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HUMAN CAPITAL, REGIONAL DEVELOPMENT AND INEQUALITY: DOES CROSS-BORDER COMMUTING BETWEEN NEIGHBOURING EU-COUNTRIES REDUCE INEQUALITY?

Presentation for the University Workshop 'Remote Work Possibilities to Enhance Border Regions' Labour Markets at the European Week of Regions and Cities, Square Brussels Meeting Centre, 10th October 2023, Brussels, Belgium.

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Motivation for studying cross-border commuting

1. Cross-border issues (economy, safety, labour market, migration, governance, InterReg, Brexit) are a big theme in Europe.
2. Cross-border commuting can stimulate cross-border regional economic development (better matching, increases economies of scale, agglomeration effects) and solve discrepancies on cross-border labour markets also to reduce regional inequalities.
3. Now lack of insight in actual flows but also lack of insight in drivers and impact of cross-border commuting and policy.
4. This study: explanatory analysis of commuter flows between neighbouring EU countries in relation with economic (wage & unemployment), (road) accessibility and language similarities. Analysis for all commuters and for various groups distinguished by gender, education and age + analysis by economic sector.


 European Commission

BORDER REGIONS MEASURES TO BOOST GROWTH AND JOBS

The Single Market and freedom of movement are EU rights. Citizens enjoy being able to move, work, study or use services in other EU countries.

1 in 3 Europeans live in these regions – 150 million people

2 million EU citizens are frontier workers or students – they travel to work or school across a border daily or weekly



EU, September 2017


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28 EU countries, together with Norway, Switzerland and Liechtenstein, share close to **40 land borders**, with over **440 regions** located alongside at least one border.



“Border regions are essential for Europe’s growth. With more than a quarter of the EU GDP being produced there, we are looking at a gold mine of opportunities.”


The process should be smooth and easy. But for many it is not.

Varying national laws and administrative procedures hinder access to work, education, emergency services, business, local public transport, and health care.

Removing only **one fifth** of all obstacles could lead to:

GDP +2% in border regions

1 million new jobs




September 2017

Abbildung 2.1: Grenzen als Barrieren


Borders as Barriers: the example of Germany with nine borders: NL, BE, LU, FR, CH, AU, CS, PL, DK

Accessibility




Erreichbarkeit

Cultural differences




Kulturelle Unterschiede

Language




Sprache

Institutional differences



Rechtliche und administrative Unterschiede


Social & Economic differences



Soziale und wirtschaftliche Unterschiede

Als Hemmnis genannt von 10 20 30 40 50 60 70 80 90 % der Befragten **Small** **Big**

Doppellinie
 Innen: Angaben für deutsche Gebiete
 Außen: Angaben für benachbarte Gebiete


 MORO

Kolumbe-observatorium
 Observatorium und
 europäische Regionen

Datenbasis: European Commission Eurobarometer 422
 © EuroGeographics bezüglich der Verwaltungsgrenzen

Cross-border commuting flows EU+EFTA

- In 2021 1.7 million persons commute cross-borders, where as this was only 450.000 in 1998. So, cross-border commuting almost quadrupled.
- But cross-border commuters are only about 0,6% as share of the labor force!

→ Cross-border commuting flows are small!

Main Characteristics or the commuting workers:

- 46% in manufacturing and construction, 70% men
- Education: 34% high, 54% medium, 12% low
- Age: 42% is 35-49 years old
- The majority of flows are uni-directional toward regions enjoying higher level of economic development

Source: Annual Report on Intra-EU Labour Mobility 2022 (2023), Emmanuel Hassan, Linus Sjöland, Berkay Akbaba, Daniela Cinova, Michela Gasperini and Matthew Geraci; Network of Experts on Free Movement of Workers and Social Security Coordination. Luxembourg: Publications Office of the European Union, 2023.

Commuting out of (left panel) or into (right panel) EU-countries and Switzerland from neighbouring countries in 2016 in % of the employed labour force of the home or work countries.

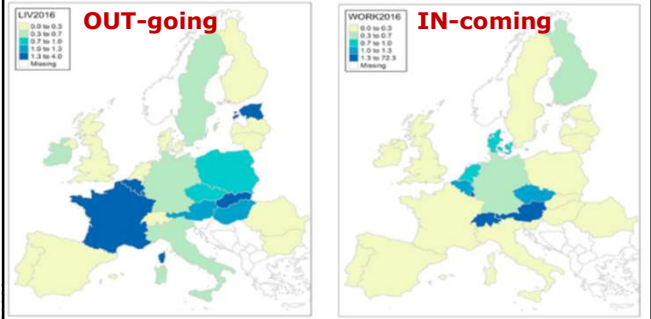
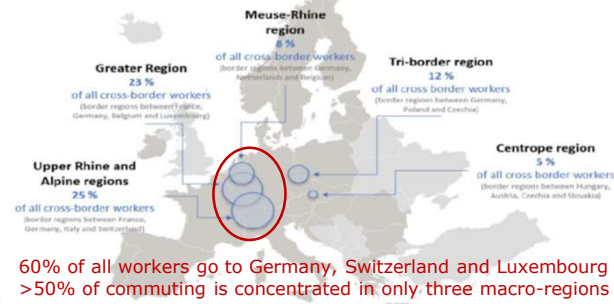


Figure 45: Main macro-regions of cross-border work, 2021



Source: EU-LFS 2021, custom extraction by Milleu.

Cross-border commuting: Main questions:

- What **drives** cross-border commuting?
- What is the **impact** and what is the effect on (reducing) **inequalities**?
- Study using Data EU + Switzerland from EUROSTAT for 1998 – 2016 on flows between countries.
- Empirical results published in:
 - Edzes, Arjen J.E., Lourens Broersma & Jouke van Dijk (2022). 'Does cross-border commuting between EU-countries reduce inequality?' Applied Geography, 139, February 2022. DOI: 10.1016/j.apgeog.2022.102639
 - Lourens Broersma, Arjen Edzes & Jouke van Dijk (2020): *Commuting Between Border Regions in The Netherlands, Germany and Belgium: An Explanatory Model*, Journal of Borderlands Studies, DOI: 10.1080/08865655.2020.1810590

Empirical model based on the push-pull gravity model:

Commuting = Wage (origin, destin.) + Unemployment (o,d) flows

$$\log \left(\frac{Y_{i,j,k,t}}{E_{j,k,t-1}} \right) = \rho + \alpha_1 \log \left(\frac{W_{i,k,t-1}}{h_{i,k,t-1}} \right) + \alpha_2 \log \left(\frac{W_{j,k,t-1}}{h_{j,k,t-1}} \right) + \beta_1 \log \left(\frac{U_{i,t-1}}{l_{f,i,t-1}} \right) + \beta_2 \left(\frac{U_{j,t-1}}{l_{f,j,t-1}} \right) + \gamma_1 \log \left(\frac{road_{i,t-1}}{land_{i,t-1}} \right) + \gamma_2 \log \left(\frac{road_{j,t-1}}{land_{j,t-1}} \right) + \delta \log (dist_{i,j}) + \sum_i \theta_i D_{i,j} + \varepsilon_{i,j,k,t}$$

Separate models by gender, education and age: Table 1
Data EU + Switzerland from EUROSTAT for 1998 – 2016:
Further check with sectoral models 2011 - 2016: Table 2

Estimation results in Table 1:

	(constant)	1.92 (2.37)	2.11 (3.20)	2.48 (3.57)	5.28 (3.27)	2.22 (3.17)	2.55 (4.06)	2.52 (3.37)	2.01 (2.94)
$\log \left(\frac{W_{i,k,t-1}}{h_{i,k,t-1}} \right)$	-0.61 (-8.61)	-0.68 (-9.38)	-0.52 (-7.13)	-0.56 (-6.46)	-0.71 (-8.55)	-0.47 (-6.39)	-0.47 (-9.44)	-0.64 (-8.59)	-0.80 (-11.32)
$\log \left(\frac{W_{j,k,t-1}}{h_{j,k,t-1}} \right)$	0.89 (12.32)	0.85 (11.47)	0.76 (9.75)	0.52 (5.46)	0.83 (8.96)	0.50 (6.96)	0.85 (11.32)	0.80 (10.44)	0.80 (10.44)
$\log \left(\frac{U_{i,t-1}}{l_{f,i,t-1}} \right)$	-0.05 (-0.63)	0.01 (0.18)	-0.06 (-0.77)	-0.14 (-1.69)	-0.22 (-2.75)	-0.06 (0.54)	0.04 (0.03)	0.00 (0.15)	0.01 (0.15)
$\log \left(\frac{U_{j,t-1}}{l_{f,j,t-1}} \right)$	0.16 (2.40)	0.14 (2.99)	0.07 (2.60)	0.26 (2.59)	0.20 (5.30)	0.09 (4.09)	0.10 (-0.16)	0.13 (3.39)	0.13 (1.11)
$\log \left(\frac{road_{i,t-1}}{land_{i,t-1}} \right)$	-0.22 (-2.04)	-0.25 (-2.32)	-0.14 (-1.21)	-0.03 (-0.27)	-0.40 (-3.62)	-0.40 (-5.57)	-0.06 (-0.57)	-0.30 (-2.77)	0.02 (0.21)
$\log (dist_{i,j})$	-0.61 (-4.93)	-0.60 (-4.75)	-0.77 (-6.03)	-0.79 (-5.35)	-0.63 (-4.91)	-0.53 (-4.58)	-0.65 (-5.19)	-0.64 (-5.02)	-0.64 (-5.02)
Common language dummy									
D_LANG_NL	1.28 (4.70)	1.23 (4.52)	1.17 (4.35)	1.04 (3.57)	1.29 (4.72)	1.26 (5.11)	1.20 (4.41)	1.29 (4.73)	1.29 (4.73)
D_LANG_LU	1.95 (11.91)	1.58 (9.65)	1.61 (9.99)	1.18 (6.54)	1.48 (9.03)	1.72 (11.58)	1.72 (10.50)	1.46 (8.89)	1.46 (8.89)
D_LANG_LU	1.11 (4.46)	0.97 (3.93)	1.11 (4.59)	0.24 (0.86)	1.01 (3.99)	1.20 (5.25)	1.12 (4.53)	0.96 (3.85)	0.96 (3.85)
D_LANG_CH	0.95 (5.62)	0.89 (5.29)	0.87 (5.23)	0.51 (2.75)	0.95 (5.60)	1.07 (7.05)	0.94 (5.61)	0.90 (5.30)	0.90 (5.30)
D_LANG_CH	1.45 (5.40)	1.41 (5.25)	1.44 (5.53)	1.03 (3.65)	1.36 (5.10)	1.58 (6.65)	1.46 (5.47)	1.50 (5.60)	1.50 (5.60)
D_LANG_CH	0.96 (3.46)	0.95 (3.45)	0.81 (3.03)	0.86 (3.06)	0.84 (3.08)	0.94 (2.64)	0.90 (3.26)	1.03 (3.75)	1.03 (3.75)
D_LANG_IT	1.31 (4.34)	1.77 (5.60)	0.76 (2.25)	2.37 (6.05)	1.69 (5.52)	1.15 (3.51)	1.57 (4.86)	1.55 (4.49)	1.55 (4.49)
D_LANG_IT	0.40 (1.42)	0.49 (1.76)	0.13 (0.45)	0.33 (1.10)	0.35 (1.26)	0.34 (1.30)	0.45 (1.55)	0.29 (1.04)	0.29 (1.04)
ASJ R ²	0.43	0.40	0.36	0.32	0.42	0.37	0.41	0.41	0.41
N	1125	1103	1011	826	1049	997	1088	1036	1036



Conclusions

- Cross-border commuting flows are very small but increase over time 1998-2021.
- **Potential gains:** more economic activity due to scale and agglomerations effects, better matching and lower unemployment.
- **Empirical results:** lower wages and higher unemployment in the origin significantly increase commuting (push-effect) and lower the pull effect from destination countries; magnitude differs a bit by gender, education and age and is not always significant for all sub-groups.
- **Accessibility** by motorways in the destination country has a significant positive effect on cross-border commuting, but is insignificant for the country of origin.
- **Common language** on both size of the borders increases commuting, with the exception of Ireland - UK.
- **Distance** show a significant negative effect, implying that big countries show smaller cross-border commuting flows; **Can remote work reduce distance problem?**
- Models by **sector** for 2011-2016 perform rather similar, but sectoral wages are insignificant or show unexpected results.

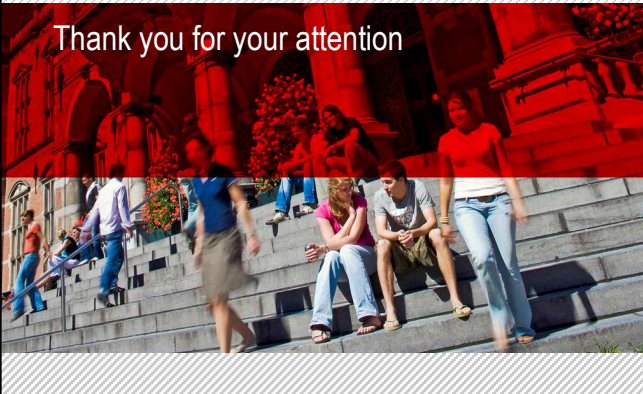


Effect on Inequality and Policy Implications

- Cross-border commuting flows respond in general in the theoretically expected way to wages, unemployment, accessibility, language similarity and distance.
- **→ cross-border commuting may help to reduce economic and territorial inequality!**
- The effects are small also because the relatively small number of commuters.
- **The results differ by gender, education and age, sector and time period implying that for some groups the reduction in inequality might be very limited or might increase for groups who are less mobile or less responsive to differences in wages, unemployment and accessibility.**
- Policy measures aimed at improving economic conditions in the living region of origin might reduce the need for cross-border commuting.
- **Policy measures aimed to improve accessibility and reduce language and institutional barriers might help to further enhance cross-border mobility and, hence, reduce inequalities between border regions in different countries, but also between regions within a country if peripheral border regions are able to catch-up.**



Thank you for your attention



Literature:

- Edzes, Arjen J.E., Lourens Broersma & Jouke van Dijk (2022). 'Does cross-border commuting between EU-countries reduce inequality?' Applied Geography, 139, February 2022. DOI: 10.1016/j.apgeog.2022.102639
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- Annual Report on Intra-EU Labour Mobility 2022 (2023), Emmanuel Hassan, Linus Siöland, Berkay Akbaba, Daniela Cinova, Michela Gasperini and Matthew Geraci; Network of Experts on Free Movement of Workers and Social Security Coordination. Luxembourg: Publications Office of the European Union, 2023.