

**Between a risk society and a welfare state:  
vulnerability to poverty in Lithuania**

Jekaterina Navicke  
Vilnius University

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# Outline

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- ▶ Aim
- ▶ Theoretical background
- ▶ Measuring vulnerability using microsimulation
- ▶ Results for Lithuania: unemployment and childbirth



# Aim

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- ▶ **Analysis of the role tax-benefit system plays in mitigating the effects of wide spread socio-economic risks:**
  - ▶ links between risk, welfare state development, vulnerability
  - ▶ measures focusing on vulnerability and social protection



# Risk society, welfare state & vulnerability

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- ▶ Risk society thesis (Beck 1992, 2009, etc.)
  - ▶ ‘Democratic’ risks
  - ▶ Individualisation & responsabilisation in social protection
  - ▶ Welfare state’s role: re-distribution of risk rather than resources

***Through risk society lenses retrenchment of welfare provisions can be interpreted as a shift towards individualisation and promotion of more active, flexible and adaptive engagement with risk and individual responsibility (Kemshall 2002)***

- ▶ Concerns:
    - ▶ partial/biased knowledge & uncertainty
    - ▶ ‘democratisation’ of risks is questionable
    - ▶ multiple and cumulative effects of poverty and disadvantage
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# Implications

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- ▶ Weakening of the protective / re-distributive function of the welfare state
- ▶ Increasing individual vulnerability to poverty
  - ▶ Did the weakening of social protection go unnoticed during economic boom?
  - ▶ Ways of timely monitoring of the resilience of tax-benefit system?



# Measuring vulnerability

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- ▶ **Vulnerability analysis:**
  - ▶ the magnitude of risk measured ex-ante
  - ▶ centrality of social protection
  - ▶ vulnerability viewed as welfare-reducing
  
- ▶ **Macro and micro level measures (& mixed):**
  - ▶ Macro: country's proneness to shocks, ability to recover
  - ▶ Micro: individual vulnerability
    - ▶ as exposure to risk
    - ▶ as income volatility
    - ▶ as expected poverty



## Atkinson (2009) on vulnerability analysis:

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- ▶ Performance of tax-benefit systems ex-ante: 'stress-testing'
- ▶ Usefulness of microsimulation techniques
- ▶ Focus on acute income shocks rather than volatility
  
- ▶ Followed up by Figari et al. (2011), Fernandez Salgado et al. (2013) on the welfare compensation for unemployment.



# Application

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- ▶ Vulnerability as expected poverty
- ▶ Stress testing – simulating income loss due unemployment & childbirth:
  - ▶ Microsimulation model EUROMOD (version G1.0)
  - ▶ EU-SILC 2008 and 2010 data
  - ▶ Lithuanian policies of 2007-2012 (before, during and after crisis)
- ▶ Indicators of vulnerability reflect expected incidence and intensity of poverty risk within one year after the income loss
- ▶ Scope: population of insured individuals and household members
- ▶ Simulated income shock: one household member at a time, all possible combinations within the household
- ▶ Standard Foster-Greer-Thorbecke (FGT) poverty measures with a probabilistic term :

$$V_{\alpha} = \frac{1}{N} \sum_{h=1}^{Q_s} \frac{1}{S_h} \left[ \frac{(z - y_s^h)}{z} \right]^{\alpha}$$





## Lithuanian context:

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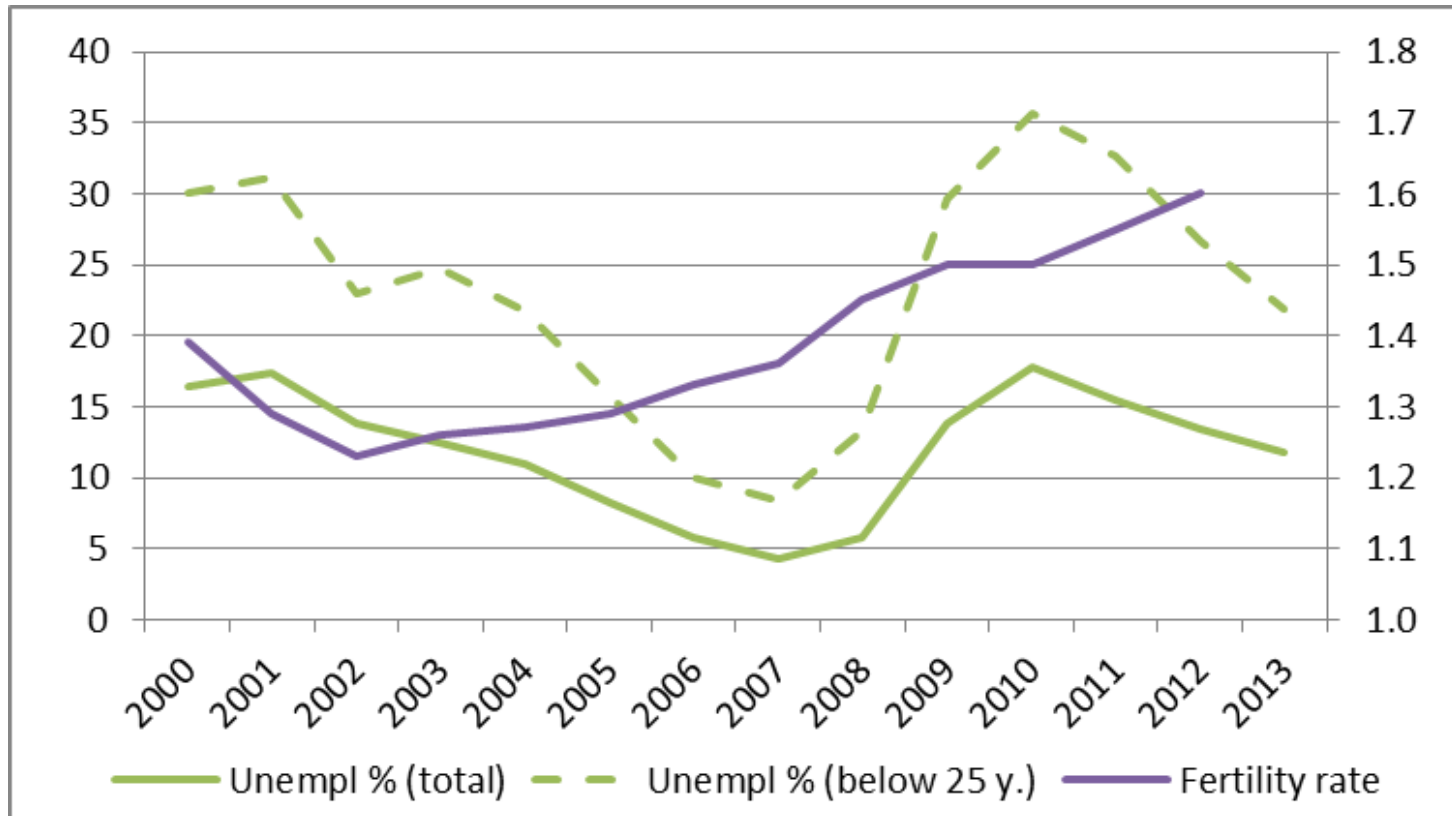
- ▶ 2007-2008 rapid economic growth, financial recession of 2009-2010 and first signs of recovery since 2011
- ▶ Changes to major cash benefits: generous child/family protection 2007-2009, temporary cuts to social benefits in 2010-2011, some restored
- ▶ Unemployment, child and family benefits subject to cuts within the period

**Table 1** Poverty risk rate at 60 percent of median equivalised income after social transfers, %

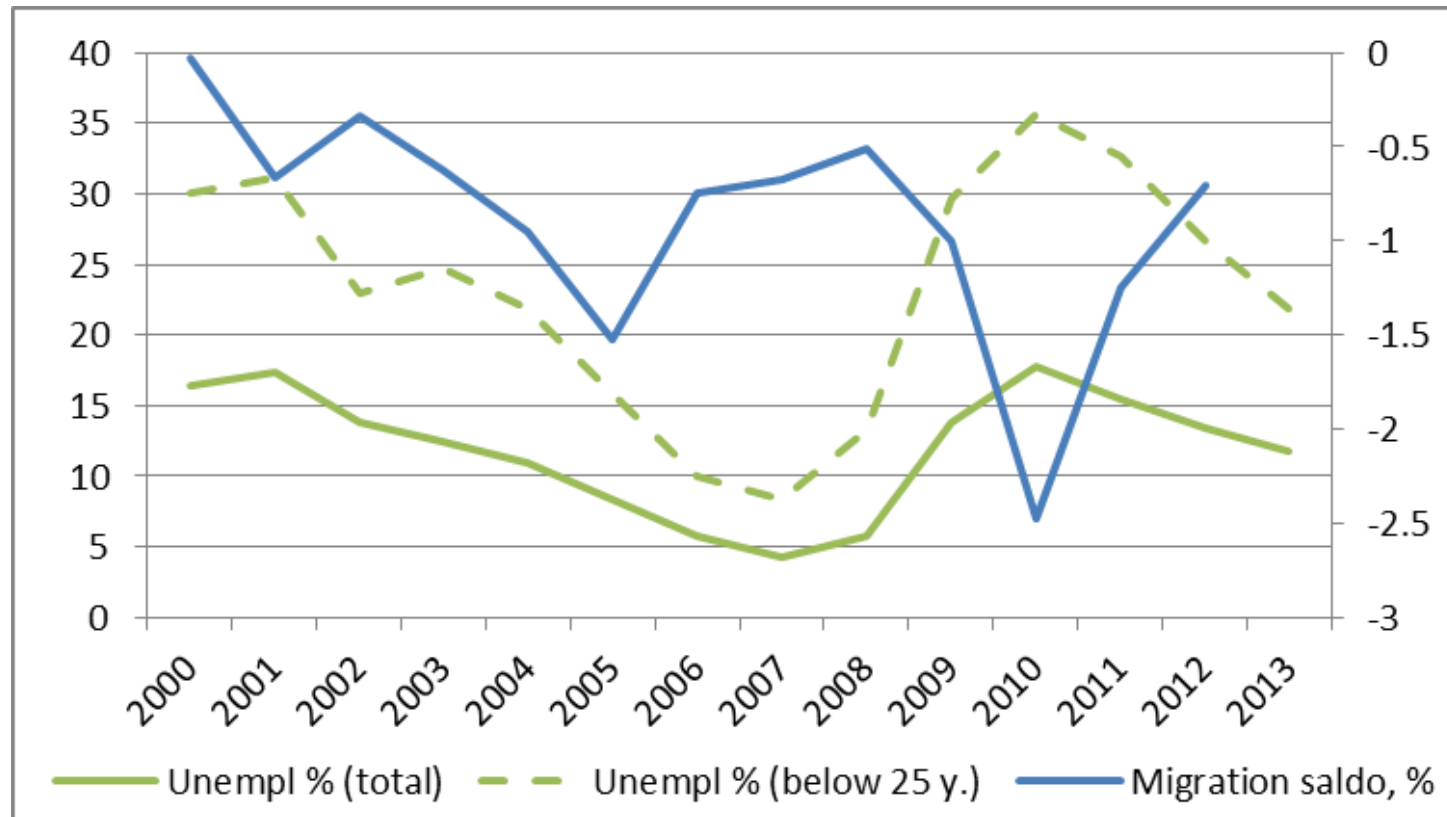
	2007	2008	2009	2010	2011	2012	2013
Total population	19.1	20.0	20.6	20.2	19.2	18.6	20.6
Prime age (18-64):	15.6	16.8	18.4	22.2	20.2	17.9	19.0
males	15.1	16.0	18.5	22.9	19.8	18.2	19.1
females	16.1	17.4	18.4	21.6	20.5	17.7	19.0



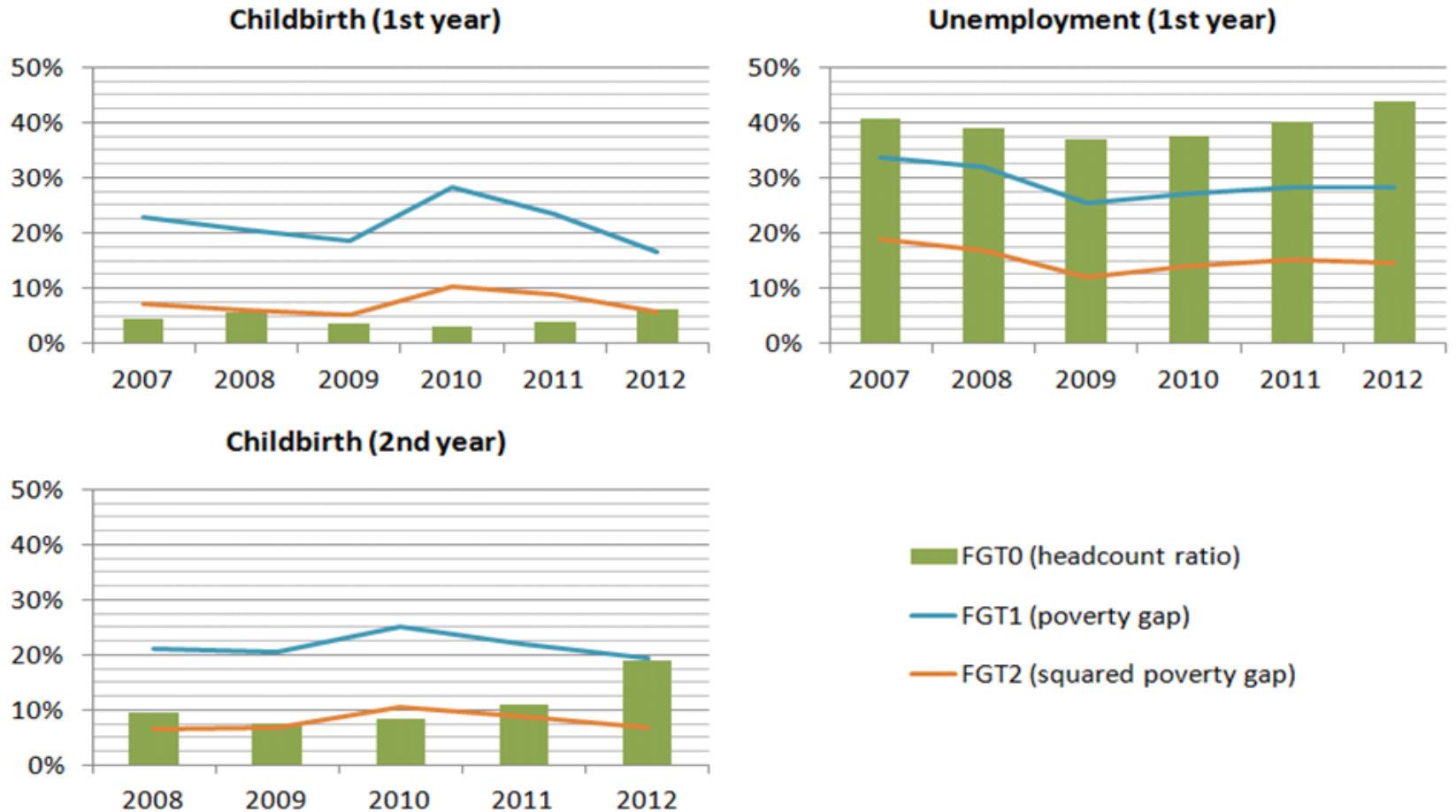
# Context: unemployment & fertility



# Context: unemployment & migration



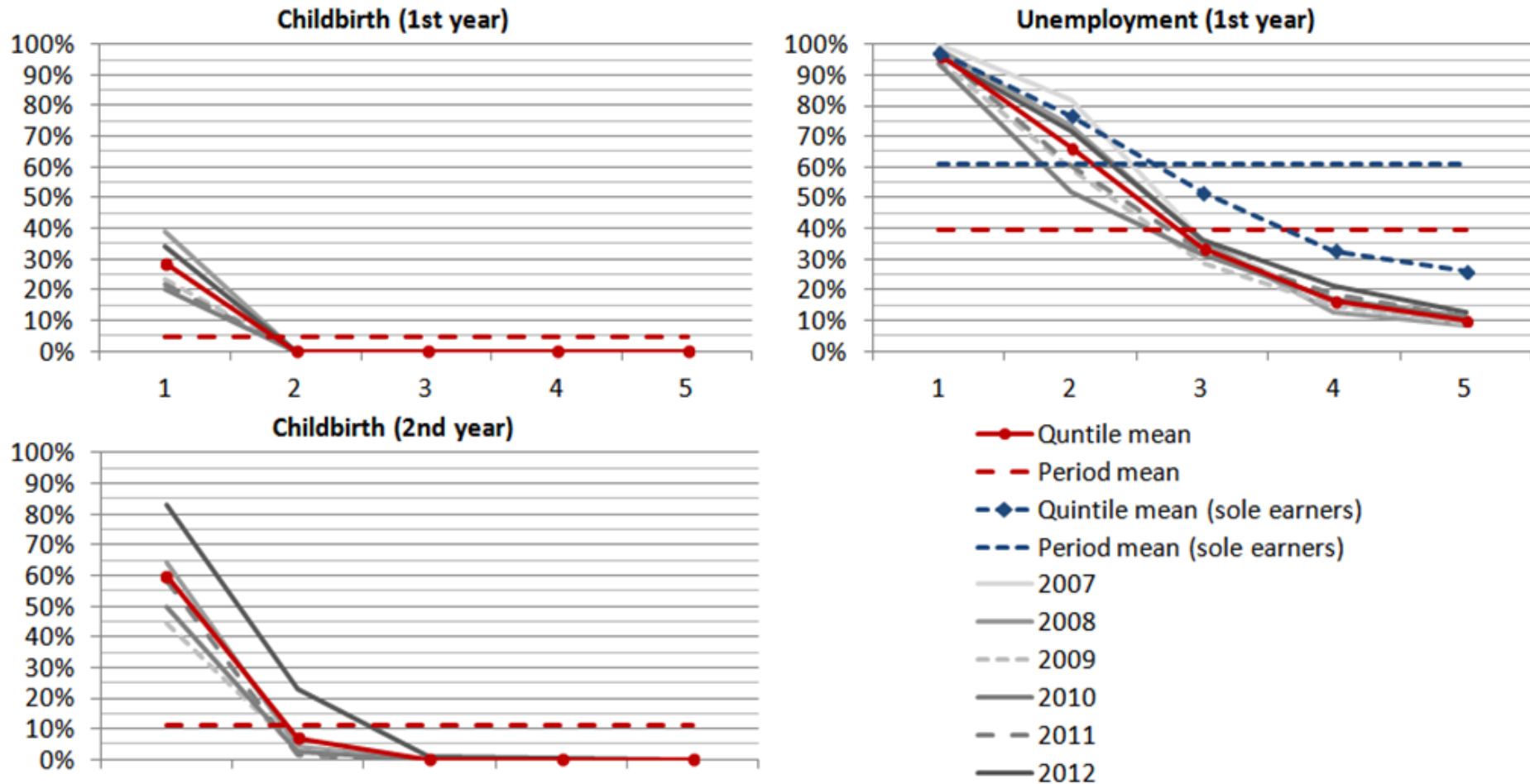
# Results (I)



**Fig 1** Vulnerability to poverty in the event of childbirth or unemployment measured using FGT class poverty measures

*Note: poverty line at 60% of the median is fixed at the level before simulation of the income loss*

# Results (II)



**Fig 2** Vulnerability to poverty in the event of childbirth or unemployment by income quintiles  
*Notes: equivalent income, quintiles fixed before the income shock, threshold of 60% median*

# Results (III)

**Table 2** Decomposition of poverty risk (FGT0) by income components using the Shapley value, %

<i>Contribution by source:</i>	<b>Absolute contribution</b>						<b>Relative contribution</b>					
	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
<b>Unemployment (1st year)</b>												
Original income	-48.9	-48.8	-42.6	-43.2	-43.3	-43.7	82.6	80.0	67.5	69.3	72.4	77.8
Unemployment b.	-6.2	-6.1	-7.5	-6.9	-6.2	-5.5	10.5	10.0	11.9	11.0	10.4	9.9
Other benefits	-8.7	-10.3	-16.2	-15.9	-14.1	-10.4	14.6	16.9	25.7	25.5	23.5	18.6
Tax & SIC	4.6	4.2	3.2	3.6	3.7	3.5	-7.7	-7.0	-5.0	-5.8	-6.3	-6.2
<i>Total reduction</i>	<i>-59.2</i>	<i>-61.0</i>	<i>-63.1</i>	<i>-62.4</i>	<i>-59.9</i>	<i>-56.2</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
<i>Total FGT0</i>	<i>40.8</i>	<i>39.0</i>	<i>36.9</i>	<i>37.6</i>	<i>40.1</i>	<i>43.8</i>						
<b>Childbirth (1st year)</b>												
Original income	-77.0	-71.2	-62.1	-63.2	-66.4	-70.3	80.6	75.3	64.5	65.2	69.1	74.8
Child / family b.	-25.4	-29.5	-34.7	-32.8	-29.7	-25.8	26.5	31.2	36.0	33.8	31.0	27.5
Other benefits	-3.3	-3.9	-6.6	-8.0	-7.1	-5.8	3.4	4.1	6.9	8.3	7.4	6.2
Tax & SIC	10.1	10.0	7.1	7.1	7.2	8.1	-10.5	-10.6	-7.4	-7.3	-7.5	-8.6
<i>Total reduction</i>	<i>-95.6</i>	<i>-94.5</i>	<i>-96.3</i>	<i>-96.9</i>	<i>-96.0</i>	<i>-93.9</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
<i>Total FGT0</i>	<i>4.4</i>	<i>5.5</i>	<i>3.7</i>	<i>3.1</i>	<i>4.0</i>	<i>6.1</i>						
<b>Childbirth (2nd year)</b>												
Original income	:	-68.2	-58.2	-58.5	-62.0	-66.5	:	75.4	63.0	63.9	69.6	82.1
Child / family b.	:	-26.1	-31.2	-29.3	-24.5	-10.8	:	28.9	33.8	31.9	27.5	13.4
Other benefits	:	-4.8	-8.9	-10.4	-9.2	-7.7	:	5.3	9.6	11.4	10.3	9.5
Tax & SIC	:	8.6	5.9	6.6	6.5	4.0	:	-9.6	-6.4	-7.2	-7.3	-5.0
<i>Total reduction</i>	:	<i>-90.4</i>	<i>-92.4</i>	<i>-91.7</i>	<i>-89.1</i>	<i>-81.0</i>	:	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
<i>Total FGT0</i>	:	<i>9.6</i>	<i>7.6</i>	<i>8.3</i>	<i>10.9</i>	<i>19.0</i>	:					

*Note: Category child/family benefits include all contributory maternity and paternity benefits, child benefit, birth grant; unemployment benefit includes unemployment social insurance benefit.*

*Source: own calculations using DASP module in Stata*

# To sum up: no need to wait for a new crisis

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- ▶ Welfare state's role: towards promotion of individual responsibility for risk management; protection/re-distribution need to stay in focus.
- ▶ Using vulnerability measures for monitoring: focus on social protection, on expected poverty rather than volatility, ex-ante measures.
- ▶ 'Stress-testing' using microsimulation for vulnerability analysis.
- ▶ In Lithuania for unemployment and childbirth:
  - ▶ imbalances in vulnerability levels produced by the welfare state policies
  - ▶ lack of the counter-cyclical social protection
  - ▶ traditional mutual support among the household members plays a major role, despite of the diminishing importance noted in the literature
- ▶ Potential for using stress testing:
  - ▶ scope for improvement measures: more risks and more elaborate measures
  - ▶ comparative vulnerability analysis – EUROMOD model covers EU27



# Thank you!

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- ▶ Navicke, J. (2014) Paper: Between a risk society and a welfare state: social risk resilience and vulnerability to poverty in Lithuania. EUROMOD Working Paper No. EM 4/14:  
<https://www.iser.essex.ac.uk/research/publications/working-papers/euromod/em4-14.pdf>
- ▶ Contacts: Jekaterina Navicke, [j.navicke@yahoo.com](mailto:j.navicke@yahoo.com)





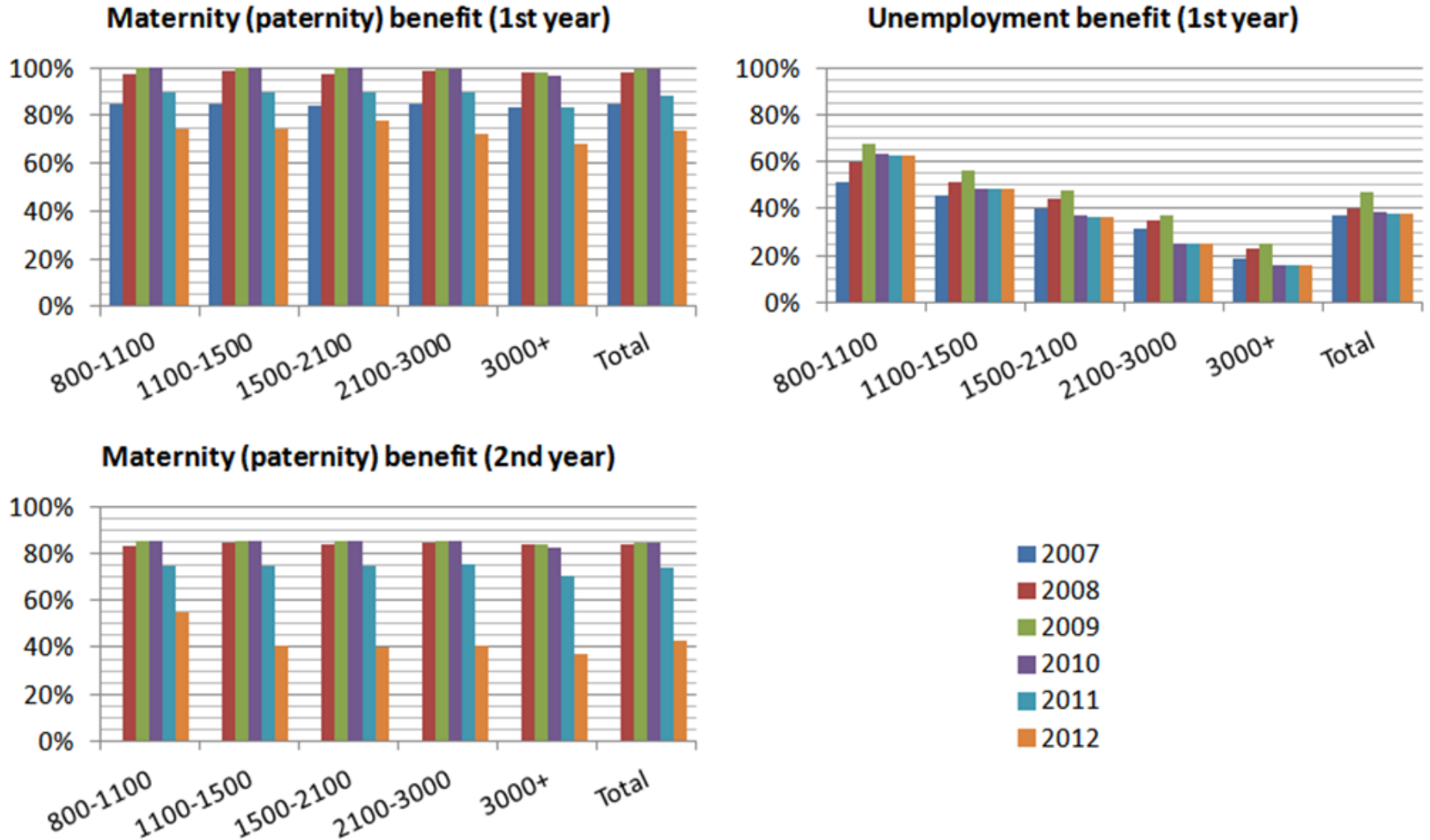
# Using stress testing to measure vulnerability

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- ▶ **Advantages and limitations of using microsimulation:**
  - ▶ complex evaluation of the functioning of the tax-benefit system
  - ▶ socio-demographic structure of the population
  - ▶ ex-ante analysis of the latest policy changes
  - ▶ reliability of data in the small population sub-groups
  - ▶ static simulation – first round effects
  - ▶ assumption of full benefit take-up and compliance to tax rules



# Results (III)



**Fig 3** Gross annual benefit replacement rate by income group and total