive industry to the new EU member states, described previously. Finally, the development of the automotive industry has been mostly concentrated in several centres around large manufacturing plants in Tychy, Bielsko-Biała and Gliwice, the first two towns of which have not been directly affected by the restructuring of the steel industry. Thus the dynamic development of the automotive industry has not always been able to offset the negative results of transformations in the steel sector in other local labour markets.

Figure IV.42. Decomposition of labour productivity growth in manufacturing (excluding construction) between 1999 and 2007 in the Silesian voivodeship taking into account the contribution of different price dynamics in individual sectors (right panel) or without taking this effect into account (left panel).



Notes: Data for enterprises employing more than 9 employees; calculations of constant prices used PPI in two variants: 1) a general index for total manufacturing (excluding construction), and 2) separate indexes for individual sections of manufacturing.
Source: Own calculations based on CSO and Eurostat data.

Table IV.19. The automotive industry, situation in the labour market and demographics in the subregions of the Silesian voivoideship.

Subregion	Enterprises of the automotive industry per 10 thousand people of working age	Rate of registered unemployment	Change in population, 1999-2010 (percent)
Bielski	2.48	9.26	1.49
Tyski	1.66	6.04	1.22
Częstochowski	1.47	13.57	-3.06
Gliwicki	1.14	9.23	-5.15
Katowicki	1.05	6.7	-6.72
Sosnowiecki	0.93	13.39	-3.77
Bytomski	0.90	14.03	-4.84
Rybnicki	0.41	9.21	-1.96

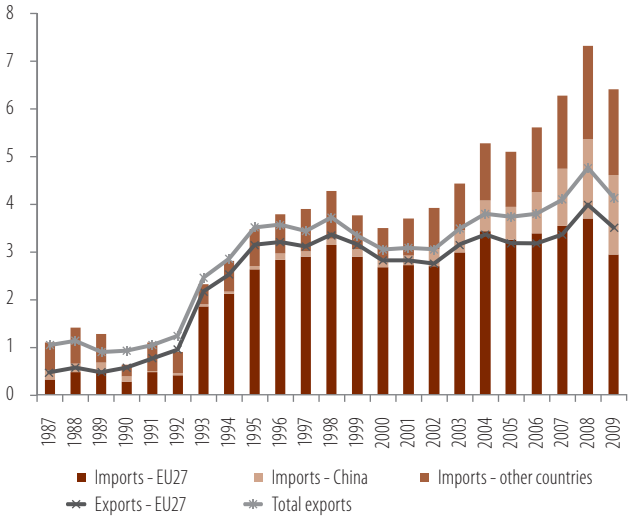
Source: Own elaboration based on Central Statistical Office data (GUS).

2.3.3. Łódź – from textile tradition to a new economic base

Among the major Polish cities, Łódź is the most visible example of the impact of changes in the international division of labour on the restructuring of the local economy. Global processes have resulted not only in the weakening importance of the traditional economic base of the city but also in the formation of the new foundations of its growth. The textiles and clothing industry created the wealth of Łódź in the 19th century and remained a key element of its economy until the 1990s. Over the last dozen years that situation has radically changed. Three external disturbances strongly reduced domestic demand for textile products, forcing Łódź to restructure its economic base. First came the transformation of the system in the early 1990s. In the newly introduced market economy, textiles producing companies had to rationalise their production processes and associated costs, with wages being an important cost component.

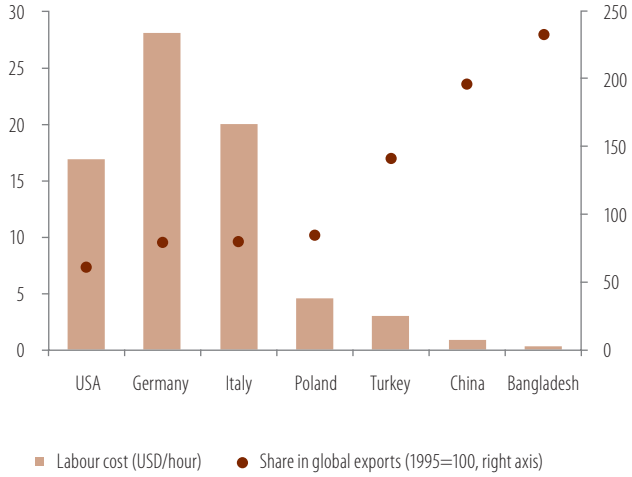
A reduction in the excess employment of the communist era was carried out at a fast pace, but the local labour market failed to absorb all the laid-off workers and unemployment quickly reached a level higher than in other major centres. The second shock to the Łódź labour market came in the late 1990s during the crisis in the Asian economies and Russia, which reduced external demand for the sector's production.

Figure IV.43. Poland – foreign trade in clothes and textiles, 1987-2009 (billions of 2005 dollars).



Note: Constant prices were calculated using the USA GDP deflator.
Source: Own elaboration based on Werner International and UN Comtrade.

Figure IV.44. Cost of hour worked (in dollars) in the textiles industry in selected countries and their share (percent) in the global export of textiles in 2007, compared with 1995.

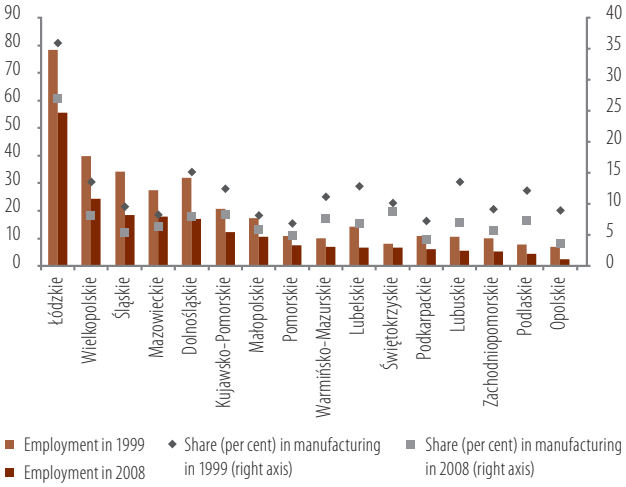


Source: Own elaboration based on UN Comtrade data.

Finally, the long-term structure of the local economy and labour market in Łódź was strongly affected by liberalisation of the global textiles trade in 1995-2005 (cf. Box IV.18). The balance of trade with European countries is now close to zero (Figure IV.43). European countries have remained the main markets for the Łódź textile production since 1992, when the EU abandoned many tariff and non-tariff barriers to Polish manufacturers after the implementation of the European Agreement. The growing deficit in the Polish trade in textiles and clothing is caused by increasing import from third countries, first of all from China, associated with the liberalisation of international trade in the light industry, which was achieved on a global scale as a result of the GATT Uruguay Round Agreement. Polish manufacturers are able to compete with Western companies mainly thanks to their lower labour costs, but the most labour-intensive forms of manufacturing, not requiring substantial human capital, are being transferred to the developing Southern countries with which the companies in Łódź have not and are not able to effectively compete. The Polish textiles industry, losing to the imports from China and other countries with lower labour costs, had to decrease its employment, especially in the simple and most labour-intensive forms of production. This meant a decline in the absolute number of workers in the sector and the sector's importance in relation to other manufacturing sections in the entire country. This process has been especially strongly felt in the Łódź region and the city of Łódź itself, still having the greatest and significant concentration of the textiles and clothing industry compared with the rest of the country (see Figure IV.45).

The high vulnerability of industrial centres such as Łódź to the liberalisation of trade in goods with low value added is associated with the structure of the companies. The centres of old manufacturing consisted of large and inelastic companies that could not compete with labour costs nor substitute labour with capital (such as steelworks), and so could not adapt quickly to the new market conditions. As a result, they were more exposed to foreign competition than smaller and more elastic companies, oriented towards a short series of production with higher value added. It is the largest companies, both in the textiles and clothing industries, where the employment has fallen the most (see Figure IV.48). Large companies producing textiles and clothes are usually oriented at the production of standard goods for a wider range of customers. However, in this market segment they are forced to compete with imports from developing countries which are more competitive due to the much lower labour costs. In the case of labour-intensive mass production, these factors decide the competitiveness and survival of the company. Unlike the steel sector, the textiles and clothing industry has limited possibilities of reducing its labour costs through increased automation and capital intensity.

Figure IV.45. Employment (in thousands) in the textiles and clothing industries, by voivodeship in 1999 and 2008.



Source: Own elaboration based on Eurostat data.

Table IV.20. Number of registered unemployed per 1000 people aged 20-64 in Łódź and selected large cities in Poland, 1992-2009.

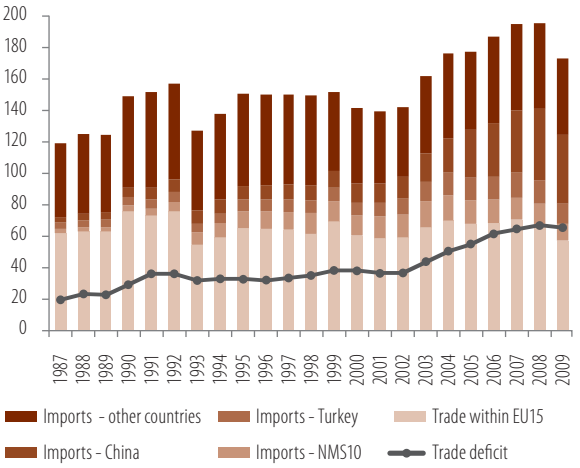
	Łódź	Katowice	Kraków	Warszawa
1992	141	42	70	34
1995	135	33	48	33
2000	109	52	50	32
2005	107	68	50	52
2008	45	18	21	18
2009	64	32	31	27

Source: Statistical Office in Łódź.

Box IV.18. Liberalisation of textiles trade in 1995-2005.

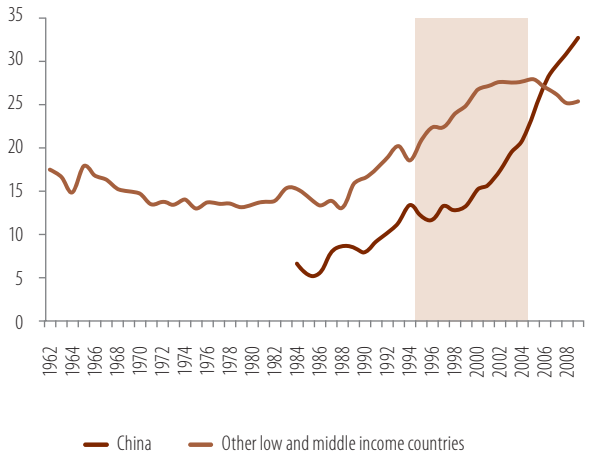
Production of textiles and clothing has for long remained one of the most protected manufacturing sectors in developed countries. Being aware of the competitive advantage of the Southern countries – the cheap and large labour force which started to be visible in the first postwar decades, developed countries commonly limited trade in textiles, e.g. through import quotas in bilateral agreements between individual countries. The quota system, regulated since 1974 by the Multi Fibre Arrangement, excluded products of the light industry from the GATT rules and was meant to be only a temporary means for the protection of the sector during its restructuring in the developed countries. However, only after the GATT Uruguay Round in 1994 was it agreed to apply the general rules to the international trade in textiles. The transition period took 10 years (1995-2005), when WTO members, including the EU and Poland gradually abandoned the quota system, and increasingly opened their markets to imports from developing countries.

Figure IV.46. Import of textiles and clothing by EU15, 1987-2009 (billions of 2005 dollars).



Note: Constant prices were calculated using the USA GDP deflator.
Source: Own elaboration based on UN Comtrade data.

Figure IV.47. Share (percent) of developing countries in the global trade in textiles and clothing, 1962-2009.



Note: The shaded area corresponds to the liberalisation of the trade in textiles.

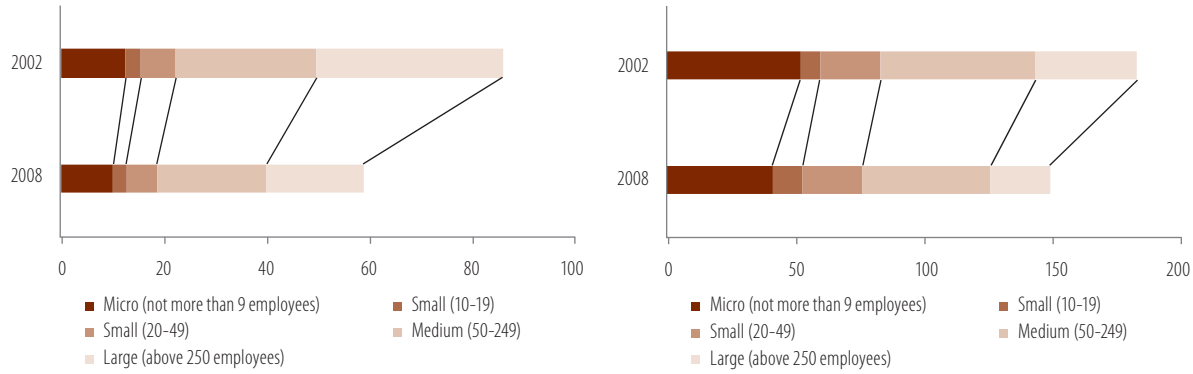
Despite the increased deficit in trade in textiles and clothing and the decrease in employment in light industry, developed countries have also benefited from trade liberalisation. As the IMF and World Bank (2002) show, the quota system cost the developed countries about 24 billion dollars a year due to higher prices for consumers and limitations in mutual trade. Developing countries, not able to use their comparative advantage, were losing a similar sum.

Liberalisation of trade in textiles was accompanied by an increase in the importance of China in the global textiles market. Thanks to the abundant workforce which could be effectively used in the new conditions, China has rapidly become the major exporter of textiles and clothing.

Importantly, even successful automation of the production process in large enterprises, which is more possible in the textiles industry (production of materials) than in the clothing industry (production of clothes), means lower employment. Additionally, large companies have limited abilities to rapidly move to higher market segments which require higher elasticity and adaptation to specific and small market niches.

Łódź authorities responded to the problem of a fast decline in the local industry by focusing on the development of other sectors (cf. McKinsey 2005) with greater growth potential in times of progressing globalisation. Primarily these are consumer electronics, business process outsourcing, and logistics. When it comes to the first two, the local labour market in the city may offer a large workforce with relatively high skills. The potential for growth in logistics results mainly from the location of the city which ensures fast connections with the domestic and European markets and thus attracts new investments in the logistics sector. This advantage of Łódź, however, is still not fully developed, as the network of highways in its region is not ready yet. Foreign investors are attracted by the Łódź SEZ and domestic potential from the proximity to Warsaw. Policy in relation to the textiles industry has usually adopted a defensive strategy, consisting of the economic activation of laid-off workers.

Figure IV.48. Employment (thousands) in the textiles (left) and clothing (right) in Poland, by company size, 2002 and 2008.



Source: Own elaboration based on Eurostat data.

In recent years, the city authorities have changed their approach to the textiles industry. They prefer to focus on the promotion of activities with relatively higher value added and lower vulnerability to competition from Southern countries that have much lower wages. These are activities requiring much higher human capital, e.g. sewing clothes for the upper market segment, introducing new materials or creative fashion. Such a change in the production profile, induced by the inability to compete in costs with the manufacturers of developing countries, should help local companies survive and enhance the creation of new enterprises, providing Łódź creates a cluster of fashion and modern textiles technologies. However, in this case, new jobs for high-skilled individuals will still be accompanied by a reduction in the simplest jobs in manufacturing.

Diagram IV.2. Stages of restructuring in Łódź.

Source: Own elaboration.

Thus, the challenge of restructuring is still present in Łódź. Its way will be similar to Western countries which have moved the labour-intensive part of production process in a given sector overseas either through FDI or cooperation with foreign sub-contractors. They then focus on management and innovativeness, using the advantage of knowledge and human capital (*core competency*). Analysis of the unemployment rates in Łódź in comparison with other large cities in Poland shows that despite a significant improvement in the labour market after 2005 (worsened partly by the recent downturn) the unemployment rate is still high, unlike other Polish cities. It is visible that the unemployment rate is slowly getting closer to the levels in other large Polish cities. This process is far from over, as the restructuring process in Łódź is very slow, similar to the aforementioned Western cities (Detroit, Ruhr region).

2.4. Migration – an alternative way of participation in globalisation for eastern and northern Poland

2.4.1. Introduction

The regions of eastern and northern Poland do not participate in the processes of international transfer of manufacturing and services to the same extent as centres in south-western and central Poland. This is associated with a few factors that make it difficult to overcome the geographical and economic peripherality. The first factor is purely economic in nature – it is relatively poorly (compared with the Polish growth poles) endowed with physical, human and infrastructural capital. This decreases the expected return on capital and makes these regions relatively less attractive for investors than central, western and southern Poland. The second factor is associated with location, much further from the European centre of economic growth, and the lack of strong urban centres. This decreases the incentives to invest in manufacturing in many sectors that use the *just-in-time* regime, as it lengthens the supply chains and increases the risk of unexpected chain-breaking. The third factor is the uneven geographic distribution of large cities in Poland – all of them (except Szczecin) are located within a Pentagon: Warsaw, Kraków, Wrocław, Poznań and Tricity. Peripheral areas do not have such strong regional centres, and companies which invest in those areas cannot use agglomeration effects occurring in the direct vicinity of the Polish growth poles. West Pomerania is a good example. Despite the proximity to the EU15, it has only participated in the integration with the European market to a much smaller degree than the Silesian voivodeship that does not have borders with any Western country. This is related to the fact that West Pomerania is located next to the poorly developed and peripheral lands of East Germany, and Silesia is in the traditionally strongly industrialised area of Central Europe, connected with Austria and Bavaria in the industrial core of Europe by the industrialised Czech Republic. Similar to other peripheral areas, over the last 20 years West Pomerania has not created any new industrial or services centres that could play a significant role in the European market or with a potential to strengthen or change the base of the local economy.

Due to the aforementioned limitations, the regions of eastern and northern Poland find it difficult to both attract significant foreign investment and stimulate the supra-regional growth of their local companies. Companies operating in the peripheral regions much less frequently enter global markets that those from the Warsaw agglomeration, Lower Silesia or Wielkopolska. The impact of European integration and globalisation on the economic structure of the peripheral regions is also distinctly lower. However, at the local level there may be separate island-like centres that, thanks to the strong integration with foreign markets and companies, may facilitate growth of the local economy and improve the situation in local labour markets. Such centres already exist in Poland. Their common feature is reliance on the already developed human and capital resources, often the remnants of the centrally planned economy. At the same time, their main economic activity concerns industries or sectors in which geographic factors are relatively less important, as the production is not mass, but rather single piece and highly specialised.

Figure IV.49. Employment in companies with foreign capital, per ten thousand people of working age, 2009.

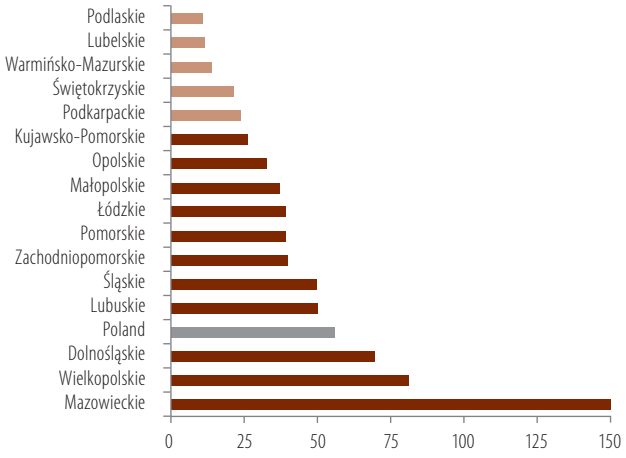
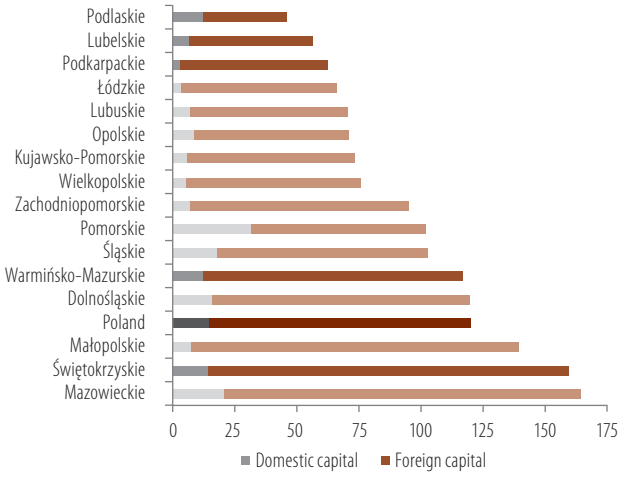


Figure IV.50. Capital of companies, with the share of foreign capital, in thousand zlotys per employed, 2009.



Note: Voivodeships of eastern Poland are highlighted.

Source: Own elaboration based on Central Statistical Office data (GUS).

Good examples of using the already existing human and industrial capital are Starachowice and Słupsk in the automotive industry (production of buses and trucks), or Aviation Valley in the Lower Carpatia voivodeship. There are also sectors that are based on local natural resources, such as the wood and furniture industry in north-eastern Poland.

The activity of FDI in peripheral areas is concentrated mainly in the smaller urban centres with SEZs. These are mainly single production plants located in towns with a few tens of thousands of people, with a sufficient infrastructure and skilled workforce. Investors may count on benefits connected with operating in a SEZ and low labour costs given the low competition for skilled workers in the local labour market. In such towns, the effects of FDI are felt the strongest (cf. Box IV. 19).

Given the economic and geographic barriers that are difficult to overcome in the short-term, the influence of globalisation on the eastern and northern peripheries of Poland (cf. Bukowski et al. 2010) has been manifested mostly in migration, both domestic – to more globalised centres, and external – mainly to Western Europe and USA. Emigration from peripheral regions to these economic centres has been enhanced by supralocal processes: (1) technological progress that enables increasingly easy and cheap travels over large distances, (2) the inclusion of the Central European countries to the global economic system, and (3) economic integration in Europe. Apart from the peripheries of northern and eastern Poland, an outflow of population has also been observed in the Silesian conurbation undergoing intensive restructuring. Similar to the American Rust Belt, there is an ongoing adjustment of the population number to the economic potential of the local economy.

Box IV.19. Local effect of FDI – IDI survey.

Individual Depth Interviews conducted with representatives of local government units and managers of foreign companies/investors have shown the impact of FDI on local economies and have helped identify several characteristics of relations between investors and the local community and authorities.

The impact of FDI on the labour market is manifested primarily through the creation of new jobs. It is accompanied by multiplier effects – production plants also attract foreign sub-contractors, and cooperate with local companies which get a chance to grow. At the same time, the local services sector may grow thanks to increased employment and so the higher incomes of local workers. Locals are usually employed as junior staff and middle managers, while senior managers are imported from outside the local labour market, mostly from abroad. This employment structure applies mainly to manufacturing facilities and investments in smaller towns – foreign firms located in cities offer better career opportunities to local employees. This is associated both with access to more people with appropriate qualifications in the local labour market, and the specificity of an industry. The impact of foreign investment on wages is, however, very limited in many cases. In the conditions of low labour demand in the local market foreign companies are able to attract workers by offering wages that are close to the minimum level. In this situation, typical for smaller centres, FDI inflows result mainly in an employment growth rather than wage increase. Still, this raises the wealth of the local community.

Relations of investors with local authorities include two important points. Firstly, location decisions taken by the company are related to purely economic calculations, and promotion of the region does not play a great importance in attracting foreign capital. Therefore it is the SEZ management rather than local authorities that have a direct impact on the decisions taken by investors. Secondly, local budgets benefit from the presence of FDI, especially in smaller centres, where the share of taxes paid by large foreign investors may reach ten or so percent of the local revenue. Simultaneously, the withdrawal of an investor would pose a serious threat to the local budget, of which local governments are well aware.

Ties between investors and local communities are usually quite weak. When investors present a neutral attitude, it is often perceived as isolation from the local environment, yet when they try to become involved in local affairs, people often perceive it as a publicity stunt. Local communities usually have a positive approach to FDI as a factor improving the situation on the local labour market. There are also negative attitudes, caused for example by fears of the displacement of local producers from the market, destroying the environment, cultural differences, and also lower-than-expected earnings. These attitudes are strengthened when layoffs occur.

Source: Own elaboration.

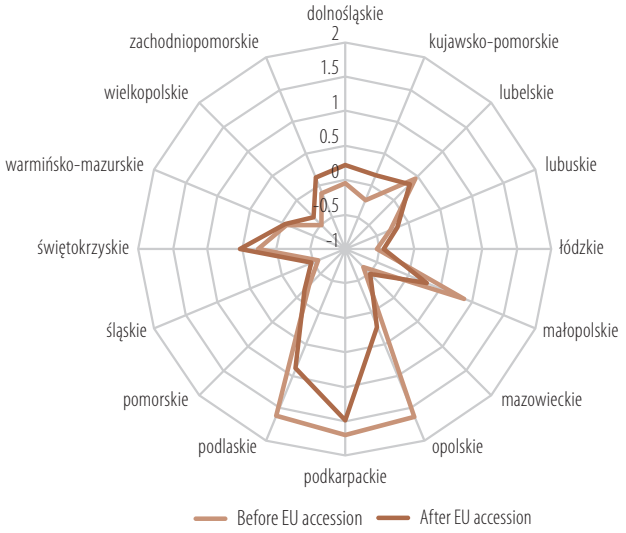
2.4.2. International emigration from Polish peripheries

Accession to the European Union and gradual opening of Western European labour markets to workers from NMS resulted in a wave of migration from Poland, especially from the economically disadvantaged areas. A significant regional variation in emigration has had an especially strong effect on some local communities in eastern and northern Poland. In addition, some regions (Podkarpacie, Podlasie, areas close to the city of Opole) experienced massive outflows of population even before joining the EU in 2004, associated with strong historical ties with abroad – 19th century emigration from the eastern Poland to the USA and strong connection of local populations in Silesia and the Opolskie voivodeship with Germany. After 2004, the differences between individual regions of Poland started to decrease with EU15 labour markets opening to immigrants from NMS10.

Large-scale population outflows from a given region may have many results for the local economy and labour market, especially the employment and unemployment rates. On one hand, unemployment may be 'exported' and hence balance in the local labour market may be obtained thanks to the outflow of the excess labour. The scale of this phenomenon depends on the willingness of the unemployed to migrate and/or the possibility of putting the unemployed in the place of those that have left. There may also be an increase in employment thanks to the multiplier effects generated in the local economy by money transfers from migrants to their families back home. On the other hand, mass emigration results in the loss of the workforce and human capital, which may lead to shortages in the workforce, usually structural in nature – e.g. brain drain.

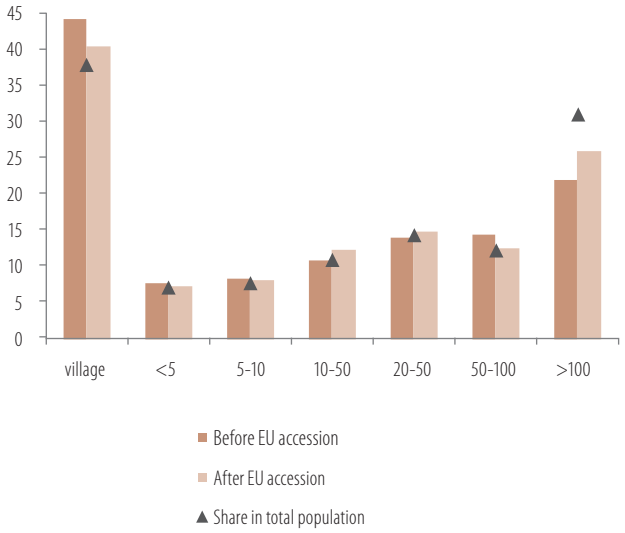
The impact of return migrants on the local economy depends on the circumstances of their coming back. If it is connected with their failure in the labour market at their destination, this may lead to increased unemployment through a mismatch between worker skills and the requirements of the local labour market, resulting from their long stay abroad. After a successful stay abroad, the human and financial capital obtained by the return migrants enhances the growth of the local economy, but only if they do not decide to move to another, more attractive centre in the home country after their return.

Figure IV.51. Migration selectivity factors[3] for Polish voivodeships before and after accession to the EU according to BAEL data.



Source: Kaczmarczyk, Okólski (2008a).

Figure IV.52. Emigrants from Poland by the size of the town they left (population in thousands) according to BAEL data.



Source: Kaczmarczyk, Okólski (2008b).

Analysis of foreign migration on the local level is very difficult due to the limited availability of data and their low quality. Censuses are the fullest source of detailed data but the latest completed census took place in 2002, so it does not provide information on population movements after the accession to the EU. The official data on residence do not reflect the real intensity of migration, as a considerable number of people did not notify the authorities of the change of residence, even if they had left for a long time. Official residence data also do not provide information on the citizenship of migrants, so one cannot discern the inflow of foreign migrants from Polish return migrants. More reliable data on the structure and origin of immigrants are provided by the BAEL study (e.g. Kaczmarczyk and Okólski, 2008 a,b). Based on a multi-source analysis, we can draw some conclusions on the regional differentiation in the intensity of foreign migration in Poland and its possible causes.

The spatial structure of migrant origin according to BAEL (see Figures IV.51 and IV.52) shows the greatest intensity in regions with traditional ties with other countries. In addition, emigration has had a low impact on voivodeships with growth poles, a medium effect on northern voivodeships, and the greatest on the peripheral areas in the east. There is also a notable intensity of emigration from rural areas and a lower level in large cities, which increased after the accession, accompanied by the increased emigration of youth from larger centres (Kaczmarczyk and Okólski, 2008b). Comparison of these data with official residence data, which can be seen as proxy for decisions about permanent migration, shows that foreign emigration from eastern voivodeships is rather not planned to be permanent. The high outflow rate in relation to other voivodeships is not visible in the high level of official residence status changes. This is different in the areas inhabited by communities that for historical reasons find it easier to settle abroad – the Silesian and Opolskie voivodeships (see Box IV.21)

[3] Migration selectivity factor for voivodeships shows relative intensity of migration in the region. The higher the factor, the stronger impact of international migration on the population of the region in comparison with the rest of the country.

Box IV.20. Effect of mass economic emigration –the case of the Opolskie voivodeship.

The eastern part of the Opolskie voivodeship and the western part of the Silesian voivodeship are the only areas annexed by Poland in 1945 that have not experienced mass deportation of the local population to Germany. According to the law of the Federal Republic of Germany, all the pre-war German citizens, regardless of their origin and national identity – and their offspring – have the right to settle in Germany. This has resulted in a few waves of emigration of the autochthonous population and the emergence of networks between the local communities and Germany. Many autochthons obtained double citizenship (Polish and German). It gave them an unlimited access to labour markets in the EU, and the networks of social ties helped them to find work in Germany. Thus, the autochthonous local communities with a large share of people with double citizenship had experienced mass emigration much earlier than the rest of Poland, where most people began to get access to EU labour markets as late as 2004. The comparison of the situation in the autochthonous and non-autochthonous communities of the Opolskie voivodeship may help assess the local effects of mass migration.

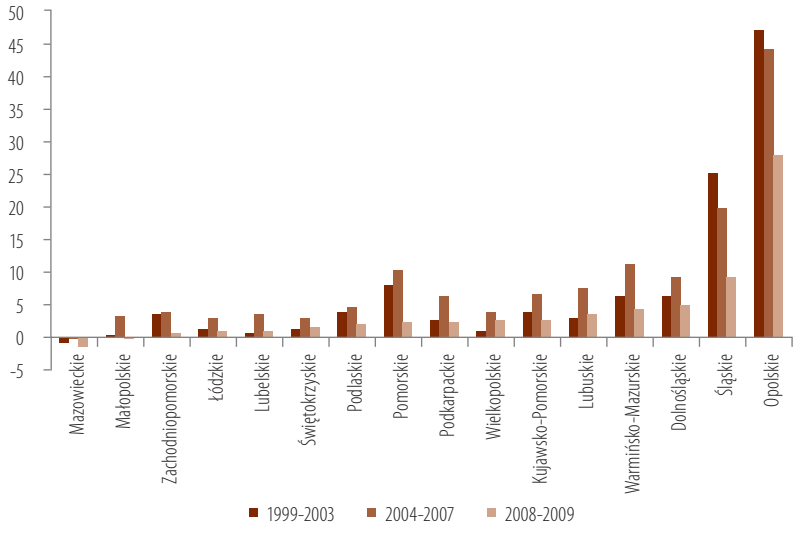
Firstly, the positive effects of decreased unemployment may be counterbalanced by the decrease in employment associated with the departure of employed workers. Secondly, foreign transfers may discourage the families of migrants to look for jobs, which additionally limits the labour supply. Thirdly, the extended possibility of the relatively well-paid seasonal work abroad runs the risk of human capital depreciation of people hired abroad. They are more prone to quit their jobs in the country and look for better paid seasonal work abroad, even if it gives fewer opportunities for development. The deficiency of the workforce inhibits the development of companies and hinders investment, which in the long-term leads to further deterioration in the local labour market and increasing dependence on external transfers and goods imported from outside the region. In the peak period of autochthonous emigration, there were 3 persons employed abroad per one person with a permanent job in Poland. Transfers constituted about 1/4 of the disposable income of the Opolskie voivodeship inhabitants.

On the other hand, the existence of such a large unused growth potential enabled at least a partial reversal of the undesirable process when the conditions in the local labour market became more attractive. Improvement in the economic situation in the Opolskie voivodeship after 2005 has resulted in the considerable substitution of work abroad with work in Poland and replacement of seasonal work with permanent jobs. Thanks to that, in 2008 there was only 1 person working abroad per 1 person working in Poland. At the same time, there was an increased migration of people with only Polish citizenship, although still lower than in the case of those with double citizenship. It shows that thanks to the earlier access of the Opolskie autochthons to foreign labour markets, the effects of the post-accession emigration have been very limited for the autochthonous communities, and the remaining local communities in the voivodeship have been repeating their earlier experiences, although on a smaller scale. Analysis of the population in the vicinity of Opole shows the scale of long-term threats of mass migration for local communities which started to experience migration as late as 2004, when Poland joined the EU.

Source: Jończy (2002), Jończy and Rokita (2009).

Podlasie, a region in eastern Poland, is a good example of the effects of the post-accession emigration on the Polish peripheries with a poorly developed labour market, dispersed economic activity and the resultant high unemployment. The main incentive for emigration from the region was the situation in the labour market – unemployment and the uncertain situation at home, compared with possibilities of employment and higher wages abroad. The population outflow has decreased the problem of unemployment in the local communities and has not created substantial deficits in the labour market, as those leaving (usually young and without experience – a negative selection of emigrants) would have a low chance of finding a job, and the demand on the market is still mostly fulfilled by workers which have not emigrated and by seasonal workers from the eastern neighbours of Poland.

Figure IV.53. Net emigration according to the official residence data*, average values for different periods, 1999-2009.



*difference between the officially registered departures and returns from abroad per 10 thousand people of working age.
Source: Own calculations based on Central Statistical Office data (GUS).

Box IV.21. Local influence of foreign migration.

Analysis of depth interviews with representatives of local authorities and governmental employment agencies operating in areas experiencing significant emigration has helped to make a number of qualitative conclusions.

First, there are important differences between the effects of seasonal migration and travel for a longer period but completed with a return. Seasonal migrants usually do not look for a permanent job in the local labour market and do not invest in the development of skills useful in the local market. This results in the loss of human capital and workforce by the areas where this migration is particularly strong. To the opposite, according to local officials, migrants returning from a long stay abroad are performing well in the local labour markets, which is connected with the gained experience and the improved language skills. This may be associated with the difference between the two groups mentioned in the second part of this edition of *Employment in Poland*, namely that people emigrating for longer are better educated and more often are employed in the service sector in the home country, so the language skills gained abroad improve the chances of finding a job back home. Importantly, return migration is rarely followed by further internal migration – migrants come back to their hometowns, spending their money there and often starting their own businesses. Secondly, emigration has resulted in a decrease in recorded unemployment, accompanied by shortages of workers with specific skills – highly qualified professionals (e.g. doctors, engineers, computer scientists), experienced workers (such as plumbers, welders), and persons employed in elementary occupations.

Map IV.3. Employment of temporary workers in 2007-2008, by powiat (number of workers per 1000 inhabitants, according to the employers' statements).

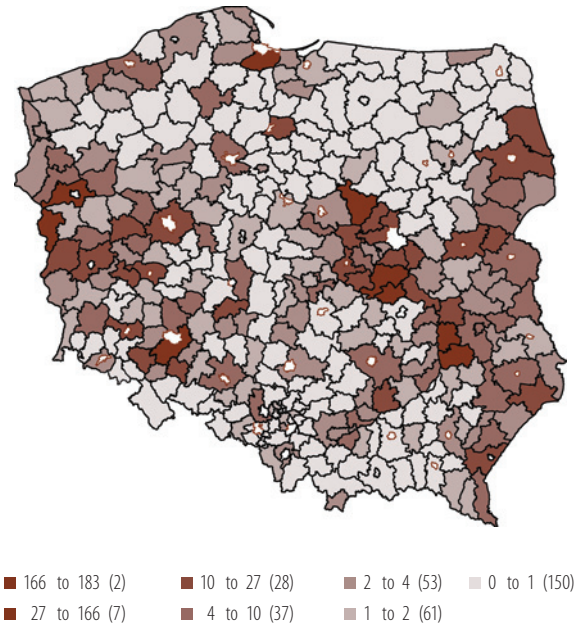
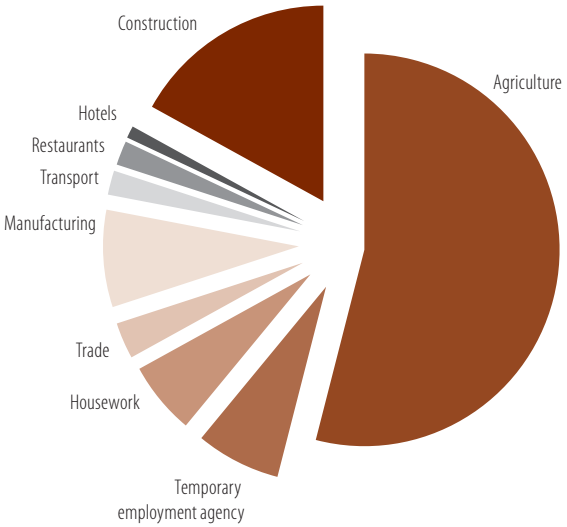


Figure IV.54. Sectoral structure (per cent) in 2007-2008 of employers' statements on their temporary workers from Ukraine.



Note: Due to the fact some employment offices cover both powiats and cities with powiat right, some agglomerations have been omitted in this Map. Thanks to this, the territorial distribution of emigration is more visible.

Source: Own elaboration based on Ministry of Labour and Social Policy data.

Shortages on local labour markets caused by mass emigration to the EU15 after the Polish accession to the European Union in 2004 were eliminated through training or retraining of the unemployed, as well as hiring immigrants from CIS countries (mainly Ukrainians (92%), Belarusians (7%) and Russians (1%)), which is still not widespread despite the rapid acceleration in recent years.

Under conditions of reduced unemployment, the emergence of structural deficits in local labour markets and increased possibility of departure after the Polish accession to the EU in the event of dissatisfaction with local wage levels, the bargaining power of workers and their wage demands has increased. Finally, there are also the social effects of mass migration. Negative effects include separation of families, resultant difficulties with raising children and the increased number of divorces. There is also a noticeable decline in social activity, caused by the departure of the most active individuals. On the other hand, respondents in the survey also pointed to the positive aspects of migration, such as improved material status and living standards, and thus their overall life satisfaction.

The transferred money is usually spent on consumption, which improves the living standards of the families of emigrants and positively influences the economic activity thanks to the multiplier effects. However, this effect in itself cannot lead to restructuring and significant improvement in the local economy in the long-term.

The effects of emigration on urban centres in less developed areas are well exemplified by the city of Lublin (Kaczmarczyk 2008). There, emigration results less from unemployment and more from the chance of greater wages and lesser uncertainty in the labour market in the destination country. The effect of migration on unemployment and employment rates is thus ambiguous, but allowing for the large percentage of students among migrants, it can be assumed that emigration alleviates the results of the mismatch between the well-developed education system in the city and the relatively poorly developed local labour market.

2.4.3. Migration to the globalised growth poles and their suburbia

Official data of residence status provide more reliable information on domestic flows. Internal migration is usually influenced by non-economic factors, such as marriage or university studies (cf. Box II.8). Analysis of flow balance, not taking into account temporary changes in residence, to some extent allows to overcome of problems with data reliability and shows the effect of economic factors on the decision of permanent changes of residence.

According to Figures IV.55 and IV.56, the population flows occur from peripheral areas and the restructuring Silesian conurbation to the growth poles and their suburbia. As a result of increasing suburbanisation, major inflows concern large areas surrounding cities, while the urban centres themselves experience a decrease in population. In a regional dimension, similar to international emigration, outflows from eastern voivodeships are most intense. There is also a more pronounced division into peripherals and regions with large development centres that attract internal migrants. Among the areas affected by restructuring, a negative balance of domestic flows is experienced by the Silesian conurbation and the Łódzkie voivodeship, which confirms the continuation of adjustment processes in the economies of these regions. Polish accession to the EU and the possibility of easier travel abroad have not translated into a decrease in the intensity of domestic flows; on the contrary – in the post-accession period they accelerated (although their intensity significantly decreased during the economic slowdown). This may indicate that the increased attractiveness of Polish growth poles, due to their stronger integration with the European and world economy since 2004, has turned out to be stronger than the new alternatives of going abroad.

Figure IV.55. Balance of permanent migration* between the growth poles, Silesian conurbation and peripheries, 1999-2009.

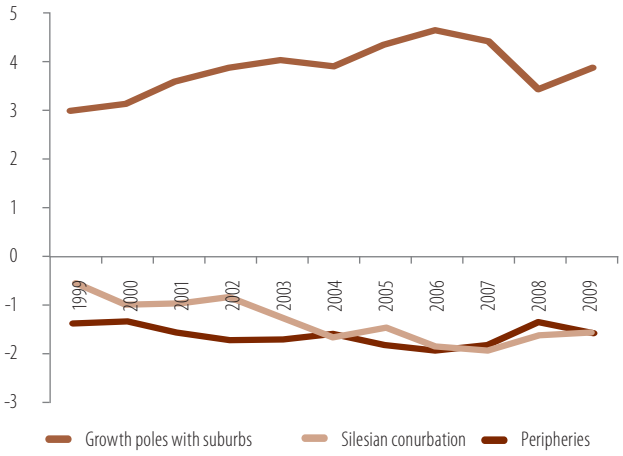
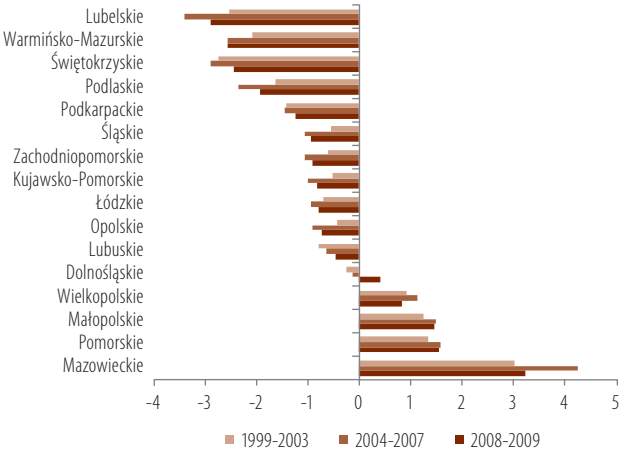


Figure IV.56. Balance of permanent migration* between voivodeships, average values in different periods, 1999-2009.



*difference between the officially registered departures and returns from abroad per thousand people of working age.
Source: Own elaboration based on Central Statistical Office data (GUS).

While discussing domestic population flows associated with globalisation, it is worth mentioning those following return-migration, in particular the movement of successful return migrants to Polish large cities. Besides the negative effect for local labour markets – permanent loss of human and social capital potential due to the loss of community leaders, this trend also limits the multiplier effects of transfers associated with the planned return. A person planning further domestic migration tends to limit transfers to the local community, saving resources with a view of investing in real estate and durable goods at the destination place. The outflow of return migrants to cities is caused by the lack of employment and investment opportunities in the local market, as well as a limited range of goods offered by local markets. The worse the local situation, the stronger the adverse effects – such as in Podlasie a dozen years ago (Hirschfeld and Kaczmarczyk, 1999), where migrants were making major purchases (real estate, cars, etc.) mostly outside the local economy. In the larger urban centres in the peripheral regions, such as Lublin, outflows to metropolitan areas are very limited (Kaczmarczyk, 2008). This shows that they can count at least on the partial use of human and physical capital of their return-migrants who have succeeded economically abroad. Our IDI survey shows that in smaller centres there is also currently no mass re-emigration to big cities.

Table IV.21. Impact of global process on Polish regions.

Global process	Economic factors	Local dimension	Polish regions most affected by the global process
Global technology, process and business innovation	International trade, diffusion of knowledge, global and European regulations	Deindustrialisation, technological restructuring of traditional industries	Silesian conurbation, Central Industrial District
Relocation of production from North to South	The use of comparative advantages in labour-intensive industries, to minimise unit labour costs	Deindustrialisation, the decline of traditional industries, the emergence of new industries	Łódź
Inclusion of Central Europe to the European industrial core	The inflow of FDI and international trade, infrastructure	Industrialisation, reindustrialisation, change in the industry structure	Growth poles and their suburbia, especially in south – western Poland and Silesia conurbation, individual centres at the periphery
Outsourcing of simple business services, nearshoring within the EU	ICT, cost competition, regulatory and institutional stability, medium-high human capital	The development of BPO/SSC, financial sector development	Growth poles and their suburbia
Outsourcing R&D centres	Existing public research infrastructure, competitive science sector, public involvement in R&D	The acquisition of the highest segments in the chain of value added creation, the development of the science sector	Warsaw
International migration, internal migration to the globalised centres	European integration, wage arbitrage	Spatial relocation of labour resources	The outermost regions of eastern and northern Poland, Silesian conurbation

Source: Own elaboration.

Summary

Globalisation is a process that is only *perceived* to occur far from Poland. In the modern strongly integrated world, no country is immune to events abroad, even those in the opposite corners of the world. This new situation poses totally new challenges for economic policy – both at national and local levels. Foreign competitive pressure, until recently concerning only some sectors and companies, now involves the entire economy and the public sphere. Infrastructural, regulatory and institutional arbitrage has become standard in the international flows of capital and labour. In this part of *Employment in Poland* we have presented channels through which global processes affect the Polish economy, their effects on individual regions and challenges for the Polish development policy.

One of the most important effects of deepening integration of national economies is progressing changes in the international division of labour between the developed and developing countries with the slow re-focus of the global economy from the countries of the wealthy North to the poorer South. The deindustrialisation in developed countries is accompanied by a departure of the developing countries from the role of mere suppliers of materials to manufacturing thanks to the transfer of the most labour-intensive sectors. Despite the advantages for national economies and the global market resulting from the more effective allocation of resources, the elimination of traditional labour intensive sectors of manufacturing is a serious challenge for local labour markets, communities and authorities.

The history of old industrial centres in Europe and North America shows that restructuring is a difficult and long-term process. At the same time, a lot depends on the activities of local communities and local authorities, and the elasticity of the region. Attempts at preventing changes and reversing global trends on a local scale, fail to maintain the old economic base in the regions in the long term due to the high and growing costs of such activities and the constant exposure to competition in the increasingly globalised market. On the other hand, activities aiming at faster adaptation of the local economy to the new situation also give results only in a perspective of ten or so or even a few dozen years. The pace of this process depends on two factors. The first of them is the availability of resources in the local economy that enable diversification through the development of new sectors in manufacturing and services in the area. Universities in old industrial centres are a good example here – they facilitate the restructuring of the local economy through creation of human capital and scientific and research bases. The elasticity of the local economies is shown in the mobility of the population. When mobility is high, there is a fast adjustment of the population to changes in the economic potential of the region. Low flows of population combined with the long-term nature of economic base restructuring result in a permanently high level of local unemployment.

The countries of Central and Eastern Europe have fully engaged in processes occurring in the global economy only after the disintegration of the communist bloc and the dissolution of the Iron Curtain separating these countries from the West and the entire global market. Thanks to the high stock of medium-skilled workforce and proximity to Western Europe, they have attracted sectors manufacturing medium-advanced products with high transportation costs – automotive industry, machinery, white goods, etc. This has helped to stop the deindustrialisation occurring during the first decade of transformation which affected the region a few dozen years later than in Western Europe. At the same time, thanks to the regulatory and institutional stability and cultural proximity, they have become attractive places for locating business services rendered for external customers, according to the principles of outsourcing and nearshoring. The NMS are also gradually getting involved in the creation of innovations of a global nature, although the process is being hindered by the reluctance of local governments to invest in the science and R&D sectors.

Similar to Western countries, individual globalisation processes differ in intensity and effect in various parts of Poland. The most developed centres and their suburbia are the strongest links between the Polish economy and other countries. Thanks to the quality of the workforce and relatively good infrastructure they are able to attract most foreign investment, and they are the most advantageous point of departure for Polish manufacturers before entering foreign markets. At the same time they are not only the site for concentration of manufacturing, but also business services rendered for foreign companies. The concentration of economic activity in large centres is especially well visible in separate R&D units in the largest cities, such as Warsaw. Also areas in south-western Poland are rapidly integrating with abroad – closely situated and gradually included into the European industrial core, as shown in the fast development of the automotive sector in the region. Peripheral regions in eastern and northern Poland, apart from individual centres, are not directly experiencing the inclusion of the local economies into the global economic network, yet they participate in the global market through migration. These include both foreign migration, much easier after the accession of Poland to the EU, and the movement of the population to more globalised areas in the country. There is a distinct case of areas in the Silesian conurbation, most affected by the restructuring of traditional sectors. The processes occurring in the conurbation are the same as in the old Western industrial centres, albeit assuaged by the inflow of new sectors and the resultant partial re-industrialisation of the local economies. The history of building the new economic image of the city of Łódź is an example of the increasingly strong connections between the situation in the local labour markets and global processes. On one hand it shows the challenges and threats facing cities in the globalised world, and the costs and the long-term nature of restructuring after the external shocks hitting the foundations of the local economy. On the other – it shows the opportunities and possibilities of further development thanks to participation in the global market.

Implications for the social and economic policy

Implications for social and economic policy

Ten years after announcing in the Lisbon Strategy the intention of transforming Europe into the most competitive economy in the world, the European Union and Poland are at crossroads. In a general perception, the implementation of the Lisbon Agenda has been a failure. It is true that many countries have managed to significantly increase employment and activate groups of people that have so far existed on the margin of the labour market. However, productivity growth has remained disappointingly low and Europe – as a whole – has began to lose distance to the United States in terms of wealth. These problems have been deepened by the Great Recession of 2008-2009 which the Old Continent has so far failed to use to strengthen its foundations for further development.

In the first part, we argue that if the Lisbon Strategy has failed in some regards, then the effective implementation of the new agenda – 'Europe 2020' – depends on a precise diagnosis of precedent problems. We indicate that the results of the previous decade of reforms, and therefore the effectiveness of the Lisbon Strategy implementation, looked different in individual EU Member States, various areas of socio-economic policy and sectors. While the countries of Southern Europe - Italy and Portugal, and to a lesser extent Greece and Spain have failed to modernise, losing distance to the U.S. and other members of the EU, northern countries – Sweden, Finland, the Netherlands and Germany – have consistently implemented the assumptions of the Strategy and have had considerable successes in achieving its original goals. Achieving the labour market targets have turned out to be easier than increasing productivity growth which generally has remained in Europe below the level that would guarantee reduction in the development gap to the United States.

From the Polish point of view, learning from the successes and failures of Western Europe in the realisation of the Lisbon Agenda seems critical for the future development of the country. Poland is just a step away from achieving the productivity and GDP per capita levels similar to Portugal – the poorest country of the EU-15. Thus, the potential of the development model based on the use of pre-existing reserves in productivity is slowly running out. Whether Poland follows the path of Southern Europe or the one of Northern Europe will depend on the practical choices made within public policy. It includes the internal political will to reform the country and the attitude (positive or negative) towards European reforms across the Union.

In Part I we showed that while many EU countries have made significant progress in realising employment targets of the Lisbon Strategy and some have even managed to increase employment rates substantially above them, there is still much to be done in Poland. In the previous decade, in contrast to the countries of Northern Europe and Western Europe, and even some Mediterranean economies, Poland has achieved little progress in employing people over 50 years of age, especially women. This situation has been caused by late and piecemeal reforms, placing Poland in a worse position not only relative to Sweden or the United Kingdom that for long have been in the European vanguard, but also in comparison with countries such as Austria, the Netherlands or France, which until recently exhibited activity and employment rates of the older workers similar to those reported in Poland. In the coming years, Poland can expect a slight improvement in the labour market in connection with the abolition of earlier retirement in the general pension system, but the very low statutory retirement age for women, unique in a European scale, and special benefit systems which privilege certain groups against others, will block bridging the employment gap between Poland and Northern Europe and the USA.

Given the strongly negative demographic projections, the elimination of retirement benefits and raising the retirement age for men and women to the level of at least 65 years is particularly urgent if Poland is to remain competitive relative to Germany, the Czech Republic, Slovakia, Scandinavian countries, the Netherlands and Austria. While in the past few years, increasing labour supply raised economic growth in Poland, the situation in next decade will change and in subsequent decades this influence will reverse to strong negative impact. We argued in *Employment in Poland 2008* that this situation can only be prevented by placing a strong emphasis on the reform of the labour market and social protections focused on increasing labour market participation of all socio-demographic groups, especially women, young people (under 25) and older workers (55+). Additionally, in light of the decompositions presented in Part I, there exists a particular challenge of creating incentives for raising the human capital of male workers. Unlike Polish women, men do not increase their participation in education to an extent conducive to bridge the employment gap between Poland and Scandinavian countries or the USA. An accurate assessment of the reasons for the relative low skills of Polish men, including a critical reflection on the Polish system of universal education, should be high on the reformist agenda of the labour and education ministries in Poland.

Analyses in Part I identified major weaknesses in Europe's development patterns - slow productivity growth in the services sector, especially in trade and financial services, and inadequate use of ICT as general-purpose technologies in all sectors of the European economy. Europe is losing distance to the United States due to relatively little innovation, an inadequate competition in services and regulations restricting the creative destruction and penetration of ICT to services, particularly trade and logistics. The failure of negotiations on the Bolkestein Directive shows a structural problem of the European reformist agenda – national and sectoral egoisms undermine the competitiveness of the EU as a whole. For many years Poland has been an advocate of full liberalisation of the movement of services within the EU, and should continue this attitude in the future. This means, however, that Poland should also apply this policy to itself. This includes deliberate and consistent investment in transport infrastructure and logistics (railways, highways, and intermodal and

container terminals, etc.) which would raise the potential productivity of services and manufacturing, as well as purely legislative layers. Regulations that restrict the potential for productivity growth in service sectors – tourism, trade, transport and logistics - should be particularly closely examined at the stage Regulatory Impact Assessment and in principle rejected at the first stage of legislative work.

Poland fails to review the already enacted laws and other legal acts in terms of their potential effect on productivity growth. This applies both to general law – tax code, construction law, etc., as well as sectoral one, e.g. regulations interfering with freedom of retail trade and limiting its potential to raise productivity. Avoiding the mistakes of more developed EU countries and Japan, which lost the gap to the U.S. in many branches of the services sector, should be a priority of the Polish economic and labour market policy. At the same time, as we show in both Part I and Part IV, Poland has a chance of achieving high growth rates in manufacturing and continue the reindustrialisation trend in some regions. Manufacturing has significantly contributed to the economic success of the Czech Republic and Slovakia over the last decade. The gradual movement of the industrial core of Europe to the east is a chance for the whole of Central Europe, including the Polish south-west.

Investing in logistics infrastructure and transport in this area and inclusion of the entire Poland into the Trans-European Transport Network are a *conditio sine qua non* for this opportunity and so they should be given priority. Given the abnormally low public sector involvement in financing science and R&D, Poland is on the margins of the global investments of high-tech sectors and those with the highest value added – consulting, analytics and R&D. Foreign direct investments in Poland focus primarily on med-tech sectors in which the value added and growth potential are significantly lower. Overcoming this state of affairs will require doubling or even tripling the share of public expenditure on R&D in GDP in the next twenty years. Public involvement in R&D and promotion of labour market participation constitute the crucial differences between competitive northern economies and the European south.

In Part I we show that in the past decade the Czech Republic and Slovakia have succeeded in decreasing substantially the gap in labour productivity in relation to the USA. Poland has failed to make similar progress. Even though it is two and a half times poorer than the United States it cannot reach a significantly higher growth rate in output per worker. Its main problem is inadequate reallocation of labour both in geographical space and across sectors. Economic growth dynamics will decrease unless Poland facilitates labour mobility within the country to enhance efficient reallocation of workers from peripheries to growth centres and from low-productivity sectors such as agriculture to more productive sectors of manufacturing and services. At present, neither the Polish central government nor local governments have a conscious and deliberate policy of promoting internal migration. On the contrary, high prices of real estate and high rental costs in large Polish cities, despite the large areas suitable for development, indicate that housing demand is not balanced with supply – due to regulatory policies of Polish cities. In addition, while the rational supervisory policy in the financial sector is meant to prevent the real estate bubble, it does not mean that demand matches the low supply of residential buildings. Government actions so far have focused on subsidising housing loans while tightening banking supervision policies and are thus incoherent. A real programme for increasing the supply of affordable appartments in Polish centres of development could give hope for increased internal mobility in Poland.

The current agricultural policy also requires a revision. We estimated that reallocation of labour, inefficiently used in the agricultural sector, to manufacturing and services, could increase productivity of the Polish economy by 20 per cent, equivalent to 5-6 years of high economic growth in Poland. The development of the Polish economy is hindered by the 'freezing' of labour in agriculture at a level that is very high in comparison with the rest of Europe (13 per cent). Current direct farming subsidies are not conducive to reallocation of labour and increasing productivity of Polish agriculture. Without changing this model, Poland will fail to even reach the level of Greece or Spain, far below the world leaders in productivity – United States, Australia, the Netherlands and Singapore, and those close to them - Germany, France and Denmark. Subsidies to agriculture and mining must be reduced – as these two sectors are most hindering the Poland's growth potential. The example of the steel sector studied in Part IV shows that it is possible to carry out effective restructuring in a traditional sector of the economy if it is pursued consistently and aimed at achieving sustainable international competitiveness.

In view of demographic challenges but also the potential for productivity growth, it is vital to conduct national migration policies in a way that in this decade Poland becomes a net-immigration country, especially the one that successfully attracts well-educated persons. Europe's weakness in comparison with the United States is that it does not absorb skilled immigrants, focusing, in part out of necessity, on people without education who come from African countries. Poland, as a rapidly developing country, with much poorer neighbouring regions of Ukraine and Belarus, could change this negative pattern if it was able to use on a larger scale and in a consistent manner the already existing instruments such as the Blue Card or the Pole's Card to attract highly qualified immigrants from former Soviet territories. No clear message encouraging settlement in Poland, and only rudimentary programs aimed at creating a network of real relationships which in the future could encourage well-educated foreigners from neighbouring countries to settle in Poland, are undoubtedly the weakness of the Polish public policy in its present form. Changing this situation will require creating Polish migration policy anew and giving it real instruments allowing a high increase of the inflow of highly qualified workers from the east - scholarships for students and doctoral students, formal facilitation in obtaining permanent residency and citizenship, etc.

Finally, we would like to emphasise the importance of capital accumulation for maintaining high economic growth and raising productivity in future. In Part I we show that given the limited capacity for TFP acceleration and the effects of deteriorating demographics on the labour market, an increase in gross fixed capital formation could, in addition to reforms aimed at increasing labour supply, ensure catching up with the most developed economies of the North within a generation. For this to happen, however, the rate of investment in Poland would have to permanently increase by about 5 percentage points of GDP. According to the results in Part III relating to foreign direct investment and economic theory, investment is enhanced by an improved legal and institutional environment, complemented by low taxation of capital. Fiscal preferences of economic activity and savings, in contrast to passivity and consumption, are the most effective tools of fiscal policy in support of productive behaviour among enterprises. Reconstruction of the Polish tax system, shifting the burden of direct taxes imposed on capital and labour towards indirect taxes, should therefore be high on the modernising agenda of the Polish public policy.

Methodological appendix

Appendix 1. Decomposition of employment changes in 2000-2010

A change (difference) in total employment rate ΔER (in particular of people aged 15-64) between the given moment (K) and the moment of reference (O) can be decomposed into the contribution of components determined by the characteristics of labour force: demographic factor (D), labour utilisation (U) and quality of workforce (Q).

$$ARΔ_K = ER_O - ER_K = \sum_{wpk} (D_{pk} + U_{wpk} + Q_{wpk})$$

$$D_{pk} = ER_{Kpk}\left(\frac{P_{Opk}}{P_O} - \frac{P_{Kpk}}{P_K}\right)$$

$$U_{wpk} = (ER_{Owpk} - ER_{Kwpk})\frac{P_{Opk}}{P_O} \times \frac{P_{Kpk}}{P_K} \times P_K$$

$$Q_{wpk} = ER_{Owpk}\frac{P_{Opk}}{P_O}\left(\frac{P_{Owpk}}{P_{Opk}} - \frac{P_{Kwpk}}{P_{Kpk}}\right)$$

where:

ER – employment rate

P – population size

w – level of education (tertiary – 5-6 ISCED 1997, secondary –3-4 ISCED 1997, primary –1-2 ISCED 1997);

p – gender

k – age group (five-year age groups between 15 and 64 years of age).

In calculations the 2000-2010 annual data from the Eurostat database were used.

Appendix 2. Decomposition of the per capita GDP gap to the USA

Gap in GDP per capita of the i-th country (GDP_i) relative to GDP per capita in the United States (GDP_{USA}) in a given year can be decomposed into components arising from differences in (i) productivity, defined as value added per hour worked (VA), (ii) labour input measured in average number of hours worked by the average worker during the year (AH), (iii) the share of employed in the working-age population (*Emp*) and (iv) the demographic structure, i.e. the share of working-age population in the total population (*Dem*). The equivalence

$$\frac{GDP_i}{GDP_{USA}} = \frac{VA_i \times AH_i \times Emp_i \times Dem_i}{VA_{USA} \times AH_{USA} \times Emp_{USA} \times Dem_{USA}}$$

can be expressed as

$$\ln\left(\frac{GDP_i}{GDP_{USA}}\right) = \ln\left(\frac{VA_i}{VA_{USA}}\right) + \ln\left(\frac{AH_i}{AH_{USA}}\right) + \ln\left(\frac{Emp_i}{Emp_{USA}}\right) + \ln\left(\frac{Dem_i}{Dem_{USA}}\right).$$

Using the approximation y-1=ln(y) for y≈1,[1] we obtain

$$\left(\frac{GDP_i}{GDP_{USA}}\right) - 1 = \left(\frac{VA_i}{VA_{USA}} - 1\right) + \left(\frac{AH_i}{AH_{USA}} - 1\right) + \left(\frac{Emp_i}{Emp_{USA}} - 1\right) + \left(\frac{Dem_i}{Dem_{USA}} - 1\right) + \theta_i$$

giving

$$\frac{GDP_i - GDP_{USA}}{GDP_{USA}} = \frac{VA_i - VA_{USA}}{VA_{USA}} + \frac{AH_i - AH_{USA}}{AH_{USA}} + \frac{Emp_i - Emp_{USA}}{Emp_{USA}} + \frac{Dem_i - Dem_{USA}}{Dem_{USA}} + \theta_i,$$

where θ_i is a decomposition residual.
GDP per capita and value added per hour worked have been expressed in purchasing power parity (PPP in U.S. dollars, OECD).

[1] As x=ln(1+x) for x≈0.

Appendix 3. Sources of data and the method of breaking down FDI for Poland

The statistical data used in econometric models have been obtained from the National Statistical Offices of eight EU countries. All values are for 2009.[2] FDI stock in sub-regions per capita in Euro (dependent variable) was obtained by breaking down the FDI stock obtained from the balance of payments data using direct data on FDI, or in the absence of such data using other instruments (e.g. the number of companies with over 250 employees in Latvia). Data on corporate income tax and value added tax come from Eurostat, and the quality of the policies was examined using information derived from the *Doing Business* reports.

Data from the Polish Central Statistical Office was not able to be broken down into Polish regional FDI in a direct manner –so it was necessary to use a different method. Because the assessment of the level of FDI in subregions using an econometric model, estimated on panel data for voivodeships, did not bring satisfactory results, we decided to use data on capital in companies with foreign capital to determine the level of FDI across voivodeships. Then, the thus obtained data on FDI in the voivodeships were used to estimate the level of FDI in the subregions. This operation has been enabled by an econometric model whose parameters were estimated at the level of voivodeships, and which was based on data available also at a lower level of aggregation. The resulting model coefficients were used to calculate the theoretical value of FDI in the subregion. Then, the FDI stock in the voivodeships was divided into subregions according to the obtained forecasts.

[2] Where there was no data for this year, the most recent data were used.

Appendix 4. Decomposition of changes in labour productivity in manufacturing.

A change in productivity has been defined as the difference between the real value of production sold per worker in manufacturing at the end and at the beginning of the analysed period, i.e. as $\frac{y_{t_1} - y_{t_0}}{y_{t_0}}$, where y_{t_0} is a measure of labour productivity at the beginning, and y_{t_1} – at the end of the period. Productivity measures for manufacturing y_{t_0} and y_{t_1} have been decomposed into weighted productivity sums in individual manufacturing sections, i.e. $y_t = \sum_i a_{jt} y_{jt}$, where a_{jt} denotes the share of employment in section j in total employment in manufacturing in the period t, and y_{jt} denotes the productivity of this section. This decomposition allowed the identification of changes in productivity in individual sections. Then, analogous to Caselli and Tenreyro methodology (2005), a change in productivity was decomposed into an (aggregate) within-sector component (i.e. change in productivity within individual sections) and (aggregated) between-sector component (i.e. resulting from the allocation of factors of production) according to the formula:

$$\frac{y_{t_1} - y_{t_0}}{y_{t_0}} = \sum_j a_{jt_0} \left(\frac{y_{t_1} - y_{t_0}}{y_{t_0}} \right) + \sum_j \left(a_{jt_1} - a_{jt_1} \right) \frac{y_{jt_0}}{y_{t_0}} + \theta ,$$

where θ denotes the decomposition residual.

It should be noted that in contrast to Caselli and Tenreyro (2005), the aforementioned analysis focuses on productivity in one sector of the economy and its sections in two periods, and not on a comparison of productivity of two economies in one period. This limits the range of analytical tools, but the essence of the decomposition – extraction of changes associated with restructuring of the economy – is maintained.

Abbreviations

AFTA – ASEAN Free Trade Area

BAEL – (*Badanie Aktywności Ekonomicznej Ludności*) – Polish Labour Force Survey, realised by the Central Statistical Office within the EU LFS framework

CIT – Corporate Income Tax

ComeCon – Council for Mutual Economic Assistance, associating socialist countries in 1949-1991

EC – European Commission

EU ETS – European Union Emission Trading Scheme

EU KLEMS – Database on sectoral growth and productivity in the EU, developed by a consortium of European universities for the European Commission

EU LFS – European Union Labour Force Survey carried out in the EU, Norway, Iceland, Switzerland, Liechtenstein, Croatia and Turkey

FDI – Foreign direct investment

GATS – General Agreement on Trade in Services

GATT – General Agreement on Tariffs and Trade

IBS (*Instytut Badań Strukturalnych*) – Institute for Structural Research

IDI – In-depth Interview

IMF – International Monetary Fund

MCN – Multinational corporation

NAFTA – North American Free Trade Agreement

NUTS – Nomenclature Of Units For Territorial Statistics

OECD – Organisation for Economic Cooperation and Development

PAIiIZ – (*Polska Agencja Informacji i Inwestycji Zagranicznych*) – Polish Information and Foreign Investment Agency

SEZ – Special Economic Zones

WTO – World Trade Organization

UNCTAD – United Nations Conference on Trade and Development

Abbreviations of country names

AT – Austria

BE – Belgium

BG – Bulgaria

CH – Switzerland

CN – China

CY – Cyprus

CZ – Czech Republic

DE – Germany

DK – Denmark

EE – Estonia

ES – Spain

FI – Finland

FR – France

GR – Greece

HR – Croatia

HU – Hungary

IE – Ireland

IT – Italy

JP – Japan

KR – South Korea

LT – Lithuania

LU – Luxembourg

LV – Latvia

MT – Malta

NL – Netherlands

NO – Norway

PL – Poland

PT – Portugal

RO – Romania

RU – Russia

SE – Sweden

SI – Slovenia

SK – Slovakia

TR – Turkey

UK – United Kingdom

US – United States

EU – European Union

EU27 – EU Member States after 2007 (27 countries)

EU15 – EU Member States before 2004 (15 countries)

NMS – New EU Member States (12 countries)

NMS10 – NMS without Malta and Cyprus

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