TIME FOR QUALITY IN VOCATIONAL EDUCATION

The aim of this text is to summarise the key changes in the situation of vocational education graduates on the labour market in the last 25 years in Poland. It presents the main changes in vocational education and the sources of the observed problems, while discussing possible systemic solutions. The authors note that problems concern predominantly basic vocational schools rather than technical secondary schools. The most important, although not the only problem is poor alignment of the structure and quality of education with the structure of demand for labour.

The authors emphasise that it is not only necessary to improve the quality of strictly vocational education, but also of general education. Vocational school graduates need to have basic skills which will enable them to acquire new qualifications and adapt to changes in labour demand in the future. The text argues with the proposal to popularise vocational education in Poland in the German fashion.

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Where is the rub?

The shrinkage of vocational education

Polish systemic transformations of the late 1980s / early 1990s covered also the educational system, in particular the vocational education system. Opening the economy and changing the structure of production resulted in the bankruptcy of many manufacturing plants, which in turn led to a decreased demand for skilled manual workers. The economic transformation brought about an increase in the demand for well-educated workers and, consequently, in the compensation level of university graduates. The growing demand for white-collar workers, combined with their limited (although gradually increasing) supply, translated into a low unemployment rate and higher remunerations of university graduates (World Bank, 2012). Consequently, the educational preferences of Poles shifted from vocational education to general education in general upper secondary schools and then at universities (see Chart 1). The transformations in Poland were so significant that they stood out internationally. Poland experienced the highest increase in the percentage of people with an academic degree among all EU countries – from 15% in 2001 to 42% in 2013 in the 25-34 age group, with the same ratio in the entire EU27 rising from 24% to 36% (CRZL 2014, Chart 2). Older people also increased their level of education, but not enough to significantly diminish the generation gap. Among older persons, aged 55-65, only 14% had a university degree. In 2012, only 41% of persons aged 25-34 completed vocational education or post-secondary vocational education, compared to 62% in the generation of their parents – persons aged 55-65 (see Chart 1, PIAAC data).

Chart 1. Structure of education by age groups in Poland in 2012 (in %).

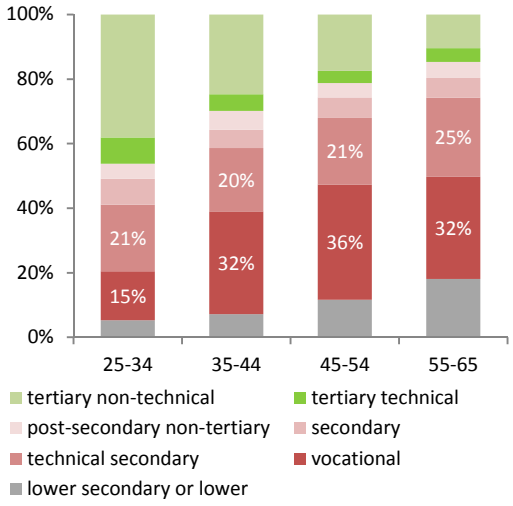
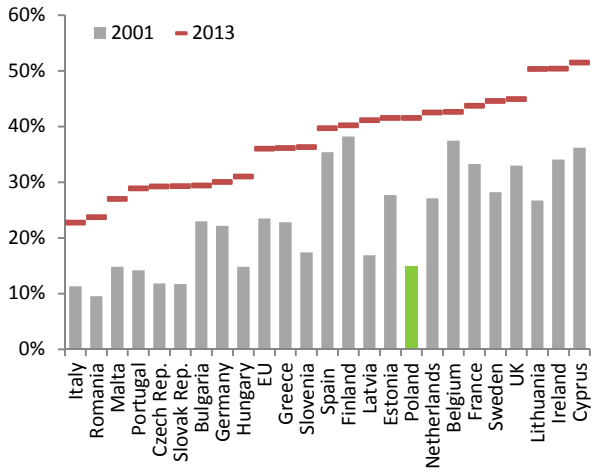


Chart 2. Percentage of persons aged 25-34 with higher education in EU countries in 2001 and 2013 (in %).



Source: IBS/CRZL 2014, based on PIAAC data.

Chart 3. Share of basic vocational school graduates by cohort in Poland.

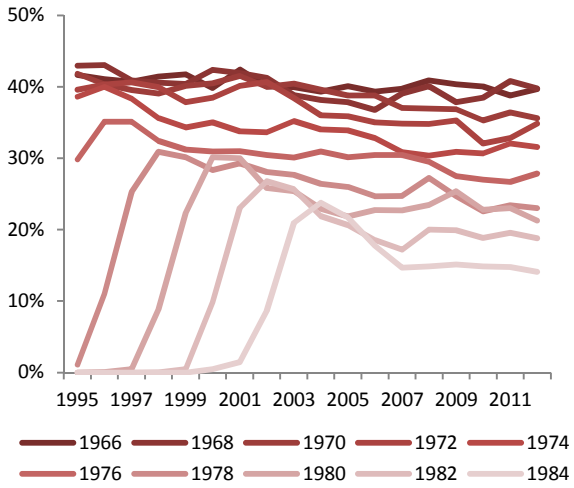
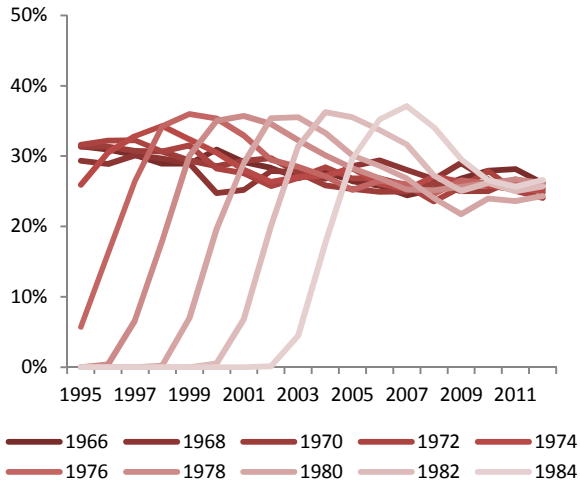


Chart 4. Share of technical secondary school graduates by cohort in Poland.



Source: IBS / CRZL 2014.

Vocational education also underwent changes. Basic vocational schools, which in the centrally planned economy educated the so-called working class, began to give way to schools whose curricula included general education as well, i.e. technical secondary schools. These processes are reflected by a decrease in the number of graduates of basic vocational schools among younger people. While this figure stands at 33% for people aged 35-64, it amounts to only 15% in the 25-34 age bracket.[1] The number of technical secondary school graduates remains unchanged at 20-25%. Moreover, students of basic vocational schools often continue education in supplementary technical secondary schools (see Charts 3, 4). The decreased significance of vocational schools is the result of several factors. First of all, the economic transformation caused changes in remuneration levels. Industrial workers, miners and public sector employees lost their position relative to specialists and managers from the private sector. Professions that gained more significance required skills which could not be acquired in vocational schools, e.g. foreign language skills (KPRM, 2011). Secondly, a pronounced change in the structure of production led to the weakening or collapse of companies that had the greatest demand for vocational school graduates. The mismatch between the graduates and demand for labour was further reinforced by changes in the spatial dimension. As a result of deagrarisation and a natural tendency to concentrate capital in places other than the flagship investment projects from the period of centrally planned economy, jobs were created more frequently in large agglomerations, which made it difficult for graduates of vocational schools from small towns to find work. At the same time, jobs were shed mainly in villages and smaller towns, located far away from large cities. This is where the unemployment rate rose most significantly (IBS/MPiPS, 2007).

[1] 32% for people aged 35-44, 36% for those aged 45-54 and 32% for those aged 55-64.

In addition, educational aspirations of the general public increased significantly, and the educational policy was focused on increasing general competence and enhancing general education rather than vocational one. The model of professional life also changed. In view of the increasing duration of professional career, workers often have to change not only their employer but also the profession. Consequently, graduates need skills that will enable them to acquire new qualifications, not necessarily in the narrow field they have mastered in a vocational school.

What do vocational schools (not) teach?

Acquiring the necessary professional skills should enable a smooth transition from school to work. On the other hand, a higher level of general competence increases flexibility when searching for work and changing profession. The ability to retrain is particularly important, as the evolution of the demographic structure of Poland and globalisation will spur transformations on the labour market. While the results of demographic processes and population ageing can be predicted to a certain extent (for example the increasing demand for carers for elderly people), it is much more difficult to say precisely what influence new technologies will have on the occupational structure. It is hard to predict which professions may become redundant due to new technologies, and which may increase in demand or what completely new professions will emerge in several years or decades. As a result, it is becoming increasingly important for labour market participants to acquire basic general skills, such as reading with comprehension or logical reasoning. These are a precondition for adapting to the evolving expectations on the labour market.

The level of basic general skills varies depending on the level of education. The general competence of basic vocational school graduates in Poland is comparable to that of persons who finished their education at the level of lower secondary school or earlier. In the survey of adult skills, conducted as part of the Programme for the International Assessment of Adult Competencies (PIAAC) in 2012, 50% of graduates of basic vocational schools aged 25-34 received no more than 242 points in text comprehension, compared to 232 points scored by lower secondary school graduates. In the same test, 50% of technical secondary school graduates received at least 268, and higher education graduates – 300 points. Technical secondary school graduates have higher skills both in numeracy as well as literacy. The poorer results of basic vocational school graduates may be explained by lower quality of education in comparison to technical secondary schools or lower skills of persons enrolled in vocational schools (the so-called negative selection). This selection takes place at two stages: choosing a basic vocational school by a person with lower competencies and not continuing education in supplementary general and technical upper secondary schools. The lower quality of education may also be caused by differences in the core curricula and the number of hours devoted to non-vocational courses. It should be emphasised that the insignificant difference between the score of vocational school graduates and persons who finished their education at the level of lower secondary school indicates a failure of vocational schools in this respect.

Chart 5. Share of persons aged 25-34 with the lowest skill level by level of education.

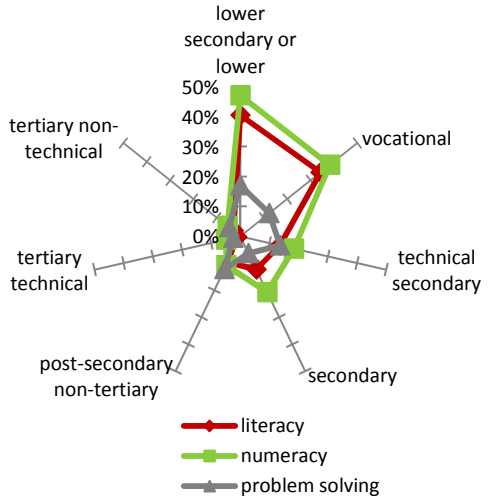
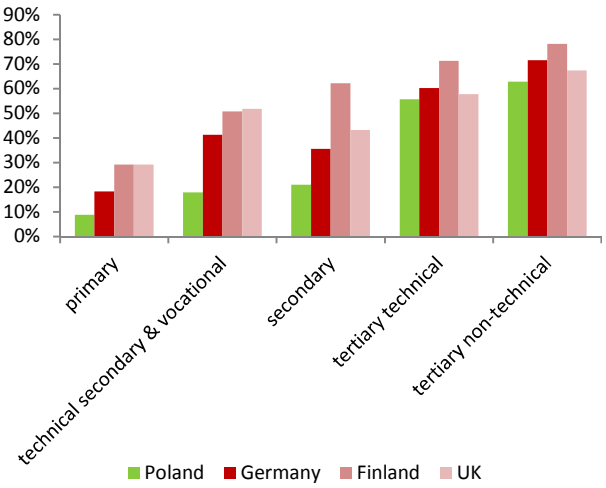


Chart 6. Share of persons participating in non-formal education in the last 12 months, in the 35-54 age group in selected countries.



Source: Own presentation based on PIAAC data.

It is also disturbing to see that a percentage of vocational school graduates are only able to deal with the simplest tasks related to literacy (understanding only short texts, identifying single pieces of information without the ability to combine them), numeracy (simple algebraic operations, difficulties with calculating percentages and fractions and more advanced operations) and problem solving (no ability to associate pieces of information from websites, draw conclusions on their basis, assess their credibility and usefulness). Such persons make up as much as 38% of vocational school graduates aged 25-34 in the case of mathematical reasoning and 17% in the case of using technologies (see Chart 5). Among technical secondary school graduates such low skill level is exhibited by almost one in five persons (18%) aged 25-34 (for all test types). It is therefore clear that basic vocational schools do not add any special value in relation to lower secondary schools as far as general competencies are concerned.

Shortcomings in basic skills prevent basic vocational school graduates from gaining additional qualifications later on in life. Not even 20% of vocational school graduates aged 35-54 participate in vocational training, with the value standing at only 13% in the case of basic vocational schools. In the case of technical and general upper secondary schools this percentage is 2-3 times higher. It is basic vocational school and lower secondary school graduates that deviate most significantly from other EU countries as far as participation in lifelong learning is concerned (see Chart 6).

The labour market verifies the quality of schools

Enabling graduates to find a satisfactory job is only one of the goals of the education system, but the most important goal of vocational education. This is why vocational school graduates' difficulties in finding a job are a more serious failure of these institutions than in the case of lower secondary schools or general upper secondary schools. General upper secondary schools in particular are supposed to prepare their students for university studies rather than taking up a job.

Vocational schools make it easier to take up a job – ca. 70% of their graduates aged 25-34 are employed (see Chart 7). This value is only a little higher than the percentage of working graduates of general upper secondary schools without a university degree, i.e. persons without formal vocational qualifications. At the same time, 76% of technical secondary school graduates aged 25-34 have a job thanks to a combination of vocational and general skills, despite having no university degree. Vocational skills do not seem to give a clear advantage over general competence. It should be emphasised that the employment rate gap between Poland and other EU countries is largely the result of low employment rate among vocational school graduates. Polish vocational school graduates aged 25-34 are employed significantly less frequently than persons with a matching level of education in Germany (88% are employed), United Kingdom (80%) or Finland (80%).

With similar employment rates, vocational skills make it easier to find a job than knowledge acquired in general upper secondary schools. As a result, the unemployment rate in these groups among persons aged 25-34 stands at 9% and 14%, respectively. However, technical secondary school graduates, who combine general knowledge with vocational skills, have practically no difficulties finding work, with the unemployment rate in this group at 4% (PIAAC, 2012).

Chart 4. Employment rate by age groups and education level in Poland in 2012 (mean).

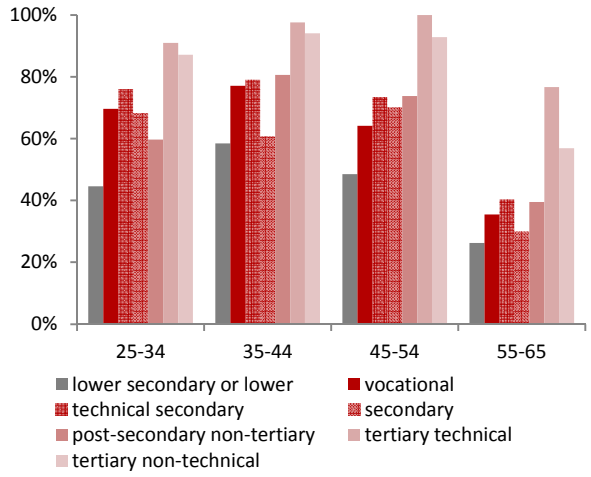
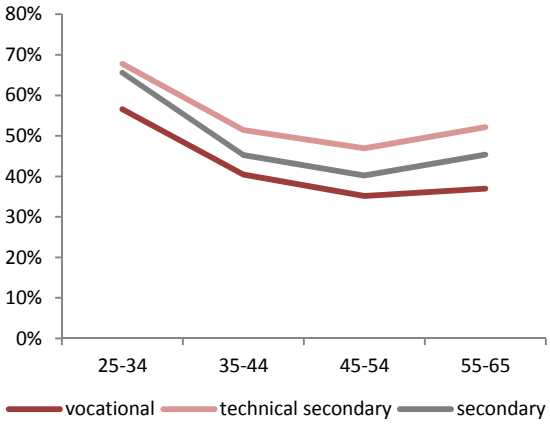


Chart 5. Wages of employees in relation to university graduates by age groups in Poland in 2012 (median).



Source: Own presentation based on BSW data (wages) and PIAAC data (employment rate).

However, a high employment rate among persons with vocational education is not tantamount to complete success on the labour market. Basic vocational school graduates earn less than graduates of technical and general upper secondary schools (see Chart 8). The lack of appropriate general skills prevents basic vocational school graduates from taking up better paid jobs. The compensation bonus related to a university degree has been falling in Poland in the last years, but even in the 25-34 age group it exceeds 30% (see Chart 8). It is also a consequence of the pronounced overrepresentation of farmers among vocational school graduates. Almost 15% of them take up a job in the low-yield agriculture, while in other groups this career path is taken by no more than 5% (based on PIAAC data, age group 25-34). This suggests that despite the strong criticism against the general education system, even general upper secondary school graduates with no university degree are almost as likely to be employed as vocational school graduates and earn more than them. In comparison to secondary school graduates, the situation of university graduates on the labour market is better in every respect, despite the commonly shared belief that the quality of higher education institutions is falling.

Other problems associated with vocational education

As a result of the educational boom, vocational education was affected by a number of negative phenomena. Firstly, persons with better examination results chose general or technical upper secondary schools more frequently. Secondly, students and graduates of vocational schools were also, often unfairly, perceived as weaker. This type of schools was stigmatised, which led to a negative feedback. Students of basic vocational schools are associated negatively as “proles” rather than professionals (KPRM, 2011). Finally, the unsatisfactorily high level of unemployment and low employment rate of basic vocational school graduates are a result of mismatch between the structure of professions taught at schools and the needs of the local labour markets.

This last drawback of the vocational education system is caused i.a. by the fact that the offer of schools is often based on their possibilities, which are limited, among other things, due to staffing problems. Employment in vocational education is not an attractive career path, particularly for teachers of professions which are in demand on the market. As a result, vocational schools suffer from a shortage of staff, particularly teachers of sought-after professions, and those who do work in schools are often advanced in years. The current staff are highly motivated to work with young people and have high qualifications, but it is increasingly difficult to find new teachers – 67% of districts in Poland have problems with finding teachers for vocational schools (Goźlińska and Kruszewski, 2013). Teachers are getting older, and those who retire are replaced by teachers with lower competencies. Headmasters suggest that it is difficult to convince better qualified persons to work in schools due to low remunerations (Goźlińska and Kruszewski, 2013). Statistical data, however, does not indicate significant differences. Average gross remuneration of vocational school teachers in 2012 amounted to ca. PLN 4,000, while that of telecommunications technicians – to almost PLN 4,800 (GUS, 2014). Admittedly, this difference may be larger in the case of persons who are starting their career. Despite the high level of motivation to work with young people, teachers show little activity in raising their qualifications. In particular, many of them have never acquired the basic knowledge and skills in new technologies (Goźlińska and Kruszewski, 2013).

Another factor standing in the way of better quality of teaching vocational subjects is the inadequate equipment available in schools. There are no mechanisms in place to encourage employers to supply schools with modern technologies – in 2010, only one in five schools worked together with employers with a view to improving the usefulness of the skills taught (Goźlińska and Kruszewski, 2013). This is all the more disturbing given that entrepreneurs assess practical skills of graduates as too theoretical and at odds with new technologies. Only two in three schools declare that they have workshops for practical classes and more than one in four students consider the level of workshop equipment to be too low (Goźlińska and Kruszewski, 2013). What is more, the labour market is changing faster than the educational offer and available equipment (KPRM, 2011). For example, officials of the Ministry of National Education indicate that the minimum time for introducing a new profession to the curriculum is 2 years, provided there are no staffing or infrastructure problems.

What should be done?

Basic general skills are critical

The main challenge currently facing Polish education is to equip all students with basic general skills. This task is at least as important as a better alignment of the vocational education structure to the labour market structure. The progress of Poland's results in the PISA survey assessing the skills of 15-year-olds in OECD countries shows that it is possible to achieve such an effect at primary school and lower secondary school level. On the other hand, difficulties in finding one's place on the labour market point to problems at upper secondary school, vocational school and higher education levels. It is worth underlining once again that the problem lies not in the falling number of vocational school students but in the low quality of vocational schools, both in terms of vocational and general education.

One strong argument in favour of focusing on the improvement of general education quality is the need to acquire and supplement qualifications at later stages of one's working life. Without an adequate level of key competencies and the habit of learning, it will be impossible to adapt to changes. The capacity to retrain is particularly important in the perspective of Poland's changing demographic structure, globalisation and the information revolution (ICT). These processes will lead to a change in the structure of demand for work in terms of professions, skills and the way work is performed.

Results of the survey of adult skills show that technical secondary schools and general upper secondary schools are much better than basic vocational schools at teaching basic general skills and at least as good at professional activation of students. Moreover, technical secondary schools offer more possibilities for students to motivate each other. It is therefore groundless to return to a larger share of basic vocational schools in education, particularly if this were to happen to the detriment of technical secondary schools. Developing technical secondary schools which demonstrate a significant potential is a better idea. Basic vocational schools, on the other hand, need changes that would lead to an improved quality of vocational training.

Possible solutions in that area are discussed below.

Quality is the most important aspect of vocational training

The problem of Polish vocational schools is failing to match the needs of the labour market. The educational offer proposed by school headmasters is predominantly determined by technical and organisational considerations such as technical facilities and availability of qualified teachers. As a result, the greatest number of vocational students complete their education in the catering and mechanical sectors and the smallest number in the chemical industry, ceramics and glass as well as mining. Unfortunately, the number of school-leavers qualified in the most frequently taught occupations exceeds the demand expressed by employers, so there is a high unemployment level in the mechanical and catering sectors. Moreover, students from schools specialising in tourism and hotel industry, transport and warehouse management as well as agro-livestock are those most frequently participating in traineeships in enterprises. On the other hand, students learning industrial trades such as building, road construction or mechanics much more frequently carried out their practical exercises at school (diagnosis cited in Goźlińska and Kruszewski, 2013).

There are two possible solutions to problems connected with staff and infrastructure deficits. The first one is to significantly increase outlays on infrastructure and teachers of vocational subjects in an attempt to compete for employees against the private market and to provide similar equipment to that in production plants. Alternatively, it is necessary to increase cooperation with companies and to move vocational training to companies. It seems that the second solution would be more effective and allow for a smooth passage from traineeships and apprenticeships to employment, although deficiencies on the part of companies may prove a barrier. Too few of them are prepared and have a positive attitude regarding a greater opening towards employee training, while large companies ready to employ school-leavers on a regular basis are few and far between. Moreover, until now employers have not demonstrated a strong inclination to become involved, also financially, in taking in apprentices and trainees from vocational schools. Transferring vocational training from schools to enterprises is often called a dual system and will be discussed in the next part of this paper.

Introducing a dual system?

Introducing and generalising a dual system of vocational training, similar to the German one, is often invoked in the public debate as a means of improving the alignment of vocational school-leavers' skills with the needs of the labour market. It is worth noting that the dual system differs significantly from the solutions adopted by most EU countries. On account of the fact that it is characterised by a high effectiveness on the labour market, it is proposed as an antidote to the post-crisis rise in unemployment, particularly among young people in various European countries. It is true that in 2012 the unemployment rate among young people (25-34-year-olds) who graduated from vocational schools in Germany was only 6%, yet one must recall that the overall unemployment rate in that age group in Germany was generally low and amounted to 5.5%. The effectiveness of the system is also confirmed by the large percentage of young Germans who choose this path of education – in 2012, 47% of persons aged between 25 and 34 completed secondary vocational education, whilst 41% had a university degree (PIAAC data).

In the German system, students choose between vocational and general education a year earlier than in Poland – at the age of 15. They have two vocational education paths to choose from – a secondary school with a vocational profile or the dual system. The first proposal is similar to Polish technical secondary schools or vocational schools. During their education at such schools, which lasts from age 15/16 until 18, students gain both theoretical knowledge and practical skills. In the dual system, learning theory at school takes up about 1/3 of the time and students spend the rest of the week learning practical skills in enterprises. Apprentices are remunerated for their work and their presence is permanently included in the employee structure of enterprises. They have a choice of training in over 300 professions and – after completing secondary vocational education – the possibility to continue education at university level (Kwiatkiewicz, 2006; KPRM, 2011).

However, introducing a system similar to the dual system along the lines of the German model could be quite difficult in Poland and would not necessarily lead to decreasing the unemployment rate among young people to levels which characterise the German economy at present. First of all, the employment structure in Poland is decidedly different from Germany. In Germany, young people with vocational education are most frequently employed in non-public services (middle level medical employees, secretaries, finance and statistics employees) – 50%, whereas in Poland they are employed in industry (construction workers, vehicle operators, industrial workers) – 53%. A different employment structure by company size could also pose a problem. In Poland, persons with vocational education working in industry are most frequently employed in small (11-50 employees; 33%) or medium-sized companies (51-250 employees; 25%), whereas in Germany they are employed in medium-sized (31%) and large companies (over 250 employees; 31%, PIAAC data). The dual system requires an appropriate company structure and in particular the presence of large enterprises (in which integrating the time dedicated to apprentices into employee obligations is easier to organise than in small companies) and a sufficiently high level of mutual cooperation between companies, as well as between schools, companies and employee representatives. On account of these features this system is difficult to implement in a different environment, particularly in Poland, where small companies play a larger role in industry and the model of employment relations and collective bargaining is characterised by less cooperation and coordination (compare ICTWSS data).

Moreover, the dual system is also criticised on account of the difficulties faced by students who wish to change their educational decisions, far-reaching specialisation and failure to provide an adequate level of general skills. In the perspective of a rapidly changing demand for work and the probable need to retrain several times during one's working life, placing bets on the German system may lead to a decrease in unemployment only temporarily and may, in a 10-30 years' time span, bring a large group of graduates problems in finding a place on the labour market. Furthermore, developing the vocational education system first requires solving the internal problems of vocational schools as described above. In Poland it is already possible to take up an apprenticeship in an enterprise, yet students rarely manage to secure a place at an industrial plant, while it is relatively easy to find one on a farm. Moreover, a large part of the apprenticeship costs is borne by the companies, which it will

be difficult, under Polish conditions, to win over to such a solution.

Therefore, although introducing elements of the dual system in Poland may improve the quality of vocational training, it cannot cover too great a number of students. Importantly, it will not be possible as the private sector is not ready and it will not be desirable due to problems connected with premature and excessive specialisation of employees. Even in Germany students have problems to find attractive apprenticeships in companies, so in Poland, with no appropriate incentive system for companies, attempts to implement the German system would inevitably end in failure. At the same time, introducing elements of that system will require additional measures consisting in placing a strong emphasis on the quality of general education in schools.

Larger outlays will not solve the problems

The two most important conclusions from the study on the education system (irrespective of the level) advise prudence in formulating expectations regarding the possibility of a rapid reform of vocational education. Firstly, a simple translation of financial outlays into results does not exist. Improving infrastructure quality or increasing teachers' salaries will not in itself be sufficient to improve the quality of teaching. Financial means are essential in order to carry out well-designed changes in the system, but a simple increase in outlays without a detailed action plan will not bring about the expected results. Financial outlays must therefore be treated as a means for introducing changes and not as a tool that can automatically solve any problems.

Secondly, the most significant factors impacting students' school results are the quality and motivation of teachers and peer pressure. Due to the negative selection of students, the mechanism of weaker students catching up with the better ones is rare in basic vocational schools, although it does occur in technical secondary schools. The effort of both teachers and headmasters in that scope may bring positive results. Attracting young vocational teachers from developing sectors necessarily requires financial outlays, organisational changes and changes of incentive systems in schools. Without this element it will be difficult to bring about a better match between the competencies of school-leavers and the needs of the labour market at both national and local level.

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