Native and migrant workers' substitutability-complementarity: What about migrants of 2nd generation?

V. Fays, B. Mahy and F. Rycx

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UMONS Université de Mons

ULB

Definitions

Native workers: born in Belgium from both parents born in Belgium

Immigrants workers:

- 1st-generation: foreign-born
- 2nd-generation: born in Belgium with at least one foreign-born parent

Motivation (1/3)

- Some politicians, media and people largely support that immigrant workers take the jobs of native-born workers.
- However, this idea is not necessarily supported by scientific researches.
- Evidence-based literature
  - Some: no or a small but significant and positive impact on native workers, using different methodologies (Card, 1999; Altonji and Card, 1991; Dustmann et al., 2005; Longhi et al., 2006; Ortega and Vertugo, 2014; Breunig et al., 2014; Martins et al., 2018).

  ➔ Native and migrant workers are complementary on the labour market.

  - Others: negative impact of migrant workers on native workers, using different methodologies (Winter-Ebmer and Zweimüller, 1999; Card, 2001; D'amuri et al., 2010; Manacorda, 2012; Ottaviano and Peri, 2012; Angioloni and Wu, 2020).

  ➔ Substitutability between migrant and native workers.

Motivation (2/3)

- Caveat:
  - Native workers include 1st-generation migrants' children (also called 2nd-generation migrants).
  - With time, the proportion of 2nd-generation migrants grows.
  - But huge differences between 2nd-generation migrant and native workers, in terms of schooling attainment, human capital, employment and wages (OECD, 2018).

  ➔ 2nd-generation migrants differ from natives.

Motivation (3/3)

➔ It could be that the integration of 2nd-generation migrant workers in the native population (such as previous authors did) bias the estimation of the impact of 1st-generation migrant workers on native workers.

- In Belgium, 17% of 1st-generation migrants, while 16% of 2nd-generation migrants (NBB, 2020).
  - 50% of them are of working age, respectively (NBB, 2020)
  - Lower employment probability compared to natives: -17 and -6% respectively (Piton and Rycx, 2020; NBB, 2020)
  - Different levels of education (FPS Employment, Labour and Social dialogue, 2019)
  - Different PISA results (Liebig and Widmaier, 2009) and PIAAC results (Cathles et al., 2021)

Objectives

- What we want to know:
  - Does the impact of 1st-generation migrant workers on native workers change when we remove the 2nd-generation migrant workers from the native pool at different levels of analysis?
  - Is 2nd-generation migrant workers' impact on native workers similar to 1st-generation migrant workers' impact?
  - Does it depend on different moderating variables such as
    - workers' level of education,
    - workers' region of birth,
    - workers' occupation.

Method

$$n_{j,t,nat} = \beta_0 + \beta_1 n_{j,t,mig} + \beta_2 X_{j,t} + \delta_t + \varepsilon_{j,t}$$

with

- $n_{j,t,nat}$ the average number of hours worked by native workers
- $n_{j,t,mig}$ the average number of hours worked by migrant workers
- $X_{j,t}$ a vector containing average worker, job and firm characteristics
  - Education
  - Tenure
  - Age
  - Gender
  - Share of part time jobs
  - Type of contract
  - NACE codes
  - Firm-level collective agreement
  - Number of employees in full time equivalent
  - Region
  - Hourly added value
- δ_t the time dummies
- $\varepsilon_{j,t}$ the error term

Data

- We estimate this equation at different levels:
  - Region-firm size- sector: 2,074 observations
  - Firm: 55,090 observations
  - Firm-occupation: 42,031 observations
- 1999-2016 timespan
- Each cell contains at least 10 workers

Main findings (1)

Table 1. FE estimates of the impact of hours worked by 1st-generation migrant workers on hours worked by native workers (including 2nd-generation migrants)

Number of hours worked by:	FE (1) Region-firm size-sector level	FE (2) Firm level	FE (3) Firm-occupation level
Natives and 2nd-generation migrants	Dependent variable	Dependent variable	Dependent variable
1st-generation migrants	1.89*** (0.423)	0.803*** (0.107)	0.915*** (0.123)
Control variables	Yes	Yes	Yes
Adjusted R^2 (Within)	0.72	0.44	0.38
Number of observations	2,074	55,090	42,031
Sig Model (*p*-value)	0.0	0.0	0.0

Data source: SES-SBS-National Register 1999-2016; Robust standard errors in brackets

***, **, * significant at 1, 5 and 10% levels, respectively

Main findings (2)

Table 2. FE estimates of the impact of hours worked by 1st- and 2nd-generation migrant workers on hours worked by native workers

Number of hours worked by:	FE (1) Region-firm size-sector level	FE (2) Firm level	FE (3) Firm-occupation level
Natives	Dependent variable	Dependent variable	Dependent variable
1st-generation migrants	0.345* (0.194)	0.173** (0.073)	0.318*** (0.073)
2nd-generation migrants	2.683*** (0.694)	1.304*** (0.172)	1.296*** (0.134)
Control variables	Yes	Yes	Yes
Adjusted R^2	0.74	0.47	0.41
Number of observations	2,074	55,090	42,031
Sig Model (*p*-value)	0.0	0.0	0.0

Data source: SES-SBS-National Register 1999-2016; Robust standard errors in brackets

***, **, * significant at 1, 5 and 10% levels, respectively

Main findings (3)

Table 3. FE-IV estimates of the impact of the number of hours worked by 1st-generation and 2nd-generation migrant workers on the number of hours worked by native workers

Number of hours worked by:	FE-IV (1) Region-firm size-sector level	FE-IV (2) Firm level	FE-IV (3) Firm-occupation level
Natives	Dependent variable	Dependent variable	Dependent variable
1st-generation migrants	0.342	-0.68	-0.237
	(0.400)	(0.562)	(0.257)
2nd-generation migrants	1.292**	4.748***	3.11***
	(0.622)	(0.886)	(0.522)
Control variables	Yes	Yes	Yes
Adjusted R^2	0.73	-0.07	0.02
Number of observations	1,815	20,051	13,109
Sig Model (*p*-value)	0.0	0.0	0.0
Diagnoses test for 2SLS:			
Endogeneity test: *p*-value Durbin-Wu-Hausman χ^2 statistic	0.0	0.0	0.0

Data source: SES-SBS-National Register 1999-2016; Bootstrapped standard errors in brackets

***, **, * significant at 1, 5 and 10% levels, respectively

Main findings (4)

Table 4. FE Estimates of the impact of the number of hours worked by 1st- and 2nd-generation migrant workers according to their region of birth on the number of hours worked by native workers

Number of hours worked by:		FE (1) Firm-occupation level
Natives		Dependent variable
1st-generation migrants born in	developed countries	0.537***
		(0.123)
	transition & developing countries	0.279***
		(0.106)
2nd-generation migrants born in	developed countries	1.557***
		(0.151)
	transition & developing countries	0.681***
		(0.154)
Control variables		Yes
Adjusted R^2		0.42
Number of observations		42,031
Sig Model (*p*-value)		0.0

Data source: SES-SBS-National Register 1999-2016; Robust standard errors in brackets

***, **, * significant at 1, 5 and 10% levels, respectively

Main findings (5)

Table 5. FE estimation of the impact of the number of hours worked by 1st- and 2nd-generation migrant workers on the number of hours worked by native workers according to their education level, respectively, at the firm-occupation level

Number of hours worked by workers		FE (1)	FE (2)
Natives	with at most an upper secondary degree	Dependent variable	-0.01
			(0.027)
	with more than an upper secondary degree	-0.026	Dependent variable
		(0.068)	
1st-generation migrants	with at most an upper secondary degree	**0.268*** (0.067)**	0.005 (0.016)
	with more than an upper secondary degree	0.129 (0.084)	**0.708*** (0.143)**
2nd-generation migrants	with at most an upper secondary degree	**1.1*** (0.148)**	0.024 (0.018)
	with more than an upper secondary degree	0.04 (0.110)	**2.131*** (0.291)**
Control variables		Yes	Yes
Adjusted R^2 (within)		0.44	0.32
Number of observations		42,031	42,031

Data source: SES-SBS-National Register 1999-2016; Clustered standard errors in brackets

***, **, * significant at 1, 5 and 10% levels, respectively

Main findings (6)

Table 6. FE estimates of the impact of the number of hours worked by 1st- and 2nd-generation migrant workers on the number of hours worked by native workers according to their occupation, respectively

Number of hours worked by:	FE (1) Manager	FE (2) Professional	FE (3) Technicians and Associate Professionals	FE (4) Clerical support workers	FE (5) Services and Sales Workers	FE (6) Craft and related trades workers	FE (7) Plant and machine operators and assemblers	FE (8) Elementary occupations
Natives	Dependent variable							
1st-generation migrants with the same occupation	**0.753*** (0.078)**	**0.872*** (0.130)**	**0.913*** (0.177)**	**0.927*** (0.132)**	**0.608*** (0.197)**	**0.376*** (0.122)**	**0.45*** (0.100)**	**0.219*** (0.074)**
2nd-generation migrants with the same occupation	**1.47*** (0.150)**	**2.413*** (0.437)**	**2.227*** (0.490)**	**2.132*** (0.168)**	**2.435*** (0.368)**	**0.903*** (0.096)**	**0.901*** (0.115)**	**1.297*** (0.113)**
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.24	0.32	0.31	0.45	0.44	0.37	0.33	0.27
Number of observations	55,090	55,090	55,090	55,090	55,090	55,090	55,090	55,090

Data source: SES-SBS-National Register 1999-2016; Clustered standard errors in brackets

***, **, * significant at 1, 5 and 10% levels, respectively

Conclusion

- Slightly positive impact of 1st-generation migrants on native workers
  - but is lower when we exclude 2nd-generation migrants from the native population

  ➔ there is a small(er) complementarity between 1st-generation and native workers
- Greater complementarity between 2nd-generation workers and native workers
- Greater complementarity between natives and migrants
  - coming from developed countries , regardless of their generation
  - with the same level of education, regardless of their generation
  - with the same occupation, regardless of their generation

➔ No substitution of natives by migrants on the labour market, rather a complementarity

Thank you for your attention ☺

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