OXFORD

Immigrant overeducation across two generations: the role of gender and part-time work

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Abstract

Overeducation implies having a higher level of education than that required to perform a specific job. In this regard, a large body of literature shows that first-generation immigrants born in developing countries experience a higher likelihood of being overeducated than natives due in part to their foreign origin (i.e. immigrant overeducation). However, evidence is remarkably scarce regarding the overeducation of second-generation immigrants. Using a matched employer–employee database for Belgium over the period 1999–2016 and generalized ordered logit regressions, we contribute to the literature with one of the first studies on the intergenerational nexus between overeducation and origin among tertiary-educated workers. Our estimates suggest that immigrant overeducation disappears across two generations, except for workers from the Near and Middle East and the Maghreb. Moreover, we show that immigrant overeducation is a persistent intergenerational phenomenon among part-time workers. Our gender-interacted estimates confirm this conclusion for both male and female workers.

Keywords: immigrants; second generation; labour market integration; overeducation
JEL classifications: I21, I22, J15, J24, J61, J62, J71

1. Introduction

According to Eurostat (2023), the employment rate of first-generation (F-G) immigrants in the European Union (EU) was 65.9 per cent in 2021, around 5 percentage points lower than that of native-born people (70.7 per cent).[1] Difficulties in accessing the labour market also extend to second-generation (S-G) immigrants, whose employment rate was 65.3 per cent. Zooming in on the EU employed population, several studies show that the wages of immigrants are lower than those of natives, albeit the extent of this wage gap significantly

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[1] Unless mentioned otherwise, this article henceforth uses the words (1) 'first-generation immigrants' for people born abroad; (2) 'second-generation immigrants', 'children of immigrants' and 'descendants of immigrants' for people born in the host country with at least one foreign-born parent; (3) 'immigrants' for first- and second-generation immigrants; and (4) 'natives' for people born in the host country with both parents born in the host country.

depends on immigrants' origin (e.g. Athari, Brinbaum, and Lê 2019; Hammarstedt and Palme 2012; Pineda-Hernández, Rycx, and Volral 2022). More precisely, while immigrants from developed countries earn similar wages to natives across two generations, immigrants from developing countries face persistent intergenerational wage inequalities. However, regarding the employment conditions of immigrants, intergenerational studies are scarce (e.g. Belzil and Poinas 2010; Belfi et al. 2022), especially in the context of overeducation.

Moreover, it is of general interest to investigate whether origin contributes to the likelihood of being overeducated (i.e. immigrant overeducation) and whether this phenomenon holds across generations, as overeducation can have negative micro and macroeconomic consequences (McGuinness 2006; Davia, McGuinness, and O'Connell 2017; Brunello and Wruuck 2019). In essence, overeducation can lead to: (1) wage penalties and lower job satisfaction for overeducated workers because they are not paid according to their level of education, (2) lower productivity for firms due to the underutilization of overeducated workers' skills, higher labour turnover, and/or an increase in absenteeism, (3) higher inequality and poverty for societies because overeducated workers may replace less-qualified workers, pushing them into low-paying occupations or unemployment; and (4) lower economic growth for countries as a result of funding non-productive education and misallocation of human capital.

The nexus between origin and overeducation can be established through different underlying mechanisms. First, human capital theory specifies that F-G immigrants face a disadvantageous position in the host country's labour market, as their foreign education and experience are unlikely to be perfectly transferred across borders (e.g. educational qualifications acquired in developing countries are often non-recognized in developed countries) (Basilio, Bauer, and Kramer 2017). Second, screening theory underlines the poor signal that a foreign diploma may send to employers (i.e. employers tend to undervalue schooling and language capabilities acquired in developing countries) (Chiswick and Miller 2009; Zwysen and Demireva 2018). Third, job search theory states that F-G immigrants may remain clustered in low-paying occupations (i.e. jobs requiring a low level of education) due to their insufficient knowledge of the functioning of the host country's labour market (Akkaymak 2017). Several empirical studies accord with these theories. In sum, they show that: (1) F-G immigrants are more likely to be overeducated than natives (i.e. evidence of immigrant overeducation) (e.g. Lindley 2009; Nielsen 2011; Wen and Maani 2018; Jacobs et al. 2021), (2) F-G immigrants experience a higher probability of state dependence in overeducation than natives[2] (e.g. Joona, Gupta, and Wadensjö 2014; Kalfa and Piracha 2017), and (3) the negative effect of overeducation on earnings is more substantial for F-G immigrants than for natives (e.g. Nielsen 2011; Maani and Wen 2021; Jacobs, Rycx, and Volral 2022a).

However, these underlying mechanisms are unlikely to explain the overeducation of S-G immigrants. Indeed, classical assimilation theory stipulates that since S-G immigrants are born, educated, and socialized from childhood to adulthood in the host country, their likelihood of being overeducated should be lower than that of their F-G peers and similar to that of natives (Alba, Kasinitz, and Waters 2011). In other words, immigrant overeducation should disappear across two generations, as S-G immigrants possess human and social capital linked to the host country's labour market. However, segmented-assimilation theory sees this as a very optimistic assumption and instead suggests that S-G immigrants may still have to deal with marginalization and discrimination due to the parental transmission of ethnic traits (e.g. religiosity, skin colour, and patronymic) and social characteristics (e.g. low-income families, school segregation,[3] and concentration in immigrant-dense

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[2] By state dependence in overeducation, we mean that being overeducated in the previous period increases the likelihood of being overeducated in the current period.

[3] F-G immigrants tend to be less educated, less proficient in the host country's language and less informed about how the school system works, which reduces the degree of support in their children's learning.

neighbourhoods) (Blau et al. 2013; OECD 2017). Therefore, differences in employment conditions between natives and S-G immigrants cannot be completely ruled out.

Furthermore, immigrant overeducation could be a persistent intergenerational phenomenon because: (1) employers can make recruitment decisions based on imperfect information and ethnic stereotypes (i.e. statistical discrimination), (2) employers can have ethnic preferences for certain occupations, regardless of observed abilities and qualifications (i.e. taste-based discrimination), and (3) employers can take advantage of the barriers that immigrants face in accessing the primary labour market to hire them for jobs that do not match their level of education (e.g. monopsonistic discrimination) (Becker 1957; Zschirnt and Ruedin 2016).

As far as we know, only a few empirical papers have explicitly considered S-G immigrants in the relationship between overeducation and origin. This is understandable because databases that examine this research topic rarely contain information on the country of birth of workers' parents. The empirical literature shows that S-G immigrants are as likely to be overeducated as natives in Norway, Sweden, and Spain. In comparison, they are more likely to be overeducated than natives in the Netherlands (Dahlstedt 2015; Fernández-Reino, Radl, and Ramos 2018; Larsen, Rogne, and Birkelund 2018). However, it should be noted that the role of gender highly moderates these findings.

Although these studies are the first to bring light to the overeducation of S-G immigrants, there is room for significant improvement in the empirical strategy and data used for this research topic. First, most evidence is based on small samples or unbalanced data. Second, most studies use econometric regressions that may lead to biased estimations. For instance, binary non-linear models (e.g. logit regressions) are unsuited for analysing educational mismatches, as a worker can be undereducated,[4] adequately educated, or overeducated. Similarly, results based on OLS regressions may face under- or over-estimation issues, as these regressions impose a linear relationship between origin and overeducation and do not guarantee that every predicted probability stands between 0 and 1. Therefore, multiple-choice non-linear models (e.g. ordered logit regressions) must be used to avoid misspecification issues. Third, none of the existing studies uses interactions between origin and gender in the regression analysis to explore a potential double penalty for female immigrants (i.e. being penalized due to gender and foreign background).

Before delving into the details of our research, it is worth noting the three key characteristics of our article. First, our estimations exclusively focus on tertiary-educated workers because they are, *per se*, individuals who can be reasonably at risk of being overeducated. Indeed, considering all individuals in a regression analysis of overeducation could lead to misleading conclusions, as workers holding at most a secondary diploma are much less likely to be overeducated (e.g. Nielsen 2011; Shi et al. 2022). Second, we devote particular attention to immigrants from developing countries, as a large body of literature shows that immigrants from developed countries appear not to represent a significant integration concern for Western societies (e.g. Algan et al. 2010; Abramitzky et al. 2021; Fays et al. 2021). Third, we analyse the overeducation of immigrants in Belgium as it is one of the developed countries with the largest immigrant population. According to the 2021 Labour Force Survey, F-G immigrants accounted for 21.4 per cent of the total population aged 20–64 years in Belgium, while S-G immigrants represented 13.3 per cent. Among this immigrant population, 44.7 per cent had an EU background, while 55.3 per cent came from non-EU countries (primarily immigrants from developing countries). Moreover, several papers shed light on origin-based differences in earnings and employment access in Belgium from an intergenerational perspective (e.g., Corluy et al. 2015; Piton and Rycx 2021; Pineda-Hernández, Rycx, and Volral 2022). They find that employment and pay gaps persist from

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[4]   Workers are considered undereducated if their educational attainment is lower than that required for their job. Undereducation may notably result from periods of labour shortages and technologically induced occupation changes.

one generation to the next, particularly for immigrants from developing countries. In terms of employment conditions, Jacobs et al. (2021) show that F-G immigrants born in developing countries are more likely to be overeducated than natives. However, whether overeducation is a persistent intergenerational phenomenon among immigrants remains to be investigated in Belgium.

Using a granular, matched employer–employee database for Belgium between 1999 and 2016, containing around 400,000 tertiary-educated workers, we aim to contribute to the literature with one of the first empirical studies on the intergenerational interplay between overeducation and origin. Our database's novelty is that it contains information on workers' country of birth and that of their parents, which allows us to identify F-G immigrants and their S-G peers correctly.

Our empirical strategy starts with a GOLOGIT regression where, conditioning on a wide range of covariates (e.g. worker, employment, and firm characteristics), we estimate the likelihood of being overeducated for immigrants from developing countries (see Supplementary Appendices S1 and S2 for a chart and a list of developing countries).[5] Using a more fine-grained classification, we also explore how geographical origins (e.g. the Maghreb, Sub-Saharan Africa, and the Near and Middle East) shape the likelihood of being overeducated for immigrants from developing countries. We follow this approach as source-country characteristics at the individual level (e.g. patronymic, physical appearance, religion, and cultural manners) and the macro level (e.g. economic and political stability, the quality of the education system, and reasons for migration in the source country) can shape the integration of immigrants (Fleischmann and Dronkers 2010). Several studies on immigrants' employment and earnings outcomes accord with this premise (e.g. Athari, Brinbaum, and Lê 2019; Abramitzky et al. 2021; Piton and Rycx 2021).

The contributions of our article also extend to the analysis of two moderating variables (i.e. gender and part-time work) in the intergenerational relationship between overeducation and origin. There are theoretical and empirical justifications for this additional analysis. Regarding the role of gender in immigrant overeducation, female workers may end up revisiting their labour market trajectories or employment conditions to deal with motherhood and childcare (i.e. accepting jobs that do not often match their level of education but allow them to spend more time with their children) (Petrongolo 2019). Also, in the EU, tertiary-educated women are still underrepresented in professional or managerial occupations (i.e. potential overeducation issues) (European Commission 2019). Recent papers underpin these statements as they find evidence of a gender overeducation gap in Europe (e.g. Nugent 2022; Santiago-Vela and Mergener 2022).

Moreover, traditional values and ethnic behaviour (e.g. family hierarchy and fertility choices) can affect the working time decisions of F-G female immigrants, as they tend to be more involved in informal childcare and household production than natives (Baudin and Kondi 2023). Put differently, F-G female immigrants may find more difficulties than female natives in balancing their professional careers and ethnic identity (Fernández and Fogli 2009; Blau et al. 2013), leading to a higher likelihood of being overeducated. There is also evidence that the influence of traditional values and ethnic norms extends to S-G female immigrants (Biegel, Wood, and Neels 2021; Maes et al. 2023). Indeed, Jacobs, Van De Mieroop, and Van Laar (2022b) point out that S-G female immigrants still face discrimination and prejudices in the workplace due to the construction of professional identities that match their migration background. However, these statements are not fully supported by the few papers that analyse the role of gender in the relationship between origin and overeducation (e.g. McGuinness and Byrne 2015; Jacobs et al. 2021).

Regarding the role of part-time work in the overeducation of immigrants, Davia, McGuinness, and O'Connell (2017) and Wen and Maani (2018) argue that the level of

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[5]   As our dataset is a repeated cross-section, we cannot track workers over time and use panel data estimation techniques.

education required for part-time jobs rarely matches that of workers, as they may have chosen them for family reasons or personal preferences rather than career aspirations. However, the overeducation of immigrants in part-time jobs may also result from their inability to find a full-time job. Indeed, due to the imperfect transferability of qualifications, F-G immigrants may accept being overeducated in a part-time job rather than being unemployed (i.e. involuntary part-time work) (Green, Kler, and Leeves 2007; Voßemer and Schuck 2015; Fernández-Reino, Radl, and Ramos 2018). In addition, employers might have ethnic stereotypes or preferences for natives when recruiting full-time workers or be aware (and take advantage) of the additional barriers that workers with a migration background face in finding full-time employment (e.g. due to monopsonistic, statistical, or taste-based discrimination) (Becker 1957; Zschirnt and Ruedin 2016). Overall, these arguments suggest that origin-based employment selection may fuel immigrant overeducation in part-time jobs.

Finally, the relationship between immigrant overeducation and part-time work may be moderated by the role of gender. Indeed, several papers show that women are more likely to work part-time than men due to motherhood and domestic work and that this effect is higher among women with a migration background (e.g. Fernández-Kranz, Lacuesta, and Rodríguez-Planas 2013; Piton 2022). In contrast, parenthood is found to have little effect on male workers' likelihood of working part-time, whatever their origin. However, it should be noted that, compared to native men, male immigrants tend to have significantly higher rates of part-time employment due to origin-based discrimination or excess labour supply (i.e. labour market participation is much higher among male immigrants than among their female peers) (Fleischmann and Höhne 2013; Schieckoff and Sprengholz 2021). Therefore, we also investigate how part-time work and gender simultaneously affect the likelihood of being overeducated for immigrants from developing countries. To achieve this goal, we re-estimate our GOLOGIT regression using a three-way interaction (i.e. for gender, part-time work, and origin).

The remainder of this article is organized as follows: Section 2 presents our empirical strategy. Section 3 provides a dataset and descriptive statistics. Section 4 shows and discusses the results of our econometric investigation. Section 5 concludes and provides policy recommendations.

2. Methodology
2.1 Realized matches approach
Given the structure of our data (i.e. an employer–employee database), we follow a realized matches (RM) approach to measure educational mismatches (i.e. undereducation or overeducation).[6] The RM approach uses workers' distribution of levels of education (ISCED: 7 educational categories) to calculate the modal value within each occupational group (i.e. workers' educational attainment that repeats the most in an occupation) (Verdugo and Verdugo 1989; Sellami, Verhaest, and Van Trier 2018). Then, the modal value is used as a reference to identify educational mismatches. For instance, a taxi driver is overeducated if she holds a bachelor's degree, whereas most drivers only have a secondary diploma.

However, it should be noted that the level of education required in an occupation may vary over workers' careers (i.e. age cohort effects) (Lindley 2009). Put differently, as young workers' level of education increases over time, the probability of being overeducated for old workers mechanically increases. Moreover, the possibility of occupational skill upgrading or downgrading across sectors should also be considered (i.e. sector cohort effects).

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[6]   Two other approaches are also available in the literature to measure overeducation: (1) a job analysis approach that gauges overeducation by occupation based on analysts' criteria and (2) a worker self-assessment approach that uses surveys to ask workers if they consider or not themselves in a situation of overeducation given their current educational attainment (Pérez Rodríguez et al. 2024). However, our data do not contain the necessary information to implement them.

For instance, while the required level of education for a consultant in the real estate sector is a bachelor's degree, a master's degree is needed for the same occupation in the banking sector.

Therefore, to minimize a potential bias related to these cohort effects, we sort workers by occupation (ISCO classification at a three-digit level), age group (five categories)[7], and sector (NACE classification at a two-digit level). Then, we identify educational mismatches using the modal value of the level of education in each occupation-age-sector cell. Our granular employer–employee database allows us to identify 13,628 occupation-age-sector cells.[8]

2.2 Generalized ordered logit regressions

Ordered logit (OLOGIT) regressions and multinomial logit (MLOGIT) regressions are the two main econometric methods used in the literature to estimate educational mismatches (e.g. the probability of being under- or over-educated for a job). The choice between these two models depends on the possibility of establishing a ranking for the ordinal dependent variable. Initially, assuming an unequivocal order for educational mismatches (undereducated, adequately educated, and overeducated), OLOGIT regressions are the intuitive econometric choice. However, OLOGIT regressions depend on the parallel regression assumption (i.e. the effect of any explanatory variable is proportional across the different categories), which is often violated.[9] An alternative solution is to leverage MLOGIT regressions, which are well-suited to estimate likelihoods without the need to satisfy the parallel regression assumption. However, MLOGIT regressions depend on the assumption of independence of irrelevant alternatives (i.e. the characteristics of one particular category do not impact the relative probabilities of choosing other categories), which is unlikely to hold in the analysis of educational mismatches.[10]

Against this background, Williams (2016) states that '*generalized ordered logit (GOLOGIT) regressions can fit estimates that are less restrictive than OLOGIT regressions, whose parallel regression assumption is often violated, but more parsimonious and interpretable that those fitted by MLOGIT regressions*'. Moreover, GOLOGIT regressions present an additional advantage compared to other non-linear models. They allow the parallel regression assumption to be relaxed for estimates that do not satisfy it while imposing it on those that do (i.e. estimating partial proportional odds) (Williams 2006). Therefore, we use GOLOGIT regressions to assess the intergenerational nexus between overeducation and origin among tertiary-educated workers in Belgium. Our benchmark GOLOGIT regression is written as follows:

$$P(Y_{it} > j) = g(\beta_j X) = \frac{\exp\left(\alpha_j + \sum_{k=1}^{2} \beta_{jk} Origin_{itk} + \underline{z}_{it}^{T} \underline{\vartheta}_j + \underline{g}_{it}^{T} \underline{\lambda}_j + \underline{f}_{it}^{T} \underline{\xi}_j + \delta_{jt}\right)}{1 + \left\{\exp\left(\alpha_j + \sum_{k=1}^{2} \beta_{jk} Origin_{itk} + \underline{z}_{it}^{T} \underline{\vartheta}_j + \underline{g}_{it}^{T} \underline{\lambda}_j + \underline{f}_{it}^{T} \underline{\xi}_j + \delta_{jt}\right)\right\}} \tag{1}$$

From equation (1), it can be established that the coefficients and fixed effects (summarized in the letter ϕ in the subsequent probabilities) associated with our regressors (X) vary

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[7] We consider the following age groups: 20–24, 25–29, 30–39, 40–49 and >50 years old.

[8] The distribution of occupation-age-sector cells by size is as follows: 7.3 per cent have less than ten observations, 38.7 per cent have between 10 and 100 observations, 45.2 per cent have between 101 and 1000 observations, and 8.8 per cent have more than 1000 observations.

[9] The null hypothesis of the Brant test for parallel regression assumption specifies that the coefficients should be the same in each cumulative logistic regression. If the null hypothesis of this test is rejected, OLOGIT estimates can be highly misleading. Using our database, we reject the null hypothesis of the Brant test. The results of the test can be obtained on request.

[10] The null hypothesis of the Hausman test for the IIA assumption states that there is no systematic change in the coefficients if a category of the dependent variable is excluded from the model. If the null hypothesis of this test is rejected, the disturbances of the categories are not independent. Using our database, we reject the null hypothesis of the IIA assumption. The results of the test can be obtained on request.

for each ordered category j.[11] Therefore, the probability that a worker i at time t within an occupation-age-sector cell will be under-, adequately, or over-educated is respectively equal to:

$$P(Y_{it} = 1 = undereducated) = 1 - g(\phi_1 X)$$
$$P(Y_{it} = 2 = adequately\ educated) = g(\phi_1 X) - g(\phi_2 X)$$
$$P(Y_{it} = 3 = overeducated) = g(\phi_2 X)$$

As we are interested in overeducation, GOLOGIT regressions estimate the probability of being in category #3 (i.e. overeducated) compared to being in a lower category (i.e. under or adequately educated). It should also be noted that we use the average marginal effects of GOLOGIT regressions to facilitate the interpretation of non-linear estimations.

In equation (1), our primary explanatory variable is '$Origin_{itk}$', which categorizes workers into three groups k: i) natives, i.e. workers born in Belgium with both parents born in Belgium (the reference group), ii) F-G immigrants born in developing countries, and iii) S-G immigrants from developing countries, i.e. workers born in Belgium with at least one parent born in a developing country.[12] By 'developing countries', we mean either transition and developing countries listed in the United Nations' (2020) classification and/or emerging market and developing economies listed in the IMF's (2020) classification (see Supplementary Appendix S1).

We also introduce an extensive range of covariates in our benchmark GOLOGIT regression to reduce a potential omitted variable bias. To facilitate the presentation of our covariates and their corresponding coefficients in Equation (1), they are written as vectors in the following manner:

$$\underline{z_{it}} = (z_{it1}, \ldots, z_{itM})^T \quad \underline{\vartheta_j} = (\vartheta_{j1}, \ldots, \vartheta_{jM})^T$$
$$\underline{g_{it}} = (g_{it1}, \ldots, g_{itL})^T \quad \underline{\lambda_j} = (\lambda_{j1}, \ldots, \lambda_{jL})^T$$
$$\underline{f_{it}} = (f_{it1}, \ldots, f_{itQ})^T \quad \underline{\xi_j} = (\xi_{j1}, \ldots, \xi_{jQ})^T$$

where, $\underline{z_{it}}$ is a M × 1 vector of observations on worker characteristics (i.e. gender, tenure, squared tenure, level of tertiary education, and type of household); $\underline{g_{it}}$ is a L × 1 vector of observations on employment characteristics (i.e. dummies for part-time and overtime work[13]); $\underline{f_{it}}$ is a Q × 1 vector that contains observations on the firm where the worker is employed (i.e. size of the firm, region where the firm is located, and dummies for the existence of a firm-level collective agreement and the type of economic and financial control); and δ_{jt} represents year fixed effects.

In a subsequent specification, we split immigrants from developing countries into six geographical groups: (1) Sub-Saharan African countries, (2) the Maghreb countries, (3) the Near and Middle Eastern countries, (4) non-EU Eastern European countries, (5) emerging and developing Asian countries, and (6) Latin American and Caribbean countries (see Supplementary Appendix S2 for a list of developing countries by geographical region). We aim to assess the effects of more fine-grained characteristics associated with workers' region of birth or that of their parents (e.g. patronymic, physical appearance, type of religion, political stability of the region, and quality of higher education systems) on the likelihood of being overeducated for immigrants from developing countries.

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[11] In equation (1), α_j represents the threshold parameter for each of the j ordered categories.
[12] Regarding S-G immigrants from developing countries, it should be noted that their origin was first determined by the father's country of birth, except if the father was born in Belgium and the mother in a developing country. In that case, the mother's country of birth was retained.
[13] The type of contract was not included in the regression analysis to reduce potential endogeneity issues. However, it should be noted that its inclusion does not alter the main findings of our article.

Moreover, we investigate the moderating role of gender and part-time work in the intergenerational relationship between overeducation and origin to reveal potential immigrant-native differences that our benchmark specification may mask. To achieve this goal, we re-estimate Equation (1) with an explanatory variable that varies according to origin and each moderator. Unlike gender- and employment-segregated regressions, this approach allows us to estimate potential double penalties resulting from being a woman with a foreign background or an immigrant in a part-time job. Finally, we simultaneously test the role of gender and part-time in the likelihood of being overeducated for immigrants from developing countries by re-estimating Equation (1) with an explanatory variable that varies according to origin, gender, and part-time work (i.e. a three-way interaction).

3. Data

Our empirical strategy uses a matched employer–employee database for the Belgian labour market between 1999 and 2016, provided by Statistics Belgium (STATBEL). This database was obtained by merging two datasets: the Structure of Earnings Survey (SES) and administrative data from the Belgian National Register (BNR). The SES covers all firms operating in Belgium whose economic activities are defined by the NACE nomenclature. Based on a sophisticated stratified sampling design, the SES provides a nationally representative sample of workers in the Belgian labour market.

The SES also contains granular information on the structural characteristics of the firms (e.g. sector of activity, full-time equivalent number of employees, and type of collective agreement) and the demographic and employment characteristics of workers (e.g. age, gender, educational attainment, tenure, and occupation). Regarding the administrative data from the BNR, they provide reliable information on workers' country of birth and that of their parents, as well as the type of household they live in. The original sample contains 1,604,835 workers employed in 20,375 firms.

After calculating educational mismatches by occupation-age-sector cell (see Section 2.1 for more details), two filters were applied to the original sample. First, we restricted our sample to tertiary-educated workers to focus exclusively on the population for which overeducation is more likely to be an employment issue (1,173,547 observations deleted). Second, to avoid misclassification issues in the design of groups by origin and generation, we dropped workers born in Belgium but with missing information on the country of birth of at least one of their parents (33,826 observations deleted).[14] Third, as we focus on immigrants from developing countries, we also excluded immigrants from developed countries and immigrants with both parents born in Belgium (e.g. expatriates) (60,033 observations deleted). Therefore, the final sample consists of 337,429 workers employed in 15,224 firms.

Moreover, STATBEL has also given us access to the 2021 Labour Force Survey for Belgium and its ad-hoc module on '*Migration and labour market*'. This dataset contains around 22,000 observations and is representative of the working-age population in Belgium. We use descriptive statistics from this dataset as a complementary information source to better understand our results.

Supplementary Appendix S3 shows the statistical profiles of tertiary-educated workers by origin and generation.[15] About 92.2 per cent of workers in our final sample are Belgian

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[14] Around 8 per cent of tertiary-educated workers born in Belgium were dropped because of missing information on their parental country of birth. Our estimates show that these workers face a 2 percentage points higher likelihood of being overeducated than natives. Therefore, if we assume that a substantial part of these workers born in Belgium have at least one parent born in a developing country, our findings on the overeducation gap between natives and S-G immigrants must be interpreted as a lower bound.

[15] To shorten the term that describes tertiary-educated workers, tertiary-educated natives, and tertiary-educated immigrants in the remainder of this article, we refer to them simply as workers, natives, and immigrants, respectively.

natives, while F-G immigrants born in developing countries and their descendants represent 4.3 per cent and 3.5 per cent, respectively. Within the cohort of immigrants from developing countries, we observe that around three in four workers are geographically originating from Sub-Saharan Africa and the Maghreb, which accords with the total distribution of the working-age population in Belgium by geographical origin between 2008 and 2016 (FPS Employment and Unia 2019).

4. Results
4.1 Benchmark scenario
To investigate the intergenerational relationship between origin and overeducation, Table 1 shows the marginal effects of our benchmark GOLOGIT regression (see Equation 1). We find that the likelihood of being overeducated for a worker increases by 10.8 percentage points if the worker was born in a developing country.[16] In other words, F-G immigrants are much more likely to be overeducated than natives, whose overeducation incidence is 43.5 per cent (see the incidences of overeducation by origin and generation in the Supplementary Appendix S4). We cannot ultimately assert whether this labour market disadvantage for F-G immigrants is wholly related to their origin or unobserved individual heterogeneity (e.g. motivation, language proficiency, and organization skills). However, given the granular realized matches approach used in identifying overeducation and the large number of covariates included in our GOLOGIT regression, we can attribute this finding at least partially to an ethnic penalty.

Turning to S-G immigrants, we find no significant relationship between their origin and their likelihood of being overeducated. Put differently, S-G immigrants are just as likely to be overeducated as natives. Therefore, our GOLOGIT estimates align, on average, with the classical assimilation theory, which suggests that S-G immigrants are treated as natives in the recruitment or promotion process.

As workers' origin does not exclusively explain their likelihood of being overeducated, we also find that the coefficients associated with our covariates are statistically significant and have the expected signs. These complementary results further support our choice of moderating variables. Specifically, being a woman increases the likelihood of being overeducated for a worker by 4.8 percentage points. Similarly, part-time workers are 16.2 percentage points more likely to be overeducated than full-time workers.[17]

Using a more fine-grained geographical classification in Equation (1), Table 2 reports the marginal effects of our GOLOGIT estimates regarding the intergenerational relationship between geographical origin and overeducation. We find that F-G immigrants born in the Maghreb are the geographical group that experiences the highest likelihood of being overeducated (18.1 percentage points higher than natives). To a lesser extent, F-G immigrants born in Sub-Saharan Africa are also more likely to be overeducated than natives by 12.5 percentage points. Regarding F-G immigrants born in the Near and Middle East and non-EU Eastern Europe, their likelihood of being overeducated is around 9.5 percentage points higher than that of natives. In contrast, F-G immigrants born in emerging and developing Asia, Latin America, and the Caribbean are just as likely to be overeducated as natives.

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[16] For the sake of brevity, in the rest of the text, the word 'immigrants' refers to immigrants from developing countries.

[17] It is worth noting that results with more standard econometric methods (i.e. OLS, LOGIT, and OLOGIT) are very similar (in terms of sign, size, and significance) to those obtained with the GOLOGIT estimator (see Supplementary Appendix S5). However, given the constraints associated with these more standard methods (e.g. linearity, parallel regression assumptions, and exclusion of undereducated workers from the sample), which may lead to biased and inconsistent estimates, we have chosen to focus on GOLOGIT estimates.

Table 1. Benchmark: average marginal effects—GOLOGIT regression.

Tertiary-educated workers born in/from:	Probability of being overeducated (1)
Belgium—natives ($n = 311{,}222$)	Reference
Developing countries	
First-generation ($n = 14{,}459$)	0.108***
	(0.010)
Second-generation ($n = 11{,}748$)	0.010
	(0.007)
Control variables	
Women	0.048***
	(0.005)
Tenure	−0.004***
	(0.001)
Squared tenure	0.000***
	(0.000)
Education (ref. Bachelor)	
Master	−0.062***
	(0.010)
Advanced Master or PhD	0.538***
	(0.009)
Type of household (ref. without children living at home)	
With children living at home	0.009***
	(0.003)
Other households	−0.001
	(0.009)
Part-Time work	0.162***
	(0.013)
Overtime work	0.145***
	(0.015)
Size of the firm (FTE number of employees in log)	−0.020***
	(0.003)
Firm-level collective agreement (Yes)	0.016**
	(0.008)
More than 50% privately owned	0.007
	(0.024)
Region (ref. Brussels)	
Flanders	0.078***
	(0.010)
Wallonia	0.081***
	(0.012)
Year fixed effects[a]	Yes
Occupation-age-sector cells[b]	13,310
Observations	337,429

Notes: Clustered standard errors at the firm level are in parentheses.
*** $P < 0.01$.
** $P < 0.05$.
* $P < 0.1$.
[a] Seventy year dummies.
[b] Using a realized matches approach, overeducation is identified within each occupation-age-sector cell (see Section 2.1 for more details).
Source: Authors' calculations using employer–employee data between 1999 and 2016.

Turning to S-G immigrants from developing countries, we find three intergenerational patterns. First, immigrant overeducation vanishes across two generations for workers from non-EU Eastern Europe. In addition, in line with their F-G peers, S-G immigrants from emerging and developing Asia, Latin America, and the Caribbean perform on a par with natives (i.e. no immigrant overeducation across two generations for these geographical

Table 2. Geographical origin: average marginal effects—GOLOGIT regression.

Tertiary-educated workers born in/from:		Probability of being overeducated (1)
Belgium—natives ($n = 311{,}222$)		Reference
Developing countries		
Sub-Saharan African countries	First generation ($n = 3{,}913$)	0.125***
		(0.015)
	Second generation ($n = 5{,}403$)	−0.018**
		(0.009)
Maghreb countries	First generation ($n = 3{,}634$)	0.181***
		(0.016)
	Second generation ($n = 3{,}517$)	0.034**
		(0.015)
Near and Middle Eastern countries	First generation ($n = 1{,}589$)	0.096***
		(0.024)
	Second generation ($n = 1{,}138$)	0.037*
		(0.022)
Emerging and developing Asian countries	First generation ($n = 2{,}175$)	0.020
		(0.016)
	Second generation ($n = 634$)	−0.022
		(0.029)
Non-EU Eastern European countries	First generation ($n = 1{,}733$)	0.093***
		(0.019)
	Second generation ($n = 742$)	0.027
		(0.025)
Latin American and Caribbean countries	First generation ($n = 1{,}415$)	0.021
		(0.021)
	Second generation ($n = 314$)	0.023
		(0.035)
Control variables		
Year fixed effects[a]		Yes
Worker characteristics[b]		Yes
Employment characteristics[c]		Yes
Firm characteristics[d]		Yes
Occupation-age-sector cells[e]		13,310
Observations		337,429

Notes: Clustered standard errors at the firm level are in parentheses.
*** $P < 0.01$.
** $P < 0.05$.
* $P < 0.1$.
[a] Seventy year dummies.
[b] Gender, type of tertiary education, tenure, squared tenure, and type of household.
[c] Dummy for part-time work and dummy for overtime work.
[d] Size of the firm (FTE number of workers in log), dummy for more than 50 per cent privately owned, dummy for firm-level collective agreement, and region where the firm is located (Brussels, Flanders, or Wallonia).
[e] Using a realized matches approach, overeducation is identified within each occupation-age-sector cell (see Section 2.1 for more details).
Source: Authors' calculations using employer–employee data between 1999 and 2016.

groups). Second, although S-G immigrants from the Near and Middle East and the Maghreb fare better than their F-G peers, their likelihood of being overeducated remains around 3.5 percentage points higher than that of natives. Third, S-G immigrants from Sub-Saharan Africa experience a 1.8 percentage points lower probability of being overeducated than natives, thus reversing the initial ethnic penalty faced by their F-G peers.

4.2 Gender and immigrant overeducation

In this section, we investigate the moderating effect of gender on the intergenerational nexus between origin and overeducation. Results are presented in Table 3.

Estimates in column (1) first suggest that F-G male immigrants experience a 13.7 percentage points higher likelihood of being overeducated than male natives. Contrary to the results in Table 1, we now find that S-G male immigrants are 2.3 percentage points more likely to be overeducated than male natives. This difference is mainly attributable to the higher overeducation likelihood of S-G male immigrants from the Near and Middle East and the Maghreb (see Table 2). Indeed, excluding these two immigrant groups, we find that male immigrant overeducation disappears across two generations.[18]

Column (1) further shows that female natives experience a 5.3 percentage points higher likelihood of being overeducated than male natives (i.e. evidence of a gender overeducation gap). Turning to our gender-interacted estimates in Column (2), where female natives are the reference group, we find that F-G female immigrants are 5.2 percentage points more likely to be overeducated. Put differently, F-G female immigrants undergo a double penalty in their likelihood of being overeducated due to their gender and foreign background. However, S-G female immigrants no longer face a penalty in their likelihood of being overeducated due to their origin. In other words, S-G female immigrants are just as likely to be overeducated as female natives (i.e. only evidence of a gender penalty in the likelihood of being overeducated for S-G female immigrants).

Table 3. Gender and origin: average marginal effects—GOLOGIT regression.

Tertiary-educated workers born in/from:		Probability of being overeducated	
		(1)	(2)
Belgium—natives			
Men ($n = 191{,}913$)		Reference	−0.053***
			(0.005)
Women ($n = 119{,}309$)		0.053***	Reference
		(0.005)	
Developing countries			
Men	First generation ($n = 9{,}382$)	0.137***	0.085***
		(0.012)	(0.013)
	Second generation ($n = 6{,}541$)	0.023**	−0.031***
		(0.009)	(0.011)
Women	First generation ($n = 5{,}077$)	0.105***	0.052***
		(0.012)	(0.012)
	Second generation ($n = 5{,}207$)	0.038***	−0.015
		(0.013)	(0.011)
Control variables[a]		Yes	Yes
Occupation-sector-age cells[b]		13,310	13,310
Observations		337,429	337,429

Notes: Clustered standard errors at the firm level are in parentheses.
*** $P < 0.01$.
** $P < 0.05$.
* $P < 0.1$.
[a] All control variables included in Table 2, with the exception of gender.
[b] Using a realized matches approach, overeducation is identified within each occupation-age-sector (see Section 2.1 for more details).
Source: Authors' calculations using employer–employee data between 1999 and 2016.

[18] Estimates available on request.

4.3 Part-time work and immigrant overeducation

Column (5) of Supplementary Appendix S4 shows that in our sample, about 60 per cent of natives working part-time are overeducated. In addition, this incidence is higher if the part-time worker was born in a developing country or has at least one parent born in a developing country (80.1 per cent for F-G immigrants and 71.7 per cent for their S-G peers). These statistics motivate the analysis of the moderating role of part-time work in the intergenerational nexus between origin and overeducation. Results are shown in Table 4.

Column (1) shows that among full-time workers, F-G immigrants are 9.6 percentage points more likely to be overeducated than natives. In contrast, S-G immigrants working full-time perform similarly to natives working full-time in terms of overeducation. These findings largely mirror those of our benchmark regression in Table 1.

Column (1) also shows that natives working part-time face a 15.1 percentage points higher likelihood of being overeducated than natives working full-time. However, part-time work affects immigrants more than natives in terms of overeducation. As shown in column (2), F-G immigrants working part-time are 25.1 percentage points more likely to be overeducated than natives working part-time. Furthermore, although this overeducation gap between natives and immigrants narrows across two generations, it remains sizeable. More precisely, we find that S-G immigrants working part-time are still 13 percentage points more likely to be overeducated than natives working part-time.

However, caution must be exercized when interpreting these results. Indeed, the relationship between part-time work and overeducation might suffer from endogeneity (e.g. reverse causality). Although 2SLS regressions could tackle this econometric issue, it remains challenging to find valid instruments, namely variables that are both relevant (i.e. goods predictors of part-time work) and exogenous (i.e. uncorrelated with the error of being

Table 4. Part-time work and origin: average marginal effects—GOLOGIT regression.

Tertiary-educated workers born in/from:		Probability of being overeducated	
		(1)	**(2)**
Belgium—natives			
Full-time work ($n = 297,169$)		Reference	−0.151***
			(0.006)
Part-time work ($n = 14,053$)		0.151***	Reference
		(0.013)	
Developing countries			
Full-time work	First generation ($n = 13,463$)	0.096***	−0.055***
		(0.010)	(0.008)
	Second generation ($n = 11,247$)	0.001	−0.150***
		(0.008)	(0.008)
Part-time work	First generation ($n = 996$)	0.403***	0.251***
		(0.021)	(0.016)
	Second generation ($n = 501$)	0.284***	0.130***
		(0.034)	(0.029)
Control variables[a]		Yes	Yes
Occupation-sector-age cells[b]		13,310	13,310
Observations		337,429	337,429

Notes: Clustered standard errors at the firm level are in parentheses.
*** $P < 0.01$.
** $P < 0.05$.
* $P < 0.1$.
[a]   All control variables included in Table 2, with the exception of part-time work.
[b]   Using a realized matches approach, overeducation is identified within each occupation-age-sector (see Section 2.1 for more details).
Source: Authors' calculations using employer–employee data between 1999 and 2016.

overeducated). In addition, our potential endogenous variable is represented by five categories in the regression (i.e. the interactions between origin and part-time work), which implies the search of at least six instruments to guarantee identification in 2SLS regressions (i.e. having as many instruments as endogenous variables). Accordingly, although our estimates provide solid evidence of a relationship between part-time work and immigrant overeducation, they should not be interpreted as causal.

4.4 Three-way interaction: origin, gender and part-time work

In this section, we implement a three-way interaction (origin, part-time work, and gender) in our GOLOGIT regression. Results are presented in Table 5. Within the cohort of full-time female and male workers, our findings in column (1) largely align with the gender-interacted estimates in Table 3. However, focusing on part-time workers, our three-way interaction reveals interesting new outcomes. First, column (2) shows that female natives working part-time are 2.9 percentage points more likely to be overeducated than

Table 5. Gender, part-time work and origin: average marginal effects—GOLOGIT regression.

			Probability of being overeducated		
Tertiary-educated workers born in/from:			(1)	(2)	(3)
Belgium—natives					
Men	Full-time jobs ($n = 188,859$)		Reference	−0.169*** (0.011)	−0.198*** (0.006)
	Part-time jobs ($n = 3,054$)		0.169*** (0.011)	Reference	−0.030** (0.013)
Women	Full-time jobs ($n = 108,310$)		0.055*** (0.002)	−0.113*** (0.011)	−0.143*** (0.007)
	Part-time jobs ($n = 10,999$)		0.198*** (0.006)	0.029** (0.013)	Reference
Developing countries					
Men	Full-time jobs	First generation ($n = 8,995$)	0.130*** (0.007)	−0.038*** (0.013)	−0.068*** (0.009)
		Second generation ($n = 6,393$)	0.019** (0.008)	−0.149*** (0.013)	−0.180*** (0.010)
	Part-time jobs	First generation ($n = 387$)	0.455*** (0.023)	0.287*** (0.026)	0.257*** (0.024)
		Second generation ($n = 148$)	0.388*** (0.044)	0.219*** (0.046)	0.184*** (0.047)
Women	Full-time jobs	First generation ($n = 4,468$)	0.083*** (0.010)	−0.086*** (0.015)	−0.115*** (0.012)
		Second generation ($n = 4,854$)	0.032*** (0.010)	−0.137*** (0.015)	−0.166*** (0.012)
	Part-time jobs	First generation ($n = 609$)	0.416*** (0.017)	0.248*** (0.020)	0.216*** (0.019)
		Second generation ($n = 353$)	0.287*** (0.034)	0.119*** (0.036)	0.088** (0.034)
Control variables[a]			Yes	Yes	Yes
Occupation-sector-age cells[b]			13,310	13,310	13,310
Observations			337,429	337,429	337,429

Notes: Clustered standard errors at the firm level are in parentheses.
*** $P < 0.01$.
** $P < 0.05$.
* $P < 0.1$.
[a] All control variables included in Table 2, with the exception of gender and part-time work.
[b] Using a realized matches approach, overeducation is identified within each occupation-age-sector (see Section 2.1 for more details).
Source: Authors' calculations using employer–employee data between 1999 and 2016.

their male peers working part-time, who already face a 16.9 percentage points higher likelihood of being overeducated than male natives working full-time.

Second, being born in a developing country skyrockets the likelihood of being overeducated for a part-time worker, regardless of gender. More precisely, column (2) shows that F-G male immigrants working part-time are 28.7 percentage points more likely to be overeducated than male natives working part-time. Similarly, F-G female immigrants working part-time are 21.6 percentage points more likely to be overeducated than female natives working part-time (see column (3)).

Third, immigrant overeducation is a persistent intergenerational phenomenon within the cohort of part-time female and male workers. More precisely, S-G male immigrants working part-time are 21.9 percentage points more likely to be overeducated than male natives working part-time (see column (2)). Moreover, column (3) shows that S-G female immigrants working part-time are 8.8 percentage points more likely to be overeducated than female natives working part-time.

The findings associated with our three-way interaction are in line with the literature, which suggests that family duties (e.g. informal childcare and home production) and ethnic norms (e.g. fertility rate and family hierarchy) affect the labour market expectations of female immigrants more than those of female natives (Fernández and Fogli 2009; Blau et al. 2013; Jacobs, Van De Mieroop, and Van Laar 2022b). However, it seems less clear that male immigrants revisit the labour market trajectories due to parenthood or ethnic identities (Nadim and Midtbøen 2023). Therefore, other underlying mechanisms linking part-time work to immigrant overeducation among male workers must be considered. For instance, an excess supply of labour from male immigrants could foster employers' incentive to offer them jobs below their level of education or generate additional barriers preventing them from finding full-time jobs (i.e. jobs where the likelihood of being overeducated is less substantial).

Incidentally, the descriptive statistics of the 2021 ad-hoc module of the Labour Force Survey concerning migration in Belgium support this interpretation. Indeed, Fig. 1 shows that the labour market participation rate of F-G male immigrants was more than 20 percentage points higher than that of their F-G female peers. Moreover, this gender gap appears to be intergenerational persistent among immigrants (i.e. the gender gap in participation rates of S-G immigrants from developing countries is still as high as 14 percentage points).

Next, Fig. 2 reveals that the involuntary part-time employment rate of F-G male immigrants was substantially higher than that of natives (57.4 per cent vs. 15.4 per cent). This employment issue extends to S-G male immigrants, whose involuntary part-time employment rate was 45.6 per cent. However, for female workers, involuntary part-time work seems less problematic. Indeed, 11.2 per cent of female natives, 20 per cent of F-G female immigrants and 21.7 per cent of their S-G female peers declared themselves in an involuntary part-time job. Thus, the additional difficulties immigrants face in finding full-time jobs, especially for men, are likely to explain their substantial likelihood of being overeducated when working part-time.

Finally, we cannot exclude employment selection according to female and male workers' origin (i.e. taste-based, statistical, or monopsonistic discrimination) as a potential channel to explain the intergenerational connection between part-time work and immigrant overeducation. For instance, it might be possible that when hiring tertiary-educated workers, some employers have preferences for natives or negative stereotypes against immigrants.

5. Conclusion

In the OECD area, the population with tertiary education increased from 26.1 per cent in 2000 to 47.1 per cent in 2020 (OECD 2022). However, although educational expansion
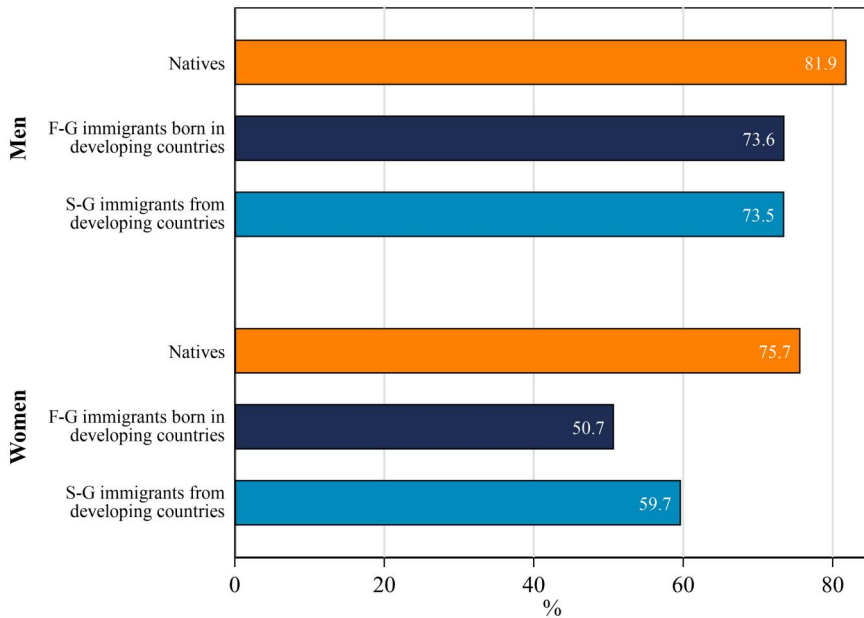
Figure 1. Labour market participation rate in 2021 among people aged 20–64 years in Belgium.

Notes: The labour market participation rate is calculated as the share of employed and unemployed persons aged 20–64 years in the total population (active and inactive persons) of that same age.

Source: Authors' calculations using the 2021 Labour Force Survey for Belgium and its ad-hoc module on 'Migration and labour market'.

accords with the growing demand for tertiary-educated people in developed countries, it could also lead to many overeducation cases (e.g. an economist employed as a cashier in a supermarket) (Green and Henseke 2016). Indeed, overeducation has become a persistent social and economic phenomenon in the developed world (McGuinness, Bergin, and Whelan 2018; Nugent 2022). Moreover, the literature shows that overeducation rates are higher in developed countries with more immigrant labour because F-G immigrants are more likely to be overeducated than natives (e.g. Davia, McGuinness, and O'Connell 2017; Wen and Maani 2018; Jacobs et al. 2021). However, the evolution of immigrant overeducation across generations remains largely unexplored. Put differently, very little is known about the overeducation of S-G immigrants (e.g. Fernández-Reino, Radl, and Ramos 2018; Falcke, Meng, and Nollen 2020). Therefore, we leverage a rich employer–employee database between 1999 and 2016, a realized matches approach, and GOLOGIT regressions to investigate the intergenerational interplay between origin and overeducation among tertiary-educated workers in Belgium, with a particular focus on immigrants from developing countries.

Our GOLOGIT regressions show that F-G immigrants are much more likely to be overeducated than natives, whose incidence of overeducation is over 40 per cent. In contrast, S-G immigrants have the same likelihood of being overeducated as natives (i.e. immigrant overeducation disappears across two generations). This finding applies to all geographical groups, except for S-G immigrants from the Near and Middle East and the Maghreb, who remain somewhat more likely to be overeducated than natives. Moreover, our gender-interacted estimates suggest that F-G female immigrants face a double penalty in their likelihood of being overeducated due to their gender and migration background. In contrast, S-G female immigrants perform on par with female natives in terms of overeducation (i.e.
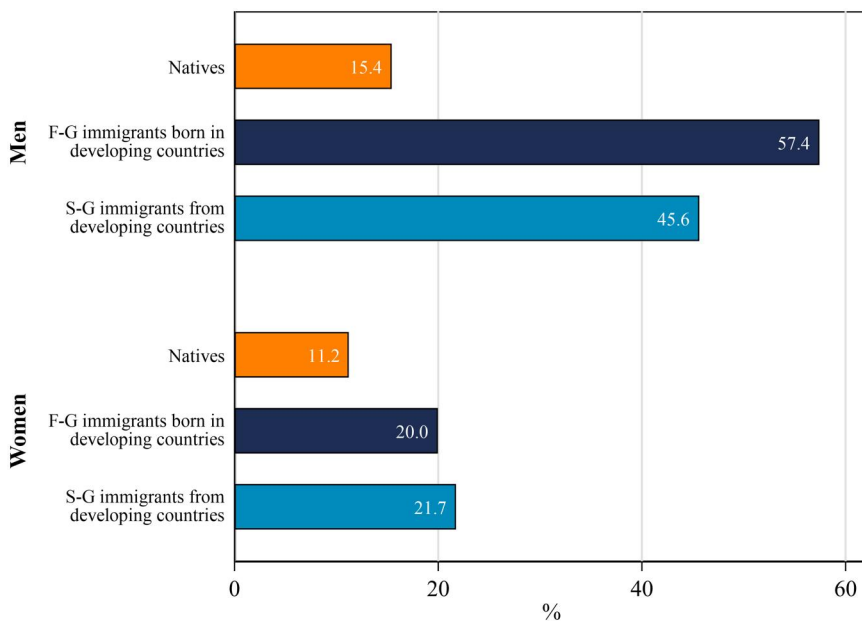
Figure 2. Involuntary part-time employment rate in 2021 among part-time workers aged 20–64 years in Belgium.

Notes: The involuntary part-time employment rate is defined as the percentage of part-time workers (i.e. workers who work less than 30 h per week) who want to work more hours and are available in the next two weeks at the time of the survey.

Source: Authors' calculations using the 2021 Labour Force Survey for Belgium and its ad-hoc module on 'Migration and labour market'.

only evidence of a gender penalty in their likelihood of being overeducated). It should be noted that all these results only hold within the cohort of full-time workers.

The following assumptions can explain the disappearance of immigrant overeducation across two generations among most full-time workers: (1) S-G immigrants are likely to have good proficiency in at least one of the languages used in the Belgian labour market (i.e. French, Dutch, or English), as they completed their whole education in Belgium; (2) employers may consider S-G immigrants as natives since they have accumulated human capital specific to Belgium (e.g. tertiary diplomas from Belgian universities or internships in firms located in Belgium); and (3) S-G immigrants have probably built better social networks than their parents due to a process of socialization from childhood to adulthood, which can be helpful in their job search and career.

However, when focusing on part-time workers, we find that immigrant overeducation is highly persistent from one generation to the next, regardless of gender. Specifically, although S-G female and male immigrants are less likely to be overeducated than their F-G same-gender peers, their likelihood of being overeducated remains substantially higher than that of same-gender natives. The following explanations may account for the nexus between part-time work and immigrant overeducation: (1) the intergenerational transmission of ethnic and gender norms among female immigrants from developing countries (e.g. fertility choices, informal childcare, and family hierarchy), (2) the high incidence of involuntary part-time work among male immigrants from developing countries, and (3) an employment selection based on workers' origin (i.e. taste-based, statistical, or monopsonistic discrimination).

From a policy perspective, the exceptionally high likelihood of overeducation among F-G immigrants and their S-G counterparts working part-time suggests that integration policies in Belgium have focused mainly on improving immigrants' access to employment (though not very effective) and probably not enough on their employment conditions once they have secured one. In this context, several policy recommendations can be made. First, the implementation of anonymous resumes in the recruitment process for highly qualified occupations can help tertiary-educated people whose name sounds foreign (which could lead to discrimination) to increase their chances of being called for an interview and being hired. Secondly, a closer alignment of the procedure for recognizing foreign qualifications with both the socioeconomic situation of immigrants and that of the Belgian labour market would be helpful. Specifically, the reduction of related administrative costs for immigrants from low-income countries, the introduction of a fast-track procedure for immigrants with foreign degrees matching bottleneck occupations, and more flexible rules (e.g. making a final decision based on a labour market approach rather than a strict educational one) are just a few examples that could reduce the overeducation of immigrants. Thirdly, the reinforcement of formal childcare policies (e.g. through free-of-charge services or guaranteed places for disadvantaged households and more nursery schools in neighbourhoods with a high density of immigrants) could help immigrant mothers and their descendants to reconcile work and family life better and strengthen their labour market trajectories. Finally, among other policies, the government should probably do more to encourage employers to participate in diversity management training to reduce stereotypes and discrimination against immigrants.

Overall, this article provides solid evidence of the disappearance (or at least of the sharp fall) of immigrant overeducation across two generations in Belgium. However, the main finding of this article highly depends on the type of employment (i.e. working full-time or part-time), which emphasizes the importance of accounting for employment conditions when designing integration policies aimed at promoting the labour market integration of immigrants. Last but not least, this article also opens promising avenues for further intergenerational research on other barriers that workers of foreign origin may face at work (e.g. horizontal mismatch).

Supplementary material

Supplementary material is available at the *Oxford Economic Papers Journal* online. These are the replication files and the Online Supplementary Appendix. The data used in this article are available from Statistics Belgium (STATBEL - https://statbel.fgov.be/en). However, restrictions may apply to their availability, as confidentiality agreements and licenses must be signed with STATBEL.

Funding

Acknowledgements

Bank of Belgium, the 15th Workshop on Labour Economics at the University of Trier and IAAEU, the 2023 Conference in Applied Econometrics using STATA at the Aix-Marseille School of Economics, and the 36th Annual Conference of the European Society for Population Economics at the Serbian Institute of Economic Sciences for their helpful comments. The authors are also grateful to Vincenzo Verardi, Guillaume Périlleux, and Valentine Fays for their valuable feedback on earlier versions of this paper.

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