

Underqualification as an opportunity for low-educated workers

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Overview

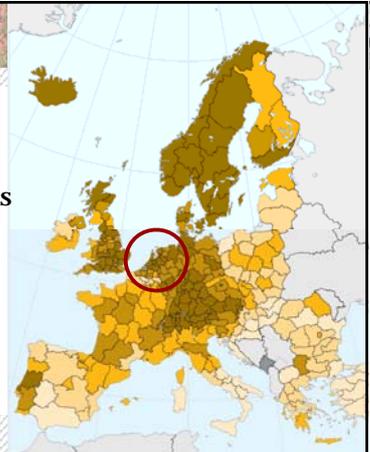
- > Introduction: some stylized facts about the Dutch labour market situation
- > Underqualification as an opportunity for low-educated workers

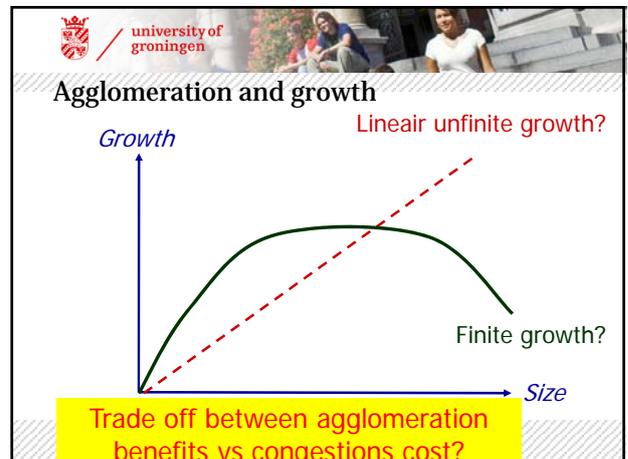
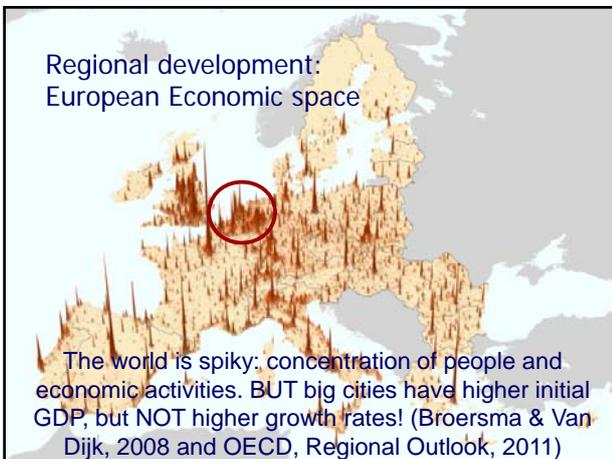
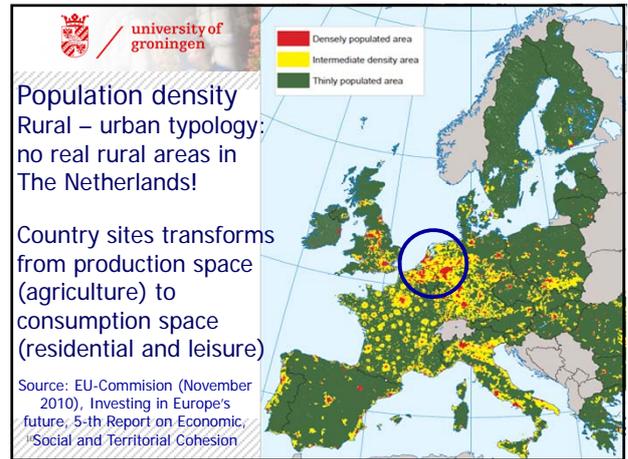
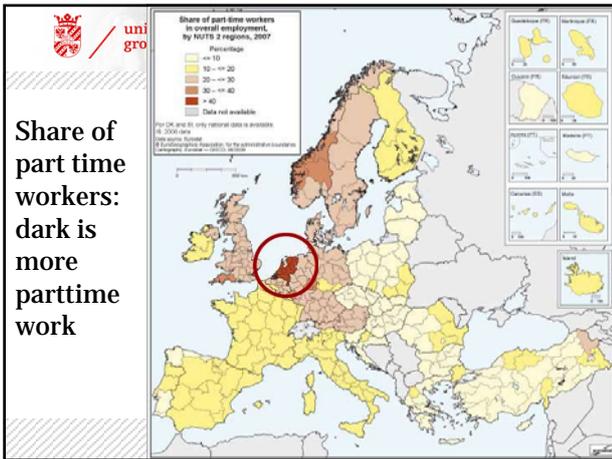
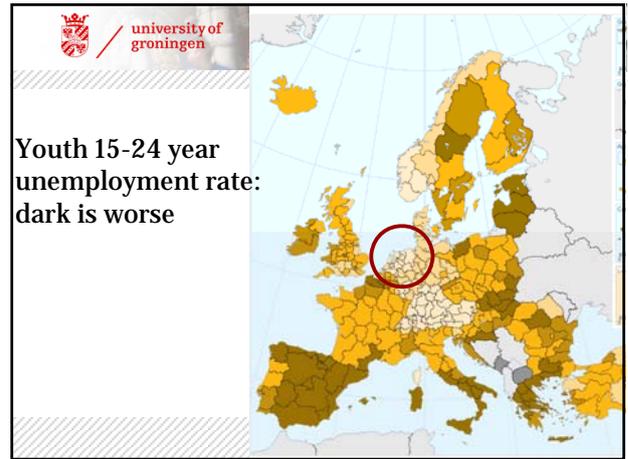


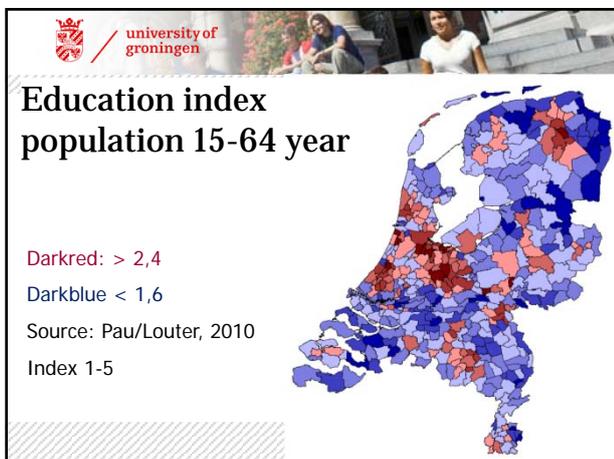
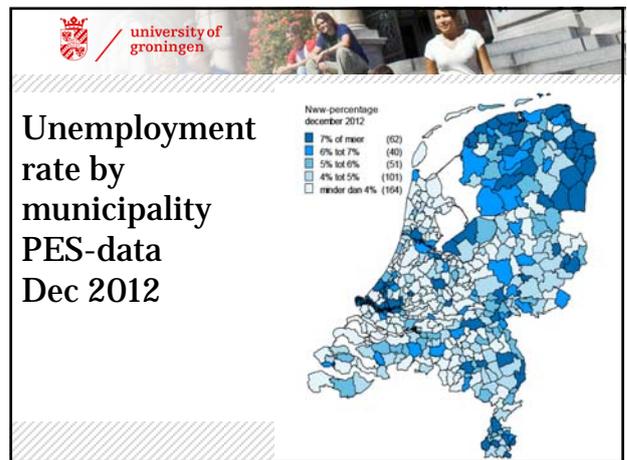
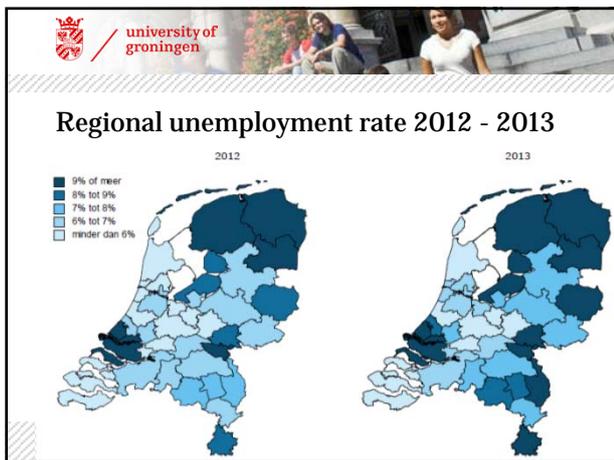
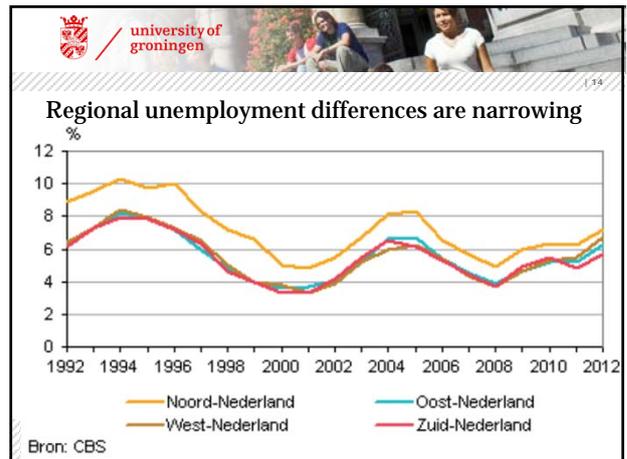
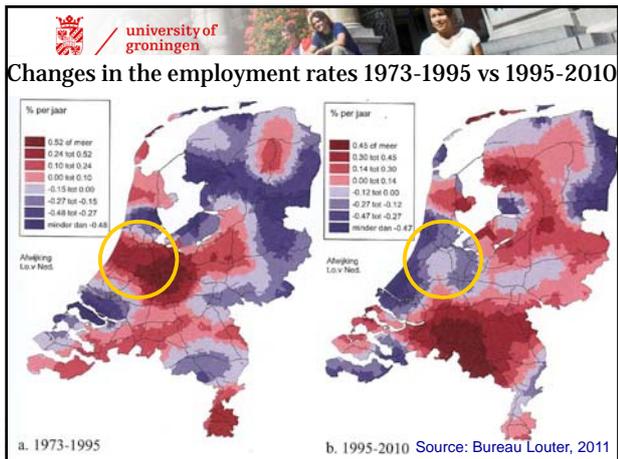
Netherlands large part below sea level:
blue areas flooded without dikes



Employment rate 2010: dark is better (jobs per inhabitants 20-64 years)







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The Dutch Labour Market: summary

- > High participation rate, but low working hours
- > Low unemployment rate
- > Regional differences still exist, but are getting smaller
- > Regions with high unemployment show more often population decline, more aging, lower spatial mobility and have more low educated
- > How to help low educated, older, unmobile workers in disadvantaged regions? Labor market policy often very small effects. Quota for employers?
- > Or: can low educated help themselves by moving up to higher level jobs? → Underqualification: this paper

What is under-qualification?

- > You managed to find a job that normally requires a higher level of formal education than you have.
- > Your job level is higher than might be expected given your formal level of education

→ So, you did very well when you are under-qualified!!

Relevance: Under-qualification and low educated

Regional and firm perspective

In general: Mismatch on labour market lowers productivity

(Thurow, 1973; Sattinger, 1993)

Low educated: Less investment in social support and labor market policy if people manage to improve their position and be more self-sufficient?

Individual

In general: Under-qualification positive financial consequences for worker in terms of wages and less risk of firing (Nordin et al., 2010)

Incentive NOT to invest in formal education?

Factors influencing chance for under-qualification

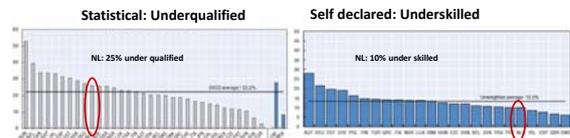
- Developments on the labour market influence chances low educated
 - Globalization, rising education, decrease medium jobs (See f.i. Sassen, 1988; Autor et al., 2003, 2006; van der Waal, 2010)
 - Negative (crowding out) and positive effects (informal learning) when low- and high educated work together (See f.i. Gesthuizen & Scheepers, 2010; de Beer, 2006)
 - Regional differences in labour market structure (See f.i. Hensen et al., 2009; Büchel & van Ham (2003); Groot; Wolbers, 2003)
- Firm characteristics influence chances low educated
 - Composition of high- and low educated employees in firm → proximity (Boschma, 2006; Canton, 2009; Broersma et al., 2012)
 - Different results found for type of firm (OECD, 2011; Green & Mc Intosh, 2007)
- Personal characteristics influence chances
 - More under qualification with increasing age, being male or native (See f.i. Hensen et al., 2009; Frank, 1978; Büchel & van Ham, 2003; Green & McIntosh, 2007)

Definition matters: Discrepancy between qualification and skills

In general, three ways to define match on labour market:

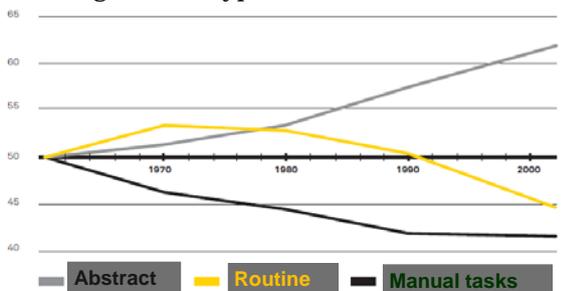
'normative', 'statistical' and 'self declared'

→ *Heterogeneity in outcomes*



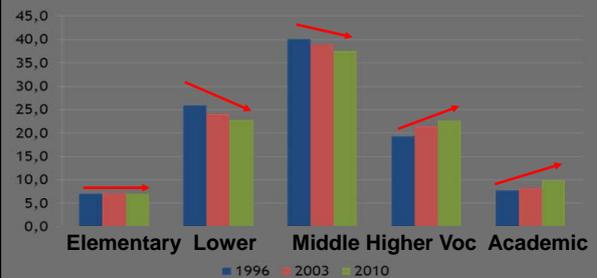
OECD, 2011

Change in task types 1960-2005



Source: Arbeidsmarktanalyse 2011, RWI

Occupational structure



Polarisation or upgrading?

Aim: explanation under qualification

Do we find effects of experience/learning and competition, for personal, firm- and labour market variables in explaining the chance for low educated to be under-qualified?

- Low educated
- Positive environments
- Interaction with high educated
- Comparing measurements

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    graph TD
      PC[Personal characteristics] --> LM[Labour market]
      FC[Firm characteristics] --> LM
      LM --> SUQ[Situation of under qualification]
      PC --> SUQ
      FC --> SUQ
  
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Educational system

Organisation of the Education System in the Netherlands 2007/08

Legend:

- 1 primary education (PO)
- 2 pre-vocational secondary education (MBO)
- 3 senior general secondary education (HAVO)
- 4 pre-university education (VWO)
- 5 practical training (PRO)
- 6 secondary vocational education (MBO): 1-4 yrs
- 7 higher professional education (HBO bachelor)
- 8 university (WO bachelor + master)

Source: Ministry of Education, Culture and Science, 2007.

Method (1)

- Dataset: Working Conditions Survey (WCS)*
 - Repeated set of cross sections of workers in firms
 - Information about worker and company
 - Period: 1996-2006
- Dependent: Defining under qualification in two ways: normative and statistical

Education levels in dataset	Normative definition: Based on job classification system		Statistical definition: Based on mean			Corresponding Job level
	Corresponding job level	Mean	St. dev.	Cases	Corresponding Job level	
Primary education (ISCED 0-1)	I	2,07	0,79	21593	II	II
Pre-vocational secondary Education (ISCED 2)	II + III	2,71	0,74	43535	III	III
Lower secondary general education (ISCED 2)	II + III	2,95	0,61	122992	III	III
Senior general secondary education and Pre-university Education (ISCED 3)	IV	3,48	0,80	32977	III + IV	III + IV
Secondary vocational education (ISCED 3)	IV	3,81	0,68	84018	IV	IV
Higher professional education (ISCED 5)	V-VI+ VII+ VIII	4,76	0,72	49371	V	V
University (ISCED 5-6)	V-VI+ VII+ VIII	5,39	0,85	13299	V + VI	V + VI
Total		3,45	1,07	367785		

Focus: Joblevel Worker-Matched level based on formal education

Example: worker with education ISCED 2 and job on level IV is under qualified in both measures

Method (2): Selection and analysis

- Selecting low educated (max. ISCED 2) with at least a job match
- Model: Binary Logistic Regression chance to be under qualified vs having a jobmatch for normative and statistical measure

Variables in model	External data	
	In the dataset	External data
Person /job	- Age - Ethnicity - Gender - Working hours - Function type; administrative, etc	
Region	- % High skilled jobs → summing up workers in region - % High educated in region → summing up workers in region - Living in one of 4 biggest cities	- National unemployment rate → measuring business cycle effect - Average unemployment rate per postcode (1996-2006)
Firm	- % High skilled jobs → summing up workers in firms - % High educated in firm → summing up workers in firms - Firm size - Firm Sector	

Regional variation under-qualification in the Netherlands

Job allocation	Based on normative measure	Based on statistical measure
% Over qualified	3,2%	20,2%
% Match	78,5%	66,6%
% Under qualified	18,3%	13,2%

Model results (1) Labor market effects

Under qualification (1) vs job match (0)		Normative measure			Statistical measure		
		B	Size-effect	z	B	Size-effect	z
Labor market	Year trend	-0.036	-0.040	-3.52***	-0.038	-0.0418	-3.25***
	Business cycle	-0.103	-0.016	-1.39	-0.086	-0.0134	-1.32
	Living in one of 4 biggest cities	-0.243	-0.023	-1.87*	-0.140	-0.014	-1.09
	Regional unemployment rate	-0.056	-0.038	-1.68*	-0.049	-0.033	-1.68*
	Percentage high skilled jobs in region excl firm	0.013	0.081	1.68*	0.003	0.018	0.48
	Percentage high educated in region excl firm	-0.005	-0.031	-0.66	0.001	0.005	0.14
N		181,067		149,146			
Pseudo R ²		0.369		0.220			
Wald chi2(36)		6444.26		7509.01			
Prob>chi2		0.000		0.000			
Controlled for Education level, Function level, firm sector							

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Model results (2) Firm and person effects

Under qualification (1) vs job match (0)		Normative measure			Statistical measure		
		B	Size effect	z	B	Size effect	z
Firm type	Firm size	-0.075	-0.055	-6.56***	-0.072	-0.053	-7.87***
	Percentage high skilled jobs in firm excl worker	0.040	0.749	16.26***	0.039	0.725	15.88***
Person/job	Percentage high educated in firm excl worker	-0.013	-0.087	-5.01***	-0.013	-0.087	-5.48***
	Female (ref. male)	-0.937	-0.083	-21.73***	-0.929	-0.080	-22.57***
	Non-native (ref. native)	-0.583	-0.048	-8.27***	-0.504	-0.043	-9.89***
	Ethnicity unknown	-0.104	-0.010	-1.13	-0.100	-0.010	-1.07
	16 – 24 (ref. 49+)	-1.434	-0.102	-23.09***	-1.689	-0.109	-22.87***
	25 – 34	-0.885	-0.077	-22.50***	-0.921	-0.080	-21.94***
	35 – 49	-0.287	-0.028	-10.44***	-0.292	-0.029	-10.18***
Number of working hours	0.042	0.176	14.94***	0.043	0.172	12.49***	
N		181,067			149,146		
Pseudo R ²		0.369			0.220		
Wald chi2(36)		8444.26			7509.01		
Prob>chi2		0.000			0.000		
Controlled for Education level, Function level, firm sector							

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Interaction effects age * women, ethnicity

Underqualification (1) vs job match (0)		Normative measure			Statistical measure		
		B	Size effect	z	B	Size effect	z
Main effects	Gender =female	-0.710	-0.066	-16.50***	-0.865	-0.078	-17.64***
	Non-native	-0.289	-0.027	-5.10***	-0.233	-0.022	-3.94***
	Age >39	0.928	0.101	30.37***	0.854	0.093	30.50***
Interaction effects	Non-native * age>39	-0.645	-0.052	-5.98***	-0.558	-0.047	-6.49***
	Women*age>39	-0.509	-0.045	-9.53***	-0.183	-0.018	-3.44***

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Conclusion/discussion

- Indications for positive learning and negative competition
- Personal- and inter-firm aspects more important in explaining under qualification than labour market characteristics
- Underqualification increases with age and is lower for women, non-natives and part-time workers
- Interaction effects: the age effect is weaker for women and non-natives
- Minor differences between different measurements for under-qualification
 - Further research:
 - Working on better job-classification based on skills
 - Cohort effects? Following people over time

