





Explaining Under-education of Low Educated: Regional and Firm Characteristics Matter

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 NARSC, Hyatt-hotel, Miami, November 2011



Outline

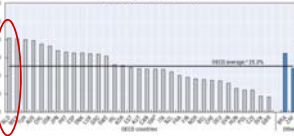
- > Motivation
- > Related literature
- > Goal and research question
- > Dataset and Method
- > Results
- > Conclusions



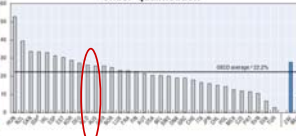
Context: presence of mismatches (1)

- Job mismatches exist on the labour market
- OECD 2011: Netherlands has one of the highest numbers of misqualification based on objective measurement of **education**


Over-qualification



Under-qualification



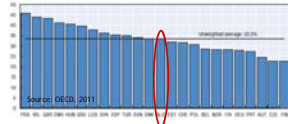
Source: OECD, 2011



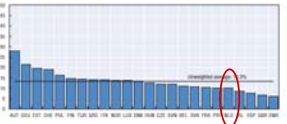
Context(2): presence of mismatches

- > Different results if we look at allocation based on subjective interpretation of **skills**


Overskilled



Underskilled




> Definition matters!!



Context(3): causes of mismatches

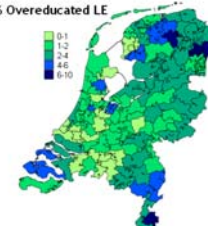
- Globalization and rising education level have influence on job allocation (specialization)
- Education of crucial importance for labour market position in terms of unemployment, wages
- Negative (crowding out) and positive (spillover) interactions between low- and high educated
- However, also regional differences in labour market structure matter



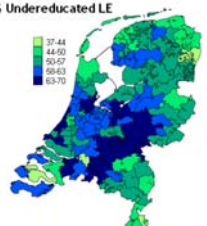
Context (4) presence of mismatches


- > Regional differences in job allocation for low educated in the Netherlands (based on objective measure)

% Overeducated LE



% Undereducated LE





Related literature


- > Importance of education in economic position
See f.i. Broersma, Edzes and van Dijk, 2010; Mirne, van der Steeg and Wibbink, 2007; Psacharopoulos and Patrinos, 2002; Groot and Maassen van den Brink, 2003; Gesthuizen and Scheepers, 2010.
- > Globalization aspects
See f.i. Sassen, 1988; Autor, Katz and Kearney, 2006; Autor, Levy and Murnane, 2003; Spitz-Oener, 2006; Hamnett, 1994; van der Waal, 2010.
- > The effect of job allocation for the individual, the company and the region
See f.i. Saltinger, 1993; Allen and van der Velden, 2008
- > Interaction between high and low educated
See f.i. Gesthuizen and Scheepers, 2010; de Beer, 2006; Broersma, Edzes and van Dijk, 2010; Canton et al, 2009.
- > Regional aspects influencing job allocation
See f.i. Hensen et al, 2009; Buchel and van Ham (2003); Groot and Maassen van den Brink, 2000; Wolbers, 2003
- > Individual, sector, company aspects influencing job allocation
See f.i. Hensen et al, 2009; Frank, 1978; Buchel and van Ham, 2003; Green and McIntosh, 2007.



Goal of the research

- > Explaining the chance to be under-educated for low educated by focusing on:
 - The effect of the regional labour market structure
 - The effect of high educated in the region
 - The effect of high educated in the firm


Can we explain the chance for low educated to be undereducated by the structure of the labour market and the presence of high educated on the regional and the inter-firm level?



Dataset (1)

- > Working Conditions Survey (WCS)*
 - Repeated set of cross sections of workers in firms
 - Period: 1996-2006
- > Regional and firm data are enriched with:
 - External Data (Source: Statistics Netherlands):*
 - unemployment, population density per zipcode
 - economic growth (business cycle) on macro level
 - Aggregates indicators from the dataset*
 - regional data → summing workers in zip code regions
 - inter-firm data → summing workers in firms

*Dutch Ministry of Social Affairs and Employment



Dataset (2) Calculating new aggregated variables:

Share high educated in firm, region, at time t*

$$\frac{\text{nr of high educated workers in firm, region at t}}{\text{total nr of workers in firm, region at t}}$$

EXPECTED: POSITIVE EFFECT ON MATCH LOWER EDUCATED: SPILLOVER


Oversupply high educated in firm, region, at time t*

$$\frac{\text{nr of high educated workers in firm, region at t}}{\text{nr of high level jobs in firm, region at t}}$$

EXPECTED: NEGATIVE EFFECT ON MATCH LOWER EDUCATED: CROWDINGOUT


Selected cases

- Low educated: elementary and pre-vocational secondary education
- Wage: >75% minimum and <12x minimum
- At least a job at own education level



Method

- > Binary logistic regression
- > Dependent: undereducated (1) vs having a jobmatch (=0)
Undereducated: educationlevel < joblevel
Jobmatch: educationlevel = joblevel
- > Model
 - regional characteristics and high educated in region, firm
 - controls (individual, job, company, business cycle)



Controls see appendix

	Chance for under-education low educated	Under-education (1) vs match (0)	
		Unst. B.	Wald
Individual	Gender=Male (ref. Female)	0,64	1656,79***
	Non-native (ref. Native)	-0,39	253,19***
	Ethnicity unknown	-0,03	1,77
	Age	0,04	4924,91***
	Elementary school (ref. Sec. educ. low level)	-1,59	6419,84***
	Yeartrend	0,00	0,07
Job	Number of working hours	0,04	3471,64***
	Function: Manual labour (ref. Commercial)	-0,80	1128,57***
	Function: Administration	0,17	38,55***
	Function: Automatics	0,92	124,42***
	Function: Care	-0,87	1251,56***
	Function: Creative	1,10	87,27***
	Function: Management	2,60	709,95***

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Controls see Appendix

Chance for under-education low educated		Under-education (1) vs match (0)	
		Unst. B.	Wald
Firm	Firm size	-0,05	299,22***
	Agriculture and fisheries (ref. Industry)	-0,36	112,52***
	Mineral extraction	0,27	13,52***
	Energy and water control firms	0,57	121,89***
	Construction	0,31	250,70***
	Trade and repair of consumer articles	-0,04	4,00*
	Hotels, restaurants, cafes	0,00	0,01
	Transport, storage and communication	0,91	1406,48***
	Financial institutions	0,36	77,47***
	Rental and business services	0,02	0,51
	Public administration, mandatory social services	0,21	6,30**
	Education	0,62	62,13***
	Health and social services	1,01	1289,05***
	Culture, recreation and other services	0,16	28,71***
Chi square		31671,1	
DF		35	
N		172950	

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Results: main effects

	Undereducated (1) vs match (0)	B	Wald
Regional	Business cycle (national growth)	0,02	12,34***
	Population density	0,06	67,25***
	Unemployment rate	-3,77	119,71***
	Number of elementary/lower jobs	-1,06	522,87***
High educated	% high educated work location	0,57	51,22***
	Oversupply of high educated	-0,18	153,67***
	Percentage high educated in firm	1,93	1355,77***
	Oversupply of high educated in firm	-0,13	483,13***
Chi square		31671,1	
DF		35	
N		172950	

Controlled for individual, job, company

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Conclusion

Can we explain the chance for low educated to be under-educated by the structure of the labour market and the presence of high educated on the regional and the inter-firm level?

- > Population density and economic boom increase and regional unemployment and a high supply of low-skilled work decreases the chance for under-education
- > High presence of high educated working in region or firm positively influences the chance to be under-educated
- > Oversupply of high educated in region or firm decreases the chance for under-education
- > Regional differences: more under-education in booming regions
- > Importance of studying interaction between groups on the labour market