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Working Paper

Assessing the interrelationship between atypical work and net migration in the EU: Evidence from 17 countries (2004-2019)

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Working Paper 263

Assessing the interrelationship between atypical work and net migration in the EU:

Evidence from 17 Countries (2004–2019)

Laurène Thil and Stella Sophie Zilian



Assessing the interrelationship between atypical work and net migration in the EU:

Evidence from 17 Countries (2004–2019)

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Abstract

This paper studies how atypical work, alongside other labour market conditions, affect intra-EU migration and vice versa in 17 EU countries from 2004 to 2019. Relative increases of part-time and self-employment shares in sending countries increase net migration, whereas relative increases in short fixed-term shares reduce net migration. Net migration shocks persistently reduce part-time share differentials, initially reduce self-employment share differentials and increase short fixed-term share differentials. Atypical work explains about one-fifth of net migration fluctuations five and ten years after a shock. The findings highlight the trade-off between internal (employment flexibility) and external (migration) labour market adjustments.

Keywords: atypical employment; intra-EU mobility; pVAR; labour market adjustment

JEL classification: C33, F22, J21

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1. Introduction

The landscape of employment in the European Union (EU) has undergone significant transformations in recent decades. Researchers have extensively studied various forms of atypical or non-standard employment, i.e., forms of employment that differ from the standard employment relationship, an ‘institution built around the permanently, full-time employed male breadwinner working for a fixed employer’ (Dingeldey and Gerlitz, 2022, p. 247). In addition, intra-EU migration increased considerably as the EU underwent substantial expansion in the past two decades, characterised by the accession of 12 countries (predominantly from Central and Eastern Europe) between 2004 and 2007, and with Croatia joining in 2013.

Free movement of people within the EU is one of the defining features of the European single market. This fundamental principle allows citizens of EU member states to move, reside and work freely within the EU, with (hardly any) regulatory restrictions. The EU therefore constitutes a unique migration space, characterised by open borders within the EU, whereas strict controls are maintained for its external borders (Windzio, Teney and Lenkewitz, 2019). From a labour supply perspective, free movement of people facilitates labour mobility and thus reduces labour market frictions, such as skill and geographical mismatch. Moreover, a high degree of labour mobility is expected to improve external labour market adjustment to economic shocks or structural transformations of the labour market, thereby enhancing economic resilience and efficiency within the EU. Consequently, understanding how shifts in labour market structures, such as the changing patterns of atypical work, influence migration flows and vice versa becomes crucial.

To date, the mutual influence of atypical work and intra-EU migration patterns remains underexplored. Although there is extensive literature on the relationship between other labour market conditions, such as wages, unemployment and human capital, and migration (for an overview, see Landesmann and Leitner, 2015), there has been limited attention paid to the relationship between atypical work and migration flows. One notable exception is the study by Monastriotis and Sakkas (2021) which analyses the relationship between employment flexibility and inter-regional migration. Their findings suggest that employment flexibility, such as part-time work and temporary work, directly reduces inter-regional outmigration, but also reduces it indirectly by weakening the responsiveness of outmigration to unemployment. This suggests that internal labour market adjustment (via employment flexibility) in response to unemployment tends to substitute for external labour market adjustment (via inter-regional outmigration). Consequently, employment flexibility reduces the dynamics that could reduce cross-regional disparities, which impairs the functioning of the national labour market.

Given the cross-country disparities regarding the prevalence and developments of atypical work it is therefore crucial to understand the relationship between different forms of atypical work and intra-EU migration. We thus extend the literature on intra-EU migration by shedding light on the role of different forms of atypical work and whether they increase or decrease migration dynamics and vice versa.

To be precise, we investigate the following research questions:

- › What is the impact of different forms of atypical work (part-time work, self-employment, short fixed-term work) on intra-EU migration?
- › What is the impact of net migration on these different forms of atypical work differentials?

To do so, we closely follow the approach in Landesmann and Leitner (2015) and use country-level panel data from Eurostat, OECD and ILO and estimate a panel vector autoregressive model (pVAR), which allows us to simultaneously analyse the dynamic interdependencies among multiple time series variables. We can therefore estimate how differences in labour market conditions affect bilateral net migration and how net migration affects differences in labour market conditions. Apart from atypical work, we study the role of unemployment rates, real wages, activity rates, human capital endowments, union densities and employment protection legislation.

The paper is structured as follows: Section 2 provides a literature review. Section 3 describes the data and methodology used for the econometric analysis. Section 4 presents the results. Section 5 sets out our conclusions.

2. Literature Review

The drivers and consequences of international migration have been studied intensively since the late 19th century across different disciplines, such as economics, geography, anthropology, demography and sociology. De Haas (2021) categorises the early migration theories that have emerged from the research carried out within these different disciplines into two paradigms of social theory – the functionalist and historical-structural paradigms.

The functionalist paradigm encompasses those theories that understand migration as an optimisation strategy, where individuals or households make migration decisions based on weighing the costs against the (expected) benefits. This applies to early push-pull models from geography (Lee, 1966), the highly influential neoclassical migration theory from economics (Harris and Todaro, 1970), the new economics of migration theory (Stark 1978; 1991), and migration network theories popularised in sociology (de Haas, 2021).

The main assumption underlying neoclassical migration theory is that migration is driven by differences in labour market conditions between countries. Macroeconomic theories focus on wage differentials caused by differences in relative supply of and relative demand for labour between countries, with workers moving from low-wage to high-wage countries. These migration flows continue as long as wage differentials persist but cease when wage rates converge (Massey et al., 1993).

From a microeconomic perspective, neoclassical migration theory assumes that utility-maximising individuals compare the economic conditions in their current country of residence to those in the destination country. Rational individuals are assumed to migrate if they expect to improve their economic situation by weighing the costs against the (expected) benefits of migration (Massey et al., 1993; Hadler, 2006). Consequently, macro-level determinants such as wage differentials and differentials in employment opportunities are considered as main drivers of migration (Harris and Todaro, 1970). However, within countries, individuals show different propensities to migrate, depending on their human capital endowments (e.g. education, work experience), and social, economic and structural constraints (Sjaastad, 1962; de Haas, 2021). These factors are accounted for in neoclassical migration theory through their effect on the time-discounted net return to migration (Massey et al., 1993; Borjas, 1987, 1991).

The new economics of labour migration (NELM) theory developed by Stark (1978; 1991) shifts the perspective from optimising individuals to optimising households. NELM understands migration as the collective decision of a family or household that seeks to minimise risks to the household in the presence of market failures. For example, if insurance mechanisms against local risks are insufficient (such as in the case of a poorly developed welfare state), some household members are sent abroad so that, should income loss of household members in the home country occur, the household can still rely on migrant remittances (Massey et al., 1993). Moreover, NELM emphasises the role of relative deprivation as a driver of migration – households want to improve their relative economic position compared with some reference group. NELM can therefore help to explain migration patterns that persist even in the absence of significant wage differentials.

Migration network theory highlights the path dependency of migration patterns and helps to explain the emergence of chain migration (Hadler, 2006). Migrant networks refer to 'sets of interpersonal ties that link migrants, former migrants, and non-migrants in origin and destination areas through the bonds of kinship, friendship, and shared community origin' (Massey, 1988 p. 396). Migrants usually maintain social ties with friends and family in the country of origin, thereby establishing a social network between the home country and the destination country. These networks are assumed to significantly reduce costs related to migration – not only information costs, but also emotional or psychological costs – ultimately leading to an agglomeration of migrants from the same country of origin (Massey et al., 1993; Ryan, 2004).

Although functional migration theories have proven to be particularly useful to explain mobility when there are relatively few external constraints, such as in the case of intra-EU migration, they are ill-equipped to account for the influence of structural change (de Haas, 2021). For example, much migration to the EU in the second half of the 20th century was driven by active government efforts to recruit foreign labour to combat labour shortages, especially in the secondary labour market segment (Piore, 1979).

Such structural drivers of migration are addressed by theories falling under the historical-structural paradigm (or conflict theory), which understands migration as 'being shaped by structural economic and power inequalities, both within and between societies, as well as the ways in which migration plays a key role in reproducing and reinforcing such inequalities' (de Haas, 2021, p. 4). De Haas (2021) places within this paradigm dependency theory (Frank, 1966), world systems theory (Wallerstein, 1974; 1980) and dual labour market theory (Piore, 1979), among others. These theories emphasise how existing power imbalances shape migration patterns as the powerful (businesses) exploit the powerless (cheap labour), leaving little to no role for wage or employment differentials as a determinant of migration flows.

In the context of atypical work, the dual labour market hypothesis is of particular interest. According to this theory, labour markets in developed economies provide primary and secondary jobs, with the latter characterised by lower wages, lower social status, lower career prospects and overall greater instability. Piore (1986) argues that migrant workers from less developed economies have different aspirations and motivations than native workers, in particular if they see themselves as temporary migrants, and therefore settle for the secondary jobs. Although some migrant workers return, others stay and start a family in the destination country, with their children ultimately competing for primary jobs, thereby 're-creating a vacuum in the secondary sector' (Piore, 1986, p. 25). Thus, in contrast to neoclassical migration theories, migration flows do not cease even in the absence of wage differentials because of the existence of secondary jobs that cannot be filled with native or second-generation migrants.

Although all these theories of migration have their merits, none of them provides a general theory of migration. However, elements of the different theories can be used to explain empirical observations. For example, in line with neoclassical theories of migration, the empirical literature in economics consistently points toward wage differentials (e.g. Clark et al., 2007; Ortega and Peri, 2009), unemployment differentials (e.g. Harris and Todaro, 1970; Hatton and Tani, 2005; Boubtane et al., 2013), human capital differentials (e.g. Borjas, 1987; 1991), and migration networks in the destination country (e.g. Clark et al., 2007; Pedersen et al., 2008) as important drivers of migration.

There is considerably less understanding about the role of atypical work as a (potential) driver of migration. Monastiriotis and Sakkas (2021) study atypical employment – which they conceptualise as

flexible employment – and its relationship with cross-regional migration as a means of labour market adjustment to labour market frictions. From a theoretical perspective, the relationship between greater labour market flexibility and migration is ambiguous, and Monastiriotis and Sakkas (2021) differentiate between a demand-side and a supply-side mechanism. On the one hand, increased flexibility may help to stabilise local labour market disequilibria, thereby reducing the necessity to move. In other words, flexibility facilitates internal adjustment by lowering unemployment (e.g. introduction of short-time work schemes to prevent mass layoffs in times of economic crisis) and increasing employment opportunities in the local labour market (e.g. job creation through self-employment). This, in turn, reduces the demand for outmigration in the overall economy. On the other hand, higher levels of flexibility are associated with weakened labour market attachment. As a result, the opportunity cost of migration decreases as a consequence of the reduced employment stability in the local job market, leading to an increased supply of outmigrants. The analysis by Monastiriotis and Sakkas (2021) of cross-regional migration in 11 EU countries shows that greater levels of employment flexibility decrease outmigration, supporting the demand-side mechanism. In addition, they find that the role of unemployment as a push factor is reduced by greater employment flexibility. These results suggest that internal adjustment processes (via employment flexibility) dominate external adjustment processes (via outmigration).

Similar to the role of atypical work, evidence on the impact of labour market institutions on migration is scarce although it is reasonable to assume that labour market institutions, such as employment protection legislation or union density, may influence the appeal of destination country to immigrants. However, the direction of the impact is uncertain. While strict employment protection legislation and strong unions typically lead to improved employment quality, thus attracting immigrants, they may also impede immigrant labour market entry (Geis et al., 2013). Geis et al. (2013) find some evidence of this "insider-outsider" dynamic and show that higher union density tends to discourage immigration to a country, but encourages those who have already immigrated to stay. However, their findings on employment protection legislation are inconclusive.

Regarding the consequences of migration, much of the literature focuses on the impact of migration on the native population and economic growth (see also Kerr and Kerr, 2011). Research on the impact of outmigration on sending countries finds that high outward mobility reduces local unemployment rates and has positive economic effects arising from remittances (Katseli et al., 2006; Ratha et al., 2011; Imai et al., 2014). However, there are also potential negative effects related to 'brain drain', with the most educated leaving the country in pursuit of better employment opportunities (see also Beine et al., 2016; Bhardwaj and Sharma, 2023).

Studies on the effects of immigration in the receiving countries highlight that migration does not have long-lasting negative effects for the native population (see, for example, Kerr and Kerr, 2011; Kahanec and Zimmermann, 2010). However, depending on the skill endowment and the degree of complementarity/substitutability among the skills of immigrants and of natives, different skill groups are differently affected (Borjas, 2005). But owing to imperfect transferability of human capital between countries, migrants may not actually compete with similarly skilled natives but instead settle for jobs below their skill level, which is reflected in a higher prevalence of over-qualification among migrants than among natives (Chiswick and Miller, 2009; Fernández and Ortega, 2008). The large body of research on the labour market integration of immigrants further highlights that recent migrants often earn lower wages and are more likely to be unemployed or less likely to be in stable employment, although these gaps in labour market outcomes between natives and migrants tend to diminish over time (see, for

example, Constant and Massey, 2005; Lubotsky, 2007). Despite some convergence of employment rates and wages between immigrants and natives, the incidence of non-standard employment is persistently higher among immigrants than natives (Eurostat, 2023).

Finally, macroeconomic studies on the productivity effect of migration find mixed results, with some studies identifying small but positive productivity effects (e.g. Peri, 2012; Boultane et al., 2013), while others find no effects (Ortega and Peri, 2009).

3. Data, variables and methodology

3.1. DATA AND VARIABLES

To analyse the interrelationship between labour market conditions, atypical work, and net migration, we construct a panel data set covering as many countries and as many years as possible. We combine country-level data from Eurostat, ILO and OECD. We further draw on national sources and use linear interpolation to fill remaining data gaps. All variables and their sources are described in detail in Table 4 in Appendix A. The choice of variables follows the theoretical and empirical literature discussed in the literature review. Some descriptive statistics are presented in Table 5 in Appendix A.

Net migration

The main variable of interest is bilateral migration flows. However, data on migration flows between countries on the level of destination and origin is scarce. Recent research by Abel and Cohen (2019) presents various methods based on stock differencing to estimate five-year bilateral migration flows for 200 countries using information on migration stocks by country of birth. Other research uses yearly immigration and emigration flow data (Mitze, 2012; Landesmann and Leitner, 2015) as these are not distorted by return migration, deaths or naturalisation (Beine et al., 2016).

As we are interested in intra-EU migration patterns, we can draw on comparable Eurostat data on immigration and emigration flows by citizenship. Because of missing data on migration flows by citizenship for Poland and Germany, national sources were used for these countries. If feasible, remaining data gaps were filled by linear interpolation. Net migration is then derived as the differences between the number of immigrants and the number of emigrants by country of citizenship. The reporting country represents the receiving country, and the country of citizenship is assumed to represent the sending country.

Atypical work¹

Three indicators of atypical or non-standard work are considered: the number of self-declared part-time workers as a percentage of total employment; the self-employment share; and the share of employees with short fixed-term contracts² (duration less than three months) as a percentage of total employment. In terms of labour market flexibility, part-time and temporary work can be considered as numerical and self-employment as functional dimensions of flexibility. All data are obtained from Eurostat.

¹ Note that atypical work is not equivalent to the concept of precarious work. Atypical work is defined as any form of work that is different from the traditional full-time, permanent employment model, whereas precarious work consists of work arrangements characterised by instability and insecurity, which can be encountered in atypical as well as traditional forms of work.

² We initially considered the share of employees with a limited duration contract. However, the Im-Pesaran-Shin (IPS) unit test suggested non-stationarity, so we replaced it with the short fixed-term share.

Labour market conditions

Data on labour market conditions are obtained from Eurostat. Following the theoretical and empirical literature on the drivers of migration, we use activity rates, unemployment rates, real wages and a human capital indicator. The latter is constructed based on the simple mean of three indicators capturing the share of upper secondary and post-secondary non-tertiary education among the age group 15 to 19; the number of people aged 25 to 29 with tertiary education as a ratio of the total population in this age group; and the number of people aged 15 to 64 with tertiary education as a percentage of total employment. The inclusion of labour productivity was also considered but owing to its almost perfect correlation with real wages (see Table 6 and Table 7 in Appendix A), it was dropped from the analysis.

Labour market institutions

To study labour market institutions, we include trade union densities obtained from ILO and a synthetic indicator developed by the OECD, measuring the strictness of dismissal regulations, i.e. employment protection legislation (see OECD, 2020). Each of these variables is available only for (different) subsets of countries.

Based on data availability, we therefore construct two panel data sets, with their main characteristics described in Table 1, where 'N' refers to the number of country-pairs and 'T' refers to the number of years.

Table 1 / Sample composition and characteristics

Sample	Period	Countries covered	Variables	N	T	Obs.
A. Main sample	2004-2019	AT, BE, CZ, DE, DK, EE, ES, FI, HU, IT, LT, LU, NL, PL, SE, SI, SK	Net migration (MNET)	272	16	4352
			Labour market conditions (RW, UR, AR, HC)			
			Atypical employment (PT, SELF, FIX)			
B. Institutions sample	2003-2018	AT, CZ, DE, DK, FI, IT, NL, SE, SK	Net migration (MNET)	72	16	1152
			Labour market conditions (RW, UR, AR, HC)			
			Atypical employment (PT, SELF, FIX)			

3.2. METHODS: PANEL VECTOR AUTOREGRESSIVE MODEL

The interrelationships between net migration and atypical work and other labour market indicators are analysed using a panel vector autoregressive (pVAR) model. This approach models current observations of a variable as a function of its past observations as well as of past observations of all other variables in the system. Hence, it allows simultaneous estimation of the dynamic interrelationships between a set of endogenous variables (see also Landesmann and Leitner, 2015).

Following Mitze (2012) and Landesmann and Leitner (2015), net migration between countries for the countries and years covered by sample A can be specified as follows:

$$\begin{aligned}
 MNET_{ij,t} = & \alpha_{10} + \alpha_{11}(L)MNET_{ij,t-1} + \alpha_{12}(L)RW_{ij,t-1} + \alpha_{13}(L)UR_{ij,t-1} + \alpha_{14}(L)AR_{ij,t-1} \\
 & + \alpha_{15}(L)HC_{ij,t-1} + \alpha_{16}(L)PT_{ij,t-1} + \alpha_{17}(L)SELF_{ij,t-1} + \alpha_{18}(L)FIX_{ij,t-1} + \varepsilon_{ij,t}
 \end{aligned} \quad (1A)$$

(L) is the lag operator, $MNET_{ij,t}$ refers to net migration (as defined above) between the sending country i and receiving country j at time t . Before entering the model, net migration is standardised by applying the arctan transformation (to stabilise the variance) and the min-max normalisation (to scale to a common range). All independent variables, except for past net migration, are expressed as logged differential between the sending country i and receiving country j at time $t - 1$. Hence, $RW_{ij,t-1}$ denotes the real wage differential between the sending and the receiving country and is equivalent to $\log(RW_{i,t-1}) - \log(RW_{j,t-1})$. The unemployment rate differential $UR_{ij,t-1}$, the activity rate differential $AR_{ij,t-1}$, the human capital differential $HC_{ij,t-1}$, the part-time share differential $PT_{ij,t-1}$, the self-employment share differential $SELF_{ij,t-1}$, and the short fixed-term share differential $FIX_{ij,t-1}$ between the sending and the receiving country are defined analogously as $\log(x_{i,t-1}) - \log(x_{j,t-1})$.

To account for the impact of net migration (together with other variables) on labour market outcomes, the following systems of equations is specified:

$$RW_{ij,t} = \alpha_{20} + \alpha_{21}MNET_{ij,t-1} + \alpha_{22}(L)RW_{ij,t-1} + \alpha_{23}(L)UR_{ij,t-1} + \alpha_{24}(L)AR_{ij,t-1} + \alpha_{25}(L)HC_{ij,t-1} + \alpha_{26}(L)PT_{ij,t-1} + \alpha_{27}(L)SELF_{ij,t-1} + \alpha_{28}(L)FIX_{ij,t-1} + \varepsilon_{ij,t} \quad (2A)$$

$$UR_{ij,t} = \alpha_{30} + \alpha_{31}MNET_{ij,t-1} + \alpha_{32}(L)RW_{ij,t-1} + \alpha_{33}(L)UR_{ij,t-1} + \alpha_{34}(L)AR_{ij,t-1} + \alpha_{35}(L)HC_{ij,t-1} + \alpha_{36}(L)PT_{ij,t-1} + \alpha_{37}(L)SELF_{ij,t-1} + \alpha_{38}(L)FIX_{ij,t-1} + \varepsilon_{ij,t} \quad (3A)$$

$$AR_{ij,t} = \alpha_{40} + \alpha_{41}MNET_{ij,t-1} + \alpha_{42}(L)RW_{ij,t-1} + \alpha_{43}(L)UR_{ij,t-1} + \alpha_{44}(L)AR_{ij,t-1} + \alpha_{45}(L)HC_{ij,t-1} + \alpha_{46}(L)PT_{ij,t-1} + \alpha_{47}(L)SELF_{ij,t-1} + \alpha_{48}(L)FIX_{ij,t-1} + \varepsilon_{ij,t} \quad (4A)$$

$$HC_{ij,t} = \alpha_{50} + \alpha_{51}MNET_{ij,t-1} + \alpha_{52}(L)RW_{ij,t-1} + \alpha_{53}(L)UR_{ij,t-1} + \alpha_{54}(L)AR_{ij,t-1} + \alpha_{55}(L)HC_{ij,t-1} + \alpha_{56}(L)PT_{ij,t-1} + \alpha_{57}(L)SELF_{ij,t-1} + \alpha_{58}(L)FIX_{ij,t-1} + \varepsilon_{ij,t} \quad (5A)$$

$$PT_{ij,t} = \alpha_{60} + \alpha_{61}MNET_{ij,t-1} + \alpha_{62}(L)RW_{ij,t-1} + \alpha_{63}(L)UR_{ij,t-1} + \alpha_{64}(L)AR_{ij,t-1} + \alpha_{65}(L)HC_{ij,t-1} + \alpha_{66}(L)PT_{ij,t-1} + \alpha_{67}(L)SELF_{ij,t-1} + \alpha_{68}(L)FIX_{ij,t-1} + \varepsilon_{ij,t} \quad (6A)$$

$$SELF_{ij,t} = \alpha_{70} + \alpha_{71}MNET_{ij,t-1} + \alpha_{72}(L)RW_{ij,t-1} + \alpha_{73}(L)UR_{ij,t-1} + \alpha_{74}(L)AR_{ij,t-1} + \alpha_{75}(L)HC_{ij,t-1} + \alpha_{76}(L)PT_{ij,t-1} + \alpha_{77}(L)SELF_{ij,t-1} + \alpha_{78}(L)FIX_{ij,t-1} + \varepsilon_{ij,t} \quad (7A)$$

$$FIX_{ij,t} = \alpha_{80} + \alpha_{81}MNET_{ij,t-1} + \alpha_{82}(L)RW_{ij,t-1} + \alpha_{83}(L)UR_{ij,t-1} + \alpha_{84}(L)AR_{ij,t-1} + \alpha_{85}(L)HC_{ij,t-1} + \alpha_{86}(L)PT_{ij,t-1} + \alpha_{87}(L)SELF_{ij,t-1} + \alpha_{88}(L)FIX_{ij,t-1} + \varepsilon_{ij,t} \quad (8A)$$

The model described by the system of equations (1A) to (8A) will be referred to as model A henceforth.

In addition to model A, a second model, which includes policy variables is specified for the countries and years covered by sample B:

$$MNET_{ij,t} = \alpha_{10} + \alpha_{11}(L)\Delta MNET_{ij,t-1} + \alpha_{12}(L)\Delta RW_{ij,t-1} + \alpha_{13}(L)\Delta UR_{ij,t-1} + \alpha_{14}(L)\Delta AR_{ij,t-1} + \alpha_{15}(L)\Delta HC_{ij,t-1} + \alpha_{16}(L)\Delta PT_{ij,t-1} + \alpha_{17}(L)\Delta SELF_{ij,t-1} + \alpha_{18}(L)\Delta FIX_{ij,t-1} + \alpha_{19}(L)\Delta UDENS_{ij,t-1} + \alpha_{110}(L)\Delta EPL_{ij,t-1} + \varepsilon_{ij,t} \quad (1B)$$

All variables are defined as before, with $UDENS_{ij,t-1}$ representing the union density differential and $EPL_{ij,t-1}$ denoting the employment protection legislation differential between the sending and the receiving country. However, as the Im-Pesaran-Shin (IPS) unit root test indicates that both union density and employment protection legislation are non-stationary, all variables enter the model (1B) in first differences as indicated by Δ (See Table 8 in Appendix). The remaining equations in model B follow a similar structure to those describing model A, but with the addition of the union density differential and the employment legislation differential (omitted here for brevity). This model will be referred to as model B from this point on.

Both models A and B are estimated via the generalised method of moments (GMM). To control for country-fixed effects, the Helmert forward mean-differencing transformation as proposed by Arellano and Bover (1995) is applied to all variables before estimation.³ The Helmert transformation removes country-specific fixed effects, while preserving the orthogonality (i.e. independence) between endogenous variables and their lags (see also Kolev and Āzācis, 2023). This property ensures that the latter can be used as instruments in GMM estimations.

Based on the literature review, Tables 2 and 3 summarise the expected relationships between explanatory variables and net migration, and the possible impacts of increased net migration on atypical employment, respectively.

³ The estimations were conducted in STATA 17 using the package `pvar2`, an extension of `pvar` developed in Abrigo and Love (2016), which was written by Ryan A. Decker. This package estimates a pVAR as described in Holtz-Eakin et al. (1988).

Table 2 / Expected relationships between explanatory variables and net migration and possible explanations

Explanatory variable	Dependent variable	Expected sign	Possible explanations
Past net migration	Net migration	positive	Former net migration from sending to receiving country induces further net migration from sending to receiving country, owing to network effects.
Real wage level differential	Net migration	negative	When the sending country experiences a relative increase in real wage levels, net migration from sending to receiving country decreases.
Unemployment rate differential	Net migration	positive	When the sending country experiences a relative increase in unemployment, net migration from sending to receiving country tends to rise.
Activity rate differential	Net migration	positive	When the sending country experiences a relative increase in the activity rate (=expansion of labour supply), net migration from sending to receiving country tends to rise.
Human capital index differential	Net migration	positive	When the sending country experiences a relative increase in human capital endowments, net migration from sending to receiving country may rise (according to human capital theory).
		negative	When the sending country experiences a relative increase in human capital endowments, net migration from sending to receiving country may decrease (decreased complementarity).
Part-time share differential	Net migration	positive	When the sending country experiences a relative increase in part-time employment, net migration from the sending to the receiving country may increase, because, for example, part-time workers tend to be less attached to the labour market and/or they may expect more opportunities for full-time employment in the receiving country.
		negative	When the sending country experiences a relative increase in the part-time share, net migration from the sending to the receiving country may decrease owing to improved internal adjustment associated with greater labour market flexibility, decreasing the necessity of external adjustment. From a dual labour market perspective, it might indicate that a relative decrease of the secondary segment in the receiving country reduces its demand for migrant workers.
Self-employment differential	Net migration	positive	When the sending country experiences a relative increase in self-employment, net migration from the sending to the receiving country may rise, because, for example, self-employed individuals tend to be less attached to the local labour market and/or they may expect more secure employment prospects in the receiving country.
		negative	When the sending country experiences a relative increase in self-employment, net migration from the sending to the receiving country may decrease owing to improved internal adjustment associated with greater labour market flexibility, decreasing the necessity of external adjustment. From a dual labour market perspective, it might indicate that a relative decrease of the secondary segment in the receiving country decreases its demand for migrant workers (thus reducing net migration).
Short fixed-term share differential	Net migration	positive	When the sending country experiences a relative increase in the share of short fixed-term employment, net migration from the sending to the receiving country may rise because temporary workers are less attached to the labour market and/or they may expect more secure employment opportunities in the receiving country.
		negative	When the sending country experiences a relative increase in the share of short fixed-term employment, net migration from the sending to the receiving country may decrease owing to improved internal adjustment associated with greater flexibility, decreasing the necessity of external adjustment. It may also decrease because temporary workers lack employment stability and therefore also lack the economic resources to migrate. From a dual labour market perspective, it might indicate that a relative decrease of the secondary segment in the receiving country decreases its demand for migrant workers (thus reducing net migration).
Union density differential	Net migration	positive	When the sending country experiences a relative increase in union density, net migration from the sending country to the receiving country may increase owing to a weakening of internal adjustment processes (increased protection of 'insiders' against 'outsiders').
		negative	When the sending country experiences a relative increase in union density, net migration from the sending country to the receiving country may decrease owing to an improvement in employment conditions in the sending country.
Employment protection legislation differential	Net migration	positive	When the sending country experiences a relative increase in strictness of employment protection, net migration from the sending country to the receiving country may increase owing to a weakening of internal adjustment processes.
		negative	When the sending country experiences a relative increase in strictness of employment protection, net migration from the sending country to the receiving country may decrease owing to improved employment conditions in the home country.

Table 3 / Expected relationships between net migration and atypical employment differentials

Explanatory variable	Dependent variable	Expected sign	Possible explanations
Net migration	Part-time share differential	positive	When net migration from sending country to receiving country increases, the sending country may experience a relative increase in the part-time share, if external adjustment (increased net migration) and internal adjustment (increased flexibility) are complementary.
		negative	When net migration from sending country to receiving country increases, the sending country may experience a relative decrease in the part-time share because the reduction of labour supply may be compensated for through an increase in work hours for those who stayed. It may also suggest that, in line with dual labour market theory, the influx of migrants increases the size of the secondary labour market segment in the receiving country, leading to a relative decrease of the part-time share in the sending country.
Net migration	Self-employment share differential	positive	When net migration from sending country to receiving country increases, the sending country may experience a relative increase in the self-employment share, if external adjustment and internal adjustment are complementary.
		negative	When net migration from sending country to receiving country increases, the sending country may experience a relative decrease in the self-employment share because the decrease in labour supply might be compensated for through increased employment flexibility.
Net migration	Short fixed-term share differential	positive	When net migration from sending country to receiving country increases, the sending country may experience a relative increase in the short fixed-term share, if external adjustment and internal adjustment are complementary.
		negative	When net migration from sending country to receiving country increases, the sending country may experience a relative decrease in the short fixed-term share, if external adjustment and internal adjustment are substitutes. It may also suggest that the influx of migrants increases the size of the secondary labour market segment in the receiving country (equivalent to a relative decrease in the sending country).

4. Results

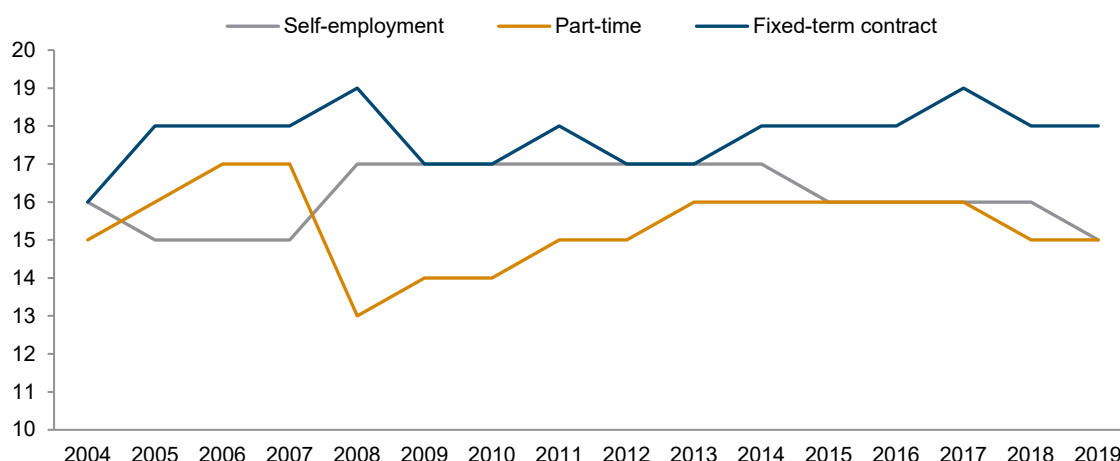
In this section, we first present some descriptive results on trends in employment and intra-EU net migration, before presenting the main results derived from the estimation of the pVAR models using impulse response functions (IRFs) and the forecast error variance decomposition (FEVD) matrix.⁴

The FEVD breaks down the variance of forecast errors into contributions from specific exogenous shocks. It therefore shows the importance of a shock in explaining variable variations in a model and its evolution over time. We compare the contributions of labour market shocks to net migration and the contribution of net migration shocks to atypical employment differentials after five and 10 years, respectively.

4.1. GENERAL TRENDS IN ATYPICAL EMPLOYMENT AND INTRA-EU NET MIGRATION

Figure 1 displays employment trends across three categories — self-employment, part-time, and fixed-term contracts — from 2004 to 2019. Self-employment shares (grey line) remained relatively stable, fluctuating between 15% and 17%, with a slight dip in 2019 to 15%. Part-time employment (orange line) showed modest variability, peaking at 17% between 2006 and 2007 and 16% in 2013–2017, but slightly declining to 15% by 2019. The share of fixed-term contracts (blue line) generally maintains levels between 16% and 19%, with a small peak of 19% in 2008 and 2017. Overall, the data suggests a stable distribution of these atypical work types over the 15-year period, with no dramatic changes in their prevalence.

Figure 1 / Atypical work as percentage of total employment, EU17, 2004-2019

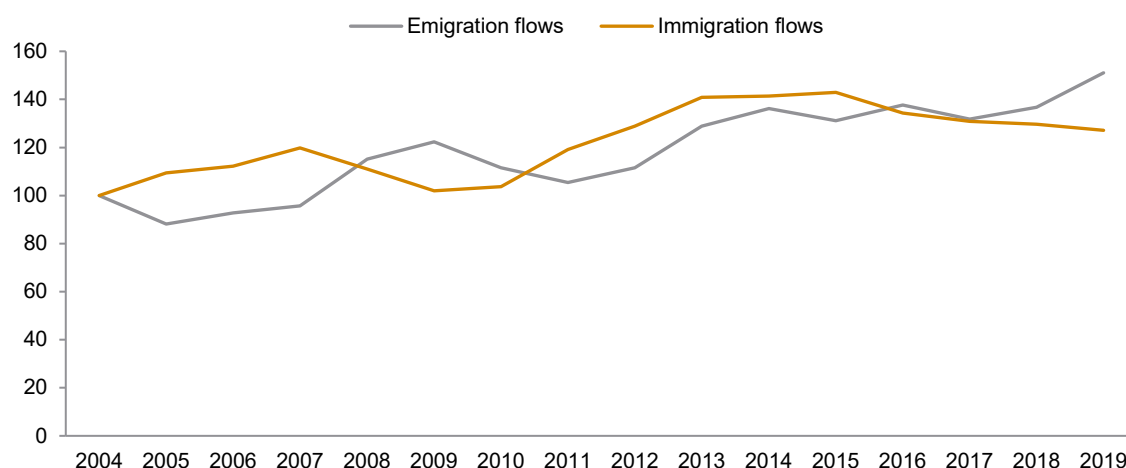


Source: EU-LFS weighted data (variables FTPT, TEMP and STAPRO). Respondents aged 15-64.

⁴ The regression tables can be found in Appendix A (Table 9 and Table 10) but will not be discussed in greater detail here.

Figure 2 shows that intra-EU17 immigration and emigration flows increased over the observation period of 15 years, indicating a general upward trend in intra-EU17 migration. However, some fluctuations related to enlargement processes and the global financial crisis can be observed. More precisely, the orange line shows that intra-EU immigration flows increased considerably between 2004 and 2007 caused by the first round of the eastern enlargement. This was followed by a substantial drop due to the effects of the global financial crisis. Although intra-EU immigration flows picked up again after 2010, a slight decrease can be observed from 2015 onwards. The grey line shows that intra-EU emigration flows declined between 2004 and 2007 but started to increase substantially from 2007 to 2009, followed by a decrease until 2011. From 2012 emigration flows started to increase again and reached a peak in 2019, when the rate was more than 1.5 times higher than in 2004.

Figure 2 / Intra-EU emigration and immigration flows, EU17, 2004-2019 (Index 2004=100)



Source: Eurostat; OECD; ILO; Statistisches Bundesamt; Statistics Poland.

Overall, during the period under consideration the share of atypical forms of employment remained relatively stable whereas immigration and emigration flows follow an upward trend.

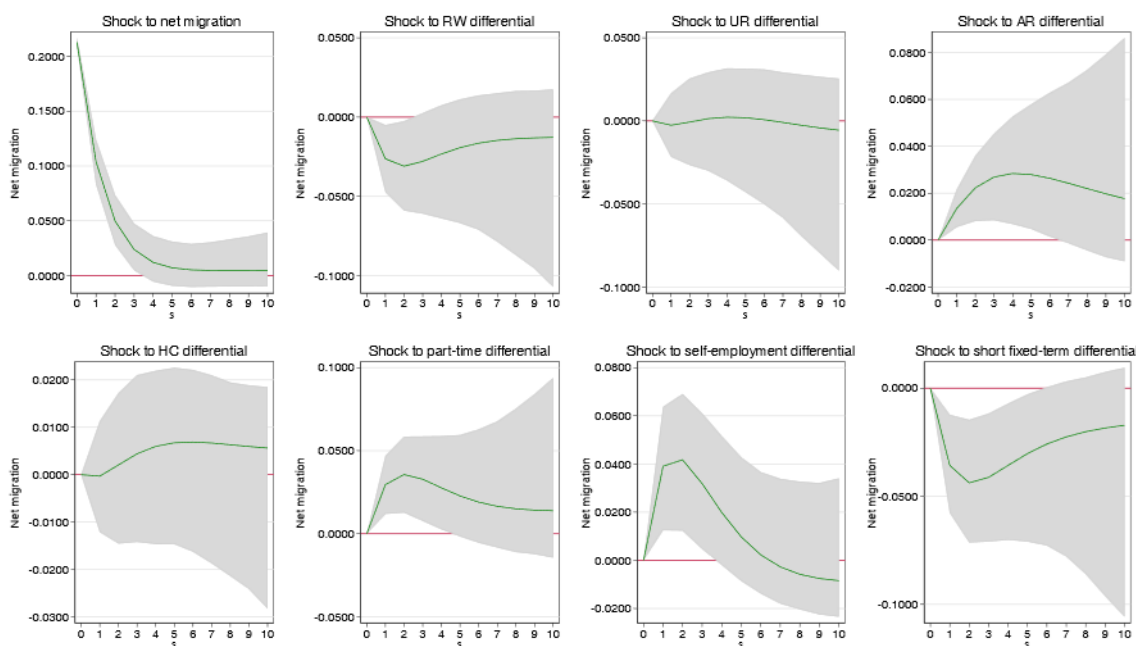
4.2. ESTIMATION RESULTS: EVIDENCE FROM SAMPLE A

To assess the interrelationship between atypical employment and bilateral net migration, we present IRFs.

Figure 3 shows the response of net migration to different labour market shocks for a period of 10 years. The main findings on standard labour market variables are in line with neoclassical theories of migration and empirical results found in the literature. The first panel in the top row in Figure 3 shows that past net migration flows induce further net migration flows, with the response fading out after four periods, which is in line with network theories of migration. The second panel shows that a reduction of the real wage differential reduces net migration in the short run, i.e. higher relative wages in the sending country increase the incentive to stay. The third panel shows no statistically significant effect of the unemployment rate differential on net migration. The fourth panel indicates that a reduction in the activity rate differential, i.e. a relative increase (decrease) of the activity rate in the sending (receiving) country, encourages net migration persistently. This indicates that net migration increases in the presence of

tightening labour markets. The first panel in the second row shows that a shock to the human capital differential is not statistically significant.

Figure 3 / Sample A – IRFs – Response of net migration to labour market shocks: full model

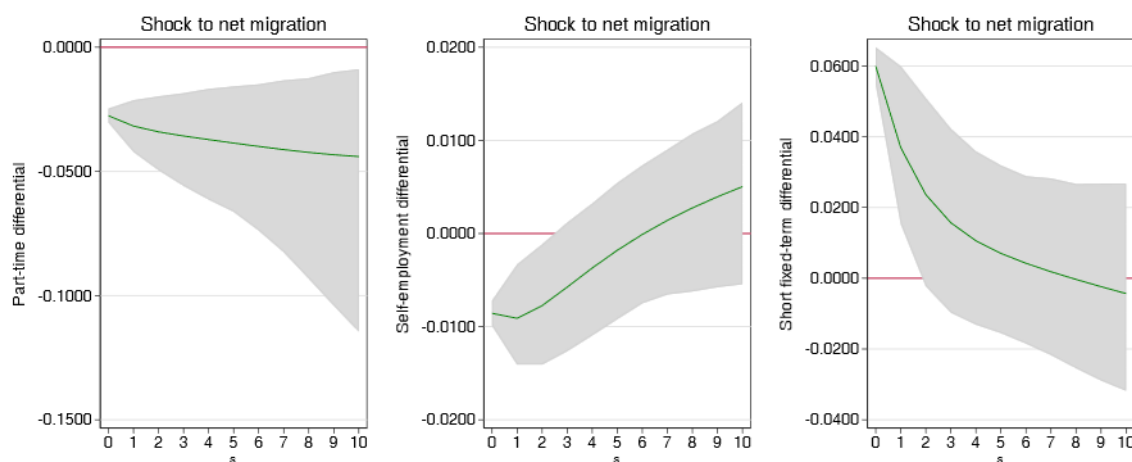


Note: The green line shows the impulse response, the grey area represents the 95% confidence interval, and errors are derived from a 1,000-run Monte Carlo simulation.

As for the potentially ambiguous relationships between atypical employment and net migration, we find support for different mechanisms, depending on the form of non-standard employment. The second panel in the second row shows that a one-time reduction of the part-time share differential, i.e. a relative increase (decrease) of the part-time share in the sending (receiving) country, increases net migration. This supports the supply-side mechanism described in Monastiriotis and Sakkas (2021), namely that greater labour market flexibility facilitates labour mobility because of weaker labour market attachment of part-time workers. Similarly, the third panel in the second row shows that a relative increase of the self-employment share in the sending country facilitates labour mobility.

In contrast to the self-employment and part-time share differentials, a one-time shock to the short fixed-term differential has a negative effect on net migration. This supports the demand-side mechanism discussed by Monastiriotis and Sakkas (2021), i.e. a relative increase of the short fixed-term share in the sending country might facilitate internal adjustment processes, thereby reducing the necessity of external adjustment via outmigration. However, from a dual labour market perspective, it might also indicate that a relative decrease of the secondary segment in the receiving country decreases its demand for migrant workers (thus reducing net migration).

Figure 4 / Sample A – IRFs – Response of atypical employment to net migration shocks: full model



Note: The green line shows the impulse response, the grey area represents the 95% confidence interval, and errors are derived from a 1,000-run Monte Carlo simulation.

Figure 4 presents the response of atypical employment differentials to a one-time shock to net migration, i.e. an increase in migration from the sending to the receiving country. The first panel shows that a shock to net migration persistently reduces the part-time differential between the sending and the receiving country. Hence, increased migration flows from the sending to the receiving country reduce the relative part-time share in the sending country while increasing the relative part-time share in the receiving country. This is in line with the dual labour market hypothesis, given the long-lasting statistically significant effect. Similarly, a shock to net migration reduces the self-employment differential but in contrast to the effect on the part-time share differential, it is only statistically significant initially.

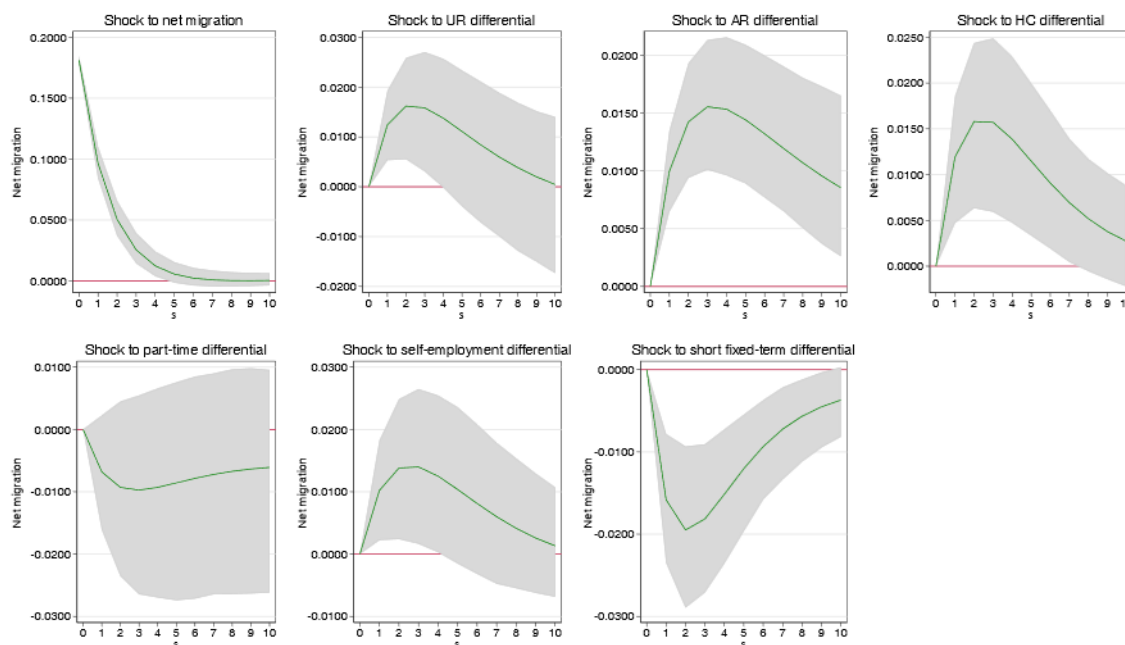
The effect of net migration on the short fixed-term differential, however, is positive, i.e. the short fixed-term share increases in the sending country relative to the receiving country. This effect is only statistically significant initially. This indicates that in the short run, net emigration induces a relative increase in temporal employment flexibility in the sending country, suggesting that the relative reduction in the labour supply in the sending country is counterbalanced by increasing labour market flexibility.

Robustness checks⁵

Given the high correlation between the part-time share and real wages, we estimated two alternative specifications of model A, where each variable was left out one at a time to see how this affected the results.

⁵ Further robustness checks were conducted with estimations of net migration from CEE countries to Western EU member states, as well as separate estimations for the period after the crisis. The main results were generally robust and they are available upon request.

Figure 5 / Sample A – IRFs – Response of net migration to labour market shocks: reduced model (no real wages)



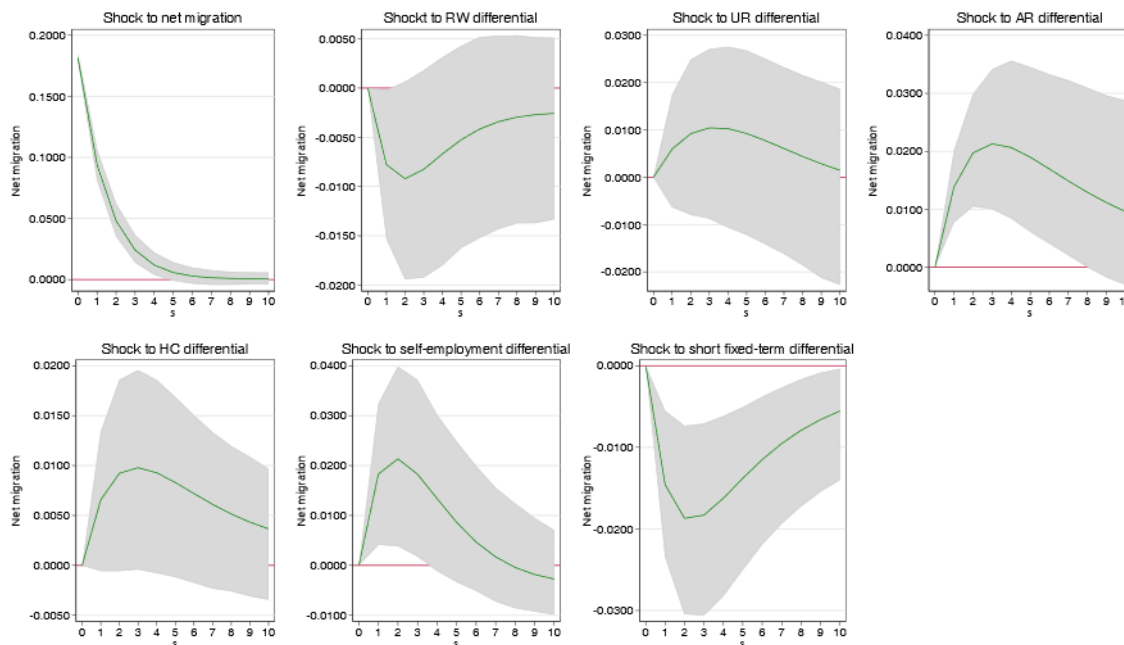
Note: The green line shows the impulse response, the grey area represents the 95% confidence interval, and errors are derived from a 1,000-run Monte Carlo simulation.

Figure 5 shows the IRFs for the model, leaving out the real wage differential. The results for shocks to net migration, activity rate differentials, self-employment share differentials and short fixed-term share differentials are the same. However, a one-time shock to the unemployment rate differential is now statistically significant and shows, in line with the literature on push-and-pull factors, that a relative increase (decrease) of the unemployment rate in the sending (receiving) country increases net migration. In addition, the shock to the human capital differential turned also statistically significant and shows that an increase of the human capital index in the sending country increases net migration, suggesting that the highly skilled tend to migrate, which is in line with human capital theory. The part-time share differential turns statistically insignificant once real wages are left out.

The response of atypical employment differentials to net migration shocks are the same as in the full model (see Figure 7), except that the effect on the part-time differential is now insignificant.

Similarly, as can be seen in Figure 6, leaving out the part-time share does not change the results from those obtained from the full model. It can thus be concluded that, despite the high correlation between real wages and the part-time share, their effects do not cancel each other out. Controlling for real wages is therefore essential to capture the impact of both the part-time share and the real wage differential.

Figure 6 / Sample A – IRFs – Response of net migration to labour market shocks: reduced model (no part-time share)



Note: The green line shows the impulse response, the grey area represents the 95% confidence interval, and errors are derived from a 1,000-run Monte Carlo simulation.

Results from variance decomposition

Although IRFs illustrate how variables respond to shocks, they do not quantify the importance of such shocks in explaining variations in other variables. To address this, a variance decomposition analysis quantifies the forecast error variance of each variable explained by exogenous shocks. Results, shown in Table 11 (Appendix A), highlight differences between the full and reduced models. In the reduced models, past net migration accounts for nearly all variance after five years (90.8% excluding real wage differential and 90.3% excluding part-time share differential) and after 10 years (87.1% and 86.4%, respectively). In contrast, the full model attributes 74.5% after five years and 67.1% after 10 years.

In the full model (Table 11 in Appendix A), past net migration explains most fluctuations in net migration. Atypical employment differentials contribute more than other labour market factors. After five years, the part-time share, self-employment share, and short fixed-term share differentials account for 5%, 5.9%, and 7.8%, respectively. After 10 years, these contributions are 6.3%, 5.5%, and 10.2%. Other factors, such as the real wage differential and activity rate differential, explain 4.7% and 5.8% after 10 years, while the unemployment rate and human capital differentials have negligible effects (close to zero and 0.3%, respectively).

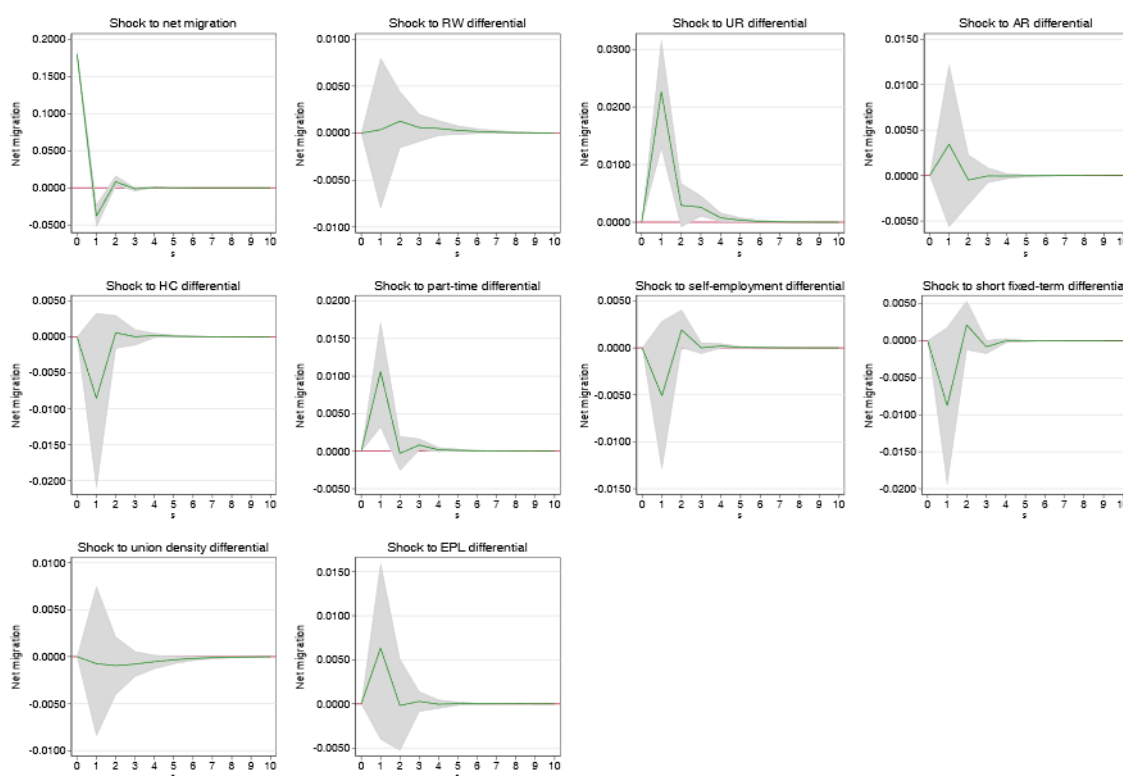
Comparing the impact of net migration on atypical employment differentials five years and 10 years after the initial shock, as shown in Table 11 in Appendix A (columns one and nine, respectively), we observe that net migration explains 9% of the variation in the part-time share differential, 3.6% of the variation in the self-employment share differential and 6.2% of the variation in the short fixed-term share differential after five years. However, the relative contribution of net migration diminishes over time, accounting for

6.8% of the variation in the part-time share differential, 2.8% of variation in the self-employment share differential, and 5.3% of variation in the short fixed-term share differential after 10 years.

4.3. ESTIMATION RESULTS: EVIDENCE FROM SAMPLE B

Figure 7 shows the response of net migration to the same labour market shocks as in the previous section, with the addition of two policy variables, namely trade union density differentials and employment protection legislation differentials. Owing to the inclusion of the latter two variables, the country sample comprises only nine countries, which, other than Czechia and Slovakia, are mainly older EU member states. Because of non-stationarity, all results are based on estimations using the first differences of all variables.

Figure 7 / Sample B – IRFs – Response of net migration to labour market shocks: full model



Note: The green line shows the impulse response, the grey area represents the 95% confidence interval, and errors are derived from a 1,000-run Monte Carlo simulation.

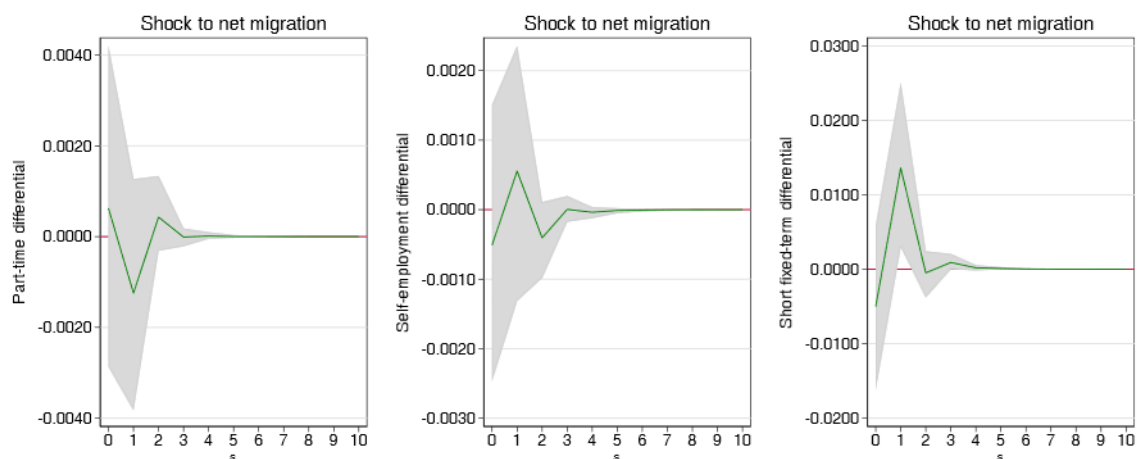
Similar to the results for sample A, a shock to net migration induces further migration initially. However, a small yet statistically significant negative effect emerges one year after the shock, implying the occurrence of some return migration.

Regarding other labour market shocks, only the unemployment rate differential and the part-time share differential are statistically significant, and they have the same effect as in sample A, i.e. relative

increases of the unemployment rate as well as of the part-time share in the sending country act to increase net migration.

Finally, as can be seen from the last row in Figure 7, neither the union density differential nor the employment protection legislation differential has a statistically significant effect on net migration.

Figure 8 / Sample B – IRFs – Response of atypical employment net migration shock: full model



Note: The green line shows the impulse response, the grey area represents the 95% confidence interval, and errors are derived from a 1,000-run Monte Carlo simulation.

Figure 8 shows that an increase in net emigration from the sending country to the receiving country has hardly any significant effects on atypical employment except for an initial relative increase in the short fixed-term differential, suggesting that labour market frictions caused by the decrease in labour supply in the sending country may be counterbalanced by increased employment flexibility.

As with sample A, robustness checks were conducted in which the real wage differential and the part-time share differential were left out. This had no effect on the results, as can be seen from the respective IRFs in Appendix B (Figures 9-14).

Finally, the variance decomposition reported in Table 12 in Appendix A shows that none of the variables appears to significantly influence variations in net migration. Likewise, net migration seems to have little impact on fluctuations in other variables. In particular, the fluctuations in net migration are primarily explained by net migration itself (97.5%), with little to no contribution from other variables. Moreover, this hardly changes over time (owing to rounding, the values appear to be the same).

5. Conclusion

This paper examines the interplay between atypical employment forms—part-time work, self-employment, and short fixed-term work—and labour mobility within the EU from 2004 to 2019. The main analysis, covering 17 EU member states (272 country pairs), is complemented by an investigation of labour market institutions (union densities and employment protection legislation) for a sub-sample of nine EU countries (72 pairs) from 2003 to 2018.

Atypical work patterns in the EU exhibited moderate changes over the study period. In contrast, intra-EU migration patterns were characterized by greater fluctuations. Intra-EU migration surged during the enlargement process, declined during the financial crisis, and has grown more slowly since.

Econometric results indicate atypical work has been a relevant factor in explaining variation in net migration. Increased part-time and self-employment shares in sending countries raise net migration, as enhanced labour market flexibility weakens attachment, facilitating mobility. Conversely, a rise in short fixed-term employment reduces outmigration, potentially reflecting reduced demand for migrants in receiving countries.

Net migration also affects atypical employment share differentials. Increased migration reduces part-time share differentials persistently and self-employment differentials initially, while boosting short fixed-term share differentials. This suggests net emigration increases employment flexibility in sending countries and decreases it in receiving countries in the short run.

Variance decomposition analysis highlights that past net migration explains most fluctuations in net migration five and ten years after shocks. The three atypical employment share differentials account for 20% of remaining variation, with the short fixed-term differential explaining about 10% after 10 years, underscoring the role of atypical work in migration patterns.

These findings suggest that policies promoting labour market flexibility must consider the nuanced and sometimes opposing relationships between atypical work forms and net migration. For example, policies designed to facilitate temporary work should consider the potential trade-off between internal adjustment and external adjustment, which becomes especially important during periods characterised by significant (regional) labour shortages and skill mismatch.

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Appendix

APPENDIX A: TABLES

Table 4 / List of variables

	Variable	Definition	Data sources
Migration flows	immig	Immigration flows by citizenship	Eurostat (migr_emi1ctz, migr_imm1ctz),
	emig	Emigration flows by citizenship	OECD (DIOC_CITIZEN_AGE, ILO (MFL_NCIT_SEX_CCT_NB_A),
	MNET	Net migration: difference between immigration and emigration by citizenship	Statistisches Bundesamt (12711-0009), Central Statistics Office Ireland (PEA24; PEA23), Statistics Poland (K3-G8)
Labour market	LP	real GDP at market prices, chain-linked (2015=100) in million euro divided by total employment (in thousand persons)	Eurostat (nama_10_gdp; nama_10_a10_e)
	RW	Average real (CPI-deflated in 2015 prices) wages and salaries per 1,000 employees (domestic concept)	Eurostat (nama_10_a10; nama_10_a10_e; prc_hicp_a10)
	UR	Unemployment rate: number of unemployed persons (international definition) as percentage of active population (labour force); age group 15-64 years	Eurostat (lfs_urgan)
	AR	Activity rate (age group 15-64 years)	Eurostat (lfs_argan)
Human capital	hc1	Share of ISCED11-levels 3-4 in age group from 15-19 years	Eurostat (lfs_pgaed)
	hc2	Number of ISCED11-levels 5-8 aged 25-29 years per 1,000 population aged 25-29 years	Eurostat (lfs_pgaed)
	hc3	Share of ISCED11-levels 5-8 aged 15-64 years in total employment aged 15-64 years	Eurostat (lfsa_egaed; lfsi_emp_a_h)
	HC	Simple mean of hc1, hc2, hc3	Eurostat
Atypical employment	PT	Part-time workers (self-declared) as percentage of total employment, age group 15-64	Eurostat (lfsi_pt_a_h)
	TEMP	Employees with a limited duration contract as percentage of total employment, age group 15-64	Eurostat (lfsi_pt_a_h)
	SELF	Self-employed persons as percentage of total employment, age group 15-64	Eurostat (lfsa_esgan)
	FIX	Employees with a short fixed-term contract (< 3 months) as percentage of total employment, age group 15-64 years	Eurostat (lfsa_qoe_4ax1r2; lfsa_qoe_4ax1r1)
Institutions	UDENS	Trade union density rate (employee union members as percentage of total employees)	ILO (ILR_TUMT_NOC_RT_A)
	EPL	Strictness of dismissal regulation for workers on regular contracts (individual and collective dismissals)	OECD (EPL_OV)

Note: For the pVAR analysis, MNET between the sending country (i) and the receiving country (j) is arctan transformed and normalised. All other variables used in the pVAR analysis enter as log differentials between the sending and the receiving country, i.e. $\log(x_i) - \log(x_j)$

Table 5 / Summary statistics

Variable	Obs.	Mean	Std Dev.	Min.	Max.
Sample A					
Net migration	4352	0.588	0.225	0	0.693
Real wage differential	4352	0	0.888	-2.098	2.098
Unemployment rate differential	4352	0	0.558	-1.911	1.911
Activity rate differential	4352	0	0.101	-0.287	0.287
Human capital differential	4352	0	0.317	-0.941	0.941
Part-time differential	4352	0	1.013	-2.933	2.933
Self-employment differential	4352	0	0.432	-1.307	1.307
Short fixed-term differential	4352	0	1.122	-2.686	2.686
Sample B					
Net migration	1152	0.602	0.228	0	0.693
Real wage differential	1152	0	0.782	-2.069	2.069
Unemployment rate differential	1152	0	0.522	-1.564	1.564
Activity rate differential	1152	0	0.106	-0.254	0.254
Human capital differential	1152	0	0.319	-0.844	0.844
Part-time differential	1152	0	1.177	-3.009	3.009
Self-employment differential	1152	0	0.455	-1.175	1.175
Short fixed-term differential	1152	0	1.124	-2.663	2.663
Union density differential	1152	0	0.921	-1.83	1.83
EPL differential	1152	0	0.306	-0.908	0.908

Table 6 / Correlation table – Sample A

Variables	Net mig.	RW diff.	LP diff.	ER diff.	UR diff.	AR diff.	HC diff.	Part-time diff.	Temp. diff.	Self-emp. diff.	Short fixed-term diff.
Net mig.	1.00										
RW diff.	-0.12	1.00									
LP diff.	-0.14	0.98	1.00								
ER diff.	-0.05	0.44	0.39	1.00							
UR diff.	0.08	-0.31	-0.27	-0.66	1.00						
AR diff.	-0.01	0.38	0.34	0.88	-0.26	1.00					
HC diff.	0.00	0.21	0.17	0.11	0.12	0.21	1.00				
Part-time diff.	-0.06	0.84	0.81	0.49	-0.28	0.46	0.31	1.00			
Temp. diff.	-0.09	0.37	0.34	0.02	0.07	0.09	0.02	0.37	1.00		
Self-emp. diff.	-0.07	-0.32	-0.29	-0.55	0.34	-0.50	-0.27	-0.22	0.35	1.00	
Short fixed-term diff.	-0.01	0.02	-0.01	-0.38	0.46	-0.26	0.34	-0.05	0.51	0.25	1.00

Table 7 / Correlation table - Sample B

Variables	Net mig.	RW diff.	LP diff.	ER diff.	UR diff.	AR diff.	HC diff.	Part-time diff.	Temp. diff.	Self-emp. diff.	Short fixed-term diff.	Union density diff.	EPL diff.
Net mig.	1.00												
RW diff.	0.04	1.00											
LP diff.	0.02	0.99	1.00										
ER diff.	0.02	0.58	0.52	1.00									
UR diff.	0.07	-0.41	-0.33	-0.70	1.00								
AR diff.	0.06	0.51	0.47	0.95	-0.47	1.00							
HC diff.	-0.10	0.58	0.59	0.66	-0.25	0.70	1.00						
Part-time diff.	0.05	0.89	0.87	0.60	-0.49	0.52	0.56	1.00					
Temp. diff.	-0.02	0.67	0.68	0.47	-0.22	0.46	0.62	0.75	1.00				
Self-emp. diff.	-0.15	-0.51	-0.47	-0.75	0.28	-0.83	-0.46	-0.39	-0.16	1.00			
Short fixed-term diff.	-0.14	0.32	0.43	-0.07	0.41	0.05	0.43	0.13	0.43	-0.05	1.00		
Union density diff.	-0.02	0.67	0.72	0.27	0.05	0.32	0.47	0.35	0.37	-0.46	0.73	1.00	
EPL diff.	-0.02	-0.54	-0.51	-0.44	0.18	-0.46	-0.35	-0.27	0.02	0.67	-0.20	-0.56	1.00

Table 8 / Im-Pesaran-Shin unit root tests

	W-t-bar	p-value	Lags*
Sample A			
Net migration	-91.605	0.000	0.294
ER differential	-0.274	0.392	0.757
UR differential	-7.469	0.000	0.735
RW differential	-3.536	0.000	0.404
LP differential	-8.286	0.000	0.515
AR differential	-10.079	0.000	0.368
HC differential	-7.07	0.000	0.279
Part-time differential	-7.263	0.000	0.404
Temporary differential	5.058	1.000	0.404
Self-employment differential	-5.329	0.000	0.301
Short fixed-term differential	-10.854	0.000	0.338
Sample B			
Net migration	-350.1	0.000	0.264
ER differential	2.045	0.98	0.556
UR differential	-1.347	0.089	0.639
RW differential	0.031	0.512	0.361
LP differential	-3.618	0.000	0.528
AR differential	-5.786	0.000	0.361
HC differential	-0.849	0.198	0.167
Part-time differential	-8.857	0.000	0.306
Temporary differential	-2.18	0.015	0.528
Self-employment differential	-7.117	0.000	0.194
Short fixed-term differential	-5.065	0.000	0.333
Union density differential	6.936	1.000	0.278
EPL differential	1.183	0.882	0.25

Note: * optimal lag length selected according to AIC, including a constant term. H0: all panels contain unit roots; H1: some panels are stationary.

Table 9 / Regression Table Sample A

Dep.var: Net migration _{ij,t}	Full model		Reduced model (excl. RW)		Reduced model (excl. PT)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
<i>Net migration_{ij,t-1}</i>	0.503***	0.054	0.54***	0.044	0.518***	0.043
<i>RW diff_{ij,t-1}</i>	0.7**	0.321			-0.234*	0.156
<i>UR diff_{ij,t-1}</i>	0.002	0.058	0.093***	0.022	0.056*	0.038
<i>AR diff_{ij,t-1}</i>	2.9***	0.896	1.321***	0.223	1.54***	0.408
<i>HC diff_{ij,t-1}</i>	-0.075	0.125	0.188**	0.074	0.151**	0.063
<i>PT diff_{ij,t-1}</i>	0.262**	0.103	0.051	0.063	0	
<i>SELF diff_{ij,t-1}</i>	0.92***	0.353	0.257***	0.096	0.449**	0.207
<i>FIX diff_{ij,t-1}</i>	0.195***	0.074	0.09***	0.027	-0.079***	0.031
Dep.var: RW diff _{ij,t}	Full model		Reduced model (excl. RW)		Reduced model (excl. PT)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
<i>Net migration_{ij,t-1}</i>	0.008	0.01			-0.014	0.013
<i>RW diff_{ij,t-1}</i>	0.877***	0.07			0.701***	0.044
<i>UR diff_{ij,t-1}</i>	0.016	0.01			-0.038***	0.010
<i>AR diff_{ij,t-1}</i>	0.298*	0.21			0.216**	0.123
<i>HC diff_{ij,t-1}</i>	0.041*	0.03			-0.045***	0.015
<i>PT diff_{ij,t-1}</i>	0.099***	0.02			0	
<i>SELF diff_{ij,t-1}</i>	0.036	0.08			0.213***	0.062
<i>FIX diff_{ij,t-1}</i>	0.047***	0.02			0.003	0.008
Dep.var: UR diff _{ij,t}	Full model		Reduced model (excl. RW)		Reduced model (excl. PT)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
<i>Net migration_{ij,t-1}</i>	0.017	0.044	-0.003	0.041	0.011	0.041
<i>RW diff_{ij,t-1}</i>	0.386*	0.245			0.183*	0.137
<i>UR diff_{ij,t-1}</i>	0.952***	0.043	0.9***	0.017	0.927***	0.030
<i>AR diff_{ij,t-1}</i>	1.381**	0.701	0.51**	0.217	-0.788**	0.401
<i>HC diff_{ij,t-1}</i>	0.087	0.088	0.058	0.067	-0.012	0.046
<i>PT diff_{ij,t-1}</i>	0.114*	0.078	0.059	0.055	0	
<i>SELF diff_{ij,t-1}</i>	0.441*	0.280	0.075	0.100	-0.236	0.196
<i>FIX diff_{ij,t-1}</i>	0.028	0.053	0.03*	0.022	-0.023	0.024
Dep.var: AR diff _{ij,t}	Full model		Reduced model (excl. RW)		Reduced model (excl. PT)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
<i>Net migration_{ij,t-1}</i>	0.000	0.004	0.002	0.003	0.001	0.003
<i>RW diff_{ij,t-1}</i>	0.039**	0.021			-0.001	0.010
<i>UR diff_{ij,t-1}</i>	0.01***	0.004	0.005***	0.001	-0.006**	0.002
<i>AR diff_{ij,t-1}</i>	1.003***	0.062	0.916***	0.017	0.894***	0.030
<i>HC diff_{ij,t-1}</i>	0.025***	0.008	0.011**	0.005	-0.007**	0.003
<i>PT diff_{ij,t-1}</i>	0.021***	0.007	0.004	0.004	0	
<i>SELF diff_{ij,t-1}</i>	0.011	0.024	0.026***	0.006	-0.027**	0.014
<i>FIX diff_{ij,t-1}</i>	0.013***	0.005	0.007***	0.002	-0.003**	0.002

contd.

Table 9 / Continued

Dep.var: HC diff _{ij,t}	Full model		Reduced model (excl. RW)		Reduced model (excl. PT)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
<i>Net migration</i> _{ij,t-1}	0.004	0.022	0.017	0.018	-0.008	0.019
<i>RW diff</i> _{ij,t-1}	0.252**	0.118			0.104**	0.057
<i>UR diff</i> _{ij,t-1}	0.058***	0.021	0.023***	0.008	0.039***	0.013
<i>AR diff</i> _{ij,t-1}	0.88***	0.338	-0.311***	0.085	-0.448***	0.167
<i>HC diff</i> _{ij,t-1}	0.957***	0.048	0.862***	0.031	0.886***	0.024
<i>PT diff</i> _{ij,t-1}	0.083**	0.038	0.03*	0.023	0	
<i>SELF diff</i> _{ij,t-1}	0.208*	0.132	0.031	0.039	-0.058	0.081
<i>FIX diff</i> _{ij,t-1}	0.053**	0.027	0.015*	0.010	0.016*	0.012
Dep.var: PT diff _{ij,t}	Full model		Reduced model (excl. RW)		Reduced model (excl. PT)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
<i>Net migration</i> _{ij,t-1}	0.005	0.028	0.028	0.024		
<i>RW diff</i> _{ij,t-1}	0.447***	0.160				
<i>UR diff</i> _{ij,t-1}	0.103***	0.029	0.042***	0.010		
<i>AR diff</i> _{ij,t-1}	0.904**	0.446	0.104	0.126		
<i>HC diff</i> _{ij,t-1}	0.191***	0.056	0.023	0.041		
<i>PT diff</i> _{ij,t-1}	0.767***	0.050	0.967***	0.033		
<i>SELF diff</i> _{ij,t-1}	0.438**	0.182	0.015	0.054		
<i>FIX diff</i> _{ij,t-1}	0.048*	0.034	0.019*	0.013		
Dep.var: SELF diff _{ij,t}	Full model		Reduced model (excl. RW)		Reduced model (excl. PT)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
<i>Net migration</i> _{ij,t-1}	0.016	0.014	0.026**	0.014	-0.021*	0.013
<i>RW diff</i> _{ij,t-1}	0.185**	0.080			0.044	0.046
<i>UR diff</i> _{ij,t-1}	0.028**	0.014	0.003	0.006	0.011	0.010
<i>AR diff</i> _{ij,t-1}	0.108	0.227	0.309***	0.072	0.302**	0.133
<i>HC diff</i> _{ij,t-1}	0.038*	0.027	0.032*	0.021	-0.03**	0.014
<i>PT diff</i> _{ij,t-1}	0.079***	0.025	0.004	0.019	0	
<i>SELF diff</i> _{ij,t-1}	0.695***	0.092	0.87***	0.031	0.837***	0.064
<i>FIX diff</i> _{ij,t-1}	0.039**	0.018	0.012*	0.008	0.004	0.008
Dep.var: FIX diff _{ij,t}	Full model		Reduced model (excl. RW)		Reduced model (excl. PT)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
<i>Net migration</i> _{ij,t-1}	0.022	0.058	0.008	0.052	-0.005	0.051
<i>RW diff</i> _{ij,t-1}	0.271	0.311			0.275**	0.167
<i>UR diff</i> _{ij,t-1}	0.062	0.056	0.099***	0.023	0.13***	0.037
<i>AR diff</i> _{ij,t-1}	1.473*	0.905	0.862***	0.261	-0.12	0.487
<i>HC diff</i> _{ij,t-1}	0.284**	0.121	0.183**	0.086	-0.02	0.058
<i>PT diff</i> _{ij,t-1}	0.307***	0.103	0.186***	0.071	0	
<i>SELF diff</i> _{ij,t-1}	0.103	0.355	0.153*	0.118	-0.448**	0.242
<i>FIX diff</i> _{ij,t-1}	0.598***	0.070	0.638***	0.029	0.733***	0.031
No. of obs.	3808		3808		3808	

Note: *p<0.10, ** p < 0.05, *** p < 0.01

Table 10 / Regression Table Sample B

Dep.var: $\Delta\text{Net migration}_{ij,t}$	Full model		Reduced model (excl. RW)		Reduced model (excl. PT)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
$\Delta\text{Net migration}_{ij,t-1}$	-0.223***	0.051	-0.222***	0.051	-0.222***	0.051
$\Delta\text{RW diff}_{ij,t-1}$	0.193*	0.123	0.051		0.16	0.124
$\Delta\text{UR diff}_{ij,t-1}$	0.205***	0.054	0.124***	0.053	0.204	0.055
$\Delta\text{AR diff}_{ij,t-1}$	0.195	0.600	0.055	0.599	0.544	0.575
$\Delta\text{HC diff}_{ij,t-1}$	-0.13	0.105	0.575	0.104	-0.12	0.106
$\Delta\text{PT diff}_{ij,t-1}$	0.202**	0.081	0.106**	0.081	0	
$\Delta\text{SELF diff}_{ij,t-1}$	-0.101	0.150	0	0.146	-0.04	0.146
$\Delta\text{FIX diff}_{ij,t-1}$	-0.044	0.039	0.146	0.039	-0.019	0.035
$\Delta\text{UDENS diff}_{ij,t-1}$	0.002	0.166	0.035	0.162	0.011	0.167
$\Delta\text{EPL diff}_{ij,t-1}$	0.092	0.091	0.167	0.091	0.115	0.091
Dep.var: $\Delta\text{RW diff}_{ij,t}$	Full model		Reduced model (excl. RW)		Reduced model (excl. PT)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
$\Delta\text{Net migration}_{ij,t-1}$	-0.006	0.006			-0.006	0.006
$\Delta\text{RW diff}_{ij,t-1}$	0.366***	0.047			0.372***	0.045
$\Delta\text{UR diff}_{ij,t-1}$	-0.006	0.011			-0.006	0.011
$\Delta\text{AR diff}_{ij,t-1}$	-0.476***	0.134			-0.55***	0.122
$\Delta\text{HC diff}_{ij,t-1}$	0.007	0.012			0.005	0.012
$\Delta\text{PT diff}_{ij,t-1}$	-0.042*	0.027			0	
$\Delta\text{SELF diff}_{ij,t-1}$	0.131***	0.031			0.118***	0.030
$\Delta\text{FIX diff}_{ij,t-1}$	-0.001	0.007			-0.007	0.005
$\Delta\text{UDENS diff}_{ij,t-1}$	-0.314***	0.061			-0.316***	0.061
$\Delta\text{EPL diff}_{ij,t-1}$	-0.004	0.020			-0.009	0.020
Dep.var: $\Delta\text{UR diff}_{ij,t}$	Full model		Reduced model (excl. RW)		Reduced model (excl. PT)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
$\Delta\text{Net migration}_{ij,t-1}$	0.011	0.019	0.011	0.019	0.012	0.020
$\Delta\text{RW diff}_{ij,t-1}$	0.042	0.087			0.012	0.088
$\Delta\text{UR diff}_{ij,t-1}$	0.42***	0.034	0.418***	0.034	0.42***	0.034
$\Delta\text{AR diff}_{ij,t-1}$	0	0.397	-0.022	0.395	0.312	0.384
$\Delta\text{HC diff}_{ij,t-1}$	0.018	0.035	0.02	0.035	0.028	0.035
$\Delta\text{PT diff}_{ij,t-1}$	0.18***	0.055	0.177***	0.054		
$\Delta\text{SELF diff}_{ij,t-1}$	0.132*	0.101	0.142*	0.100	0.187**	0.099
$\Delta\text{FIX diff}_{ij,t-1}$	-0.058***	0.018	-0.059***	0.018	-0.036**	0.017
$\Delta\text{UDENS diff}_{ij,t-1}$	-0.146	0.122	-0.153	0.126	-0.138	0.125
$\Delta\text{EPL diff}_{ij,t-1}$	-0.079	0.066	-0.081	0.069	-0.058	0.066
Dep.var: $\Delta\text{AR diff}_{ij,t}$	Full model		Reduced model (excl. RW)		Reduced model (excl. PT)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
$\Delta\text{Net migration}_{ij,t-1}$	0.002	0.002	0.002	0.002	0.002	0.002
$\Delta\text{RW diff}_{ij,t-1}$	-0.066***	0.009			-0.064***	0.009
$\Delta\text{UR diff}_{ij,t-1}$	-0.009***	0.003	-0.006**	0.003	-0.009***	0.003
$\Delta\text{AR diff}_{ij,t-1}$	0.022	0.047	0.058	0.049	-0.004	0.046
$\Delta\text{HC diff}_{ij,t-1}$	0.006*	0.004	0.004	0.004	0.005*	0.004
$\Delta\text{PT diff}_{ij,t-1}$	-0.015***	0.006	-0.01**	0.005		
$\Delta\text{SELF diff}_{ij,t-1}$	0	0.009	-0.015*	0.010	-0.005	0.009
$\Delta\text{FIX diff}_{ij,t-1}$	0.007***	0.002	0.008***	0.002	0.005**	0.002
$\Delta\text{UDENS diff}_{ij,t-1}$	-0.022**	0.011	-0.011	0.012	-0.023**	0.011
$\Delta\text{EPL diff}_{ij,t-1}$	-0.002	0.003	0.003	0.003	-0.003	0.003

contd.

Table 10 / Continued

Dep.var: $\Delta\text{HC diff}_{ij,t}$	Full model		Reduced model (excl. RW)		Reduced model (excl. PT)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
$\Delta\text{Net migration}_{ij,t-1}$	0.002	0.014	0.003	0.014	0.003	0.014
$\Delta\text{RW diff}_{ij,t-1}$	0.058	0.048			0.047	0.049
$\Delta\text{UR diff}_{ij,t-1}$	0	0.021	-0.003	0.021	0	0.021
$\Delta\text{AR diff}_{ij,t-1}$	-0.101	0.278	-0.133	0.276	0.013	0.276
$\Delta\text{HC diff}_{ij,t-1}$	0.112***	0.026	0.114***	0.026	0.116***	0.026
$\Delta\text{PT diff}_{ij,t-1}$	0.066**	0.034	0.062**	0.034		
$\Delta\text{SELF diff}_{ij,t-1}$	0.113**	0.059	0.126**	0.057	0.133**	0.058
$\Delta\text{FIX diff}_{ij,t-1}$	-0.045***	0.012	-0.046***	0.012	-0.037***	0.012
$\Delta\text{UDENS diff}_{ij,t-1}$	-0.276***	0.073	-0.286***	0.074	-0.273***	0.073
$\Delta\text{EPL diff}_{ij,t-1}$	-0.37***	0.075	-0.374***	0.074	-0.363***	0.074
Dep.var: $\Delta\text{PT diff}_{ij,t}$	Full model		Reduced model (excl. RW)		Reduced model (excl. PT)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
$\Delta\text{Net migration}_{ij,t-1}$	-0.005	0.009	-0.005	0.009		
$\Delta\text{RW diff}_{ij,t-1}$	0.036	0.057				
$\Delta\text{UR diff}_{ij,t-1}$	-0.018	0.017	-0.02	0.017		
$\Delta\text{AR diff}_{ij,t-1}$	0.049	0.218	0.029	0.220		
$\Delta\text{HC diff}_{ij,t-1}$	0.037*	0.024	0.038*	0.025		
$\Delta\text{PT diff}_{ij,t-1}$	0.057*	0.039	0.055*	0.039		
$\Delta\text{SELF diff}_{ij,t-1}$	-0.012	0.066	-0.004	0.069		
$\Delta\text{FIX diff}_{ij,t-1}$	0.033***	0.013	0.033***	0.013		
$\Delta\text{UDENS diff}_{ij,t-1}$	0.08	0.099	0.074	0.103		
$\Delta\text{EPL diff}_{ij,t-1}$	-0.092***	0.030	-0.094***	0.030		
Dep.var: $\Delta\text{SELF diff}_{ij,t}$	Full model		Reduced model (excl. RW)		Reduced model (excl. PT)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
$\Delta\text{Net migration}_{ij,t-1}$	0.001	0.006	0.002	0.006	0.001	0.006
$\Delta\text{RW diff}_{ij,t-1}$	0.083**	0.034			0.089***	0.034
$\Delta\text{UR diff}_{ij,t-1}$	0.014	0.012	0.01	0.012	0.014	0.012
$\Delta\text{AR diff}_{ij,t-1}$	0.281**	0.112	0.235**	0.112	0.222**	0.106
$\Delta\text{HC diff}_{ij,t-1}$	0.025**	0.013	0.028**	0.013	0.023**	0.012
$\Delta\text{PT diff}_{ij,t-1}$	-0.034**	0.020	-0.04**	0.020		
$\Delta\text{SELF diff}_{ij,t-1}$	0.13***	0.031	0.149***	0.032	0.12***	0.030
$\Delta\text{FIX diff}_{ij,t-1}$	-0.026***	0.005	-0.027***	0.005	-0.03***	0.006
$\Delta\text{UDENS diff}_{ij,t-1}$	-0.069*	0.050	-0.083*	0.051	-0.07*	0.050
$\Delta\text{EPL diff}_{ij,t-1}$	0.102***	0.014	0.096***	0.014	0.098***	0.014
Dep.var: $\Delta\text{FIX diff}_{ij,t}$	Full model		Reduced model (excl. RW)		Reduced model (excl. PT)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
$\Delta\text{Net migration}_{ij,t-1}$	0.065**	0.036	0.063**	0.036	0.066**	0.036
$\Delta\text{RW diff}_{ij,t-1}$	-0.4***	0.130			-0.431***	0.125
$\Delta\text{UR diff}_{ij,t-1}$	0.206***	0.053	0.224***	0.054	0.205***	0.053
$\Delta\text{AR diff}_{ij,t-1}$	-0.794*	0.614	-0.576	0.627	-0.464	0.585
$\Delta\text{HC diff}_{ij,t-1}$	0.134**	0.080	0.12*	0.079	0.144**	0.079
$\Delta\text{PT diff}_{ij,t-1}$	0.191**	0.094	0.218**	0.094		
$\Delta\text{SELF diff}_{ij,t-1}$	-0.172	0.152	-0.263**	0.152	-0.114	0.149
$\Delta\text{FIX diff}_{ij,t-1}$	0.066**	0.034	0.072**	0.035	0.089**	0.038
$\Delta\text{UDENS diff}_{ij,t-1}$	0.325*	0.242	0.394*	0.247	0.334*	0.243
$\Delta\text{EPL diff}_{ij,t-1}$	-0.162**	0.082	-0.134**	0.081	-0.139**	0.083

contd.

Table 10 / Continued

Dep.var: $\Delta UDENS\ diff_{ij,t}$	Full model		Reduced model (excl. RW)		Reduced model (excl. PT)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
$\Delta Net\ migration_{ij,t-1}$	-0.011**	0.005	-0.012**	0.005	-0.012**	0.005
$\Delta RW\ diff_{ij,t-1}$	-0.048**	0.024			-0.043**	0.023
$\Delta UR\ diff_{ij,t-1}$	0	0.007	0.002	0.007	0	0.007
$\Delta AR\ diff_{ij,t-1}$	-0.002	0.096	0.024	0.097	-0.05	0.086
$\Delta HC\ diff_{ij,t-1}$	-0.048***	0.015	-0.05***	0.015	-0.049***	0.015
$\Delta PT\ diff_{ij,t-1}$	-0.027*	0.018	-0.024*	0.018		
$\Delta SELF\ diff_{ij,t-1}$	-0.016	0.026	-0.027	0.026	-0.025	0.024
$\Delta FIX\ diff_{ij,t-1}$	-0.005	0.005	-0.005	0.005	-0.009*	0.006
$\Delta UDENS\ diff_{ij,t-1}$	0.215***	0.050	0.223***	0.051	0.214***	0.050
$\Delta EPL\ diff_{ij,t-1}$	-0.034**	0.016	-0.031**	0.016	-0.037**	0.016
Dep.var: $\Delta EPL\ diff_{ij,t}$	Full model		Reduced model (excl. RW)		Reduced model (excl. PT)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
$\Delta Net\ migration_{ij,t-1}$	-0.015**	0.006	-0.014**	0.006	-0.014**	0.006
$\Delta RW\ diff_{ij,t-1}$	0.043	0.048			0.036	0.048
$\Delta UR\ diff_{ij,t-1}$	0.008	0.020	0.006	0.019	0.008	0.020
$\Delta AR\ diff_{ij,t-1}$	0.346**	0.193	0.323**	0.191	0.412**	0.188
$\Delta HC\ diff_{ij,t-1}$	-0.082***	0.027	-0.081***	0.027	-0.08***	0.027
$\Delta PT\ diff_{ij,t-1}$	0.038**	0.021	0.035*	0.022		
$\Delta SELF\ diff_{ij,t-1}$	0.019	0.035	0.028	0.032	0.03	0.033
$\Delta FIX\ diff_{ij,t-1}$	-0.013**	0.007	-0.014**	0.007	-0.009*	0.006
$\Delta UDENS\ diff_{ij,t-1}$	0.181***	0.062	0.174***	0.061	0.183***	0.063
$\Delta EPL\ diff_{ij,t-1}$	0.094***	0.027	0.091***	0.026	0.099***	0.027
No. of obs.	936		936		936	

Note: *p<0.10, ** p < 0.05, *** p < 0.01

Table 11 / Variance decomposition matrix Sample A

Full model	after 5 periods					Part-time diff.	Self-emp. diff.	Short fixed-term diff.
	Net mig.	RW diff.	UR diff.	AR diff.	HC diff.			
Net mig.	0.747	0.037	0.000	0.028	0.001	0.050	0.059	0.078
RW diff.	0.027	0.782	0.035	0.003	0.004	0.048	0.023	0.077
UR diff.	0.021	0.034	0.843	0.027	0.005	0.036	0.027	0.007
AR diff.	0.086	0.178	0.118	0.482	0.016	0.046	0.001	0.074
HC diff.	0.073	0.118	0.134	0.083	0.488	0.040	0.020	0.045
Part-time diff.	0.090	0.131	0.229	0.096	0.089	0.259	0.071	0.034
Self-emp. diff.	0.036	0.240	0.007	0.006	0.010	0.055	0.569	0.078
Short fixed-term diff.	0.062	0.053	0.013	0.117	0.048	0.168	0.006	0.533
Reduced model (excl. real wage)								
Net mig.	0.908		0.017	0.016	0.017	0.006	0.013	0.024
UR diff.	0.000		0.983	0.010	0.001	0.001	0.002	0.003
AR diff.	0.009		0.051	0.831	0.002	0.012	0.061	0.034
HC diff.	0.007		0.072	0.021	0.865	0.025	0.004	0.006
Part-time diff.	0.007		0.088	0.000	0.003	0.897	0.001	0.003
Self-emp. diff.	0.018		0.002	0.025	0.061	0.095	0.795	0.003
Short fixed-term diff.	0.004		0.063	0.074	0.026	0.172	0.016	0.645
Reduced model (excl. part-time)								
Net mig.	0.903	0.005	0.007	0.029	0.006		0.026	0.023
RW diff.	0.004	0.708	0.089	0.025	0.049		0.124	0.001
UR diff.	0.000	0.004	0.965	0.017	0.000		0.011	0.002
AR diff.	0.004	0.029	0.071	0.836	0.001		0.048	0.011
HC diff.	0.003	0.008	0.098	0.039	0.843		0.002	0.007
Self-emp. diff.	0.007	0.108	0.003	0.025	0.077		0.780	0.001
Short fixed-term diff.	0.003	0.001	0.094	0.018	0.001		0.031	0.851
Full model	after 10 periods					Part-time diff.	Self-emp. diff.	Short fixed-term diff.
	Net mig.	RW diff.	UR diff.	AR diff.	HC diff.			
Net mig.	0.671	0.047	0.000	0.058	0.003	0.063	0.055	0.102
RW diff.	0.025	0.515	0.150	0.036	0.049	0.051	0.093	0.080
UR diff.	0.025	0.088	0.648	0.081	0.009	0.092	0.023	0.032
AR diff.	0.060	0.212	0.162	0.307	0.016	0.112	0.001	0.129
HC diff.	0.058	0.176	0.179	0.122	0.259	0.098	0.014	0.095
Part-time diff.	0.068	0.206	0.257	0.139	0.082	0.114	0.050	0.084
Self-emp. diff.	0.028	0.222	0.014	0.019	0.044	0.085	0.479	0.108
Short fixed-term diff.	0.053	0.059	0.039	0.109	0.045	0.210	0.033	0.452
Reduced model (excl. real wage)								
Net mig.	0.871		0.021	0.029	0.022	0.011	0.017	0.029
UR diff.	0.000		0.952	0.032	0.001	0.008	0.003	0.003
AR diff.	0.017		0.141	0.631	0.002	0.042	0.115	0.053
HC diff.	0.013		0.174	0.047	0.655	0.091	0.009	0.011
Part-time diff.	0.010		0.154	0.003	0.006	0.819	0.004	0.005
Self-emp. diff.	0.019		0.015	0.080	0.105	0.093	0.686	0.003
Short fixed-term diff.	0.004		0.098	0.073	0.030	0.193	0.040	0.561
Reduced model (excl. part-time)								
Net mig.	0.864	0.006	0.010	0.050	0.010		0.027	0.032
RW diff.	0.004	0.449	0.210	0.093	0.099		0.144	0.001
UR diff.	0.000	0.005	0.930	0.050	0.001		0.011	0.003
AR diff.	0.007	0.054	0.182	0.656	0.001		0.081	0.020
HC diff.	0.004	0.029	0.211	0.095	0.645		0.002	0.015
Self-emp. diff.	0.007	0.100	0.021	0.076	0.125		0.670	0.001
Short fixed-term diff.	0.003	0.002	0.166	0.024	0.002		0.049	0.754

Table 12 / Variance decomposition matrix Sample B

Full model	after 5 periods									
	Net mig.	RW diff.	UR diff.	AR diff.	HC diff.	Part-time diff.	Self-emp. diff.	Short fixed-term diff.	Union density diff.	EPL diff.
Net mig.	0.975	0.000	0.015	0.000	0.002	0.003	0.001	0.002	0.000	0.001
RW diff.	0.002	0.918	0.000	0.009	0.001	0.000	0.003	0.003	0.061	0.002
UR diff.	0.007	0.024	0.950	0.000	0.001	0.007	0.000	0.006	0.002	0.002
AR diff.	0.002	0.109	0.023	0.836	0.001	0.003	0.001	0.018	0.007	0.000
HC diff.	0.000	0.005	0.003	0.005	0.875	0.001	0.001	0.001	0.009	0.102
Part-time diff.	0.000	0.062	0.039	0.052	0.002	0.821	0.000	0.009	0.002	0.011
Self-emp. diff.	0.001	0.010	0.047	0.008	0.007	0.015	0.844	0.020	0.009	0.038
Short fixed-term diff.	0.005	0.021	0.029	0.062	0.008	0.036	0.024	0.806	0.004	0.005
Union density diff.	0.005	0.006	0.001	0.023	0.012	0.040	0.037	0.072	0.799	0.005
EPL diff.	0.001	0.006	0.006	0.002	0.007	0.009	0.002	0.020	0.019	0.926
Reduced model (excl. real wage)										
Net mig.	0.976		0.015	0.000	0.002	0.003	0.000	0.002	0.000	0.001
UR diff.	0.007		0.973	0.000	0.001	0.007	0.001	0.006	0.002	0.003
AR diff.	0.001		0.025	0.950	0.000	0.001	0.001	0.020	0.001	0.001
HC diff.	0.000		0.002	0.005	0.877	0.000	0.001	0.001	0.009	0.105
Part-time diff.	0.001		0.056	0.065	0.002	0.853	0.001	0.009	0.002	0.011
Self-emp. diff.	0.000		0.045	0.014	0.007	0.015	0.854	0.021	0.009	0.034
Short fixed-term diff.	0.005		0.035	0.078	0.008	0.035	0.023	0.808	0.004	0.005
Union density diff.	0.005		0.000	0.026	0.012	0.041	0.035	0.069	0.807	0.004
EPL diff.	0.002		0.004	0.001	0.007	0.013	0.003	0.020	0.018	0.932
Reduced model (excl. part-time)										
Net mig.	0.981	0.000	0.014	0.001	0.002		0.000	0.001	0.000	0.002
RW diff.	0.003	0.918	0.000	0.010	0.001		0.003	0.002	0.063	0.001
UR diff.	0.009	0.025	0.958	0.000	0.001		0.002	0.002	0.003	0.001
AR diff.	0.001	0.110	0.020	0.846	0.001		0.000	0.012	0.008	0.001
HC diff.	0.000	0.005	0.002	0.004	0.879		0.001	0.001	0.008	0.099
Self-emp. diff.	0.001	0.011	0.045	0.007	0.007		0.860	0.024	0.010	0.035
Short fixed-term diff.	0.005	0.022	0.029	0.060	0.008		0.029	0.841	0.004	0.004
Union density diff.	0.005	0.005	0.001	0.025	0.012		0.028	0.093	0.826	0.006
EPL diff.	0.002	0.006	0.006	0.003	0.007		0.002	0.014	0.023	0.938

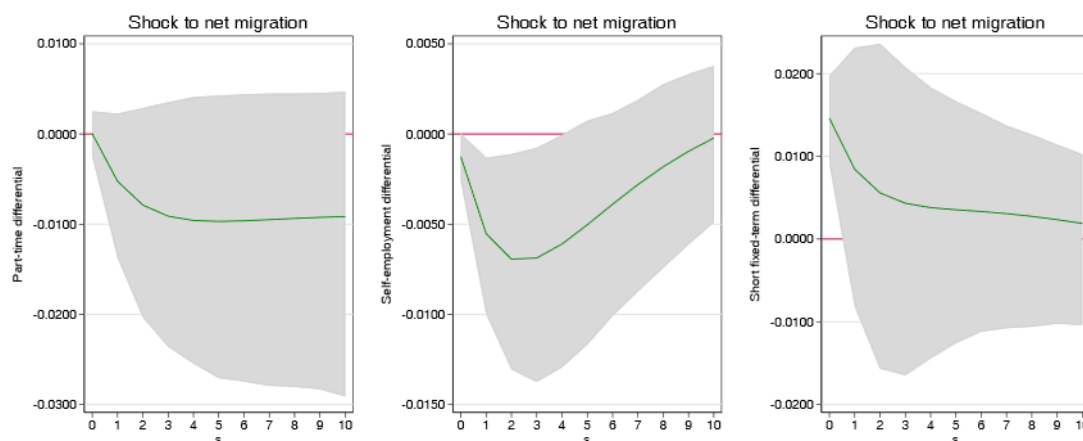
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Table 12 / Continued

Full model	Net mig.	RW diff.	UR diff.	AR diff.	after 10 periods					EPL diff.
					HC diff.	Part-time diff.	Self-emp. diff.	Short fixed-term diff.	Union density diff.	
Net mig.	0.975	0.000	0.015	0.000	0.002	0.003	0.001	0.002	0.000	0.001
RW diff.	0.002	0.917	0.000	0.009	0.001	0.001	0.003	0.003	0.062	0.002
UR diff.	0.007	0.025	0.950	0.000	0.001	0.007	0.000	0.006	0.003	0.002
AR diff.	0.002	0.110	0.023	0.836	0.001	0.003	0.001	0.018	0.008	0.000
HC diff.	0.000	0.005	0.003	0.005	0.875	0.001	0.001	0.001	0.009	0.102
Part-time diff.	0.000	0.062	0.039	0.052	0.002	0.821	0.000	0.009	0.002	0.011
Self-emp. diff.	0.001	0.010	0.047	0.008	0.007	0.015	0.844	0.020	0.009	0.038
Short fixed-term diff.	0.005	0.021	0.029	0.062	0.008	0.036	0.024	0.806	0.004	0.005
Union density diff.	0.005	0.006	0.001	0.023	0.012	0.040	0.037	0.072	0.799	0.005
EPL diff.	0.001	0.006	0.006	0.002	0.007	0.009	0.002	0.020	0.019	0.926
Reduced model (excl. real wage)										
Net mig.	0.976		0.015	0.000	0.002	0.003	0.000	0.002	0.000	0.001
UR diff.	0.007		0.973	0.000	0.001	0.007	0.001	0.006	0.002	0.003
AR diff.	0.001		0.025	0.950	0.000	0.001	0.001	0.020	0.001	0.001
HC diff.	0.000		0.002	0.005	0.876	0.000	0.001	0.001	0.009	0.105
Part-time diff.	0.001		0.056	0.065	0.002	0.853	0.001	0.009	0.002	0.011
Self-emp. diff.	0.000		0.045	0.014	0.007	0.015	0.854	0.021	0.009	0.035
Short fixed-term diff.	0.005		0.035	0.078	0.008	0.035	0.023	0.808	0.004	0.005
Union density diff.	0.005		0.000	0.026	0.012	0.041	0.035	0.069	0.807	0.004
EPL diff.	0.002		0.004	0.001	0.007	0.013	0.003	0.020	0.018	0.932
Reduced model (excl. part-time)										
Net mig.	0.981	0.000	0.014	0.001		0.002	0.000	0.001	0.000	0.002
RW diff.	0.003	0.917	0.000	0.010		0.001	0.003	0.002	0.063	0.001
UR diff.	0.009	0.025	0.958	0.000		0.001	0.002	0.002	0.003	0.001
AR diff.	0.001	0.111	0.020	0.846		0.001	0.000	0.012	0.008	0.001
HC diff.	0.000	0.005	0.002	0.004		0.879	0.001	0.001	0.008	0.099
Self-emp. diff.	0.001	0.011	0.045	0.007		0.007	0.860	0.024	0.010	0.035
Short fixed-term diff.	0.005	0.022	0.029	0.060		0.008	0.029	0.841	0.004	0.004
Union density diff.	0.005	0.005	0.001	0.025		0.012	0.028	0.093	0.826	0.006
EPL diff.	0.002	0.006	0.006	0.003		0.007	0.002	0.014	0.023	0.938

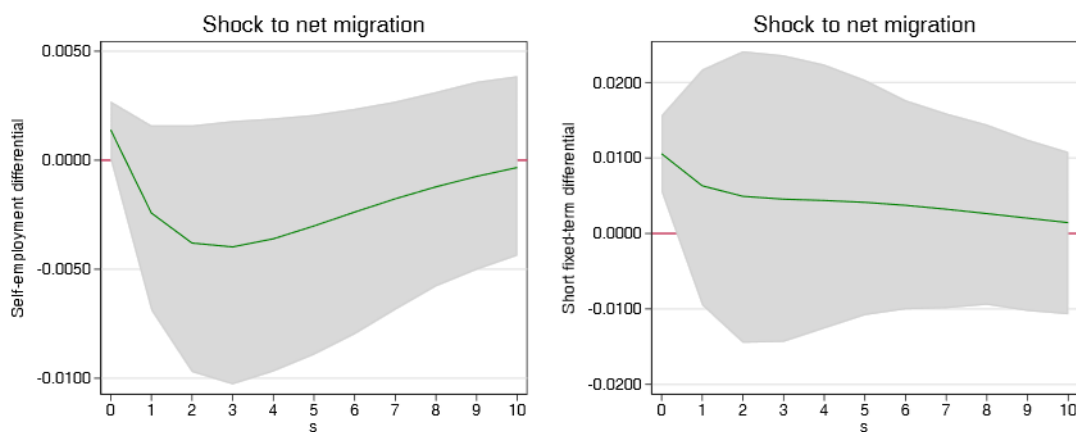
APPENDIX B: FIGURES

Figure 9 / Sample A – IRFs – Response of atypical employment to net migration shock: reduced model (excl. real wage differentials)



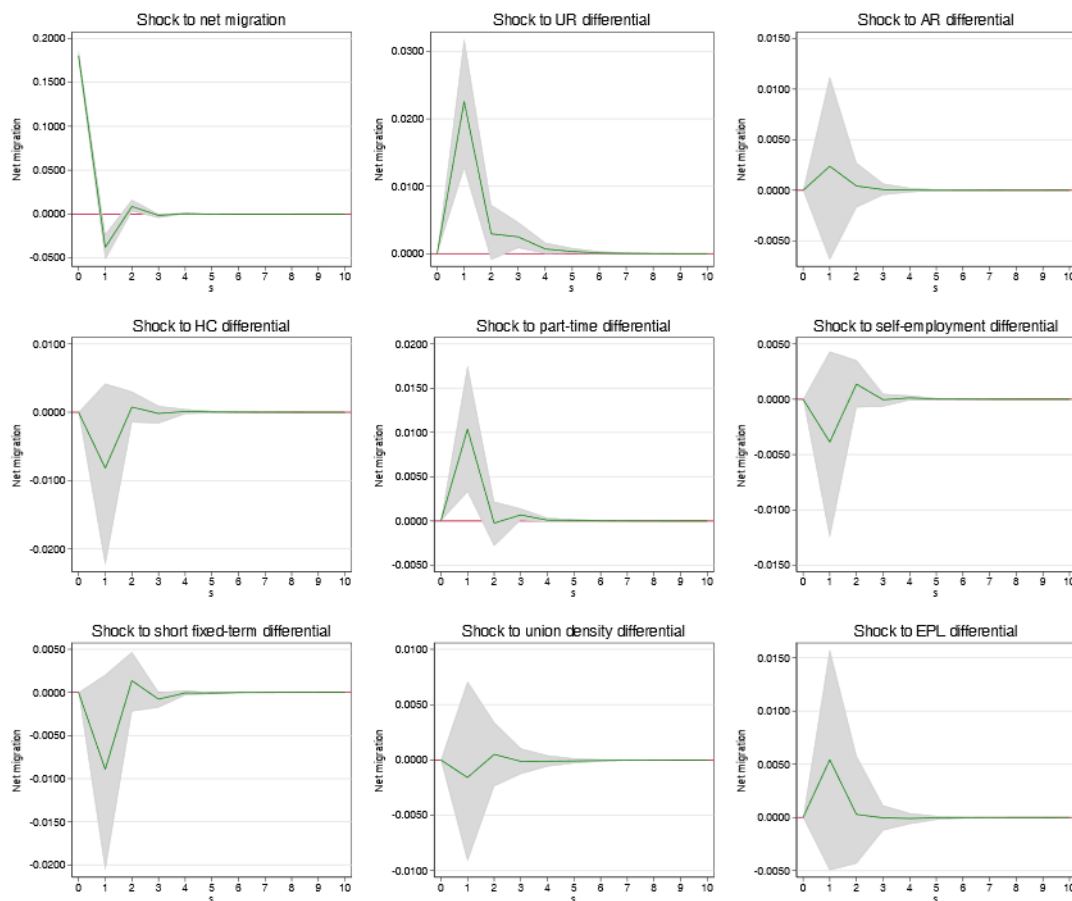
Note: The green line shows the impulse response, the grey area represents the 95% confidence interval, and errors are derived from a 1,000-run Monte Carlo simulation.

Figure 10 / Sample A – IRFs – Response of atypical employment to net migration shock: reduced model (excl. part-time share differentials)



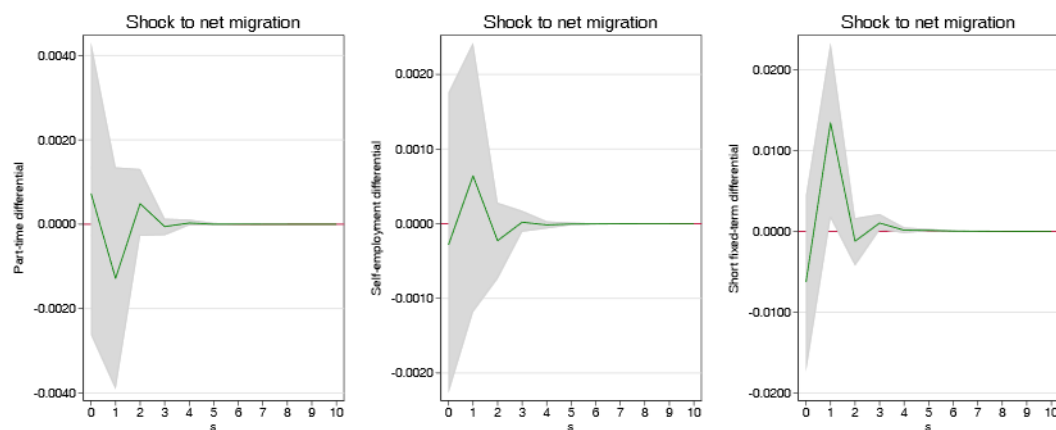
Note: The green line shows the impulse response, the grey area represents the 95% confidence interval, and errors are derived from a 1,000-run Monte Carlo simulation.

Figure 11 / Sample B – IRFs – Response of net migration to labour market shocks: reduced model (excl. real wage differentials)



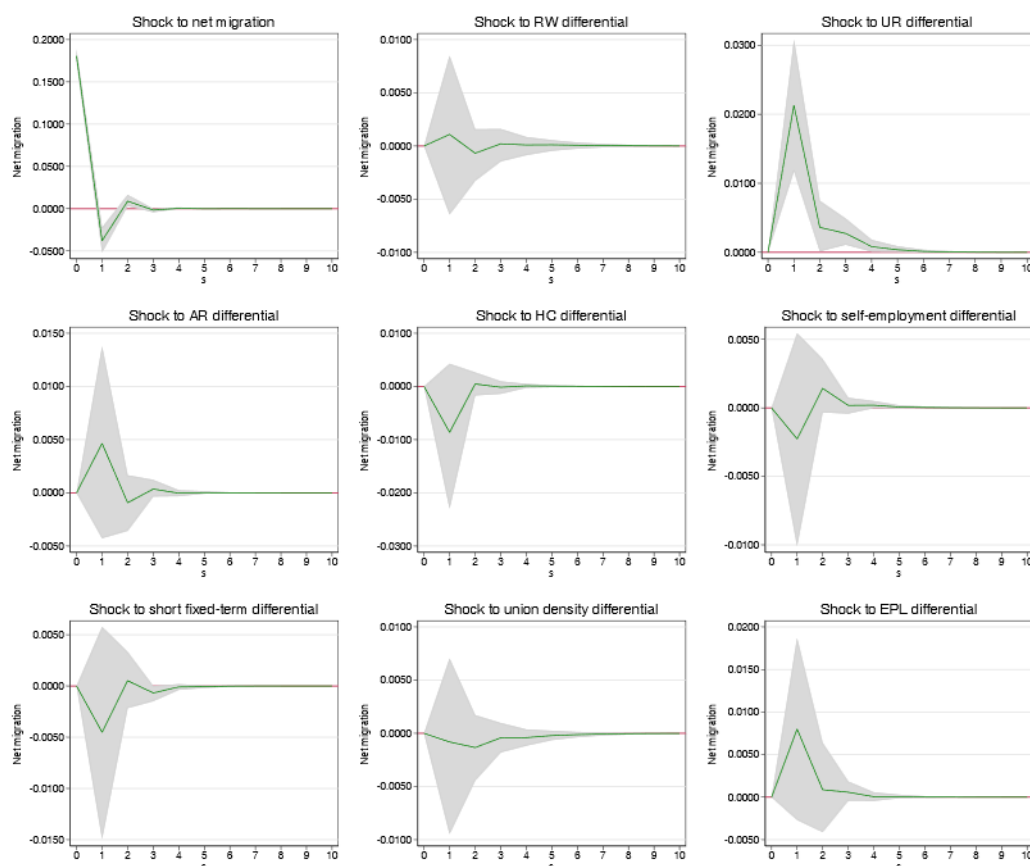
Note: The green line shows the impulse response, the grey area represents the 95% confidence interval, and errors are derived from a 1,000-run Monte Carlo simulation.

Figure 12 / Sample B – IRFs – Response of atypical employment to net migration shock: reduced model (excl. real wage differentials)



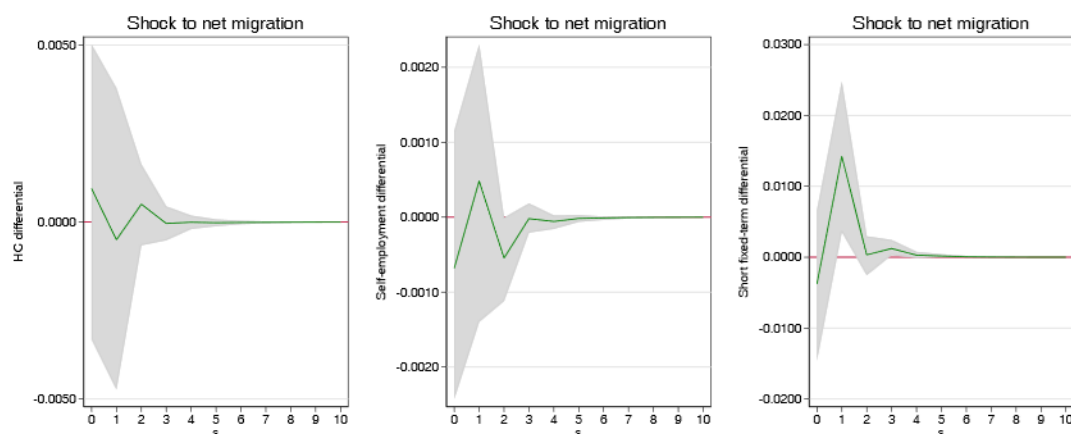
Note: The green line shows the impulse response, the grey area represents the 95% confidence interval, and errors are derived from a 1,000-run Monte Carlo simulation.

Figure 13 / Sample B – IRFs – Response of net migration to labour market shocks: reduced model (excl. part-time share differentials)



Note: The green line shows the impulse response, the grey area represents the 95% confidence interval, and errors are derived from a 1,000-run Monte Carlo simulation.

Figure 14 / Sample B – IRFs – Response of atypical employment to net migration shock: reduced model (excl. part-time share differentials)



Note: The green line shows the impulse response, the grey area represents the 95% confidence interval, and errors are derived from a 1,000-run Monte Carlo simulation.

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