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Analysis of labour market migration in the OECD area

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***Abstract*---**This article examined the impact of migration on unemployment in 20 OECD countries over the period from 2000 to 2021. To initially investigate the existence of a long-term equilibrium relationship, the ARDL model was employed. The test revealed that, in general, an increase in the migration rate is associated with an increase in the unemployment rate in OECD countries. These results are fully consistent with the push and pull theory, which states that the arrival of migrants on the labour market as a complement promotes an increase in the unemployment rate. This implies that, in the presence of labour market rigidities, the arrival of immigrants can lead to an increase in unemployment in host countries. Secondly, the NARDL model was used to show the impact of a decline in migration on unemployment. The results showed that a decline in migration rates also leads to an increase in unemployment in OECD countries, but to a lesser extent. Thus, whether migration flows are low or high, they cause unemployment in host countries.

***Keywords*---**migration, unemployment, labour market, ARDL model, NARDL model.
Codes JEL: J42, F22, J64, C22, C51

INTRODUCTION

According to the International Labour Organisation (ILO), there will be an estimated 281 million international migrants in the world in 2020, representing 3.6% of the global population. This observation shows that over the last few decades, most OECD countries have seen an increase in international migration. Indeed, the number of immigrants received in OECD countries has risen considerably, from 82 million in 1990 to 127 million in 2010. At the same time, there was a slight increase in the unemployment rate in the OECD area of 6.8% in 1990. This increase has continued, reaching almost 7% in 2020.

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In 2020, Europe and Asia were home to almost 87 million international migrants, representing 61% of the world's total migrant population. These two regions were followed by Latin America and the Caribbean (5%) and Oceania (3%). About the size of the population in each region, the share of international migrants was highest in Oceania, North America, and Europe, representing 22%, 16%, and 12% of the total population, respectively. However, according to the International Migration Outlook 2021, permanent immigration to OECD countries will fall by more than 30% by 2020, to less than 4 million people. The main reason for this drop in migration is the COVID-19 pandemic, which has led to the closure of borders.

As far as the labour market is concerned, the OECD has always tried to improve the situation of immigrants on the labour market. Between 2000 and 2008, the employment rate of immigrants improved in all OECD countries. The rate rose from 57% in 2002 to 64% in 2008, a level very close to that recorded for people born in the country (66%). The unemployment rate by ricochet also fell during this period, but remained higher than that of native-born people (12% compared with 7%). In addition, there was a slight increase in the total unemployment rate in the OECD area, rising from 6.8% in 1990 to 7% in 2020.

In the public debate, the relationship between immigration and labour market performance (employment, unemployment, etc.) seems to be self-evident. In other words, there is a link between net immigration flows and the volume of unemployment in the host country. Immigration, which everyone recognises as playing a positive economic role in good times, is just as a factor in worsening unemployment in bad times. The supposed link between immigration and labour market performance (unemployment) is seen primarily from a quantitative angle.
Any new immigration is implicitly considered a priori as a source of additional labour, and therefore of competition and unemployment for native workers. So the problem of this study revolves around the following fundamental question: What is the impact of international migration on unemployment in host countries in the OECD area?

Two specific questions emerge from this fundamental question, namely:

- Is there a long-term relationship between international migration and unemployment?
- Does a drop in migration have a positive influence on unemployment?

In this context, the general objective of the study is to examine the impact of migration on unemployment trends in OECD countries. This general objective is broken down into two specific objectives, namely:

- To show a long-term relationship between migration and unemployment.
- To show the impact of a fall in migration on unemployment

This article is structured in two parts, each part consisting of two chapters. The first part reviews the literature on international migration and labour market performance and presents legislation on migration in the OECD area. In this part, the theoretical and empirical literature on migration and unemployment is reviewed. Secondly, it reviews the evolution of migration and unemployment in

the OECD area. The second part is devoted to the estimation methodology and the interpretation of the results. We end with a conclusion.

I- MIGRATION AND UNEMPLOYMENT

The economic literature offers a wealth of work on international migration and unemployment. In this section, we will first show the theoretical framework that presents the relationship between international migration and unemployment before showing the empirical framework in a second section.

1- Theoretical contribution

Observations on the labour market show that the evolution of the unemployment rate in a country, which is one of the indicators of tensions on the labour market, marking the imbalance between supply and demand, can be influenced by the resident population and foreigners who come to settle there for a long period or permanently. The Greenwood et al (1996) approach, general equilibrium theory, neoclassical theory, and Push and Pull theory form the reference framework for our study.

1.1- Approach of Greenwood et al (1996)

They state that the effects of immigration on the income of citizens of the host country can be studied in two ways, namely the effects on supply and demand. As far as supply-side effects are concerned, inputs, i.e., foreign and domestic labour, can be either substitutes or complements. When two inputs are substitutes in production, an increase in the supply of one input reduces the demand for its substitute. Also, an increase in the supply of labour through increased immigration to a given labour market leads to increased competition between immigrants for jobs. This, in turn, reduces the wages of immigrants on the labour market.

Furthermore, depending on their skill requirements, employers are likely to substitute immigrant labour for native labour, the latter being cheaper. This competition for jobs in the local labour market between natives and immigrants reduces the incomes of natives. On the other hand, if immigrants complement rather than replace residents of the host country, production will tend to increase. This will lead to an increase in employment opportunities, which in turn will result in higher wages. In order to take into account the simultaneous effects on both the country of origin and the country of immigration, we have turned to the 'neo-classical' theory.

1.2- The 'neo-classical' theory

According to the 'neo-classical' theory, migration will reduce the level of wages in the country of immigration, because the arrival of immigrant labour implies an increase in the supply of labour, i.e., a shift to the right of the labour curve, which will now join the labour curve at a lower point. In emigration countries, on the other hand, the fall in labour supply resulting from emigration leads to an increase in the wage rate. Martinoia (2011) states that it is the lack of employment in several countries, coupled with a high percentage of seasonal work, that has encouraged emigration to countries with lower unemployment.
According to Heitmueller (2004), low unemployment and relatively high incomes encourage immigration. Individuals aim to increase their income and improve

their well-being by moving to high-income countries. Consequently, the imbalance in incomes and the higher probability of finding a job over time would lead to a migration flow from low-income countries to high-income countries. The neoclassical approach has shown that a decrease in unemployment in the destination country and an increase in the level of income encourage migration (Martinoia, 2011).

1.3- The Push and Pull theory

This theoretical approach, which is frequently used in public debate, is based on a simple analytical model that fits within the framework of the standard economic model: migration is said to be the result of decisions taken by individuals seeking to maximise their income, which would encourage them to migrate to regions with a higher standard of living than their own. This simplified approach, which has long prevailed, has been widely criticised, calling into question the postulates of the standard model.

In the standard model, the arrival of immigrants on the labour market in the host country is a positive offre shock that results in net wealth creation, the immigration surplus (Berry and Soligo, 1969; Borjas, 1995). However, the effet on employment and wage levels generally depends on the degree of substitutability-complementarity between newcomers and factors of production, and the structure of the labour market in the host country (Greenwood and Hunt, 1995). Thus, the arrival of immigrants results in a fall in the return on substitutable factors and an increase in the return on complementary factors.

If immigrants are less qualified on average than natives, immigration results in a fall in the wage of the nonqualified and an increase in the wage of the qualified and the return on capital. In the presence of rigidities in the labour market, adjustment takes place through quantities, and the arrival of immigrants may result in an increase in unemployment in the host country. However, when immigrants arrive, they take jobs that are generally not filled by residents. These jobs are usually poorly paid and in low-productivity sectors. Immigrants are a flexible source of labour, making it possible to respond rapidly to labour market needs and to compensate, in part, for the low geographical and occupational mobility of resident workers.

2- Empirical contribution

In the economic literature, there is a large and varied body of work on the relationship between international migration and unemployment in the labour market. Indeed, the explanation of unemployment by labour migration has been the subject of several studies. To this end, some studies show positive effects of the link between labour migration and unemployment, while others find negative effects of this relationship.

2.1- Positive impact of migration on unemployment

In general, empirical studies on the impact of immigration on the labour market in host countries conclude that migratory flows do not reduce the prospects of natives on the labour market. This assertion is highlighted by Borjas (1990). Their work shows that the effect of immigration on the employment of natives is weak. Some studies have attempted to assess the degree of substitutability-

complementarity between immigrants and native workers. They estimate the parameters of the production function. The results obtained indicate that immigrants tend to complement native workers (Grossman, 1982; Borjas, 1987 for the United States).

2.2- Negative impact of migration on unemployment

The recent availability of harmonised international data has made it possible to use spatial correlations, at the level of a group of countries, to assess the impact of immigration on the labour market. The mobility of natives is more limited between countries. Angrist and Kugler (2003) give their views on the flux of migrants to a group of countries to assess their impact on the labour market. Indeed, in their work on 18 European countries, and analysing the consequences of immigration on employment between 1983 and 1999, they reveal that immigration has a negative effet on the employment of natives. This negative effet is reinforced by taking labour market rigidity into account.

Thus, theoretical and empirical studies have shown that the impact can be negative as well as positive. It is negative insofar as the employment of natives is concerned and immigrants are substitutes on the labour market, and it is positive insofar as there is complementarity between natives and immigrants on the labour market.

II- RESEARCH METHODOLOGY

This section describes the model specifications and estimation procedures.

1- Econometric test

1.1- Data source

This study for 20 OECD member countries uses annual data covering the period 2000-2021. These data come from the World Bank database (World Bank, 2024). This study period was chosen to avoid a series of variables with missing data.

1.2- Descriptive statistics

The descriptive statistics, presented in Table 1, show the distribution and variability of the data relating to total unemployment, the net migration rate, foreign direct investment, inflation, demographic growth, and the active population used in this analysis.

Table 1: Variables used in our study

	chomto	mignet	ide	Inf	Lpop	cde
Mean	8,090	0,045	5,437	2,172	16,001	0,565
Maximum	27,470	43,112	106,594	12,035	18,050	2,890
Minimum	2,120	-287,958	-40,086	-4,478	14,437	18,050
Std. Dev.	4,623	14,3093	12,301	1,928	14,437	18,050
Observations	440	440	440	440	440	440

Source: Author, based on data from the World Bank (2024)

1.3- Correlation matrix

Table 2 shows the correlation matrix. More precisely, it shows whether the relationship between the variables is positive or negative, or strong or weak. Examination of the correlation coefficients shows that they are generally low. This

means that there is probably no multicollinearity between the exogenous variables.

Table 2: Correlation matrix

	chomto	*mignet*	*ide*	*inf*	*lpop*	*cde*
chomto	1					
mignet	-0,036	1				
ide	-0,038	-0,006	1			
inf	0,071	-0,190	0,071	1		
lpop	0,012	0,001	-0,189	-0,081	1	
cde	-0,257	0,076	0,018	0,131	-0,51	1

Source: Author, based on data from the World Bank (2024)

The above result shows that our different variables are not all positively correlated and are even less strongly linked. Indeed, we can see that the variables *mignet, ide and cde* remain negatively correlated with a low degree of linkage. On the other hand, the variables inf*et lpop* are positively correlated, but their degrees of linkage (7.1% and 1.2%) remain very weak.

2- Model specification

Based on Pesaran et al. (1999), heterogeneous panel dynamic regression can be incorporated into the error correction model using the autoregressive distributed lag ARDL(p,q)[1] technique and presented as follows, Loayza and Ranciere (2006):

$$\Delta(y_i)_t = \sum_{j=1}^{p-1} \gamma_j^i \Delta(y_i)_{t-j} + \sum_{j=0}^{q-1} \delta_j^i \Delta(X_i)_{t-j} + \rho^i \left[(y_i)_{t-1} - \left\{\beta_0^i + \beta_1^i (X_i)_{t-1}\right\}\right] + \varepsilon_{it} \quad (1)$$

Where $\boldsymbol{y}$ is unemployment, X is a set of independent variables, γ and δ represent the short-run coefficients of unemployment and its determinants, β, the long-run coefficients, ρ is the long-run equilibrium adjustment speed coefficient, and ε is the error term. The subscripts i and t represent the country and time, respectively. Equation (1) can be estimated using different estimators: the mean group (MG) model of Pesaran and Smith (1995) and the pooled mean group (PMG) estimator developed by Pesaran et al. (1999). These estimators consider the long-term equilibrium and heterogeneity of the dynamic adjustment process and are calculated by maximum likelihood (Demetriades and Law, 2006).

2.1- Aggregate group mean model (PMG)

The main feature of PMG is that it allows the short-run coefficients, including intercepts, speed of adjustment to long-run equilibrium values, and error variance to be heterogeneous country by country, while the long-run slope coefficients are restricted to be homogeneous across countries. This is particularly useful when there is reason to believe that the long-term equilibrium relationship between variables is similar across countries, or at least a subset of them. Short-run adjustment is allowed to be country-specific, due to the very different impact of vulnerability to financial crises and external shocks, stabilisation policies,

[1] p is the lag of the dependent variable, and q is the lag of the independent variables.

monetary policy, etc., on the economy. However, the validity, consistency, and effectiveness of this methodology are subject to several requirements.

Firstly, the existence of a long-run relationship between the variables of interest requires the coefficient of the error correction term to be negative and not less than -2. Secondly, an important assumption for the consistency of the ARDL model is that the residual resulting from the error correction model is serially uncorrelated and that the explanatory variables can be treated as exogenous. These conditions can be met by including the ARDL lags (p, q) for the dependent (p) and independent (q) variables in the form of error correction. Eberhardt and Teal (2011) argue that the treatment of heterogeneity is essential for understanding the growth process. Therefore, failure to do so will produce an inconsistent estimate in PMG.

2.2- Group mean (GM) estimator

The second technique (GM) introduced by Pesaran and Smith (1995) involves estimating separate regressions for each country and calculating the coefficients as unweighted averages of the estimated coefficients for each country. This imposes no restrictions. It allows all coefficients to vary and be heterogeneous in the short and long term. However, the necessary condition for the consistency and validity of this approach is to have a sufficiently large dimension of the data time series. The cross-national dimension should also be important (to include around 20 to 30 countries). In addition, for small N, the mean estimators (MG) of this approach are fairly sensitive to outliers and permutations of small models (Favara, 2003).

3- Breusch-Pagan dependence test

When examining relationships in a panel data model, we are often faced with the problem of cross-sectional dependence, which means that a shock affecting one country may also affect other countries in the model due to direct and indirect economic relationships between countries. The literature offers numerous tests of inter-individual dependence. Part of this test is dedicated to large panels (Pesaran CDtest, 2004). However, other tests are adapted to long panels. These are mainly the Lagrange multiplier test developed by Breusch-Pagan (1980) and the Pesaran test (2004).

In our study, the temporal dimension (22 years) is greater than the individual dimension (20 countries), so the appropriate technique is the Breush-Pagan (1980) LM test. Pargan's LM test is based on the null hypothesis of individual independence. As regards the decision criteria, if the probability obtained after performing the Breush-Pagan test is above the critical threshold, then we test the stationarity of our series using first-generation tests (Levin-Lin-Chu test (2002), Im-Pesaran-Shin test (2003)). If this probability is below the critical threshold, the second-generation tests (CADF (2003) and CIPS (2007) tests) are used to test stationarity.

Table 3: Breusch-Pagan test

	Statistics	Probability
Dependence test	505,803	0,000

Source: Author, based on data from the World Bank (2024)

The result of the test leads us to reject the null hypothesis of independence, since the P-value is less than 5%. We therefore conclude that there is dependence between the individuals in the panel.

4- Panel unit root tests

In this section, the temporal properties of the variable used in this study are tested using panel unit root tests such as the CADF test and the CIPS test. After estimation, given that the variables of interest are a combination of I(0) and I(1) processes, we use the autoregressive distributed lag (ARDL) method proposed by Pesaran et al. (1999). The advantage and superiority of the panel ARDL model is that it can be applied regardless of whether the variables selected in the model are purely I(0) or purely I(1), or partially integrated. The import function can be simply stated as follows:

$$chomto_t = \alpha + \beta migret_t + \delta ide_t + \theta inf_t + \vartheta cde_t + \sigma Lpop_t + \varepsilon_t \qquad (2)$$

Equation (2) describes $migret_t$_t as the net migration rate; ide_t,foreign direct investment; inf_t, inflation; cde_t, population growth; $lpop_t$, labour force, with ε_t, the error term that represents other factors not accounted for in the model. Following Shin et al. (2011), we specify the relationship between unemployment and migration in a panel ARDL form as follows:

$$\Delta chomto_{it} = \varphi_i\left(chomto_{i,t-1} - \beta_i' X_{i,t}\right) + \sum_{j=0}^{p-1} \alpha_{ij}\, \Delta chomto_{i,t-j} + \sum_{j=0}^{q-1} \delta_{ij}\, \Delta X_{i,t-j} + \mu_i + \varepsilon_{it} \quad (3)$$

Where $chomto$ is total unemployment; X is the vector of explanatory variables, φ_i is the group-specific adjustment speed coefficient ($\varphi_i < 0$), β_j^i are our vectors of interest, which measure the long-run impact of explanatory variables on unemployment, ECT = $\left(chomto_{i,t-1} - \beta_i' X_{i,t}\right)$ is the error correction term. α_{ij}, δ_{ij} are the short-run dynamic coefficients, p and q are optimal lag lengths, and μ_i is the constant.

5- Presentation of the study models

5.1- Autoregressive Distributed Lag (ARDL) model

The ARDL model developed by Pesaran et al (2001), which recommends the use of integrated variables of different orders I (0) and I (1), allows us to deal simultaneously with long-term dynamics and short-term adjustments in the case of our first specific question. However, as far as the ARDL model is concerned, it does not allow us to take into account the direction of the level of migration (upward or downward). In other words, there may be potential effects of increases and decreases in migration on unemployment.

Also, there are many reasons to believe that time series, whether social, economic, or financial, may follow non-linear paths (Benkraiem et al. 2019). As a result, the

application of a more appropriate model is more than necessary to accurately reflect the complexity of the real world. Therefore, we take the non-linear ARDL model developed by Shin et al. (2014) in the case of our second specific question.

5.2- NARDL model

Shin et al. (2014) in their work derived the dynamic error correction representation related to a long-run asymmetric cointegration regression to lead to the construction of a NARDL model. In addition, the latter proposed asymmetric cumulative dynamic multipliers that enable the adjustment model to be traced, following positive and negative shocks to the exogenous variables.

According to Schorderet (2004), Shin et al. (2014), the starting point of NARDL is to decompose our series of the explanatory variable ($mignet_{it}$) into positive ($mignet_{it}^{+}$) and negative ($mignet_{it}^{-}$) partial sums.

$$chomto_{it} = \beta^{+} mignet_{it}^{+} + \beta^{-} mignet_{it}^{-} + \mu_{it} \quad (4)$$

β^{+} is the long-run coefficient associated with positive changes in $mignet_{it}$, β^{-} represents the long-run coefficient associated with negative changes in $mignet_{it}$. According to Schorderet (2004) and Shin et al. (2014), the starting point is to decompose x_{it} as follows:

$$mignet_{it}^{+} = \sum_{j=1}^{t} \Delta mignet_{j}^{+} = \sum_{j=1}^{t} \max(\Delta mignet_{j}, 0) \quad (5)$$

$$mignet_{it}^{-} = \sum_{j=1}^{t} \Delta mignet_{j}^{-} = \sum_{j=1}^{t} \min(\Delta mignet_{j}, 0) \quad (6)$$

Thus, we specify the relationship between unemployment and migration in a panel non-linear ARDL form as follows:

$$chomto_{it} = \sum_{j=1}^{p} \delta_{j}\, chomto_{it-j} + \sum_{j=0}^{q_1} (\theta_{j}^{+}\, mignet_{it}^{+} + \theta_{j}^{-} mignet_{it-j}^{-}) + \sum_{j=0}^{q_2} ide_{it-j} + \sum_{j=0}^{q_3} inf_{it-j} + \sum_{j=0}^{q_4} Lpop_{it-j} + \sum_{j=0}^{q_5} cde_{it-j} + \varepsilon_{it} \quad (7)$$

III- EMPIRICAL RESULTS

1- Results of econometric tests and ARDL estimates

In this research, we use the PMG estimator and the MG estimator to estimate the ARDL model.

1.1- Hausman test

The Hausman test allows us to choose between the MG estimation method and the PMG estimation method in ARDL. When the probability is greater than the critical threshold of 5%, the PMG estimation method is applied. In our case, as shown in the table below, the probability is greater than 5%, so we decide to apply the PMG.

Table 4: Results of the Hausman test

	Statistics	Probability
Test of Hausman	0,60	0,987

Source: Author, based on data from the World Bank (2024)

The main feature of PMG is that it allows short-run coefficients, including intercepts, speed of adjustment to long-run equilibrium values and error variance to be heterogeneous country by country, while long-run slope coefficients are restricted to be homogeneous across countries. This is particularly useful when there is reason to believe that the long-term equilibrium relationship between the variables is similar from one country to another, or at least a subset of them.

1.2- Dynamics of the long- and short-term coefficients

Table (5) below shows that the adjustment coefficient or recall force 'cointEq (-1)' is statistically significant (Prob. 0.000 < 0.05), negative (-0.200), and lies between zero and one in absolute value. These results guarantee an error correction mechanism, which means that there is a cointegration relationship between the variables.

1.3- Interpretation of short-term coefficients

The results indicate that, contrary to long-term dynamics, the net migration rate does not explain total unemployment in the short term. However, inflation and demographic growth tend to lower the unemployment rate in receiving countries.

Table 5: Estimation results for short-term coefficients

Variables	**PMG**	
	Coefficients	Probability
Mignet	18,786	0,318
Ide	-0,031	0,139
Inf	-0,163***	0,000
Lpop	-7,727	0,228
Cde	-1,222*	0,089
ec	-0,200**	0,000

Source: Author, based on data from the World Bank (2024)

1.4- Interpretation Long-term coefficient (LT)

Table (6) below shows the long-term results. The dependent variable, total unemployment, and the independent variables, net migration rate, foreign direct investment, inflation, and population growth, are statistically significant at the 10% level. Only the active population variable is not statistically significant.

Firstly, the table below shows that an increase in the migration rate favours an increase in the total unemployment rate. An increase of 1% leads to an increase of 1.43%. Secondly, unlike the migration rate, foreign direct investment leads to a fall in the unemployment rate in the host countries. An increase of 1% leads to a decrease of 0.038%. Thirdly, inflation also leads to a fall in the unemployment rate in host countries. An increase of 1% leads to a fall of 0.23% in the total unemployment rate.

Finally, demographic growth tends to increase the total unemployment rate in host countries. A 1% increase in population growth leads to a 0.867% increase in the total unemployment rate of the host countries.

Table 6: Estimation results for long-term coefficients

Variables	**PMG**	
	Coefficients	Probability
Mignet	1,433**	0,032
Ide	-0,038***	0,008
Inf	-0,236*	0,073
Lpop	-1,164	0,500
Cde	0,867*	0,058

Source: Author, based on data from the World Bank (2024)

2- Results of econometric tests and NARDL estimates

2.1- Hausman test

The Hausman test allows us to choose between the MG estimation method and the PMG estimation method in NARDL. When the probability is greater than the critical threshold of 5%, the PMG estimation method is applied. In our case, as shown in the table below, the probability is greater than 5%, so we decided to apply the PMG.

Table 7: Results of the Hausman test

	Statistics	Probability
Test of Hausman	0,57	0,9968

Source: Author, based on data from the World Bank (2024)

2.2- Dynamics of long- and short-term coefficients

Table (8) below shows that the adjustment coefficient or recall force 'ec' is statistically significant (Prob. 0.000 < 0.05), negative (-0.194), and lies between zero and one in absolute value. These results guarantee an error correction mechanism, which therefore translates into the existence of a cointegration relationship between the variables.

2.3- Interpretation of short-term coefficients

The results indicate that in the short term, high and low migration periods lead to an increase in the total unemployment rate of the host countries, but the various associated coefficients are not significant. However, we find that in the short term, only inflation influences the unemployment rate.

Table 8: Estimation results for short-term coefficients

Variables	PMG	
	Coefficients	Probability
mignetdec	6,595	0,375
mignetinc	1,106	0,324
Ide	-0,029	0,218
Inf	-0,181**	0,000
Lpop	-4.811	0,478
cde	-1,129	0,159
ec	-0,194**	0,000

Source: Author, based on data from the World Bank (2024)

3- Interpretation of long-term coefficients

The results presented in Table 9 show that a fall in migration has a positive impact on total unemployment in the host countries. In fact, a 1% decrease leads to an 8.70% increase in the total unemployment rate. More migration also has a positive impact on total unemployment. An increase of 1% leads to a rise in unemployment. However, an increase in foreign direct investment leads to a 0.474% decrease in the unemployment rate, while a 1% increase in population growth leads to a 0.978% increase in the unemployment rate.

Table 9: Estimation results for long-term coefficients

Variables	PMG	
	Coefficients	Probability
mignetdec	8,700**	0,050
mignetinc	2,257**	0,040
Ide	-0,047**	0,040
Inf	-0,054	0,707
Lpop	-1,951	0,300
cde	0,978*	0,068

Source: Author, based on data from the World Bank (2024)

The results obtained reveal that the net migration rate (mignet), foreign direct investment (ide), and inflation (inf) are the determinants of unemployment. However, the active population (lpop) and demographic growth (cde) are not determinants that can explain the evolution of unemployment, as they are not significant.

Firstly, we find that an increase in the migration rate leads to an increase in the unemployment rate in some OECD countries. These results are perfectly consistent with the push and pull theory, which states that the arrival of migrants on the labour market as a complement favours an increase in the unemployment rate. Clearly, in the presence of rigidities in the labour market, the arrival of immigrants can lead to a rise in unemployment in the host countries.

Secondly, as in the case of increased migration, a fall in the rate of migration also leads to an increase in unemployment in OECD countries, but to a lesser extent. According to neoclassical economists, low unemployment encourages migration because people tend to migrate to countries with low unemployment.

Thirdly, foreign direct investment lowers the unemployment rate. This is because FDI focused on manufacturing industries strongly favours the use of labour Chudnovsky et al (1999). The jobs created are all the more important when new companies are created than when existing companies are simply merged or acquired. In addition, there is evidence that, on average, multinational companies pay higher wages and provide better working conditions than local companies, leading to lower unemployment. Our results are consistent with those of Widia et al (2019) and Alalawneha and Nessa (2020), who argued for a negative effect of FDI on the unemployment rate.

Finally, the results show that inflation leads to a decrease in the unemployment rate. This result can be explained by the Phillips curve. The reasoning behind the Phillips curve is based on an analysis of the bargaining power of employees, who push up wages, which in turn push up prices. As a result, companies hire more people, which lowers unemployment.

GENERAL CONCLUSION

The overall aim of this study on the relationship between migration and unemployment was to examine the impact of migration on unemployment in 20 OECD countries over the period 2000 to 2021. This study highlighted a review of the literature on the impact of migration on unemployment. This review highlighted the theories that present the relationship between migration and unemployment (general equilibrium theory, neoclassical theory, and push and pull theory). Through these theories, we retain that migration can have a positive or negative impact on the total unemployment of the host countries. Indeed, the impact is positive when migrants are considered as complements on the labour market and negative when they are considered as substitutes.

In addition, using an ARDL model, we have highlighted the long-term relationship between migration and unemployment in the OECD area. What emerges is that, in the long term, migration has a favourable impact on the rise in unemployment. This impact is that more migration increases unemployment in the host countries. In addition, after using an ARDL model, we used an NARDL model because we found that migration does not always follow a linear trajectory. It varies according to the period; in other words, it sometimes experiences periods of decline and periods of high migration.

Specifically, we found that both upward and downward variations in migration tend to increase unemployment in host countries. We also find that foreign direct investment tends to reduce unemployment. Consequently, political decision-makers need to implement strategies to encourage foreign direct investment in their countries, which will create jobs and satisfy the needs of both native and non-native populations.

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