



**Universiteit Antwerpen**  
**CSB | Centrum voor Sociaal**  
**Beleid Herman Deleeck**

*Dries Lens, Kilian Van Looy, Ive Marx*

## **Is temporary employment a stepping stone for unemployed immigrants?**

**WORKING PAPER**

No. 25/02

March 2025



University of Antwerp  
Herman Deleeck Centre for Social Policy  
<https://www.uantwerpen.be/en/research-groups/csb/>



# Is temporary employment a stepping stone for unemployed immigrants?

**Dries Lens<sup>1\*</sup> , Kilian Van Looy<sup>1</sup> , Ive Marx<sup>1</sup>**

<sup>1</sup> Centre for Social Policy (University of Antwerp)

## **Working Paper No. 25/02**

March 2025

### **Abstract**

This study investigates whether temporary employment serves as a stepping stone or a trap for unemployed immigrants and native-born individuals. Using panel data from the Belgian Labour Force Survey and applying a propensity score matching approach, we compare the short-term labour market outcomes of unemployed individuals who enter temporary employment with those who remain unemployed. The findings reveal that accepting temporary work significantly improves employment prospects and increases the likelihood of transitioning to permanent positions, although it does not lead to higher wages. Immigrant job seekers derive similar benefits from temporary employment as their native-born counterparts. From a policy perspective, these results underscore the potential of temporary employment to facilitate the labour market integration of unemployed workers in rigid labour markets like Belgium. However, the findings also highlight disparities among immigrant groups. Insider immigrant groups appear better positioned to leverage temporary jobs as a stepping stone, while outsider groups face greater challenges in doing so. Moreover, temporary agency employment demonstrates a weaker stepping stone effect compared to fixed-term contracts, particularly for immigrant job seekers. Further research is needed to explore how these dynamics manifest in longer-term labour market outcomes.

**Keywords:** Temporary employment; immigrant integration; unemployment; Belgium; stepping stone; labour market segmentation; propensity score matching

**Acknowledgments:** This research was financially supported by funding from BELSPO (Grant B2/233/P3/LAMIE) as part of the BRAIN-be 2.0 framework programme. We wish to thank Statbel for making the Belgian Labour Force Survey data available.

\*Corresponding author: Dries Lens (Dries.Lens@uantwerpen.be)

# 1. Introduction

Over recent decades, Western European societies have become increasingly diverse due to international migration. The integration of immigrants into the labour market has become a central policy issue, with significant implications for both migrants and host societies. Effective labour market integration enhances human capital, mitigates the challenges posed by population ageing, promotes economic growth, and fosters social cohesion, thereby contributing to the sustainability of European welfare states. On the other hand, poor integration exacerbates economic vulnerability among migrants, hampers their social inclusion, and fuels anti-immigrant sentiments, potentially reinforcing ethnic discrimination and further disadvantaging immigrants in the labour market.

Empirical evidence consistently shows that foreign-born workers in Western Europe tend to have worse labour market outcomes than their native-born counterparts (van Tubergen, 2024). To address these disparities, countries have implemented activation policies aimed at improving migrants' employment prospects, with increasing focus on facilitating swift entry into the labour market (Arendt, 2022; Hernes et al., 2020). In this context, temporary employment is often seen as a stepping stone for immigrant job seekers, providing opportunities to demonstrate skills, gain local work experience, and build professional networks. However, does this assumption hold? *Can temporary employment genuinely aid labour market integration, or does it risk trapping migrants in precarious positions?*

It is well-established that non-standard, flexible jobs are more precarious than permanent positions, characterised by lower wages, poorer working conditions, fewer training opportunities, and limited career progression (Booth et al., 2002; Gash & McGinnity, 2006; Giesecke & Groß, 2003, 2004). While native-born workers may avoid temporary contracts, immigrants are more likely to accept these positions due to persistent employment barriers such as unrecognised qualifications, limited language proficiency, lack of inter-ethnic networks, and ethnic discrimination (Boffi, 2024; Joonas & Wadensjö, 2008). Consequently, immigrants in Western Europe not only face higher unemployment rates but are also disproportionately employed in temporary jobs (OECD/European Commission, 2023).

Despite these dynamics, research on the role of temporary work in immigrant integration remains limited. While there is extensive literature on the consequences of temporary employment for workers in Western European labour markets, studies examining how these effects differ based on immigrant status are rare (for exceptions see de Graaf-Zijl et al., 2011; Hveem, 2013; Jahn & Rosholm, 2013, 2014; Kogan, 2011). If temporary jobs function as stepping stones to stable employment, their prevalence among immigrants may be less concerning. However, if temporary work traps immigrants in precarious jobs with limited career prospects, their overrepresentation in these roles becomes a critical issue.

This article examines *whether temporary employment acts as a stepping stone or a trap for unemployed immigrants*. Using Belgian Labour Force Survey panel data, we analyse the short-term labour market consequences of temporary employment for both migrant and native-born job seekers. Our study makes several contributions to the existing literature. First, by focusing on a homogeneous sample of unemployed job seekers and applying propensity score matching, we estimate the causal effect of entering temporary employment on subsequent labour market outcomes. We use a matching approach to address self-selection into temporary employment, as unemployed individuals who accept these jobs may differ systematically from those who do not. Second, while previous studies often examine a single outcome, we adopt a multidimensional approach, analysing overall employment status, permanent employment, and wages. This allows us to identify potential trade-offs, such as increased employment chances at the cost of job quality. Third, we explore differences in outcomes across immigrant subgroups, distinguishing between 'insider' and 'outsider' groups based on gender, region of birth, and length of stay. Finally, we investigate how the effects of temporary employment vary by the type of temporary contract, a dimension rarely explored in previous research (Filomena & Picchio, 2022).

Belgium offers a compelling context for this analysis due to its rapidly growing migrant population and one of the largest employment gaps between immigrants and native-born workers in Western Europe. The country's highly regulated labour market has fostered significant insider-outsider divisions, with immigrants facing particular challenges in overcoming this divide. Consequently, examining whether temporary employment aids or hinders labour market integration is especially relevant in the Belgian context.

## **2. Literature review**

### **2.1. Consequences of temporary employment**

The potential benefits and drawbacks of accepting temporary employment versus remaining unemployed are subject to various theoretical perspectives.

Proponents argue that temporary employment offers significant benefits for both employers and workers. For employers, temporary jobs serve as an effective screening tool, enabling them to evaluate a worker's productivity and fit before offering a permanent contract (Faccini, 2014; Gash, 2008; Korpi & Levin, 2001). For workers who pass this evaluation, temporary jobs can act as a stepping stone to permanent positions (Booth et al., 2002; Fuller & Stecy-Hildebrandt, 2015). Improved screening may also lead to better job matches, which may result in higher wages and greater employment stability (Kvasnicka, 2009).

Temporary employment also facilitates the acquisition of human capital and the development of social networks. While unemployment can cause skills to deteriorate, temporary jobs help maintain or enhance both occupation-specific and general employment skills (Booth et al., 2002; Gagliarducci, 2005). Additionally, temporary work often provides access to job opportunities and insights into wage conditions that are not easily available to the unemployed (Barbieri & Scherer, 2009; Ichino et al., 2008; Korpi & Levin, 2001). Furthermore, temporary workers can use these jobs to assess how their qualifications are valued across different employers, which may lead to better job matches (Korpi & Levin, 2001). Moreover, taking temporary jobs can signal skills and ambition to future employers, as unemployment is often viewed negatively (Eriksson & Rooth, 2014; Giesecke & Groß, 2003).

However, temporary employment comes with its risks. Dual labour market theories suggest that temporary jobs are typically part of the secondary labour market, where workers often occupy low-paid, unstable positions with limited career advancement opportunities (Eichhorst & Marx, 2015; Kalleberg, 2000; Scherer, 2004). Once in this secondary market, workers face limited chances of moving into the primary market, which offers more stable and well-paid jobs with growth potential (Amuedo-Dorantes, 2000; Gash, 2008; Gebel, 2013; Gebel & Giesecke, 2011). This risk is heightened when employers use temporary contracts solely to meet short-term needs, such as covering demand fluctuations or reducing wage costs, rather than as a pathway to permanent contracts (Blanchard & Landier, 2002; Booth et al., 2002; D'Addio & Rosholm, 2005).

Moreover, because temporary jobs are often located in the secondary labour market, they typically offer fewer opportunities for skill development and training (Booth et al., 2002). With temporary workers expected to leave soon, neither employers nor workers have strong incentives to invest in job-specific skills, potentially resulting in skill gaps. In some cases, workers who cycle through successive temporary contracts, with frequent job changes and employment gaps, may experience a depreciation of human capital, thereby diminishing future job prospects (Gagliarducci, 2005). Furthermore, temporary workers may have less time to seek new employment opportunities compared to the unemployed, who can focus solely on securing permanent jobs (Gebel, 2013; Korpi & Levin, 2001). Lastly, accumulating temporary contracts without transitioning to permanent jobs can signal to future employers that the worker was unable to secure a stable position, which may negatively impact future prospects (Barbieri et al., 2016; Korpi & Levin, 2001).

*What can previous research tell us about the consequences of temporary employment?* Numerous studies have examined its effects on future employment outcomes, but the findings are often mixed due to variations in methodologies (e.g., descriptive statistics, statistical matching, quasi-experiments), settings (e.g., countries, regions, or specific subpopulations), and definitions of temporary work (e.g., temporary agency work, fixed-term contracts). This heterogeneity makes drawing general conclusions challenging.

However, focusing on studies that compare temporary workers with the unemployed, particularly within Western European labour markets, reveals more consistent results (see Table A1 in the Appendix for an overview). Studies comparing temporary work to unemployment generally present more positive outcomes than those comparing temporary work to permanent employment (Fuller, 2011; Gebel, 2013; Latner & Saks, 2022). Most research suggests that, compared to remaining unemployed, taking temporary work (whether through fixed-term contracts or temporary work agencies) significantly increases the likelihood of future employment, see Hveem (2013) and Korpi and Levin (2001) for Sweden, Gebel (2013) and Hagen (2003) for Germany Barbieri and Sestito (2008) and Barbieri and Scherer (2009) for Italy, Gebel (2013) for the UK and Switzerland, de Graaf-Zijl et al. (2011) for the Netherlands, and Jahn and Rosholm (2014) for Denmark.

The evidence on whether temporary work acts as a stepping stone to permanent employment is more mixed and dependent on the type of temporary work. While entering fixed-term contracts increases the chances of securing permanent jobs in many countries, as evidenced by Hagen (2003) for Germany, Givord and Wilner (2015) for France, and Berton et al. (2011) for Italy, temporary agency jobs improve the likelihood of securing permanent work in some countries, see Ichino et al. (2008) for Italy and Jahn and Rosholm (2014) for Denmark, but not in others, see Kvasnicka (2009) for Germany, Hveem (2013) for Sweden, and (Givord & Wilner, 2015) for France. Among studies examining temporary employment more broadly, some find positive effects on permanent employment chances, such as Gebel (2013) for the UK and Germany and Barbieri and Sestito (2008) and (Picchio, 2008) for Italy, while others find no significant effect, see de Graaf-Zijl et al. (2011) for the Netherlands and (Gebel, 2013) for Switzerland. Finally, most studies agree that temporary work, irrespective of type, generally offers a wage premium (de Graaf-Zijl et al., 2011; Gebel, 2013; Hveem, 2013; Jahn & Rosholm, 2014).

In the Belgian context, two studies have specifically explored the effects of temporary work. Verhofstadt and Göbel (2008) track school leavers in Flanders and find that, after an initial lock-in effect, entering a fixed-term contract early in a career positively impacts the transition to permanent employment. Cockx and Picchio (2011) follow long-term unemployed school leavers and find that accepting short-term jobs (lasting three months or less) during unemployment increases the likelihood of securing a long-term job (lasting one year or more).

The evidence from Western Europe largely supports the idea that temporary employment facilitates integration into the labour market for the unemployed. However, while no study suggests that temporary jobs are inherently dead-ends, there is still no conclusive evidence on whether temporary positions serve as reliable stepping stones to permanent employment. The effects depend on factors such as the type of temporary employment and the specific institutional and labour market context (discussed further in section 3).

## **2.2. Consequences for immigrants vs native-born**

The consequences of temporary employment for the labour market outcomes of unemployed individuals also vary significantly based on individual characteristics such as gender, age, education, and immigrant status (Gebel, 2010).

Some theoretical perspectives suggest that temporary employment may serve as a particularly effective means of integration for immigrants (Fuller, 2011; Hveem, 2013; Jahn & Rosholm, 2013). Employers

often struggle to accurately assess immigrants' qualifications, especially when these credentials were obtained abroad (Kanas & van Tubergen, 2014; Lancee & Bol, 2017). Temporary employment allows employers to evaluate migrant workers without the long-term commitment of a permanent contract, thereby reducing the uncertainty regarding the value of their foreign qualifications. Furthermore, immigrants often lack host-country-specific human capital, such as local language skills or knowledge of the domestic labour market (Dustmann & Fabbri, 2003; Tubergen & Wierenga, 2011). Temporary jobs can help them develop these skills, thus increasing their employability. In addition, temporary positions may provide immigrants with valuable social networks, particularly connections with native workers, which can lead to better-quality job opportunities (Kanas et al., 2011, 2012; Lancee, 2010, 2016). Moreover, temporary contracts might signal higher abilities for immigrants than for native-born workers, as highly skilled immigrants may be more inclined to accept temporary employment due to difficulties in securing jobs that match their qualifications in Western European labour markets (Prokic-Breuer & McManus, 2016).

From an integration perspective, the benefits of temporary employment are expected to be even more significant for 'outsider immigrant groups' at a higher risk of labour market exclusion. Extra-EU immigrants, for example, face greater challenges in Western European labour markets than intra-EU migrants due to less favourable migration statuses, greater barriers to the recognition of foreign qualifications, and higher levels of ethnic discrimination, amongst others (Gorodzeisky & Semyonov, 2017). Recently arrived immigrants also face additional obstacles, including limited host country language skills, weaker social networks, and less knowledge of the local labour market, which contribute to lower employment prospects (Kogan, 2011; Reyneri & Fullin, 2011). Migrant women face greater barriers to employment than men—a 'double disadvantage'—partly stemming from family migration patterns and traditional domestic and caregiving responsibilities that often restrict their labour market participation (Ballarino & Panichella, 2017; Rubin et al., 2008). For these groups—particularly women, extra-EU immigrants, and recent arrivals—temporary jobs can provide a crucial entry point, helping them overcome structural barriers to labour market integration by offering opportunities to gain work experience, signal their abilities to employers, build host-country-specific human capital, and expand professional networks.

However, not all theoretical perspectives are optimistic; some present a bleaker view of temporary employment's role for immigrants. The segmentation theory suggests that migrant workers may be particularly vulnerable to cycles of temporary employment and unemployment (Fuller, 2011). For immigrants, especially those facing discrimination, short-term job histories can reinforce employer biases, leading to perceptions of lower commitment to the labour force (Lancee, 2021). Additionally, the undervaluation of foreign qualifications and work experience often confines immigrants to low-skilled temporary jobs, which may fail to provide the necessary experience for transitioning into stable employment in the primary labour market. Worse still, time spent in temporary roles may erode pre-migration skills, further increasing the risk of being trapped in secondary segment jobs.

According to the segmentation perspective, the negative effects of temporary employment are particularly pronounced for outsider immigrant groups. Female, extra-EU, and recent migrants, due to their weaker attachment to the labour market, are more likely to occupy low-level temporary positions with limited opportunities for advancement. A history of recurrent temporary employment can amplify employer stereotypes, reinforcing biases about outsider immigrants' perceived lack of skills or motivation (Fuller, 2011). These stereotypes may discourage employers from offering permanent positions, trapping immigrant workers in precarious, low-quality jobs. In such cases, temporary employment functions not as a stepping stone but as a cycle of instability that restricts upward mobility. For migrant women, this dynamic may be further compounded by the frequent combination of temporary and part-time contracts, reducing their chances of securing stable employment (Fuller & Vosko, 2008).

While there is an extensive body of literature on immigrant employment outcomes in general, research specifically examining how temporary employment dynamics differ by immigrant status in Western Europe remains limited (see Table A1 in the Appendix for an overview). de Graaf-Zijl et al. (2011) found that in the Netherlands, unemployed ethnic minority<sup>1</sup> men are more likely to transition from temporary to regular employment<sup>2</sup> compared to native Dutch men, whereas the ‘stepping stone’ effect for ethnic minority women is smaller than for native Dutch women. In Sweden, Hveem (2013) observed a negative effect of entering temporary agency employment on the likelihood of obtaining regular employment for the overall sample of unemployed workers, but no such effect for non-Western immigrants<sup>3</sup>. In Denmark, Jahn and Rosholm (2013, 2014) found that the effect of a temporary agency employment experience on securing regular employment is significantly higher for male first-generation non-Western immigrants and for all female immigrant groups (including Western and second-generation immigrants) compared to native Danes.

Overall, the existing evidence suggests that immigrants and their descendants may benefit more from temporary employment than natives<sup>4</sup>, though these benefits vary by context and demographic factors such as gender. This study aims to contribute to this relatively under-researched area by examining the consequences of entering temporary employment for unemployed immigrants in Belgium.

### 3. The Belgian case

Belgium has long been a prominent destination for immigrants in Europe. Starting in the 1950s, active “guest worker” policies attracted predominantly low-educated migrants—initially from Southern Europe and later from Morocco and Turkey—to fill unskilled labour roles during the post-World War II economic expansion. Although these policies were intended to be temporary, many migrants settled permanently and later brought their families to join them. Since the 1990s, the country has also experienced periodic peaks in humanitarian migration. Combined with steady intra-EU migration, these trends have significantly increased the foreign-born share of the population. As of January 2024, 18.4% of Belgium’s population is foreign-born—one of the highest proportions in Western Europe, surpassing neighbouring countries such as France, Germany, and the Netherlands (Eurostat, 2024a).

Despite its long history as a destination country, Belgium continues to face persistent challenges in integrating immigrants into its labour market. Among Western European countries, Belgium has some of the lowest employment and activity rates and the highest unemployment rates among immigrants (OECD/European Commission, 2023). The gaps between native-born and immigrant labour market outcomes are among the most pronounced in the region. While intra-EU immigrants tend to perform on par with the native-born, extra-EU immigrants face particularly poor outcomes, characterised by high unemployment rates and, for women, high levels of economic inactivity (Devos et al., 2024; Lens, 2022).

Several factors contribute to this situation. The immigrant population in Belgium appears to be more negatively selected in terms of labour market attachment and skills compared to other Western European countries. A significant share of migration inflows consists of non-labour migrants—arriving for family reunification or humanitarian reasons—which often correlates with lower labour market attachment, particularly during the initial period after arrival (Lens et al., 2019). Additionally, a relatively high

---

<sup>1</sup> ‘Ethnic minorities’ are defined in this study as people originating from Surinam, the Netherlands Antilles, Morocco and Turkey, and include both immigrants and their descendants (the so-called second generation).

<sup>2</sup> Regular employment typically refers to jobs that are not classified as temporary work.

<sup>3</sup> ‘Non-western immigrants’ are defined in this study as people born in Africa, South America, Asia, the Soviet Union, or European countries outside the Nordic countries and EU15.

<sup>4</sup> By natives, we mean individuals born in the country of residence whose parents were also both born in the same country..

proportion of non-EU migrants in Belgium are low-educated, posing challenges in a labour market that strongly emphasises formal educational qualifications (OECD, 2020b).<sup>5</sup> However, individual characteristics such as human capital and socio-demographics, while important, do not fully explain the disparities in labour market outcomes between immigrants and native-born individuals in Belgium (Corluy & Verbist, 2014). Amongst other factors, the country's institutional framework and labour market structure also play a critical role.

The Belgian labour market is typically classified as very rigid. OECD statistics consistently rank the country among the highest in employment protection legislation and union influence on wages and employment conditions. These rigid institutions foster stable employment relationships, good working conditions, and high wages for insiders but create significant barriers to labour market entry and low mobility for outsiders (McGowan & et al., 2020). Scholars have argued that Belgium's tightly regulated and institutionalised labour market is at least partly responsible for persistently high non-employment among its migrant population (Devos et al., 2024; HCE, 2018). High labour costs and strong dismissal protections discourage employers from hiring immigrants, even during periods of economic growth (Marx, 2019; Marx & Horemans, 2021). Against this backdrop, labour market stakeholders have regularly called for more flexibilization. Such proposals often include advocating for a more extensive use of temporary employment contracts.

So how important is temporary employment in Belgium? In a context of strong protection of permanent jobs and union influence, you can expect employers to want to rely on temporary contracts as a screening mechanism, given the difficulty of dismissing permanent workers. However, the regulation of temporary contracts in Belgium is also stringent by international standards, with only a small difference in protection between regular and temporary contracts (OECD, 2020). Consequently, while Belgian employers may prefer temporary contracts, their use is limited by relatively tight legal restrictions.<sup>6</sup> Only 9.3% of Belgian workers aged 15–64 were on temporary contracts in 2023, one of the lowest shares in Western Europe and significantly below neighbouring countries.<sup>7</sup> Nevertheless, immigrants are overrepresented in temporary work in Belgium, with 11.8% of immigrants compared to 8.7% of native-born workers in temporary jobs. Among extra-EU immigrants, the temporary employment incidence is even higher, at 13.1%. This overrepresentation is similar to patterns in France and Germany but less pronounced than in the Netherlands (Eurostat, 2024b).

Belgium's labour market characteristics likely influence the consequences of temporary employment for unemployed workers (Barbieri et al., 2016; Gebel, 2010, 2013; Leschke, 2009; Passaretta & Wolbers, 2019). The rigid labour market structure results in a relatively low employment rate, particularly compared to more flexible systems like those in the Netherlands and Germany. In this context, temporary employment may serve as an important screening tool for employers, with temporary contracts viewed more positively as a signal of employability. However, the recent decrease in unemployment and significant rise in labour market tightness in Belgium may have reduced the stepping-stone potential of temporary work (Jahn & Rosholm, 2018). During periods of economic growth, a temporary job might signal lower ability to employers, making it a better strategy for unemployed individuals to continue searching for permanent positions. This is especially relevant in Belgium, where unemployment benefits are more generous than in many other EU countries (OECD,

---

<sup>5</sup> Also when assessed by adult skill proficiency rather than educational attainment, immigrants in Belgium perform poorly in literacy and problem-solving skills compared to international averages.

<sup>6</sup> In Belgium, employers may hire temporary workers for a maximum of four consecutive temporary contracts, with a minimal duration of three months, spanning a maximum of two years. Exceptions are possible only via special permission (Nautet & Piton, 2019).

<sup>7</sup> For comparison: the temporary employment incidence was 27.3% in the Netherlands, 15.5% in France, and 12% in Germany. The incidence of temporary employment in Belgium has also remained stable over the past two decades (Quintelier, 2020).



2020a), and where active labour market policies, such as job search assistance and training schemes, help mitigate human capital depreciation and improve job search outcomes. As a result, the integration of unemployed workers through temporary contracts may also be less beneficial in Belgium than in other countries.

Given the challenges immigrants face in the Belgian labour market, it is crucial to assess the impact of temporary employment on their labour market integration. This article contributes to this discussion by examining the effects of entering temporary employment for immigrant job seekers and comparing their experiences with those of native-born job seekers.

## **4. Data, method and variables**

### **4.1. Data**

Our analysis uses data from the Belgian Labour Force Survey (BLFS), a nationally representative<sup>8</sup> quarterly survey that covers around 140,000 individuals residing in 35,000 private households each year. This survey provides detailed information about individual workers, including demographic characteristics and employment-related data such as job quality, workplace characteristics, and job search processes. The BLFS identifies temporary workers by asking respondents whether their job is permanent or temporary.<sup>9</sup> Using the respondent's perception helps avoid the complex details of temporary work legislation, but this method might not match the legal status of the contracts exactly.<sup>10</sup> This analysis focuses on temporary work, whether or not it involves a formal contract, although the terms are sometimes used interchangeably.

We use a longitudinal approach that takes advantage of the fact that since 2017, the BLFS sample structure operates as a rotating panel of households in a 2-2-2 pattern. Sampled households are interviewed for two consecutive quarters, then leave the sample for two quarters, and return for another two quarters. This allows us to track individuals over 15 months with observations at four waves. To ensure a sufficient sample size, we combine data from all available BLFS panel years (2017-2023). We end up with a balanced panel of 103,465 individuals aged 15 to 64, observed over four waves.

Our analysis is focused on the comparison of two groups: individuals who moved from unemployment to temporary employment (the treated) and those who remained unemployed (the controls). To that end, we develop an analytical strategy that makes full use of the longitudinal data from the BLFS (see Barbieri & Sestito, 2008 for a similar approach). We start by sampling the unemployed at wave 1 (n= 4,179).<sup>11</sup> Next, we identify those who found temporary jobs and those who remained unemployed at

---

<sup>8</sup> The sample is drawn from the Belgian National Registry, which includes individuals registered in the population register (Belgians residing in a Belgian municipality and foreigners with a permanent residence permit), as well as the register of foreigners (foreigners with a temporary residence permit). The sample does not include Belgians residing abroad, asylum applicants (who are still in the waiting register), and undocumented immigrants.

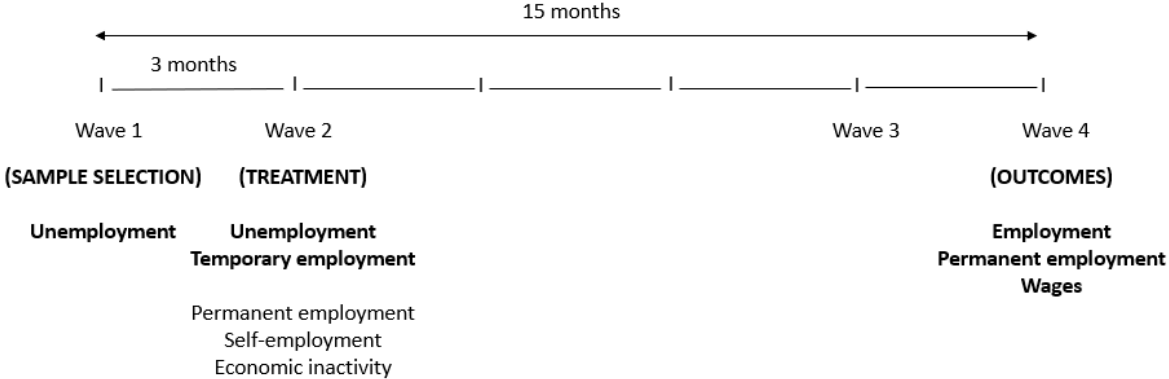
<sup>9</sup> Temporary work is surveyed as follows: 'Do you have (1) permanent employment, such as a contract for an indefinite period or a statutory position, or (2) temporary employment?'. Temporary work includes individuals employed through a temporary employment agency; those working under an apprenticeship or work placement contract; student workers with a student contract, those with a fixed-term contract; and occasional work without a formal employment contract.

<sup>10</sup> It is plausible that individuals who identified themselves as temporary workers include some with permanent contracts but who view their job as unstable. Conversely, the category of permanent workers may include individuals with temporary contracts who perceive their work status as permanent.

<sup>11</sup> People are defined here as unemployed when they do not have a job but are actively looking for one. According to our definition, one does not need to receive unemployment benefits to be unemployed.

wave 2 (n=2,840). Then, we compare the labour market outcomes of those two groups twelve months later, at wave 4 (see Figure 1).

Figure 1. Analytical strategy



Note: authors.

To address inherent differences between the two groups, we use propensity score matching. The propensity score combines various individual and contextual factors that influence the initial transition into temporary employment between wave 1 and 2 and may also affect the labour market outcomes at wave 4. Notably, this score includes retrospective information from the BLFS about the unemployment spell ongoing at wave 1 and the individual's prior work history.

To comprehensively assess the consequences of entering temporary employment versus remaining unemployed, we examine three outcomes. We measure the probability of employment, regardless of contract type, as an indicator of subsequent employability. Since employment status alone does not reflect job quality, we also assess job quality by looking at the likelihood of securing a permanent contract and the natural logarithm of gross monthly wage.<sup>12</sup> Both employment and job quality measures are analysed one year after exiting unemployment.

**4.2. Method**

We employ a propensity score matching method, a statistical technique that allows us to estimate the effect of taking up a temporary job for unemployed workers by accounting for the covariates that predict entry into temporary work.

We start by estimating the propensity score using a logistic regression model. The event of interest is the transition from unemployment at wave 1 to temporary employment at wave 2. In this set-up, individuals in the treatment group ( $D = 1$ ) accept temporary positions, while those in the control group ( $D = 0$ ) remain unemployed and are actively seeking other job opportunities.<sup>13</sup>

<sup>12</sup> The gross monthly wage information is derived from social security and personal income tax data, with priority given to the first data source. Due to a time lag in incorporating these administrative data into the BLFS, wages for 2023 were not available at the time of analysis. Consequently, wage estimations in the BLFS are based on the 2017-2022 panel with fewer observations.

<sup>13</sup> The unemployed who exit to other states such as permanent employment, self-employment or economic inactivity are not included in the analysis.

In the subsequent matching step, we compare the future outcomes of those who transitioned to temporary employment with the hypothetical scenario of remaining unemployed instead. The average treatment effect on the treated (*ATT*) is then defined as:

$$ATT = E(Y^1 - Y^0 | D = 1) \quad (1)$$

where outcomes (*Y*) are measured at wave 4 (12 months after exiting unemployment). We approximate the scenario of not accepting temporary employment for those who did by matching them with similar individuals who remained unemployed. Similarity is determined based on comparable chances of transitioning to temporary employment at wave 2, given their observed characteristics (*X*). Identification relies on the conditional independence assumption:

$$Y^0 \perp D | X \quad (2)$$

This assumption posits that, after adjusting for observed characteristics (*X*), the treatment group (*D* = 1) would have similar outcomes to the control group (*D* = 0) in the absence of the treatment—if they had not taken up temporary employment at wave 2. However, if there are still differences in unobservable characteristics (like motivational factors) between both groups, even after adjusting for observable differences (*X*), the results may be biased. To mitigate this bias, we include a comprehensive set of background characteristics in our analysis.

### 4.3. Variables

The first set of background characteristics focuses on job search behaviour at wave 1 and the prior work and unemployment history of individuals up to wave 1, based on retrospective data. Specifically, we include the duration of the job search, registration with the public employment service, receipt of unemployment benefits, availability to start work within two weeks, any prior work experience, and previous involvement in temporary employment<sup>14</sup>.

In addition, our analysis considers the following socio-demographic variables: gender, age, household type, presence of children under 3 in the household, education level and a variable signalling the transition from school to work<sup>15</sup>.

To account for local differences in labour market conditions and job opportunities, we include the provincial unemployment rate, and the region of residence. Finally, to capture temporal changes, including the impact of the COVID-19 pandemic, year dummies are included.

All control variables are measured before individuals transition from unemployment into temporary employment, ensuring our analysis captures relevant factors influencing their subsequent labour market outcomes comprehensively. Summary statistics for control variables, both for the overall sample and by immigrant status, are provided in Table A2 in the Appendix. Unlike studies that compare temporary workers with permanent workers who likely have significant disparities in work histories, our study focuses on a sample of unemployed workers which helps reduce heterogeneity in terms of both observed and unobserved differences. This approach strengthens the credibility of the conditional independence assumption.

---

<sup>14</sup> We construct a dummy variable indicating individuals who left their last job due to the conclusion of a temporary contract.

<sup>15</sup> We construct a dummy variable indicating individuals who left the education system within 5 years preceding the survey.

After comparing various matching algorithms, which yielded rather consistent results<sup>16</sup>, we opted for a 10-Nearest Neighbour (NN) matching approach with replacement and with ties, due to its superior performance in balancing the observed covariates (see section 5.3 for further discussion). Enforcing a common support condition did not result in the exclusion of treatment observations because the large number of available control observations in our data facilitated the matching of treated individuals.

In this paper, our main focus is not only to examine the outcomes of a temporary work experience for all unemployed individuals but also to assess differences in these outcomes between foreign-born and native-born individuals. To achieve this, we split our sample according to immigrant status and estimate all models separately for native-born and foreign-born individuals.

## 5. Empirical results

### 5.1. Unemployment exit dynamics

Summary statistics on exits from unemployment already reveal some expected differences between native-born and immigrant job seekers in Belgium (see Table 1). Overall, 42% of individuals exit unemployment, with native-born individuals exiting more frequently (44%) compared to immigrants (38%). Among those who exit unemployment, native-born individuals are more likely to transition into employment (45%) compared to migrants (33%). In contrast, migrants are more likely to exit into inactivity (67%) than native-born individuals (55%).

Among those transitioning to employment, native-born individuals are more likely to move into permanent employment, whereas migrants are more likely to exit into temporary employment or self-employment. Notably, temporary employment serves as a significant pathway out of unemployment for both groups, accounting for more than half of all employment exits. Despite the relatively low incidence of temporary work in the Belgian labour market overall, it plays a critical role for unemployed workers entering or returning to the Belgian labour market. This preference for hiring unemployed individuals into temporary positions over permanent ones may be partly explained by the country's rigid labour market institutions (as discussed in section 3).

*Table 1. Descriptive statistics on unemployment exits, by immigrant status*

	<b>Total (N=4,179)</b>	<b>Native-born (N=2,688)</b>	<b>Foreign-born (N=1,491)</b>
Exit unemployment	1,747 (41.8%)	1,178 (43.8%)	569 (38.2%)
	<i>Exit state</i>		
Permanent employment	253 (14.5%)	195 (16.6%)	58 (10.2%)
Temporary employment	408 (23.4%)	301 (25.6%)	107 (18.8%)
Self-employment	59 (3.4%)	38 (3.2%)	21 (3.7%)
Economic inactivity	1,027 (58.8%)	644 (54.7%)	383 (67.3%)

Source: BLFS 2017-2023, own calculations.

<sup>16</sup> Results for different matching algorithms are available from the authors upon request.

## 5.2. Propensity to enter temporary employment

To investigate who transitions from unemployment to temporary work, we conduct a multivariate analysis estimating the likelihood of unemployed workers transitioning to temporary contracts. This analysis is performed for all unemployed workers and separately by immigrant status. The primary aim is to estimate the propensity score for matching, while also gaining insights into the factors influencing the likelihood of exiting unemployment to temporary work. Our focus is on transitions into temporary work compared to remaining unemployed, excluding individuals who secured other employment positions or who exited the labour force at wave 2 (see Figure 1).

The key findings, reported in Table 2, indicate that job search behaviour and previous unemployment and work history significantly influence the likelihood of finding temporary work. Specifically, longer unemployment spells decrease the chances of securing a temporary job. Job seekers not registered with the Public Employment Service are more likely to enter temporary work than those who are registered, irrespective of whether they receive unemployment benefits. Availability to start a job within two weeks has no significant effect on entering temporary employment. Prior experience in temporary work significantly increases the likelihood of exiting unemployment for temporary work, whereas general work experience is not influential. These findings are consistent for both native-born and foreign-born job seekers.

Regarding socio-demographic factors, the probability of entering temporary work decreases with age, being highest for those under 25 and during the school-to-work transition period. Significant education effects persist even when controlling for employment history. Unemployed workers with lower secondary education or less have significantly lower chances of entering a temporary contract compared to those with secondary or post-secondary qualifications. With few exceptions, gender, household type, and having young children in the household does not significantly affect the transition chances from unemployment to temporary employment once other characteristics are controlled for. In line with the descriptive evidence in Table 1, being born abroad did not influence the probability of becoming a temporary worker. However, models by immigrant status show that age, labour market entry, and education effects are significant only for native-born job seekers, but this may also be due to the smaller sample size among migrants, which inflates the standard errors.

Local unemployment rates, generally higher in Brussels and Wallonia than in Flanders, negatively impact the probability of entering temporary work, but only for native-born job seekers. Whether the unemployed live in Flanders, Brussels, or Wallonia does not significantly influence their likelihood of entering temporary work, beyond local labour market conditions. Over time, there has been a rise in the probability of entering temporary work, except during the COVID-19 years, when there was a decrease in the likelihood of exiting unemployment for temporary work.

In summary, younger, more educated workers with shorter unemployment durations, who have not (yet) registered with the public employment services, have previous temporary employment experience, and live in areas with better labour conditions, were more likely to transition from unemployment to temporary work. These individuals were more likely to be in the treatment group (those who find temporary employment) compared to the control group (those who remain unemployed). These distributional differences in observable covariates between the treatment and control groups are what we aim to control for using NN-matching.

Table 2. Propensity score estimation: logistic model for probability of entering temporary work, by immigrant status

	All		Native-born		Foreign-born	
	Coeff.	(s.e.)	Coeff.	(s.e.)	Coeff.	(s.e.)
<i>Unemployment duration (ref: &lt;3 months)</i>						
3 to 5 months	-0.34	(0.18)	-0.42	(0.22)	-0.18	(0.33)
6 to 11 months	-0.39*	(0.17)	-0.20	(0.20)	-0.89*	(0.35)
>12 months	-1.24***	(0.15)	-1.20***	(0.19)	-1.35***	(0.30)
<i>Unemployment status (ref: Registered with PES, receiving unemployment benefits)</i>						
Not registered with PES	0.57***	(0.17)	0.61**	(0.20)	0.58	(0.33)
Registered with PES, not receiving benefits	-0.09	(0.16)	-0.27	(0.19)	0.37	(0.29)
Available to start within 2 weeks	0.34	(0.27)	0.54	(0.33)	-0.14	(0.51)
Foreign-born	-0.13	(0.14)				
Male	0.12	(0.12)	-0.03	(0.14)	0.53*	(0.24)
<i>Age (ref: &lt;25y)</i>						
25 to 34y	-0.17	(0.21)	-0.23	(0.25)	0.06	(0.48)
35 to 44y	-0.48	(0.26)	-0.62*	(0.31)	-0.30	(0.52)
45 to 54y	-0.65*	(0.27)	-0.62	(0.32)	-0.80	(0.58)
>55y	-0.83**	(0.31)	-0.91*	(0.37)	-0.80	(0.65)
<i>Household type (re: Single w/o children)</i>						
Couple w/o children	-0.02	(0.21)	0.25	(0.26)	-0.62	(0.40)
Couple w/ children	0.08	(0.17)	0.34	(0.21)	-0.49	(0.31)
Single w/ children	-0.15	(0.20)	-0.06	(0.25)	-0.09	(0.38)
Other household	0.14	(0.27)	0.61	(0.33)	-0.85	(0.57)
Child <3y	-0.08	(0.20)	-0.35	(0.28)	0.26	(0.31)
<i>Highest level of education (ref: Upper secondary)</i>						
Primary or lower secondary	-0.40**	(0.15)	-0.37*	(0.18)	-0.45	(0.28)
Tertiary	-0.19	(0.15)	-0.14	(0.18)	-0.19	(0.29)
Labour market entrant	0.51*	(0.20)	0.59*	(0.25)	0.20	(0.37)
Previous employment experience	0.22	(0.19)	0.36	(0.22)	0.05	(0.34)
Previous experience in temporary work	0.49***	(0.14)	0.45**	(0.17)	0.52*	(0.26)
Provincial unemployment rate	-0.09*	(0.05)	-0.15**	(0.06)	0.04	(0.11)
<i>Region of residence (ref: Flanders)</i>						
Brussels	-0.30	(0.50)	0.24	(0.59)	-1.49	(1.10)
Wallonia	-0.36	(0.25)	-0.09	(0.29)	-0.92	(0.57)
<i>Unemployment cohort (ref: 2017)</i>						
2018	0.46*	(0.20)	0.54*	(0.23)	0.35	(0.41)
2019	0.49*	(0.21)	0.48	(0.25)	0.58	(0.41)
2020	-0.11	(0.22)	-0.19	(0.27)	0.21	(0.44)
2021	0.08	(0.23)	0.16	(0.27)	0.03	(0.48)
2022	0.44	(0.24)	0.49	(0.29)	0.52	(0.48)
Constant	-0.82	(0.49)	-1.04	(0.58)	-0.91	(1.06)
<b>N</b>	<b>2,840</b>		<b>1,811</b>		<b>1,029</b>	

Notes: \*\*\* p<0.001, \*\* p<0.01, \* p<0.5. Source: BLFS 2017-2023, own calculations.

### 5.3. Effects of entering into temporary employment

To evaluate the consequences of taking up a temporary job for unemployed job seekers, we implement matching based on the estimated propensity scores. This method helps us compare the labour market outcomes of those who entered temporary work with similar individuals who remained unemployed by accounting for the covariates predicting entry into temporary work.

Balancing tests show that 10-Nearest Neighbour (NN) matching produces a sample of matched controls with similar observed characteristics to the treatment group. Table A3 in the Appendix reports detailed balancing tests for all covariates regarding the outcome “employment probability after one year”, both for the overall sample and by immigrant status. The matched sample results indicate that, with few exceptions, the standardized differences are all close to zero, and the variance ratios are all close to one. This means that matching on the estimated propensity score successfully balances the pre-existing distributional differences in observable covariates between the treatment and control groups.

#### 5.3.1. Employment chances

Table 3 displays the overall and immigrant status-specific results regarding *the chances of being employed, unemployed and out of the labour force* one year later (at wave 4). The table compares the treatment group (those who entered a temporary job at wave 2) with the matched control group (the estimated counterfactual outcome had they not entered a temporary job at wave 2). The gap between these estimates represents the average treatment effect on the treated (ATT).

For the overall sample, the probability of employment one year after entering temporary work is 72%, compared to 34% for the matched controls. This results in an ATT of 38 percentage points (pp). Despite a relatively large standard error, the estimated effect is statistically significant. Our findings show that taking up temporary work significantly improves the short-run *employability* (including temporary and permanent contracts) of unemployed job seekers, aligning with results from other studies (see Table A1). The size of the employment effect of temporary work after one year measured in our study is similar or compares favourably to effects documented in studies using a similar methodology for other institutional contexts, such as Germany (40 pp) in the late 1990s (Hagen, 2003); Italy (38 pp) in the 1990s-early 2000s (Barbieri & Sestito, 2008); and West-Germany (37 pp), East-Germany (34 pp), the UK (31 pp), and Switzerland (18 pp) in the early 2000s (Gebel, 2013).

Table 3 also shows that the gain from a temporary experience (*vis-à-vis* the alternative of remaining unemployed) is similar between migrants and the native-born. While overall employment chances of the treated and matched controls were higher for native-born workers than for foreign-born workers, the difference between the two (i.e., the ATT) was similar for both groups, at 39 and 40 percentage points, respectively. The results that—in the short run—the entrapment hypothesis does not apply to the unemployed population in Belgium, thus holds similarly for both migrant and native-born job seekers. We should nevertheless be cautious in our interpretation. High ATTs after one year may reduce significantly over time if the unemployed who entered a temporary job lose their initial advantage.<sup>17</sup> Indeed, studies indicate that the employment advantages of temporary workers diminish significantly over the first few years, but nevertheless remain positive during a five-year follow-up period (Gebel, 2013; Hagen, 2003).

---

<sup>17</sup> For example, if they are displaced by new temporary workers, or if those who stayed unemployed (i.e., the matched controls) gain access to more stable jobs.

Table 3 shows that temporary work reduces both unemployment and inactivity, with most of the positive employment effect driven by a reduction in unemployment. Notably, the effect on reducing inactivity is slightly stronger for foreign-born individuals.

Table 3. Average effect of a temporary work experience on employment, unemployment and inactivity 12 months later, by immigrant status

	<b>N treated</b>	<b>N matched controls</b>	<b>Outcome treated</b>	<b>Outcome matched</b>	<b>ATT</b>	<b>(s.e.)</b>
<i>Employment</i>						
Total	408	408	0.72	0.34	0.38***	(0.03)
Native-born	301	301	0.73	0.34	0.39***	(0.03)
Foreign-born	107	107	0.69	0.29	0.40***	(0.04)
<i>Unemployment</i>						
Total	408	408	0.17	0.43	-0.26***	(0.03)
Native-born	301	301	0.15	0.43	-0.28***	(0.03)
Foreign-born	107	107	0.22	0.46	-0.23***	(0.03)
<i>Economic inactivity</i>						
Total	408	408	0.11	0.24	-0.13***	(0.02)
Native-born	301	301	0.12	0.22	-0.11***	(0.03)
Foreign-born	107	107	0.08	0.25	-0.16***	(0.04)

Notes: Results from NN-matching. \*\*\* p<0.001, \*\* p<0.01, \* p<0.5. “Outcome treated” measures the observed average outcome of the treatment group (i.e., those who are taking up a temporary job instead of remaining unemployed); “Outcome matched controls” measures the average outcome of the matched control group as a proxy for the counterfactual outcome of the treatment group if they had not entered a temporary job. “ATT” measures the average treatment effect on the treated for the respective outcome variable. Source: BLFS 2017-2023; own calculations.

### 5.3.2. Job quality

While the analysis of overall employment chances provides initial insights into the integrative power of temporary contracts for unemployed workers, it does not address the quality of the job positions. Higher employment chances for those starting temporary jobs might be associated with more precarious employment, whereas remaining unemployed might lead to higher-quality jobs.

Table 4 presents results addressing this central question. For the overall group of unemployed workers, 26% of those who entered temporary work found a permanent contract after one year. In contrast, only 17% of the control group who remained unemployed had found a permanent contract. Thus, the average treatment effect on the treated (ATT) shows an advantage of about 9 percentage points, which is statistically significant. The size of this stepping stone effect is substantial, given that the observed baseline probability of holding a permanent job in the treated group is 26%. The estimated gain from temporary work for permanent employment chances in Belgium is higher than those reported in Italy in the 1990s-early 2000s (7 pp) (Barbieri & Sestito, 2008); and West Germany (6 pp), East Germany (4 pp), the UK (7 pp), and Switzerland (-9 pp) in the 2000s (Gebel, 2013).<sup>18</sup>

<sup>18</sup> Other benchmark studies measure permanent employment outcomes at later time points. (Hagen, 2003) shows for Germany in the late 1990s that the formerly unemployed who transition to a fixed-term contract raised their probability of holding a permanent contract with 11 pp after 3 years. (Picchio, 2008) estimates that in Italy in the early 2000s, having a temporary job rather than remaining unemployed significantly increased the probability of securing a permanent job two years later by about 13.5–16 pp (depending on the estimator). Also for Italy, (Ichino



Further, the gap in the probability of securing permanent work between unemployed workers who entered temporary jobs and those who remained unemployed is slightly more pronounced for immigrants. After one year, 23% of foreign-born workers who took temporary jobs secured a permanent contract, compared to 13% of the matched control group, resulting in an ATT of 10 percentage points. For native-born workers, there is also a significant effect, though smaller, at 7 percentage points.

The fact that a sizeable share of previously unemployed workers transition quickly from temporary jobs to permanent ones, combined with positive and significant ATTs, suggests that temporary employment is an effective and sustainable route to permanent employment in Belgium. It appears more beneficial for unemployed workers to accept a temporary job rather than remain unemployed while searching directly for permanent jobs, at least when considering short-term outcomes. While the stepping stone effect of temporary work is slightly more pronounced among migrants, the smaller ATT for native-born workers is accompanied by higher overall chances of finding a permanent job for both the treatment and matched control groups. Thus, native-born job seekers still have better overall chances of securing permanent employment in the Belgian labour market.

We continue the analysis of subsequent job quality in terms of wages (see Table 4). Note that the analysis is restricted to those treated and control units that are employed (either in a permanent or a temporary job) at wave 4, to estimate the wage effects *net of being employed*. Our previous findings on job quality in terms of permanent contracts are not confirmed. For the overall sample of unemployed workers, no significant wage advantages are observed during the subsequent year. Taking up a temporary job instead of continuing to search for a job (and successfully finding one) is not associated with any wage advantage or disadvantage.

For foreign-born individuals, the effects seem more positive than for native-born individuals, but both effects are not significant, and the results should be interpreted with caution due to the small sample sizes in the analyses. Nevertheless, while taking up a temporary job provides employment advantages and serves as a stepping stone towards permanent jobs, it does not appear to result in any significant wage benefits in the short run.

Table 4. Average effect of a temporary work experience on job quality 12 months later, by immigrant status

	<b>N treated</b>	<b>N matched controls</b>	<b>Outcome treated</b>	<b>Outcome matched</b>	<b>ATT</b>	<b>(s.e.)</b>
<i>Permanent employment</i>						
Total	408	408	0.26	0.17	0.09***	(0.03)
Native-born	301	301	0.28	0.20	0.07*	(0.03)
Foreign-born	107	107	0.23	0.13	0.10*	(0.04)
<i>Wages</i>						
Total	242	242	7.41	7.38	0.03	(0.08)
Native-born	183	183	7.43	7.44	-0.01	(0.07)
Foreign-born	59	59	7.34	7.05	0.29	(0.28)

Notes: Results from NN-matching. \*\*\* p<0.001, \*\* p<0.01, \* p<0.5. Source: BLFS 2017-2023; own calculations.

et al., 2008) show that employment through a temporary work agency increased the probability of finding a permanent job after 18 months by 19 pp in Tuscany and by 11 pp in Sicily. (Cockx & Picchio, 2011) find that, in Belgium in the late 1990s-early 2000s, unemployed school-leavers who accepted a short-lived job were, within two years, 13.4 pp (for males) and 9.5 pp (for females) more likely to find a long-lasting job compared to those who remained unemployed.

## 5.4. Effect heterogeneity

### 5.4.1. Insider vs outsider immigrant groups

So far, we have estimated average effects for migrant and native-born unemployed workers. However, these results may still mask heterogeneous treatment effects across subgroups. Below, we explore differences in outcomes distinguishing between 'insider' and 'outsider' immigrant groups based on gender, region of birth, and length of stay. Note that these results should be interpreted with caution due to smaller sample sizes.<sup>19</sup>

First, we examine differences in outcomes by gender, to test the hypothesis that positions in the primary labour market are usually male dominated, making it more likely that women are trapped by temporary jobs in the secondary market whereas men are more likely to transition into permanent jobs in the primary market (Fuller, 2011). In particular, we explore the intersection of gender and immigration status, knowing that integration processes in Belgium are gendered, making labour market incorporation especially challenging for immigrant women .

Table 5 presents the gender-specific results for employment chances and the likelihood of securing a permanent contract. In terms of overall employment, the gain from temporary work experience (compared to remaining unemployed) is greater for men than for women, with the difference more pronounced among the native-born than the foreign-born. However, when assessing the stepping stone effect of temporary employment, the impact on securing permanent employment is similar for native-born men and women. Among the foreign-born, however, the effect is stronger for men and significantly smaller and non-significant for women (Devos et al., 2024).

Table 5. Effect heterogeneity by gender

	N treated	N matched controls	Outcome treated	Outcome matched controls	ATT	(s.e.)
<i>Employment</i>						
Native-born men	162	162	0.73	0.27	0.46***	(0.04)
Native-born women	139	139	0.73	0.39	0.34***	(0.05)
Foreign-born men	65	65	0.74	0.37	0.37***	(0.05)
Foreign-born women	42	42	0.62	0.30	0.32***	(0.08)
<i>Permanent employment</i>						
Native-born men	162	162	0.25	0.15	0.10*	(0.04)
Native-born women	139	139	0.31	0.22	0.09(*)	(0.05)
Foreign-born men	65	65	0.28	0.13	0.14(*)	(0.08)
Foreign-born women	42	42	0.17	0.13	0.04	(0.04)

Notes: Results from NN-matching. \*\*\* p<0.001, \*\* p<0.01, \* p<0.5, (\*) p<0.1. Source: BLFS 2017-2023; own calculations.

We also explore the heterogeneous effects of temporary work based on immigrants' region of birth and length of stay, examining whether experiences of intra-EU migrants and longstanding migrants differ from those of extra-EU and recent migrants. The latter groups typically possess less host-country-specific human capital, fewer social networks, and limited familiarity with the local labour market, factors that could make temporary employment a more effective stepping stone for labour market integration.

<sup>19</sup> In the heterogeneity analysis, we focus exclusively on the outcomes of employment and permanent employment, as wage data is available for too few cases within the subsamples.

However, the results indicate a different pattern. Table 6 shows that intra-EU migrants and migrants with longer residence (10 years or more) experience greater benefits from temporary work, both in terms of employment chances and permanent contracts, compared to extra-EU and recent migrants (less than 10 years). This suggests that the mechanisms enabling temporary work to act as a stepping stone may operate more effectively for those already better positioned in the labour market.

For recent migrants, the relatively lower treatment effect partly reflect the favourable employment outcomes observed among matched controls who remain unemployed. Even without entering temporary work, recent migrants appear to find alternative opportunities for labour market entry, reducing the treatment effect in this group. This dynamic may indicate that temporary work plays a less critical role for recent migrants than anticipated, as they can still leverage other pathways to employment.

Importantly, the findings also show no evidence that temporary jobs harm the short-term labour market prospects of more disadvantaged groups, such as extra-EU or recent migrants, compared to continued job searching. This suggests that while temporary work may not deliver disproportionately higher benefits for outsider groups, it does not exacerbate their labour market challenges.

Table 6. Effect heterogeneity by region of birth and length of stay

	<b>N treated</b>	<b>N matched controls</b>	<b>Outcome treated</b>	<b>Outcome matched controls</b>	<b>ATT</b>	<b>(s.e.)</b>
<i>Employment</i>						
Extra-EU migrant	65	65	0.63	0.25	0.38***	(0.03)
Intra-EU migrant	42	42	0.79	0.35	0.44***	(0.08)
Recent migrant	51	51	0.69	0.40	0.28**	(0.09)
Settled migrant	56	56	0.70	0.23	0.46***	(0.04)
<i>Permanent employment</i>						
Extra-EU migrant	65	65	0.22	0.13	0.09*	(0.04)
Intra-EU migrant	42	42	0.26	0.14	0.12**	(0.04)
Recent migrant	51	51	0.25	0.21	0.05	(0.07)
Settled migrant	56	56	0.21	0.11	0.10*	(0.05)

Notes: Results from NN-matching. \*\*\* p<0.001, \*\* p<0.01, \* p<0.5. Source: BLFS 2017-2023; own calculations.

#### 5.4.2. Type of temporary employment

Finally, we also distinguish between types of temporary employment in our empirical analysis, as different effects may occur for different kinds of temporary jobs (Berton et al., 2011; Fuller & Stecy-Hildebrandt, 2014; Fuller & Vosko, 2008). Table 7 shows the outcomes for fixed-term contracts and temporary agency work respectively, which are the most important types of temporary employment in Belgium.

In line with existing evidence, our results indicate that while both types of temporary work improve employment prospects, fixed-term contracts have a stronger effect on transitioning to permanent employment. This is particularly true for foreign-born workers, where fixed-term contracts result in a larger and significant increase in permanent employment, whereas temporary agency employment does not show a significant effect.

Table 7. Effect heterogeneity by type of temporary work

	N treated	N matched controls	Outcome treated	Outcome matched controls	ATT	(s.e.)
<i>Employment</i>						
Native-born, FTC	121	121	0.79	0.36	0.43***	(0.03)
Native-born, TAE	122	122	0.74	0.35	0.39***	(0.04)
Foreign-born, FTC	51	51	0.75	0.35	0.39***	(0.05)
Foreign-born, TAE	35	35	0.69	0.31	0.37***	(0.09)
<i>Permanent employment</i>						
Native-born, FTC	121	121	0.31	0.19	0.13***	(0.04)
Native-born, TAE	122	122	0.29	0.21	0.08(*)	(0.04)
Foreign-born, FTC	51	51	0.33	0.14	0.19***	(0.03)
Foreign-born, TAE	35	35	0.20	0.17	0.03	(0.08)

Notes: Results from NN-matching. FTC = Fixed-term contracts, TAE = Temporary agency employment. \*\*\* p<0.001, \*\* p<0.01, \* p<0.5, (\*) p<0.1 Source: BLFS 2017-2023; own calculations.

## 6. Conclusion

Using Belgian panel data from 2017 to 2023, this study examined the impact of temporary employment on unemployed workers by comparing future labour market outcomes of those who take up temporary jobs with those who remain unemployed. Specifically, the study explored whether and how the consequences of temporary employment for labour market outcomes differ between migrant and native-born job seekers.

Using a propensity score matching approach, we find that unemployed workers who accept temporary jobs generally experience better labour market outcomes in the short run. Taking on temporary work increases the likelihood of being employed one year later by 38 percentage points and raises the probability of securing a permanent position by 9 percentage points. However, wages do not differ significantly between those who take up temporary work and those who remain unemployed. These findings highlight the integrative potential of temporary employment in helping disadvantaged workers—specifically the unemployed—gain entry into Belgium’s rigid labour market.<sup>20</sup>

Further analysis by immigrant status reveals that both migrants and native-born individuals benefit similarly from temporary work, lending more support to the integration perspective than to the segmentation perspective. Notably, the effect of temporary employment on transitioning to permanent jobs is slightly stronger for migrants than for native-born workers. This does not imply that migrants and natives have equal opportunities in the Belgian labour market. Migrant job seekers are still less likely to transition from unemployment to employment, and their likelihood of obtaining permanent positions remains lower than that of native-born workers. Instead, our findings suggest that the role of temporary work as a selection mechanism—as a way of sorting among the unemployed—operates similarly for both groups.

The results also indicate heterogeneity within the migrant population. Insider immigrants—those who are male, from intra-EU countries, or have longer residence durations—derive greater benefits from temporary work than outsider immigrants, such as women, extra-EU migrants, or recent arrivals. This suggests that the mechanisms through which temporary employment acts as a stepping stone are more

<sup>20</sup> It is important to note that our findings are specific to unemployed individuals and their applicability to other groups, such as new labour market entrants, remains uncertain. Additionally, the external validity of our results is influenced by the matching process, which slightly distorts the sample characteristics. As a result, our findings primarily apply to a stronger subset of the unemployed population, characterized by younger age and shorter durations of unemployment.

effective for individuals already better positioned in the labour market. Furthermore, we find that fixed-term contracts provide stronger stepping stone effects than temporary agency employment, particularly for migrant job seekers.

Future research is needed to explore how these dynamics evolve in the long term. While the short-term evidence presented here supports encouraging unemployed (migrant) workers to take up temporary employment as a route to labour market entry, policymakers must also consider the potential long-term implications. Indeed, our findings likely reflect the short-term effects of screening and signalling mechanisms, rather than worker development processes, which typically take more time to unfold. At the same time, issues of entrapment and segmentation might also take longer to materialise, and the positive effects of temporary employment may fade or even turn negative if those who stayed unemployed gain access to more stable high-quality jobs. Therefore, we particularly recommend the use of longitudinal register data, which would allow for a more comprehensive analysis of the lasting effects of temporary employment on the employment trajectories of both immigrant and native-born workers. Such data would also enable better control for unobservable differences between those who enter temporary employment and those who do not, while providing opportunities for a more nuanced examination of the heterogeneity within temporary work, including variations by contract type, sector, and skill level.

## References

- Amuedo-Dorantes, C. (2000). Work Transitions into and Out of Involuntary Temporary Employment in a Segmented Market: Evidence from Spain. *ILR Review*, 53(2), 309-325. <https://EconPapers.repec.org/RePEc:sae:ilrrev:v:53:y:2000:i:2:p:309-325>
- Arendt, J. (2022). Labor market effects of a work-first policy for refugees. *Journal of Population Economics*, 35, 1-28. <https://doi.org/10.1007/s00148-020-00808-z>
- Ballarino, G., & Panichella, N. (2017). The occupational integration of migrant women in Western European labour markets. *Acta Sociologica*, 61, 000169931772344. <https://doi.org/10.1177/0001699317723441>
- Barbieri, G., & Sestito, P. (2008). Temporary Workers in Italy: Who Are They and Where They End Up. *LABOUR*, 22(1), 127-166. <https://EconPapers.repec.org/RePEc:bla:labour:v:22:y:2008:i:1:p:127-166>
- Barbieri, P., Cutuli, G., Luijckx, R., Mari, G., & Scherer, S. (2016). Substitution, entrapment, and inefficiency? Cohort inequalities in a two-tier labour market. *Socio-Economic Review*, 17. <https://doi.org/10.1093/ser/mww035>
- Barbieri, P., & Scherer, S. (2009). Labour Market Flexibilization and its Consequences in Italy. *European Sociological Review*, 25. <https://doi.org/10.1093/esr/jcp009>
- Berton, F., Devicienti, F., & Pacelli, L. (2011). Are Temporary Jobs a Port of Entry into Permanent Employment? Evidence from Matched Employer-Employee. *International Journal of Manpower*, 32, 879-899. <https://doi.org/10.1108/01437721111181651>
- Blanchard, O., & Landier, A. (2002). THE PERVERSE EFFECTS OF PARTIAL LABOUR MARKET REFORM: FIXED-TERM CONTRACTS IN FRANCE. *The Economic Journal*, 112(480), F214-F244. <https://doi.org/https://doi.org/10.1111/1468-0297.00047>
- Boffi, G. (2024). Temporary Employment of First-Generation Migrants in the Netherlands. *Journal of International Migration and Integration*, 25. <https://doi.org/10.1007/s12134-023-01058-0>
- Booth, A. L., Francesconi, M., & Frank, J. (2002). Temporary Jobs: Stepping Stones or Dead Ends? *The Economic Journal*, 112(480), F189-F213. <http://www.jstor.org/stable/798372>
- Cockx, B., & Picchio, M. (2011). Scarring Effects of Remaining Unemployed for Long-Term Unemployed School-Leavers. *Journal of the Royal Statistical Society Series A (Statistics in Society)*, 176. <https://doi.org/10.2139/ssrn.1914281>
- Corluy, V., & Verbist, G. (2014). Can education bridge the gap? Education and the employment position of immigrants in Belgium. <https://EconPapers.repec.org/RePEc:hdl:improv:1402>
- D'Addio, A. C., & Rosholm, M. (2005). Exits from temporary jobs in Europe: A competing risks analysis. *Labour Economics*, 12(4), 449-468. <https://doi.org/https://doi.org/10.1016/j.labeco.2005.05.002>
- de Graaf-Zijl, M., van den Berg, G. J., & Heyma, A. (2011). Stepping stones for the unemployed: the effect of temporary jobs on the duration until (regular) work. *Journal of Population Economics*, 24(1), 107-139. <https://doi.org/10.1007/s00148-009-0287-y>
- Devos, L., Lippens, L., Lens, D., Rycx, F., Volral, M., & Baert, S. (2024). Labour Market Disadvantages of Citizens with a Migration Background in Belgium: A Systematic Review. *De Economist*. <https://doi.org/10.1007/s10645-024-09443-5>
- Dustmann, C., & Fabbri, F. (2003). Language proficiency and labour market performance of immigrants in the UK. *The Economic Journal*, 113(489), 695-717. <https://doi.org/https://doi.org/10.1111/1468-0297.t01-1-00151>
- Eichhorst, M., & Marx, P. (2015). *Non-Standard Employment in Post-Industrial Labour Markets*. Edward Elgar Publishing. <https://EconPapers.repec.org/RePEc:elg:eebook:14770>
- Eriksson, S., & Rooth, D.-O. (2014). Do Employers Use Unemployment as a Sorting Criterion When Hiring? Evidence from a Field Experiment. *American Economic Review*, 104(3), 1014-1039. <https://doi.org/10.1257/aer.104.3.1014>
- Eurostat. (2024a). *Migration and asylum in Europe – 2024 edition*. <https://doi.org/10.2785/43971>
- Eurostat. (2024b). *Temporary employees as percentage of the total number of employees, by sex, age and country of birth (%)*. Retrieved January 8, 2025 from
- Faccini, R. (2014). Reassessing Labour Market Reforms: Temporary Contracts as a Screening Device. *The Economic Journal*, 124(575), 167-200. <https://doi.org/https://doi.org/10.1111/eoj.12072>

- Filomena, M., & Picchio, M. (2022). Are temporary jobs stepping stones or dead ends? A systematic review of the literature. *International Journal of Manpower*, 43(9), 60-74. <https://doi.org/10.1108/IJM-02-2022-0064>
- Fuller, S. (2011). Up and on or down and out? Gender, immigration and the consequences of temporary employment in Canada. *Research in Social Stratification and Mobility*, 29(2), 155-180. <https://doi.org/https://doi.org/10.1016/j.rssm.2010.09.001>
- Fuller, S., & Stecy-Hildebrandt, N. (2014). Lasting Disadvantage? Comparing Career Trajectories of Matched Temporary and Permanent Workers in Canada. *Canadian Review of Sociology/Revue canadienne de sociologie*, 51(4), 293-324. <https://doi.org/https://doi.org/10.1111/cars.12049>
- Fuller, S., & Stecy-Hildebrandt, N. (2015). Career pathways for temporary workers: Exploring heterogeneous mobility dynamics with sequence analysis. *Social Science Research*, 50, 76-99. <https://doi.org/https://doi.org/10.1016/j.ssresearch.2014.11.003>
- Fuller, S., & Vosko, L. F. (2008). Temporary employment and social inequality in Canada: Exploring intersections of gender, race and immigration status. *Social Indicators Research*, 88(1), 31-50. <https://doi.org/10.1007/s11205-007-9201-8>
- Gagliarducci, S. (2005). The dynamics of repeated temporary jobs. *Labour Economics*, 12(4), 429-448. <https://doi.org/https://doi.org/10.1016/j.labeco.2005.05.001>
- Gash, V. (2008). Bridge or Trap? Temporary Workers' Transitions to Unemployment and to the Standard Employment Contract. *European Sociological Review*, 24(5), 651-668. <https://doi.org/10.1093/esr/jcn027>
- Gash, V., & McGinnity, F. (2006). Fixed-term contracts—the new European inequality? Comparing men and women in West Germany and France. *Socio-Economic Review*, 5(3), 467-496. <https://doi.org/10.1093/ser/mwl020>
- Gebel, M. (2010). Early career consequences of temporary employment in Germany and the UK. *Work, Employment and Society*, 24(4), 641-660. <https://doi.org/10.1177/0950017010380645>
- Gebel, M. (2013). Is a Temporary Job Better than Unemployment? A Cross-Country Comparison Based on British, German, and Swiss Panel Data. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2228073>
- Gebel, M., & Giesecke, J. (2011). Labor Market Flexibility and Inequality: The Changing Skill-Based Temporary Employment and Unemployment Risks in Europe. *Social Forces*, 90(1), 17-39. <http://www.jstor.org/stable/41682630>
- Giesecke, J., & Groß, M. (2003). Temporary Employment: Chance or Risk? *European Sociological Review*, 19(2), 161-177. <http://www.jstor.org/stable/3559507>
- Giesecke, J., & Groß, M. (2004). External labour market flexibility and social inequality. *European Societies*, 6(3), 347-382. <https://doi.org/10.1080/1461669042000231456>
- Givord, P., & Wilner, L. (2015). When Does the Stepping-Stone Work? Fixed-Term Contracts Versus Temporary Agency Work in Changing Economic Conditions. *Journal of Applied Econometrics*, 30(5), 787-805. <https://doi.org/https://doi.org/10.1002/jae.2394>
- Gorodzeisky, A., & Semyonov, M. (2017). Labor force participation, unemployment and occupational attainment among immigrants in West European countries. *PLOS ONE*, 12(5), e0176856. <https://doi.org/10.1371/journal.pone.0176856>
- Hagen, T. (2003). Do Fixed-Term Contracts Increase the Long-Term Employment Opportunities of the Unemployed? *ZEW - Zentrum für Europäische Wirtschaftsforschung / Center for European Economic Research, ZEW Discussion Papers*.
- HCE. (2018). *Immigranten geboren buiten de Europese Unie op de Belgische arbeidsmarkt*
- Hernes, V., Arendt, J., Andersson, P., & Tronstad, K. (2020). Rapid or long-term employment? A Scandinavian comparative study of refugee integration policies and employment outcomes. *Journal of European Public Policy*, 29. <https://doi.org/10.1080/13501763.2020.1824011>
- Hveem, J. (2013). Are temporary work agencies stepping stones into regular employment? *IZA Journal of Migration*, 2(1), 21. <https://doi.org/10.1186/2193-9039-2-21>
- Ichino, A., Nannicini, T., & Mealli, F. (2008). From Temporary Help Jobs to Permanent Employment: What Can We Learn from Matching Estimators and their Sensitivity? *Journal of Applied Econometrics*, 23, 305-327. <https://doi.org/10.1002/jae.998>

- Jahn, E., & Rosholm, M. (2013). Is temporary agency employment a stepping stone for immigrants? *Economics Letters*, 118(1), 225-228. <https://EconPapers.repec.org/RePEc:eee:ecolet:v:118:y:2013:i:1:p:225-228>
- Jahn, E., & Rosholm, M. (2014). Looking beyond the bridge: The effect of temporary agency employment on labor market outcomes. *European Economic Review*, 65(C), 108-125. <https://EconPapers.repec.org/RePEc:eee:eecrev:v:65:y:2014:i:c:p:108-125>
- Jahn, E., & Rosholm, M. (2018). *The Cyclicalities of the Stepping Stone Effect of Temporary Agency Employment*. <https://EconPapers.repec.org/RePEc:zbw:vfsc15:113117>
- Joona, P. A., & Wadensjö, E. (2008). A Note on Immigrant Representation in Temporary Agency Work and Self-employment in Sweden. *LABOUR*, 22(3), 495-507. <https://doi.org/https://doi.org/10.1111/j.1467-9914.2008.00425.x>
- Kalleberg, A. L. (2000). Nonstandard Employment Relations: Part-time, Temporary and Contract Work. *Annual Review of Sociology*, 26(Volume 26, 2000), 341-365. <https://doi.org/https://doi.org/10.1146/annurev.soc.26.1.341>
- Kanas, A., & van Tubergen, F. (2014). The conditional returns to origin-country human capital among Turkish and Moroccan immigrants in Belgium. *Social Science Research*, 46, 130-141. <https://doi.org/https://doi.org/10.1016/j.ssresearch.2014.03.005>
- Kanas, A., van Tubergen, F., & Van der Lippe, T. (2011). The role of social contacts in the employment status of immigrants: A panel study of immigrants in Germany. *International Sociology*, 26(1), 95-122. <https://doi.org/10.1177/0268580910380977>
- Kanas, A., van Tubergen, F., & van der Lippe, T. (2012). Social Contacts and the Economic Performance of Immigrants: A Panel Study of Immigrants in Germany. *International Migration Review*, 46(3), 680-709. <https://doi.org/10.1111/j.1747-7379.2012.00901.x>
- Kogan, I. (2011). The price of being an outsider: Labour market flexibility and immigrants' employment paths in Germany. *International Journal of Comparative Sociology*, 52(4), 264-283. <https://doi.org/10.1177/0020715211412113>
- Korpi, T., & Levin, H. (2001). Precarious Footing: Temporary Employment as a Stepping Stone out of Unemployment in Sweden. *Work, Employment & Society*, 15(1), 127-148. <https://EconPapers.repec.org/RePEc:sae:woemps:v:15:y:2001:i:1:p:127-148>
- Kvasnicka, M. (2009). Does Temporary Help Work Provide a Stepping Stone to Regular Employment? In *Studies of Labor Market Intermediation* (pp. 335-372). National Bureau of Economic Research, Inc. <https://EconPapers.repec.org/RePEc:nbr:nberch:3594>
- Lancee, B. (2010). The Economic Returns of Immigrants' Bonding and Bridging Social Capital: The Case of the Netherlands. *International Migration Review*, 44(1), 202-226. <https://doi.org/https://doi.org/10.1111/j.1747-7379.2009.00803.x>
- Lancee, B. (2016). Job search methods and immigrant earnings: A longitudinal analysis of the role of bridging social capital. *Ethnicities*, 16(3), 349-367. <https://doi.org/10.1177/1468796815581426>
- Lancee, B. (2021). Ethnic discrimination in hiring: comparing groups across contexts. Results from a cross-national field experiment. *Journal of Ethnic and Migration Studies*, 47(6), 1181-1200. <https://doi.org/10.1080/1369183X.2019.1622744>
- Lancee, B., & Bol, T. (2017). The Transferability of Skills and Degrees: Why the Place of Education Affects Immigrant Earnings. *Social Forces*, 96(2), 691-716. <https://doi.org/10.1093/sf/sox058>
- Latner, J. P., & Saks, N. (2022). The wage and career consequences of temporary employment in Europe: Analysing the theories and synthesizing the evidence. *Journal of European Social Policy*, 32(5), 514-530. <https://doi.org/10.1177/09589287221106969>
- Lens, D. (2022). *Is labour migration hurting migrant labour? Empirical investigations for the case of Belgium* [University of Antwerp].
- Lens, D., Marx, I., & Vujić, S. (2019). Double Jeopardy: How Refugees Fare in One European Labor Market. *IZA Journal of Development and Migration*, 10(1), -. <https://doi.org/doi:10.2478/izajodm-2019-0008>
- Leschke, J. (2009). The segmentation potential of non-standard employment: A four-country comparison of mobility patterns. *International Journal of Manpower*, 30, 692-715. <https://doi.org/10.1108/01437720910997353>
- Marx, I. (2019). Belgium: Is strong social concertation a driver of upward social convergence? *Towards Convergence in Europe*.



- Marx, I., & Horemans, J. (2021). Terug op de sporen: krijtlijnen voor een sociaal-economische relance. *Belgisch Tijdschrift Voor Sociale Zekerheid, BTSZ 2020/3*.
- McGowan, M., & et al. (2020). *Addressing labour market challenges in Belgium*”, *OECD Economics Department Working Papers, No. 1602*. OECD.
- Nautet, M., & Piton, C. (2019). Analyse van de atypische arbeidsvormen in België. *Economisch Tijdschrift*.
- OECD. (2020a). *The design of unemployment benefits schedules over the unemployment spell: The case of Belgium*.
- OECD. (2020b). *The Future for Low-Educated Workers in Belgium*.
- OECD/European Commission. (2023). *Indicators of Immigrant Integration 2023: Settling In*.
- Passaretta, G., & Wolbers, M. H. (2019). Temporary employment at labour market entry in Europe: Labour market dualism, transitions to secure employment and upward mobility. *Economic and Industrial Democracy, 40*(2), 382-408. <https://doi.org/10.1177/0143831x16652946>
- Picchio, M. (2008). Temporary Contracts and Transitions to Stable Jobs in Italy. *LABOUR, 22*(s1), 147-174. <https://doi.org/https://doi.org/10.1111/j.1467-9914.2008.00415.x>
- Prokic-Breuer, T., & McManus, P. A. (2016). Immigrant Educational Mismatch in Western Europe, Apparent or Real? *European Sociological Review, 32*(3), 411-438. <https://doi.org/10.1093/esr/jcw005>
- Quintelier, E. (2020). *Who is in temporary employment? A study of the profile and evolution of temporary workers in Belgium (1999-2018)*.
- Reyneri, E., & Fullin, G. (2011). Labour Market Penalties of New Immigrants in New and Old Receiving West European Countries. *International Migration, 49*(1), 31-57. <https://doi.org/https://doi.org/10.1111/j.1468-2435.2009.00593.x>
- Rubin, J., Rendall, M., Rabinovich, L., Tsang, F., Oranje-Nassau, C., & Janta, B. (2008). *Migrant women in the European labour force: current situation and future prospects*.
- Scherer, S. (2004). Stepping-Stones or Traps?: The Consequences of Labour Market Entry Positions on Future Careers in West Germany, Great Britain and Italy. *Work, Employment and Society, 18*(2), 369-394. <https://doi.org/10.1177/09500172004042774>
- Tubergen, F., & Wierenga, M. (2011). The Language Acquisition of Male Immigrants in a Multilingual Destination: Turks and Moroccans in Belgium. *Journal of Ethnic and Migration Studies, 37*, 1039-1057. <https://doi.org/10.1080/1369183X.2011.572476>
- van Tubergen, F. (2024). What does sociological research tell us about ethnic inequalities in European labour markets? *Oxford Open Economics, 3*(Supplement\_1), i487-i495. <https://doi.org/10.1093/ooec/odad013>
- Verhofstadt, E., & Göbel, C. (2008). Is Temporary Employment a Stepping Stone for Unemployed School Leavers? *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.1314247>

Table A1. The effect of temporary employment on employment and wages compared to remaining unemployed

Study	Sample	Treatment	Outcome	Method	Findings (immigrant-specific in bold)
Korpi & Levin (2001)	Sweden (1992-1994)	TE	E UE	OLS	Negative effect on UE; positive effect on E.
Hagen (2003)	Germany (1991-2001)	FTC	E UE I PE	Matching	Positive effect on E and PE; negative effect on I.
Barbieri & Sesito (2008)	Italy (1993-2003)	TE	E PE	Matching	Positive effect on E and PE.
Pichio (2008)	Italy (2000-2004)	TE	PE	Multinomial logit, selection model	Positive effect on PE.
Ichino et al. (2008)	Tuscany Sicily (2001-2002)	TAE	PE	Matching	Positive effect on PE in Tuscany but not in Sicily.
Göbel & Verhofstadt (2008)	Flanders (1976-1981)	FTC	PE	Timing of events	Positive effect on PE.
Kvasnicka (2009)	Germany (1994-2001)	TAE	UE RE	Matching	Negative effect on UE; no significant effect on RE.
De Graaf-Zijl et al. (2011)	Netherlands (1988-2000)	TE	UE RE	Timing of events	Negative effect on UE duration; no significant effect on RE.  <b>Effect on RE is higher for male ethnic minorities than for native Dutch males, whereas it is smaller for women from ethnic minorities compared to native Dutch women.</b>
Cockx & Pichio (2011)	Belgium (1998-2001)	TE	PE	Timing of events	Positive effect on PE (the stepping stone effect decreases with the number of TE jobs).
Berton et al. (2013)	Italy (1998-2004)	TE	PE	Multinomial logit with fixed effects	Positive effect on PE for training contracts, fixed-term contracts and apprenticeships; no significant effect for freelance work.
Gebel (2013)	UK Germany Switzerland (1991-2009)	TE	E PE W	Matching	Positive effect on E and W in all countries; positive effect on PE in UK and Germany, but not in Switzerland.
Hveem (2013)	Sweden (2001-2008)	TAE	UE E RE W	Matching and Diff-In-Diff	Negative effect on UE and RE; positive effect on E and W  <b>No negative effect on RE for non-western immigrants.</b>

Jahn & Rosholm (2013, 2014)	Denmark (1997-2006)	TAE	UE RE W	Timing of events	Negative effect on UE duration; positive effect on RE and W (positive in-treatment effect, but no significant post-treatment effect).  <b>In-treatment and post-treatment effects on RE are higher for male non-Western first-generation immigrants and for all groups of female immigrants—Western and non-Western, first and second generation—compared to their native counterparts.</b>
Givord and Wilner (2015)	France (2002-2010)	FTC, TE	PE	Multinomial logit with fixed effects	Positive effect on PE for FE but not for AE.
Jahn & Rosholm (2018)	Germany (1980-2012)	TAE	RE W	Timing of events	Negative effect on RE (negative in-treatment effect but positive post-treatment effect); positive effect on W (positive in-treatment effect and not significant post-treatment effect).

Notes: E = Employment, FTC = Fixed-term contracts, TAE = Temporary agency employment, UE = Unemployment, I = Inactivity, PE = Permanent employment, RE = Regular Employment (outside TAE), W = Wages. 'In-treatment effects' measure the effect of currently working in TAE on the transition rate to RE compared to a similar person in UE. 'Post-treatment effects' measure the effect of having worked in TAE at least once earlier in the same UE spell on the transition rate into RE. Source: authors.

Table A2: Sample means of control variables for treatment and potential control observations, by immigrant status

	Total		Native-born		Foreign-born	
	Control	Treated	Control	Treated	Control	Treated
<i>Unemployment duration</i>						
3 to 5 months	0.11	0.17	0.12	0.16	0.10	0.22
6 to 11 months	0.14	0.19	0.14	0.21	0.15	0.16
More than 12 months	0.60	0.26	0.58	0.24	0.64	0.31
<i>Unemployment status</i>						
Not registered with PES	0.11	0.23	0.11	0.24	0.12	0.20
Registered with PES, not receiving benefits	0.22	0.26	0.22	0.26	0.20	0.25
Available to start within 2 weeks	0.96	0.94	0.96	0.94	0.95	0.94
Foreign-born	0.38	0.26				
Male	0.55	0.56	0.56	0.54	0.54	0.61
<i>Age</i>						
25 to 34	0.26	0.30	0.27	0.27	0.23	0.40
35 to 44	0.24	0.17	0.20	0.13	0.31	0.29
45 to 54	0.22	0.13	0.20	0.13	0.26	0.12
55 or older	0.15	0.08	0.15	0.08	0.15	0.07
<i>Household status</i>						
Couple w/o children	0.13	0.12	0.13	0.13	0.13	0.10
Couple w/ children	0.37	0.46	0.35	0.48	0.41	0.41
Single w/ children	0.19	0.17	0.21	0.18	0.15	0.16
Other household	0.06	0.06	0.05	0.07	0.07	0.05
Child <3y	0.13	0.11	0.09	0.07	0.18	0.23
<i>Highest level of education</i>						
Primary or lower secondary	0.34	0.23	0.32	0.21	0.39	0.27
Tertiary	0.26	0.28	0.24	0.27	0.30	0.31
Labour market entrant	0.16	0.39	0.20	0.45	0.09	0.22
Previous employment experience	0.81	0.77	0.78	0.75	0.85	0.81
Previous experience in temporary work	0.27	0.37	0.26	0.35	0.30	0.43
Provincial unemployment rate	8.82	6.64	8.12	6.22	9.97	7.82
<i>Region of residence</i>						
Brussels	0.33	0.16	0.21	0.11	0.52	0.31
Wallonia	0.43	0.36	0.52	0.39	0.29	0.28
<i>Unemployment cohort</i>						
2018	0.19	0.22	0.19	0.24	0.20	0.17
2019	0.20	0.25	0.19	0.25	0.20	0.26
2020	0.17	0.15	0.18	0.13	0.16	0.19
2021	0.13	0.12	0.14	0.13	0.13	0.08
2022	0.09	0.12	0.08	0.11	0.10	0.13
<b>N</b>	<b>2,432</b>	<b>408</b>	<b>1,510</b>	<b>301</b>	<b>922</b>	<b>107</b>

Source: BLFS 2017-2023, own calculations.

Table A3. Covariate balancing: standardised differences and variance ratio for control variables between treatment and control observations, before and after NN-matching, by immigrant status

	Total				Native-born				Foreign-born			
	Stand. Diff.		Var. Ratio		Stand. Diff.		Var. Ratio		Stand. Diff.		Var. Ratio	
	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
<i>Unemployment duration</i>												
3 to 5 months	0.17	0.04	1.44	1.07	0.10	0.08	1.23	1.17	0.35	-0.06	1.97	0.93
6 to 11 months	0.14	0.02	1.29	1.02	0.18	0.01	1.38	1.01	0.03	0.07	1.07	1.14
More than 12 months	-0.74	-0.01	0.80	0.99	-0.73	-0.01	0.75	0.98	-0.71	-0.01	0.94	0.99
<i>Unemployment status</i>												
Not registered with PES	0.32	0.01	1.78	1.02	0.36	0.02	1.93	1.02	0.21	0.13	1.49	1.25
Registered with PES, not receiving benefits	0.10	-0.03	1.13	0.97	0.09	-0.02	1.11	0.98	0.11	-0.07	1.17	0.93
Available to start within 2 weeks	-0.07	-0.01	1.35	1.05	-0.08	-0.07	1.40	1.34	-0.05	-0.03	1.23	1.13
Foreign-born	-0.25	0.02	0.82	1.02								
Male	0.01	0.04	1.00	0.99	-0.04	0.04	1.01	1.00	0.14	0.01	0.97	0.99
<i>Age</i>												
25 to 34	0.11	0.01	1.11	1.01	-0.01	0.01	1.00	1.01	0.37	0.07	1.36	1.04
35 to 44	-0.17	0.02	0.78	1.04	-0.19	0.00	0.71	1.00	-0.04	0.04	0.97	1.04
45 to 54	-0.24	0.00	0.65	1.00	-0.17	-0.01	0.73	0.98	-0.37	-0.04	0.55	0.92
55 or older	-0.23	-0.01	0.56	0.98	-0.24	-0.06	0.56	0.84	-0.23	-0.05	0.56	0.85
<i>Household status</i>												
Couple w/o children	-0.02	0.00	0.96	1.00	0.00	-0.02	1.01	0.96	-0.09	0.05	0.82	1.16
Couple w/ children	0.17	-0.01	1.06	1.00	0.26	0.01	1.10	1.00	0.00	-0.02	1.01	0.99
Single w/ children	-0.04	0.04	0.94	1.08	-0.09	0.06	0.88	1.12	0.03	0.05	1.08	1.09
Other household	0.03	0.00	1.11	0.99	0.08	-0.04	1.37	0.87	-0.09	-0.07	0.72	0.76
Child <3y	-0.05	-0.03	0.88	0.94	-0.10	0.03	0.73	1.13	0.12	0.08	1.20	1.12
<i>Highest level of education</i>												
Primary or lower secondary	-0.27	-0.01	0.77	0.98	-0.24	0.00	0.77	1.00	-0.26	0.02	0.84	1.02
Tertiary	0.03	0.01	1.04	1.01	0.06	0.03	1.07	1.04	0.02	0.01	1.03	1.00
Labour market entrant	0.54	-0.02	1.77	0.99	0.55	0.02	1.54	1.00	0.36	-0.06	2.05	0.93
Previous employment experience	-0.09	-0.02	1.14	1.03	-0.07	-0.01	1.10	1.01	-0.09	0.09	1.18	0.88

<i>Previous experience in temporary work</i>	0.22	-0.06	1.18	0.97	0.21	-0.02	1.20	0.99	0.28	0.03	1.18	1.01
<i>Provincial unemployment rate</i>	-0.58	-0.06	0.98	1.04	-0.54	0.00	0.94	1.08	-0.53	-0.03	1.22	1.05
<i>Region of residence</i>												
Brussels	-0.39	-0.03	0.62	0.95	-0.26	0.01	0.61	1.02	-0.45	-0.03	0.86	0.98
Wallonia	-0.15	-0.04	0.94	0.98	-0.27	-0.01	0.95	0.99	-0.02	0.02	0.99	1.02
<i>Unemployment cohort</i>												
2018	0.07	0.01	1.10	1.01	0.12	0.04	1.18	1.06	-0.08	-0.02	0.89	0.97
2019	0.14	0.02	1.20	1.02	0.14	0.03	1.22	1.04	0.13	-0.03	1.20	0.97
2020	-0.06	0.01	0.89	1.02	-0.12	-0.03	0.80	0.94	0.08	0.03	1.15	1.06
2021	-0.05	0.01	0.90	1.01	-0.02	-0.03	0.96	0.93	-0.15	0.04	0.69	1.12
2022	0.10	-0.03	1.31	0.94	0.11	-0.02	1.38	0.96	0.10	0.05	1.29	1.12

Notes: Outcome: "employment probability after 1 year". Source: BLFS 2017-2023, own calculations.