



Trickle down or crowding out in Dutch cities?

On Spillovers from Higher to Lower Educated Workers

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[Taxi Drivers with a PhD????? When I left my home to come here.....]



Summary of findings

Dutch cities/regions with high number of higher educated workers offer more jobs for the lower educated in the city..... (*trickle down*)

.....but more higher educated workers does not go along with lower unemployment levels for the lower educated.....

.....and this suggests *crowding out*: higher educated in the city have jobs below their education levels and.....

.....crowding out especially strong in amenity-rich cities? (like my hometown Groningen)



Literature 1

- › More high skilled workers in a city good news for (un)employment of low skilled workers?
- › Mechanisms for trickle down both on supply and demand side.....
- › Mixed empirical evidence



Literature 2

> Why “trickle down” evidence mixed?

-Possibility of crowding out? (strongly related to over-education of workers)

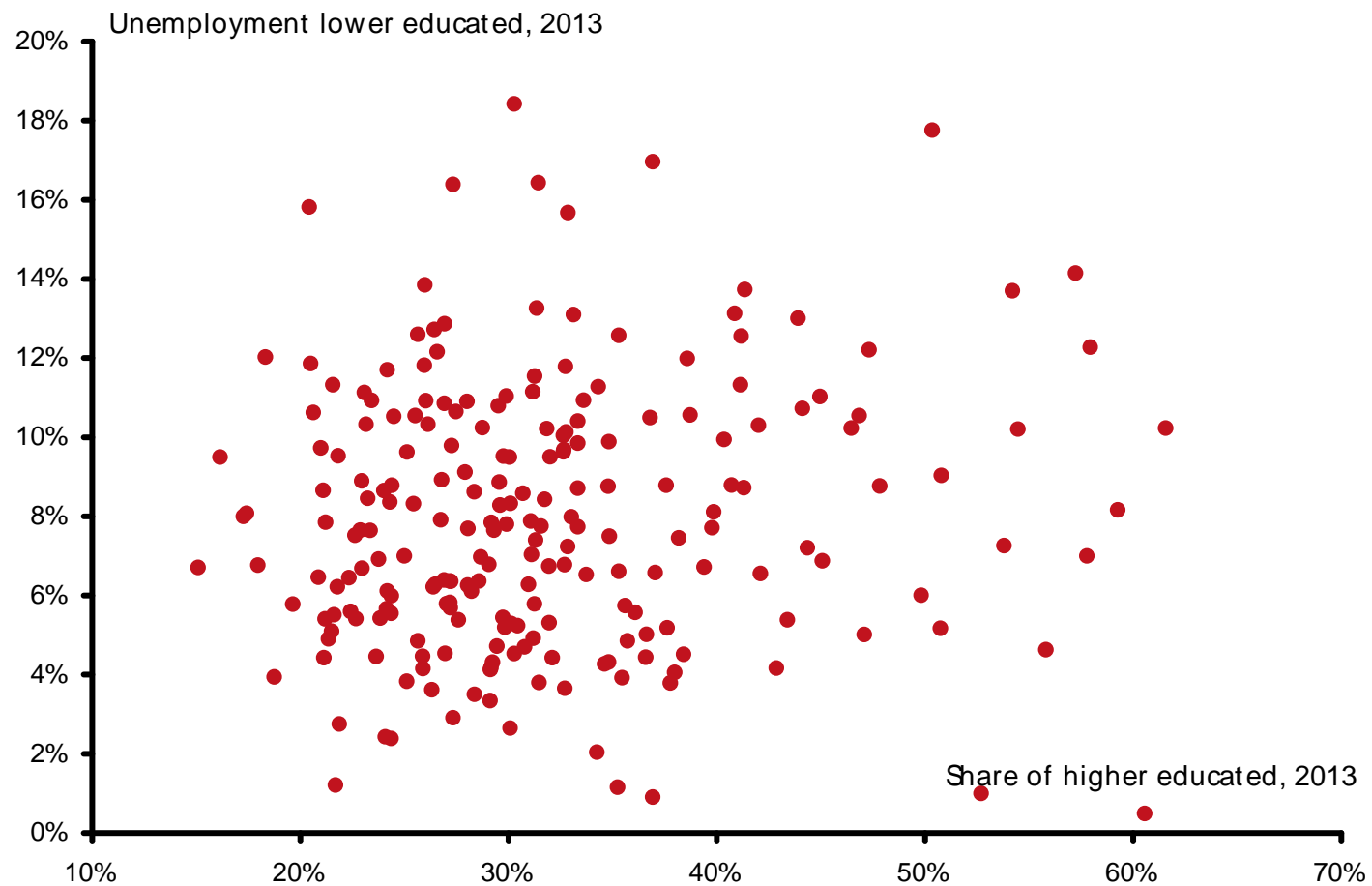
-What is the spatial scale used? (very relevant for Dutch case; job accessibility)

-Competition for low-skill jobs? (size effect)

-Composition of labor force? (age, household)



Human capital and unemployment



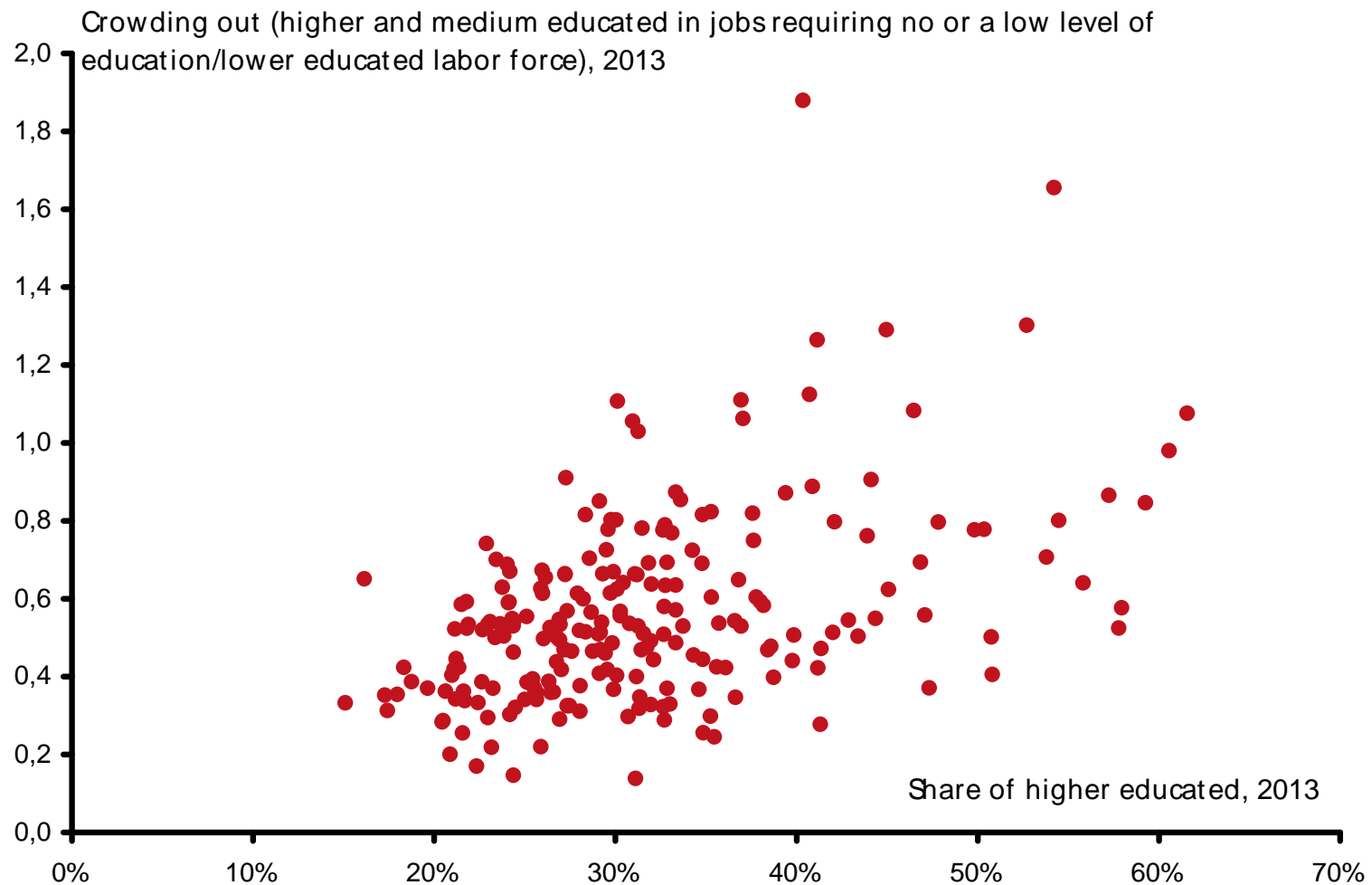


Our data set

- › Cross section estimations for 243 Dutch municipalities in 2013
- › Micro data, survey among labor force (15-64 year): *education, job status; type of job (1211 occupations), location (work+residence)*
- › Based on this data we construct for each municipality: unemployment lower educated; job opportunity measures; crowding out indicator



Higher educated and crowding out

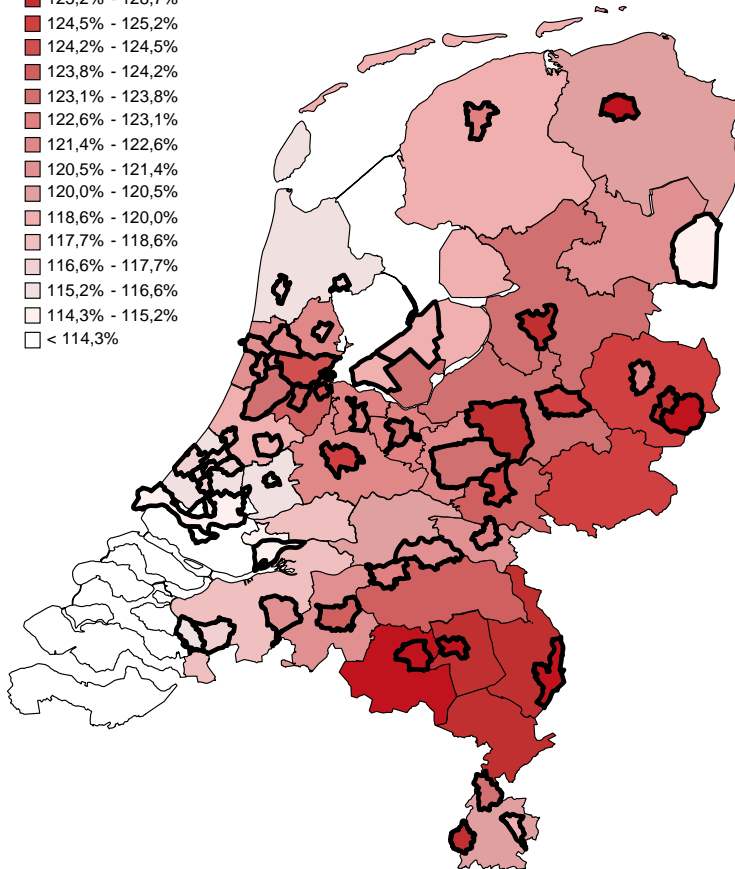




Job opportunities and unemployment

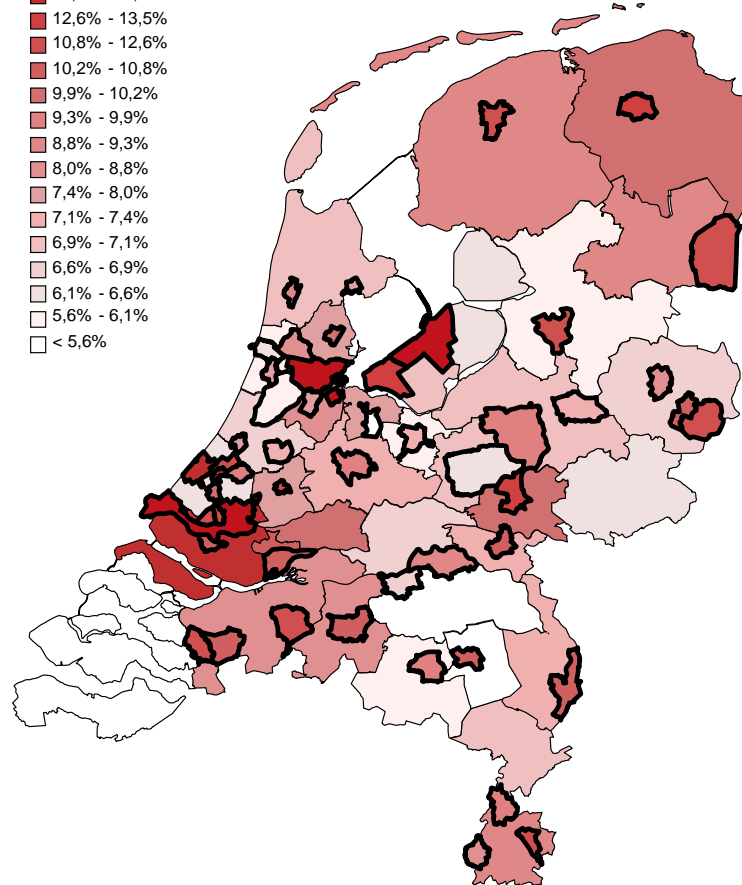
Job opportunities lower educated, 2013

- > 128,7%
- 125,2% - 128,7%
- 124,5% - 125,2%
- 124,2% - 124,5%
- 123,8% - 124,2%
- 123,1% - 123,8%
- 122,6% - 123,1%
- 121,4% - 122,6%
- 120,5% - 121,4%
- 120,0% - 120,5%
- 118,6% - 120,0%
- 117,7% - 118,6%
- 116,6% - 117,7%
- 115,2% - 116,6%
- 114,3% - 115,2%
- < 114,3%



Unemployment lower educated 2013 (3 years average) (QR)

- > 14,0%
- 13,5% - 14,0%
- 12,6% - 13,5%
- 10,8% - 12,6%
- 10,2% - 10,8%
- 9,9% - 10,2%
- 9,3% - 9,9%
- 8,8% - 9,3%
- 8,0% - 8,8%
- 7,4% - 8,0%
- 7,1% - 7,4%
- 6,9% - 7,1%
- 6,6% - 6,9%
- 6,1% - 6,6%
- 5,6% - 6,1%
- < 5,6%





Descriptive statistics: 3 key variables & controls

	Mean	Median	Maximum	Minimum	Std Dev.
Unemployment lower educated	0.08	0.08	0.18	0.001	0.03
Job opportunities lower educated	1.20	1.20	1.31	1.07	0.04
Crowding out	0.56	0.56	0.70	0.48	0.03
Share of lowest educated (% of all lower educated)	0.20	0.20	0.33	0.08	0.05
% non-western non-natives in labor force	0.10	0.08	0.47	0.01	0.08
% 15-24 years in lower educated labor force	0.18	0.18	0.32	0.09	0.03
% 25-34 years in in lower educated labor force	0.14	0.14	0.25	0.06	0.03
% 35-44 years in in lower educated labor force	0.23	0.23	0.34	0.11	0.04
% 55-64 years in lower educated labor force	0.17	0.17	0.30	0.06	0.04
% single-parent family (as share of households)	0.06	0.06	0.12	0.04	0.01
% social housing	0.29	0.28	0.50	0.12	0.07
highschool students (15 year or older) as % of lower educated labor force	0.27	0,25	1.29	0.13	0,10
College, university and polytech students as % of lower educated labor force	0,59	0,52	3,31	0,28	0,33



Explaining unemployment lower educated

	1	2	3
Job opportunities lower educated	-0.174*** (0.064)	-0.127** (0.063)	-0.122** (0.061)
Crowding out	0.231** (0.091)	0.219** (0.085)	0.209** (0.088)
Share of lowest educated (% of all lower educated)	0.088* (0.050)	0.074 (0.051)	0.071 (0.051)
% non-western foreigners in labor force	0.162*** (0.026)	0.071** (0.030)	0.070** (0.030)
% 15-24 years in lower educated labor force	-0.118 (0.074)	-0.102 (0.069)	-0.077 (0.071)
% 25-34 years in in lower educated labor force	0.016 (0.077)	-0.036 (0.077)	-0.052 (0.077)
% 35-44 years in in lower educated labor force	0.039 (0.081)	0.015 (0.078)	0.003 (0.079)
% 55-64 years in lower educated labor force	-0.057 (0.079)	-0.045 (0.075)	-0.038 (0.074)
% single-parent family (as share of households)		0.618*** (0.216)	0.757*** (0.232)
% social housing		0.111*** (0.036)	0.078** (0.039)
highschool students (15 year or older) as % of lower educated labor force			-0.056 (0.025)**
college and polytech students as % of lower educated labor force			0.009 (0.005)*
Constant	0.145 (0.070)	0.045 (0.75)	0.054 (0.07)
N	243	243	243
R2	0.25	0.33	0.35

***significant at 0,99 level, **significant at 0,95 level, *significant at 0,90 level;
White Heteroskedasticity-Consistent Standard Errors between brackets



Results

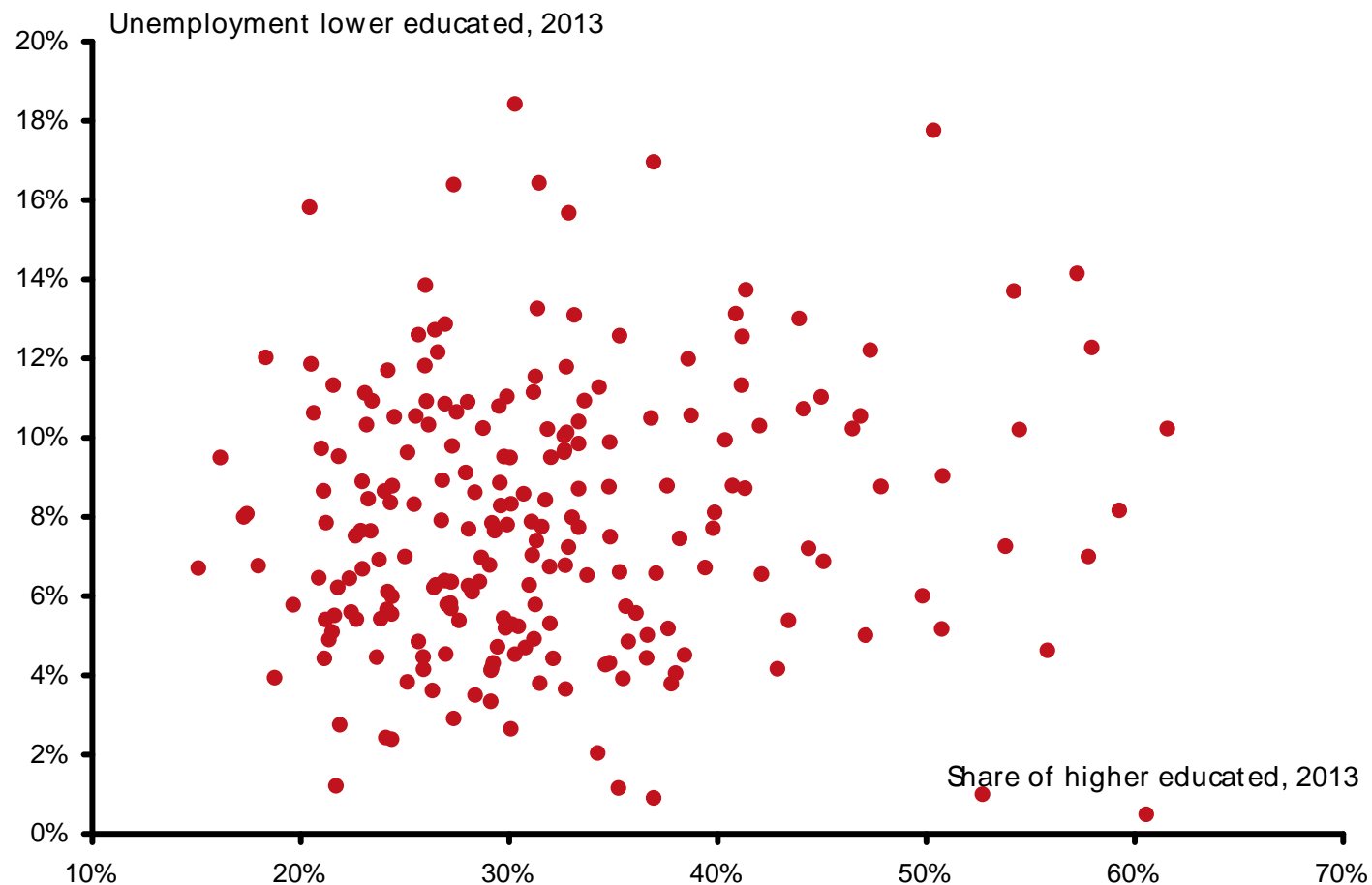
- > More job opportunities decreases unemployment lower educated.....
- >but also evidence of crowding out

See again 1st Figure





1st set of estimation results backs this up!





Crowding out “explained”

- › But what drives regional differences in crowding out in the Dutch case?
- › Again, job opportunities are key, but now for medium and higher educated.....
- ›but also amenities? (Glaeser.....)



Descriptive statistics (2)

	Mean	Median	Maximum	Minimum	Std. Dev
Crowding out	0.566	0.528	1.877	0.138	0.244
Job opportunities higher- and medium educated	0.885	0.890	0.943	0.781	0.033
Amenity-index	-6.552	-12.527	941.279	-607.553	215.374
Share of medium educated	0.446	0.455	0.567	0.244	0.056
Share of higher educated	0.317	0.300	0.616	0.151	0.092
% 25-34 years in labor force	0.165	0.162	0.289	0.102	0.030
% 35-44 years in labor force	0.207	0.208	0.267	0.157	0.015
% 45-54 years in labor force	0.240	0.241	0.285	0.150	0.022
% 55-64 years in labor force	0.209	0.213	0.278	0.113	0.026
% privately owned and or private rental houses in total housing stock	0.720	0.724	0.885	0.499	0.072
% college and polytech students	0.047	0.041	0.234	0.014	0.028



Explaining regional variety in crowding out levels

	Higher and medium educated in a job requiring no or a low level of education as % of lower educated laborforce	
	OLS	WLS
Constant	-1.25 (1.19)	-0,33 (1,46)
Job opportunities higher- and medium educated	-0.94 (0.45)**	-1,43 (0,57)**
Amenity-index	3.76E-05 (6.06E-05)	1,63E-04 (5,25E-05)***
Share of medium educated	3.02 (0.43)	4,03 (0,63)***
Share of higher educated	2.63 (0.35)	2,70 (0,47)***
% 25-34 years in labor force	2.34 (1.52)	-1,04 (1,71)
% 35-44 years in labor force	-0.43 (1.41)	3,07 (1,75)
% 45-54 years in labor force	1.44 (1.73)	-5,12 (2,22)***
% 55-64 years in labor force	-1.43 (1.24)	0,72 (1,56)
% privately owned and or private rental houses in total housing stock	0.12 (0.24)	0,01 (0,21)
% college and polytech students	0.76 (1.27)	2,49 (1,48)*
N	222	222
R2	0.41	0,97
Unweighted R2		0,27

***significant at 0,99 level, **significant at 0,95 level, *significant at 0,90 level;
(White Heteroskedasticity-Consistent) Standard Errors between brackets



Summary

- › Basic Q: Is increase in higher educated workers a complement or substitute for lower educated workers in a region?
- › Dutch case: evidence of substitution effects
- › Causality difficult, but still our findings play down strength of “trickle down” story favored by many (urban) policy makers.....