



# In-work poverty in the Czech Republic and Slovakia: The role of work intensity

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- Poverty used to be related to family life cycle
- More connected to work intensity of household members nowadays
- Economic rather than demographic factors
- in-work poverty (Cantillon et al., 2004; Ward-Ozdemir, 2009; Frazer-Marlier, 2010; Spannagel, 2011)
- Especially post-communist countries
  - ▶ Former Czechoslovakia: low wages, high family benefits → low correlation between earnings and household disposable income → low income inequality
  - ▶ Economic and social transformation: increase of wages, family benefits relatively low → increase of wage and income differentiation



- In-work poverty in the Czech Republic (CR) and Slovakia (SK) with a focus on the impact of work intensity
- Comparison of CR and SK:
  - ▶ Common history
  - ▶ Since the split, SK has caught up with the CR in terms of GDP
  - ▶ The nowadays comparable economic situation might reflect in the level, as well as the perception of household poverty



- International files EU-SILC 2006
- International files EU-SILC 2010
- National files 2013 from Czech and Slovak statistical offices:
  - ▶ „Životní podmínky“ (Living Conditions) for the CR
    - Not exactly the same structure of variables
  - ▶ EU-SILC for Slovakia
    - Exactly the same



Two indicators of poverty (dependent variables in logistic regressions):

- 1 at-risk-of-poverty indicator (objective)
  - ▶ dichotomous
  - ▶ “yearly” indicator - the reference period of household income in EU-SILC for the CR and SK is the previous calendar year
  
- 2 Inability to make ends meet (subjective)
  - ▶ a 6-point scale rescaled into dichotomous variable which equals one if the answer is “with great difficulty” or “with difficulty”
  - ▶ “current” reference period



The poverty of working individuals is influenced by their own but also by other household members' financial situation.

Three main reasons were identified with a capacity to put a working individual to risk of poverty:

① **low own work intensity**

② **low work intensity of other household members**, which counterbalances the individual's sufficiently high own earnings

③ **low own earnings** (low earnings of other household members not considered)

or a combination of all.



- „Working age population“:
  - ▶ individuals aged 18-64 years
  - ▶ plus working persons 65+

(Eurostat for work intensity: working-age person is a person aged 18-59 years, with the exclusion of students in the age group between 18 and 24 years)

- Limited to:

1 “yearly” at-risk-of-poverty indicator

- worked at least 1 month during the previous calendar year
- currently working (due to job characteristics)

2 “current” inability to make ends meet

- currently working (no need to limit the sample by the activity during the previous calendar year)



## ① own work intensity

- ▶ the number of months in (self-)employment in the previous calendar year
- ▶ recoded into:
  - low (reference group) - person worked 1-6 months
  - **high** - person worked 7-11 months
  - **full** - person worked 12 months





## ② work intensity of other working-age household members

- ▶ sum of their number of months in (self-)employment divided by the total number of months they could work in the previous calendar year (i.e. number of these members x12)
- ▶ recoded into:
  - **zero** - 0 (none of other working-age household members worked)
  - **low** - (0, 0.5)
  - **half** - 0.5
  - **high** - (0.5, 1)
  - **full** - 1 (all other working-age household members worked the whole previous calendar year)
  - no other working-age household members (reference group)



## ③ own earnings

- ▶ the workers' earnings are implied in demographic and job characteristics, which influence the wage level (similarly to common wage regressions)
- ▶ male
- ▶ tertiary (isced 5-6) and secondary (isced 3-4) education
- ▶ age and age<sup>2</sup>
- ▶ child(ren) aged 0-2, 3-5, 6-17 in a household
- ▶ inactive household member(s) 65+
- ▶ densely and medium populated area
- ▶ supervisory position
- ▶ temporary job contract, unlimited job contract (ref. group: self-employed)
- ▶ firm size 11-49 and 50+



# Model ② - „current“ inability to make ends meet

- ① **own work intensity**
  - ▶ not applicable, only working individuals
- ② **work intensity of other working-age household members**
  - ▶ simplified to current economic activity. i.e. the share of working persons out of the other working-age household members
  - ▶ recoded into the same categories (ref. group: no other working-age household members)
- ③ **own earnings**
  - ▶ the same



Model ①	At-risk-of-poverty indicator					
	Czech Republic			Slovakia		
	2006	2010	2013	2006	2010	2013
<b>① Own work intensity:</b>						
- high	0.19***	0.45***	0.31***	0.49***	0.45**	0.42**
- full	0.09***	0.09***	0.18***	0.28***	0.21***	0.15***
<b>② Work intensity of other working-age household members:</b>						
- zero	1.16	1.23	2.22***	1.95***	1.14	1.72**
- low	0.51***	0.40***	1.15	0.83	0.63**	0.68*
- half	0.09***	0.22***	0.30***	0.43***	0.19***	0.19***
- high	0.06***	0.06***	0.16***	0.24***	0.07***	0.16***
- full	0.03***	0.05***	0.11***	0.21***	0.10***	0.11***
<b>③ Job and demographic variables:</b>						
Male	0.58***	0.79*	0.73**	0.76**	0.81	0.58***
Secondary education	0.61**	0.49***	0.88	0.75	1.26	0.40***
Tertiary education	0.20***	0.38***	0.68	0.43**	1.34	0.25***
Age	1.19***	1.22***	1.10**	1.10**	1.01	1.10**
Age <sup>2</sup>	1.00***	1.00***	1.00**	1.00**	1.00	1.00*
Child(ren) 0-2 years	0.87	0.50***	0.20***	1.14	1.17	0.50***
Child(ren) 3-5 years	0.93	1.07	0.60**	1.70***	0.71	1.48**
Child(ren) 6-17 years	3.28***	2.89***	2.34***	3.19***	3.26***	3.22***
Inactive members aged 65+	0.06***	0.15***	0.16***	0.19***	0.11***	0.25***
Densely populated area	1.04	0.60***	0.70**	0.64***	0.65***	0.70**
Medium populated area	1.40**	0.75*	0.78*	0.67***	0.78*	0.88
Supervisory position	0.52**	0.68*	0.50***	0.73*	1.04	0.75
Job contract – unlimited	0.92	0.39***	0.29***	0.29***	0.10***	0.14***
Job contract – temporary, fixed-term	1.45	0.50***	0.60**	0.51***	0.20***	0.31***
Firm size 11-49	0.99	0.81	0.77	0.72***	0.78*	0.84
Firm size 50+	0.85	0.58***	0.63**	0.48***	0.47***	0.78
Constant	0.07**	0.04***	0.13*	0.31	0.98	1.28
N <sup>1</sup>	7311	8749	7847	6432	7101	6492
Nagelkerke R <sup>2</sup>	0.38	0.32	0.32	0.24	0.34	0.33

Model ②	Inability to make ends meet					
	Czech Republic			Slovakia		
	2006	2010	2013	2006	2010	2013
<b>① Own work intensity:</b>						
- high	-	-	-	-	-	-
- full	-	-	-	-	-	-
<b>② Work intensity of other working-age household members:</b>						
- zero	1.32**	1.35***	1.28**	1.39**	1.26*	1.45***
- low	1.06	1.12	0.87	1.14	1.30**	1.32**
- half	0.83*	0.80**	0.84*	0.94	0.71***	0.86
- high	1.11	0.75**	0.74**	0.82	0.55***	0.79*
- full	0.47***	0.48***	0.58***	0.49***	0.50***	0.54***
<b>③ Job and demographic variables:</b>						
Male	0.83***	0.80***	0.85***	0.84***	0.82***	0.87**
Secondary education	0.62***	0.62***	0.58***	0.59***	0.47***	0.52***
Tertiary education	0.39***	0.36***	0.29***	0.45***	0.31***	0.35***
Age	1.01	1.00	1.01	0.95**	0.96**	0.97*
Age <sup>2</sup>	1.00	1.00	1.00	1.00**	1.00*	1.00
Child(ren) 0-2 years	1.05	0.96	1.31**	1.17	0.78**	0.72***
Child(ren) 3-5 years	1.40***	1.34***	0.98	1.02	1.26**	1.00
Child(ren) 6-17 years	1.59***	1.52***	1.44***	1.22***	1.26***	1.35***
Inactive members aged 65+	0.91	1.02	0.95	1.00	0.89	0.95
Densely populated area	1.27***	0.96	1.05	0.74***	0.95	1.23***
Medium populated area	1.11	0.98	1.11	0.78***	1.10	1.26***
Supervisory position	0.79**	0.67***	0.70***	0.54***	0.64***	0.61***
Job contract – unlimited	1.31***	1.40***	1.46***	1.52***	1.37***	1.42***
Job contract – temporary, fixed-term	1.90***	2.03***	2.56***	1.67***	2.25***	1.78***
Firm size 11-49	1.10	1.01	1.07	0.90	1.09	1.00
Firm size 50+	1.02	0.89	0.97	0.85**	1.04	0.72***
Constant	0.15***	0.42**	0.33**	1.41	1.13	1.30
N <sup>1</sup>	7386	8822	7989	6538	7171	6588
Nagelkerke R <sup>2</sup>	0.14	0.14	0.14	0.12	0.12	0.10

## Results: Model ① versus ②

- ① **At-risk-of-poverty** indicator is based on disposable household income only
- ① Moreover, it is equivalised income and, hence, it depends on the equivalence scale
- ② Inability to make ends meet - respondents consider their consumption expenditures, housing costs, loans repayments etc.



# Results: Model ① versus ②

## ● Presence of children

- ① Children aged 0-2 decreases the risk of poverty (significantly in 2010 and 2013 in CR; 2013 in SK) - the age of children corresponds to the most often length of receiving the parental leave benefit in these countries
  - In SK, the risk of poverty increases with the presence of children 3-5
  - In both countries, the risk of poverty is about 3x higher when there are children aged 6-17 than when there are no children
- ② The effect of children aged 0-2 on the risk of „subjective“ poverty is much weaker and even increases the risk in CR in 2013 → the parental leave benefit is not perceived to be as helpful as the „objective“ indicator suggests
  - In both countries, the risk is „only“ about 1.5x higher when there are children aged 6-17 → the equivalence scale might not be appropriate



# Results: Model ① versus ②

- Job contract vs. self-employed
  - ① Both types of job contracts decreases the risk of „objective“ poverty significantly in both countries (except CR in 2006), temporary contract less - compared to self-employed
  - ② Both types of job contracts increases significantly the risk of „subjective“ poverty, temporary more - compared to self-employed
- households of self-employed do not perceive their financial situation as critically as the „objective“ indicator suggests





- When not only income but also expenditures are considered even full work intensity of all working-age members does not eliminate the risk of perceived poverty/financial problems
- While the income level suggests that other members who fully work reduce the risk of poverty to minimum, the self-perceived financial situation suggests that individuals do not feel to be considerably better off if they have other members working with full work intensity
- The results suggest that there is a high share of households which are not „poor“ based on income but they feel financial problems to make ends meet



# „Side-effect hints“ for next analysis:

- Parental leave benefits might not be as „generous“ as it is generally viewed in these two countries →
- The weight of children in the equivalence scale might not correspond well to the child-related expenditures in CR and SK
- The analysis provides an indirect evidence that the income of self-employed is highly underestimated:  
they have a higher risk of poverty than employees when income level is considered while they are at lower risk once they express their financial situation themselves



# Thank you for your attention



## Part-time work is not considered in work intensity

- ▶ Critiques of ignoring part-time work in constructing the household work intensity
  - ▶ Our next step is to consider part-time work
  - ▶ However, part-time jobs consists of 5.8% of total employment in 2013 in the CR (an increase by 1.4 pp since 2006) and 4.5 in SK (an increase by 1.8 since 2006)
  - ▶ The EU-28 average was 19.6 in 2013
- no substantial difference of results expected
- ▶ The Czech national dataset (2013) does not allow to distinguish number of months of part-time and full-time work
  - ▶ Generally, the adjustment to part-time jobs is not possible as exact number hours worked during the income reference year is unknown in EU-SILC

▶ In CR and SK, majority of part-time jobs are „half-time“ jobs

Equivalence scale might not reflect the child-related expenditures in the CR and SK

- ▶ The risk of poverty based on income is much higher with the presence of children aged 6-17 than if self-perceived financial situation is considered
- ▶ In order to examine the effect of children in relation to the equivalence scale more precisely, the age categories of children has to be rearranged in the next step (with the cut-point at 14 years)



- CANTILLON, B. - VAN MECHELEN, N. - PINTELON, O. - VAN DEN HEEDE, A. (2004): Household Work Intensity and the Adequacy of Social Protection in the EU. Working Paper No. 12/04, University of Antwerp, Herman Deleeck Centre for Social Policy.
- FRAZER, H. - MARLIER, E. (2010): In-work Poverty and Labour Market Segmentation in the EU: Key Lessons. EU Network of Independent Experts on Social Inclusion. European Commission.
- SPANNAGEL, D. (2013): In-work Poverty in Europe - Extent, Structure and Causal Mechanisms. COPE project (Combating Poverty in Europe).
- WARD, T. - OZDEMIR, E. (2009): Measuring low work intensity - an analysis of the indicator. ImPRovE Discussion Paper No. 13/09. Antwerp.

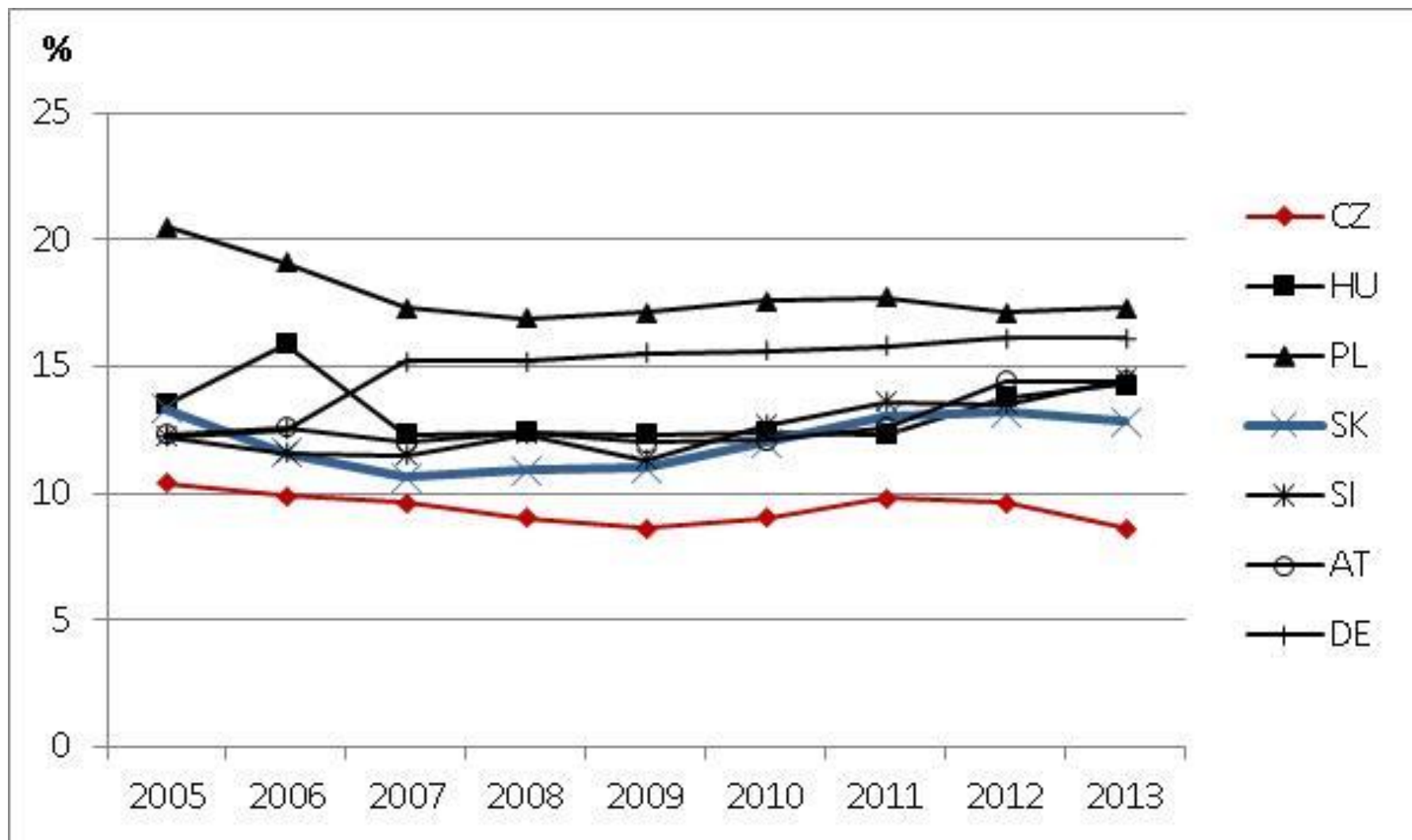


# Concept of poverty and work intensity

- Combination household and individual levels
- At-risk-of-poverty rate
  - ▶ % of individuals with an equivalised disposable household income below 60% of national median
  - ▶ poverty indicator is based on household income and is attributed equally to each member of the household



# At-risk-of-poverty rate

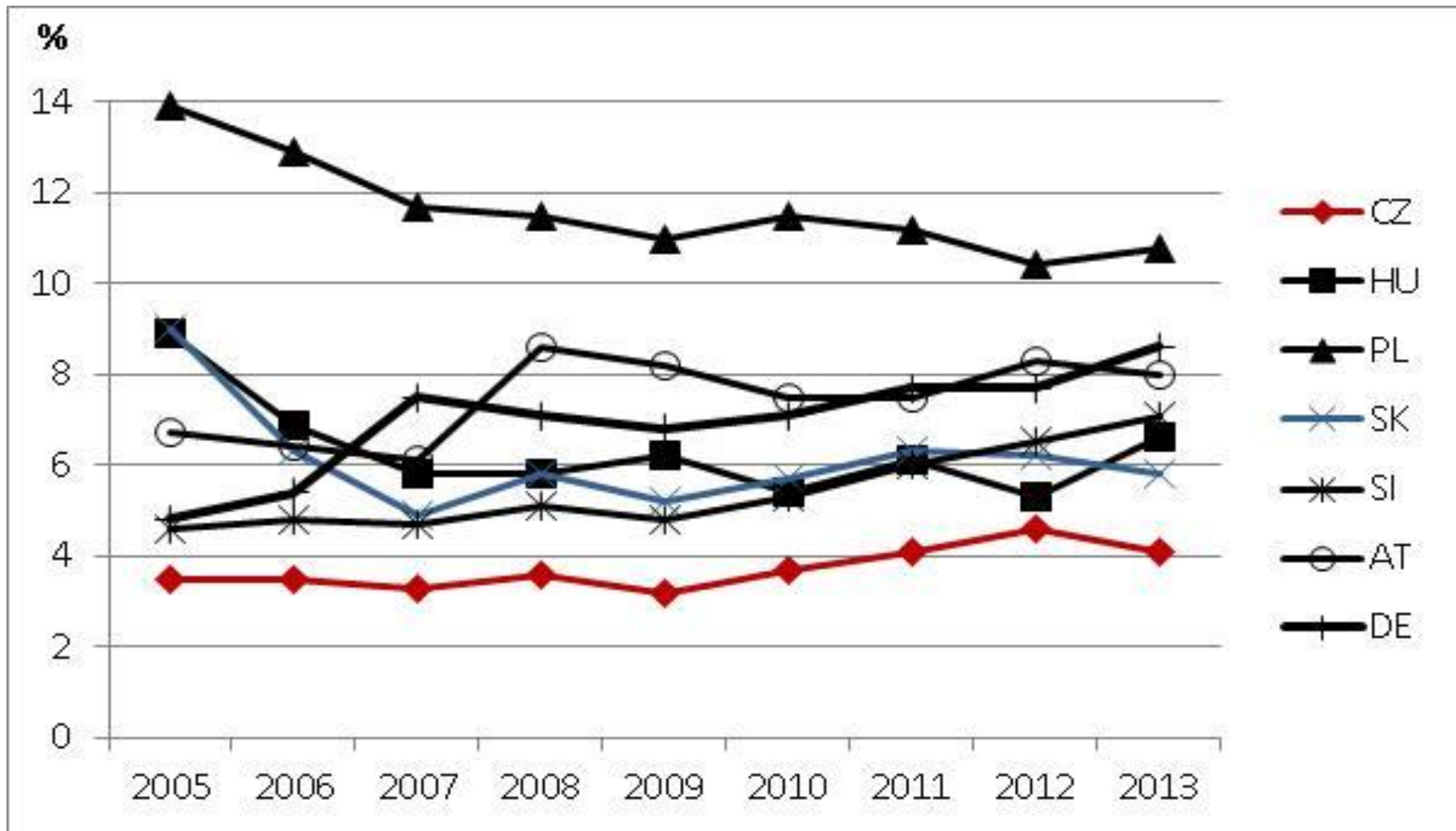


Source: Eurostat, EU-SILC, ilc\_li02





# At-risk-of-poverty rate for employed persons



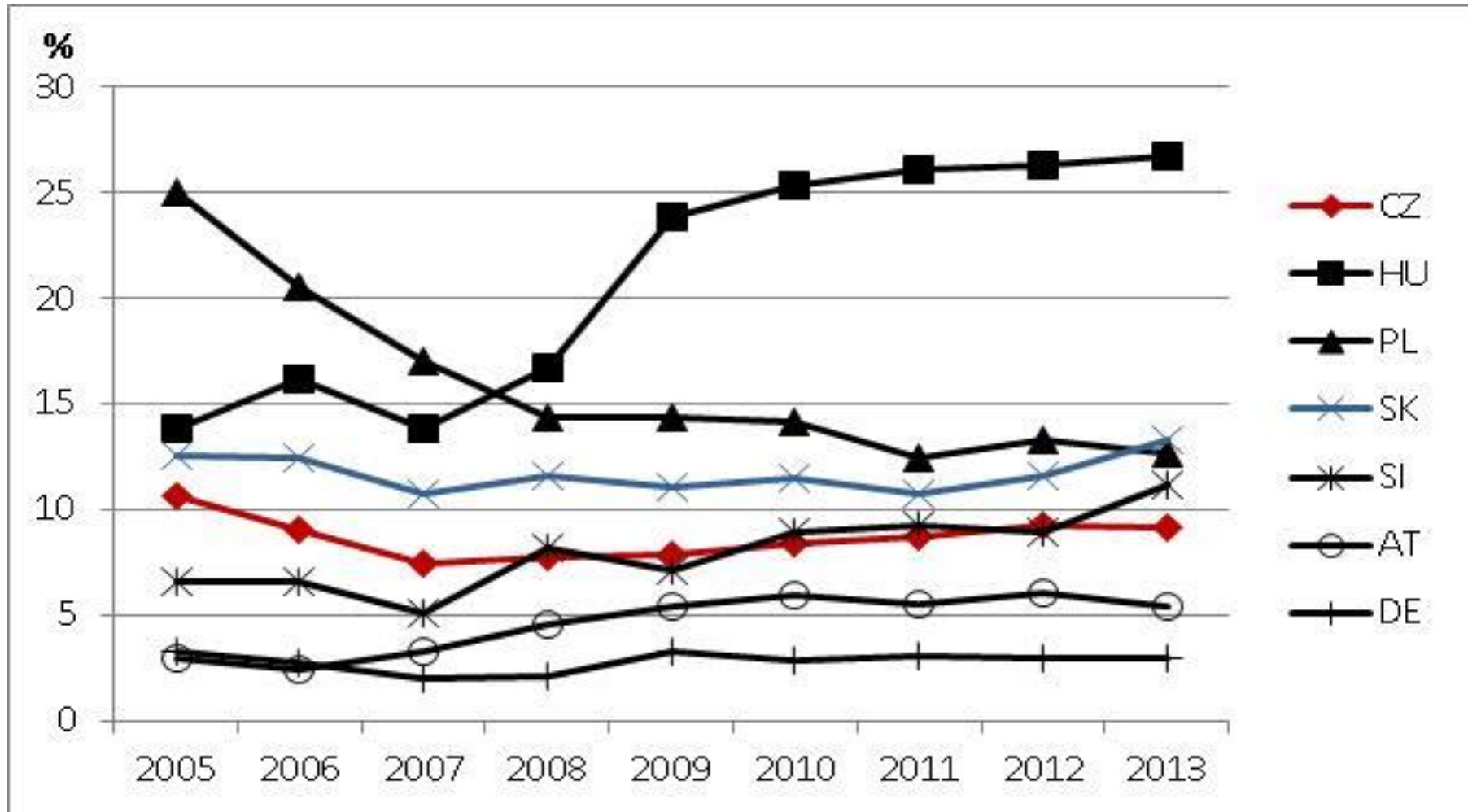
Source: Eurostat, EU-SILC, ilc\_li04

# (In)ability to make ends meet

- „Subjective“ indicator
- Household level
- *“Thinking of your household's total income, is your household able to make ends meet, namely, to pay for its usual necessary expenses?”*  
6-point scale (from “with great difficulty” to “very easily”)



# Households making ends meet with great difficulty



Source: Eurostat, EU-SILC, ilc\_mdes09

