

The Impact Of Inflow Migration On Unemployment In Selected European Countries During The Period 1995-2021

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Abstract

The study used an econometrics approach by applying ARDL model and combining it with the E-Views program to examine the effects of the inflow of immigration to some European nations (Italy, Spain, England, Switzerland, and Germany) on unemployment rates in those countries between 1995 and 2021. The inflow migration, labor force's age range of 15 to 65 years old, the inflation rate, and the GDP at constant prices were chosen as the independent variables, the results show that while the inflow migration, labor force, influx migration has no statistically significant effect on unemployment rates in the short run, but it does in the long term. This result is supported by Prymachenko, Fregert, and Andersson's (2013) findings as well as those of Cuneyt Kilic, Mesut Yucesan, and Halil Ozekicioglu (2019).¹⁸ The results also provide evidence that inflow migration boosts the GDP of the host nation (a positive response), and all other control factors have a statistically significant relationship with immigration in both the short and long run. The immigration of newcomers has no impact on the employment opportunities of local residents. Further immigrants also contribute to the host country's economic growth. This might be a result of recent immigrants' high skill levels.

Keywords: Inflow migration- Unemployment- GDP- inflation- People in the workforce

Introduction

The research aims to investigate the impact of immigration flows on unemployment and other macroeconomic factors applying to some of the most attractive countries to immigrants, the study chooses some European countries which are (Italy, Spain, England, Switzerland, and Germany), using data for the period 1995-2021. The study uses the econometrics approach by building the ARDL model, and it uses the E-Views program to build the model, where unemployment rates were considered as a dependent variable, and a set of

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independent variables was adopted, namely: Migration flowing into the country, Inflation rate, labor force at the age of 15-65 years, and GDP at constant prices, the study adopts a basic hypothesis that the relationship between influx of migration and unemployment rates is a direct relationship, and the study attempts to investigate the results of researchers by reviewing much literature in the same field, then It reaches the results and recommendations that add to the economic literature in the field of labor economics.

The research problem stemmed from the fact that unemployment is one of the most important problems experienced by most countries of the world, and since there are some countries that are more attractive to immigration than others, the research problem stemmed from an attempt to investigate the impact of the flow of immigration to some European countries on unemployment rates in those countries during the period 1995 -2021.

The study raises many research questions and attempts to answer them: how does the flow of immigration streams to some selected European countries (which are the most attractive to immigrants in EU countries) affect unemployment rates in those countries? how do the inflation rates in the selected countries affect the unemployment rates in those countries during the study period? , what is the relationship between the development of GDP at constant prices in those countries and the development of unemployment rates during the study period? and what is the relationship between the labor force of the population in those countries in the age group of 15-65 years, and unemployment rates during the study period?

Based on the foregoing in the research problem and its previous questions, a set of goals and objectives was formed that could contribute to clarifying these goals: Clarifying the impact of migration flows to selected European countries on unemployment rates during the period 1995-2021. Clarifying the relationship between inflation rates and unemployment rates in those countries during the study period, and whether they go according to economic theory or not. Clarifying the impact of population development in the labor force on unemployment rates in the countries under study during the study period. And to clarify the impact of the development of the gross domestic product in the countries under study on the unemployment rates in those countries.

So, the purpose of the research lies in examining the reality of the impact of migration flows to some countries that are most attractive to immigrants in EU countries on unemployment rates in those countries during the period 1995-2021, and what is the absorptive capacity of the labor market in those countries to absorb these flows of immigrants, and the research is considered added value to the economic library in this field.

The research uses the econometric methodology to examine the impact of emigration on unemployment in emigrant countries during 1995-2021 using panel data analysis and applying with E-Views program to build the model, where unemployment rates were considered as a dependent variable, and a set of independent variables was adopted: migration flowing into the country, inflation rate, labor force at the age of 15- 64 years, and GDP at constant prices.

Literature Review

The scientific literature on the effect of inflow migration on labor markets is versatile. Various studies emphasize on understanding the effects of incoming immigration on unemployment, while a few studies attempt to analyze the impact of the inflow of migrants on unemployment in emigrant countries, (Lorena Skuflic &Valentina Vuckovic 2019; Bekir *Res Militaris*, vol.13, n°3, March Spring 2023

Gundogmus & Musa Bayir 2021)¹⁵ This highlights the fact that there is no general conclusion regarding the direction of the effect of migration inflows on unemployment in emigrant countries and this was revealed by the study of Halil Ozekicioglu (2019).¹² As for the effect of the migration flow on wage rates in the host nations, Elsner (2013)⁸ found that in Lithuania inflow of migrants led to rise in wages of young workers by 6%, that had neutral effect on the senior worker wages over the five-year period. It also showed the fact that wage distribution between high-skilled and low-skilled workers was not affected by emigration.³

Also emphasizing migration in specific occupations, Bridget Anderson, and others (2021) studied the role of migrants in specific occupations and sectors in particular countries to transnational systems of production and service provision. For this, they proposed comparative research comparing migrants to citizens within the same system, comparing migrants' roles across systems, and comparing strategies for resilience adopted in different systems. They tried to explain, why and how a concern for the resilience of essential services should make us rethink how the impacts of migrant workers are assessed and how labour migration and related public policies are designed.⁴

The IMF working paper by Robert Beyer (2016) used a large survey to analyze labor market performance in Germany. The study found that even though there exists identical characteristics between immigrants and natives, but the immigrants earned 20 percent less.¹⁹ This difference is less for the immigrants from developed countries, with good German language skills, and degrees. The wage gap is explained by less occupational autonomy. Immigrants did not participate in the labor market initially and therefore, less likely to be employed. It was found that immigrants were more likely to remain unemployed than the native labor force.¹⁴

Focusing on the relationship between migration and unemployment growth Hazans and Philips (2011, p. 3), found that there is improvements in the labor market position of ethnic minorities and less skilled workers in the Baltic countries.¹³ Further focus was on migration and improved standards of living with the available remittances but a shortage of labor existed because of migration. This resulted in growth hurdles and shortages of labor that erupted due to a lack of skilled labor in some segments of the labor market which could increase unemployment rates.² Also studies from Pryymachenko, Fregert, and Andersson (2013)¹⁸ show that unemployment is negatively affected due to inflow migration such that 10% increase in emigrants leads to decline in unemployment by 5%. Additionally, it was found that emigration has made reduction in more supply of labor, decline in unemployment rate, increase in wages especially of those who joined the EU in Central and Eastern European member states in 2004 and 2007. Dustmann, Frattini, & Rosso, (2015) examined the relationship between migration and unemployment for Poland within the selected OECD countries during time of European Union accession on the new labor market. They found that large number of workers were hired with intermediate level skills and paid high wages as compared to workers with low skills and experience who fetched lower wages.⁶ Cuneyt Kilici, Mesut Yucesan, and Halil Ozekicioglu (2019), in their study "Relationship Between Migration and Unemployment: Panel Data Analysis for selected OECD Countries", analyzed the impact of migration on the labor market.⁵ The research establishes the relation between migration and unemployment because changes in the labor markets of nations that receive and send migrants have a direct impact on unemployment rates.⁷ The impact on the labor market due to migration are mostly discussed in the literature examining the connection between migration and unemployment. There is no widely held consensus about the direction and magnitude of internal migration and foreign migration's effects on unemployment. While some studies contend that migration negatively

affects unemployment, others contend quite the contrary, and still, others claim that there is no conclusive evidence linking migration and unemployment. In the 23 OECD nations that the study chooses, they examine the size and direction of the association between migration and unemployment. It was found that consumer price index and average earnings both have positive effect but are create statistically insignificant effect on unemployment as compared to migration and economic growth that has negative but statistically significant impact.⁹

Another study based on studies related to migration and unemployment by Sergii Troshchenkov (2011) highlighted, how immigration affects Denmark's overall unemployment rate.²² Previous research found that immigration had a somewhat different impact on earnings and the unemployment rate. Many European studies find negative consequences of immigration, while most studies from America found indifferent or positive immigration on unemployment. Over a three-year period, the study assembled cross-sectional data from 99 Danish municipalities. And examined the impact of immigration on Denmark's unemployment rate using a regression model, paying particular emphasis to immigrants from non-Western nations. The findings show that changes in the population of foreigners and people from non-Western backgrounds do not significantly affect the unemployment rate. Thus, it is possible to claim that the results are true and comparable with the basic idea and research.¹¹

To clarify the relationship between incoming immigration and the rates of the gross domestic product of the host countries, Serdar Ozturk and Sevil Ozdil (2020), in their study titled "Investigation of The Relationship Between Migration, Unemployment and Growth in the OECD Countries with Panel ARDL Technique", demonstrated that migration frequently occurs in tandem with economic progress.²¹ Both elements play a significant role in the growing process. This research scientifically investigates the relationship between migration and the chosen country's economic situation. Using the annual data set in 19 OECD nations, the panel data for the years 1990 to 2016 was examined using the panel ARDL technique. Both immediate and long-term outcomes were attained. Long-term findings indicate that migratory movements help host countries' economies grow. Results over the short term indicated that migrant movements had a detrimental impact on growth. On the contrary, as anticipated, when employment rises, so does GDP per capita; nevertheless, as unemployment rates rise, so does GDP per capita. It is also feasible to assert that migration is influenced by the economies of the receiving nations.

Ebru Sanliturk, and others (2023) attempted to understand the heterogeneous responses of migration to development.⁷ Database of yearly international migration flows of scholars, for all countries from 1998 to 2017. using open-access database to provide descriptive evidence on the relationship between economic development and the emigration propensity of scholars. They found that emigration rates initially decrease as GDP per capita increases then the trend reverses and emigration propensity increase as countries get richer.

Based on the effect of migration on skills and growth, Olinyki, Yuriy Bilan Halyna, Mishchuk Oleksandr akimov and Laszli Vasa (2021) in their study "The Impact of Migration of Highly Skilled Workers on The Country's Competitiveness and Economic Growth", attempted to clarify the relationships between the emigration of more skilled persons, GDP growth (measured in terms of GNI per capita), and national competitiveness.¹⁶ The statistical information processing and analysis tool are used in the research, which is based on data from industrialized nations and employs correlation-regression analysis, modeling, and cluster analysis. The study found that more educated immigrants have a significant impact on boosting the competitiveness and economic development of nations. This is supported by the talent migration's effect, which is measured by the case study values for "Highly educated Workers"

and "The Human Flight and Brain Drain" sub-indices of the Global Talent Competitiveness Index and "Brain Gain" sub-index, respectively.

Ana Rita Gomes, Oscar Afonso & Paulo B. Vasconcelos (2023), chooses to assesses the influx of skilled and unskilled refugees affecting the technological-knowledge-bias and, the skill premium in host communities, in Poland following the war in Ukraine.¹ By using a dynamic endogenous R&D general equilibrium model, found that with price channel dominance, the shock of the war causes an increase in the technological-knowledge-bias and thus the skills premium, given the increased supply of unskilled labour. A country's fiscal policy driven by direct and indirect subsidies to research and development activities has stronger effects on the growth rate when applied to unskilled workers. While country's monetary policy, with nominal interest rate, influences R&D activity through liquidity constraints and is limited by the zero nominal interest rate. It was concluded that a fiscal policy that subsidizes unskilled workers must be promoted.

Focusing on the relationship between migration and GDP, studies about different migration situations of the New Member States revealed that during 2004 to 2007 there was 0.2 per cent increase in the total GDP for the whole EU. While that in the emigrant countries, GDP declined by 1.1% due to loss of labor in long run. They analyzed the effect of old European union states and the new member states from 2004 to 2007. Also, small labor-market effects were found, and wages were reduced by 0.1 percent in European Union and Unemployment increased by 0.1 percent in short run during the study period. However, it showed neutral migration effect for wages and unemployment in the long run, after the adjustment of capital stocks, (Francesca D'Auria, Kieran Mc Morrow, and Karl Pichelmann, 2008).¹⁰ As estimated by the UN, the net migration flows from 2015 to 2030 can lower GDP (both real and per capita) resulting to huge cumulative total output loss up to 9% across all net-sending countries. As a result, GDP could decline by 4% in few countries. (IMF, 2016). Based on the overview of empirical literature, it can be concluded that impact of migration cannot be known before as it is more of an empirical issue. (Rutkowski, 2007).²⁰

This paper attempts to contribute to the existing, and scarce, literature, by empirically examining the impact of migration inflows on unemployment in selected European countries. The added value through this research work is the selected sample European countries under study, which are faced with the problem of increased migration inflows. The selected sample constitutes a total of five European countries. They are the following: Germany; Spain; Italy; UK and Switzerland.

Data And Methodology

Data

To examine the effects of the inflow of immigration to some European nations (Italy, Spain, England, Switzerland, and Germany) on unemployment rates during the period 1995-2021. The dependent variable was the unemployment rate (Unemp) and the independent variables were annual growth rate (GDP), annual consumer price index (INF), and Population ages 15-64(Popu).

The econometric model data was obtained from two sources. Inflow Migration data were obtained from International Migration Database while the other variables were obtained from World Development Indicators 2022.²³

Table 1 presents the variable's disruption and data sources of the dependent and independent variables.

Table 1: *Disruption and data sources of the dependent and independent variables.*

Variables	Variables disruption`s	Data sources
Inflation (Inf)	Inflation, consumer prices (annual %)	World Development Indicators 2022
Inflow Migration (Inflowm)	Inflows of foreign population by nationality	International Migration Database*
Total population age 15-64 (Popu)	Population ages 15-64	World Development Indicators 2022
Gross Domestic Product (GDP)	GDP (constant 2015 US\$)	World Development Indicators 2022
Unemployment Rate (Unemp)	Unemployment, total (% of total labor force) (modeled ILO estimate)	World Development Indicators 2022

Sources: <https://www.investopedia.com/terms/i/inflation.asp>,
<https://data.oecd.org/migration/permanent-immigrant-inflows.htm>
https://en.wikipedia.org/wiki/Workforce#cite_note-U.S_Bureau_of_Labor_Statistics-1

Methodology

This study aims to determine how inflow migration, inflation, and people in the workforce (as independent variables) affected unemployment rates (as dependent variable) in selected European countries (Italy, Spain, England, Switzerland, and Germany) between 1995 and 2021. using panel data analysis. These countries were chosen as they met with quite a lot of international migration since the 1995s.

Using panel data analysis is very important due to the following reasons; First, the cross-section and time-series data model will present several observation values. Consequently, the estimates will be more reliable. Secondly, the independent variables vary in dimensions and cross-section, which reduces the possibility of multistep problems.

The panel data analysis is used for the estimation of the model:

$$\text{Unemp}_{it} = \alpha_0 + \alpha_1 \text{Inflowm}_{it} + \alpha_2 \text{Inf}_{it} + \alpha_3 \text{Popu}_{it} + \alpha_4 \text{GDP}_{it} + u_{it}$$

Where the Unemp , Inflowm, Inf, Popu, GDP are mentioned in table 1 above. and α_1 to α_4 are the coefficients of independent variables. while (i) are 1, 2, ..., N indicate to cross-section units in Equation, and (t) are 1, 2, ..., t indicate time series.

Empirical Results and Discussion

Descriptive and tests for model variables:

Panel data analysis is the analytical method used in this study. Eviews 9 program is used to conduct the analysis. Panel data analysis models can be illustrated using the above equation. the summary statistics for the data set used in the study are shown in table 2 below.

Table (2) Descriptive Statistics

	Inflows Migration	Inflation, consumer price (annual %)	GDP Annual	Population Age 15-64	Unemployment Rate
Mean	421185.9	1.423874	1.469067	66.46226	8.696081
Median	335893	1.3765	1.887261	66.32407	7.75
Maximum	2016241	5.235423	7.441273	69.07534	26.09
Minimum	16686	-1.143909	-10.82289	63.52932	2.49
Std. Dev.	352326	1.294408	2.686981	1.505911	5.224956
Observations	135	135	135	135	135

Source: Authors calculations using WB data & E-Views package

Table 2 presents descriptive statistics for variables. The model estimates 135 observations. The means of Unemployment Rate, Inflows Migration, Inflation (consumer price (annual %)), GDP Annual, and Population aged 15-64 are calculated as 8.69, 421185.9, 1.42, 1.46, and 66.46 respectively. To investigate the effects of emigration and other variables on unemployment, the series must be stationary in the panel data model. Therefore, first, we make sure whether all series is stationary or not. for this purpose, we use the unit roots test, the results are shown in table (3) below:

Table (3): Unit Root Test Results Augmented Ducky- Fuller

Variables	Test	Level	Prob	1st difference
				Prob
Unemployment Rate	LLC*		0.1252	0.0000*
	IPS		0.1245	0.0001*
	Fisher ADF		0.2015	0.0002*
Inflows of foreign population	LLC		0.0255	0.0000*
	IPS		0.2334	0.0000*
	Fisher ADF		0.3687	0.0000*
Inflation Rate (Consumer Price Index)	LLC		0.0001*	-
	IPS		0.0006*	-
	Fisher ADF		0.0022*	-
Population ages 15-64, total	LLC		0.0000*	-
	IPS		0.0275**	-
	Fisher ADF		0.0219**	-
GDP Annual	LLC		0.0002*	-
	IPS		0.0000*	-
	Fisher ADF		0.0002*	-

Levin, Lin & Chu t/ Im, Pesaran and Shin W-stat / ADF - Fisher Chi-square*

Source: *The calculation of the authors depends on EViews, ***/***represent, stationary at 1%, 5% & 10% level respectively*

In Table(3) above, the LLC, IPS, and Fisher-ADF test results confirmed that the Unemployment Rate & Inflow of the foreign population is integrated at order 1. This means that the Unemployment Rate and Inflow of foreign population become stationary after the first difference. The others variables are confirmed to be integrated at the order I (0). The study recognized that the variables used are integrated at both I (0) and I (1). because there are different orders of integration in the variables under study, the test of cointegration was undertaken. The cointegration tests are helpful to determine if there are long-run effects in the chosen series. Table (4) reports the cointegration test results of Kao, Pedroni, and Fisher

Table (4) Kao Residual Cointegration Test

	t-Statistic	Prob.
ADF	-9.349309	0.0000
Residual variance	10.52898	
HAC variance	7.124954	

HAC, Heteroscedasticity, and autocorrelation consistent.

Source: *Authors calculations using WB data & E-Views package*

Table (5) Pedroni Residual Cointegration Test

Alternative hypothesis: common AR coefs. (within-dimension)				
	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	3.425738	0.0003	3.192629	0.0007
Panel rho-Statistic	-2.641673	0.0041	-2.297974	0.0108
Panel PP-Statistic	-5.789351	0.0000	-5.315800	0.0000
Panel ADF-Statistic	-5.966790	0.0000	-5.605543	0.0000

Alternative hypothesis: individual AR coefs. (Between-dimension)

	Statistic	Prob.
Group rho-Statistic	-1.719667	0.0427
Group PP-Statistic	-5.949300	0.0000
Group ADF-Statistic	-6.133866	0.0000

Source: *Authors calculations using WB data & E-Views package*

Table (6): Fisher cointegration test results.

Hypothesized No. of CE(s)	Fisher Stat.* (From trace test)	Prob.	Fisher Stat.* (From max-eigen test)	Prob.
None	153.7	0.0000	90.44	0.0000
At most 1	80.85	0.0000	54.30	0.0000
At most 2	37.50	0.0000	21.92	0.0155
At most 3	26.03	0.0037	19.45	0.0349
At most 4	21.34	0.0188	21.34	0.0188

Source: *Authors calculations using WB data & E-Views package*

To investigate the long-run effects of inflow migration on unemployment in both the short- and long-run. In this status and based on the results of the unit roots, the panel ARDL estimator is used to find the estimates. Table (7) shows short-run, long-run, and error correction term results.

Table (7): *The panel autoregressive distributed lag estimation results*

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Long Run Equation				
INFLOW_MIGRATION	-3.09E-05	5.96E-06	-5.182383	0.0000
INFLATION__CONSUMER_PRIC	1.226913	0.588901	2.083394	0.0397
GDP_ANNUAL	-2.331541	0.705095	-3.306702	0.0013
TOTAL_POPULATION_AGE_15_	3.65E-06	9.06E-07	4.030924	0.0001
Short Run Equation				
COINTEQ01	-0.123901	0.040283	-3.075750	0.0027
D(INFLOW_MIGRATION)	-1.01E-06	8.15E-07	-1.239545	0.2180
D(INFLATION__CONSUMER_PRIC)	-0.169392	0.100615	-1.683571	0.0954
D(GDP_ANNUAL)	0.163877	0.049189	3.331606	0.0012
D(TOTAL_POPULATION_AGE_15_)	3.69E-06	1.56E-06	2.366875	0.0198
C	-10.68931	4.091329	-2.612674	0.0104
Mean dependent var	-0.127469	S.D. dependent var		1.193921
S.E. of regression	0.590998	Akaike info criterion		1.656211
Sum squared resid	35.27711	Schwarz criterion		2.387910
Log-likelihood	-77.79425	Hannan-Quinn criter.		1.953553

*Note: p-values and any subsequent tests do not account for model selection. Source: Authors calculations using WB data & E-Views package

The results in table (7) show that the main variable of interest, inflow migration, has no significant effect on unemployment in the short run. but it has a statistically negative significant effect, in the long run, implying that if emigrants increase the unemployment rate decreases. This is supported by the result of Prymachenko, Fregert, and Andersson (2013)¹⁸ and Cuneyt Kilic, Mesut Yucesan and Halil Ozekicioglu (2019).¹⁶

The result is consistent with the theoretical assumptions according to which the expected impact of emigration on unemployment can be both positive and negative depending on the degree of unemployment. If emigrants were unemployed before emigration, then unemployment would decrease. But, on the other hand, if emigrants are employed before emigration, the effect will depend on the possibility of replacing emigrant labor. If the currently unemployed are supplemented to emigrant labor, unemployment is expected to increase and if they are substitutes, employers can substitute unemployed workers for emigrants (reduction in unemployment)

The results in table (7) also show that annual GDP is a statistically significant effect on unemployment in both the short and long run. it has a positive sign in the short run and a negative in the long run, which is inconsistent with economic theory in the short run, but in the

long run increase in Annual GDP decreases unemployment and this is consistent with the economic theory. (Olinyki, Yuriy Bilan Halyna, Mishchuk Oleksandr akimov and Laszli Vasa, 2021) ¹⁶

Inflation has a statistically significant effect on unemployment in both the short and long run and it has a negative sign in the short run, which is consistent with the Philips curve, which implies that if inflation increases the unemployment rate will decrease. And has a positive effect in the long run, which is inconsistent with economic theory, this may be a result of various economic crises during the research period as the 2008 crisis, 2014 crisis, and 2020 crisis. This means that distortion in economic markets leads to unbalanced relationships between some economic variables.

Population ages 15-64 is a statistically significant effect on unemployment in both the short and long run. it has a positive sign. This means that an increase in it leads to an increase the unemployment.

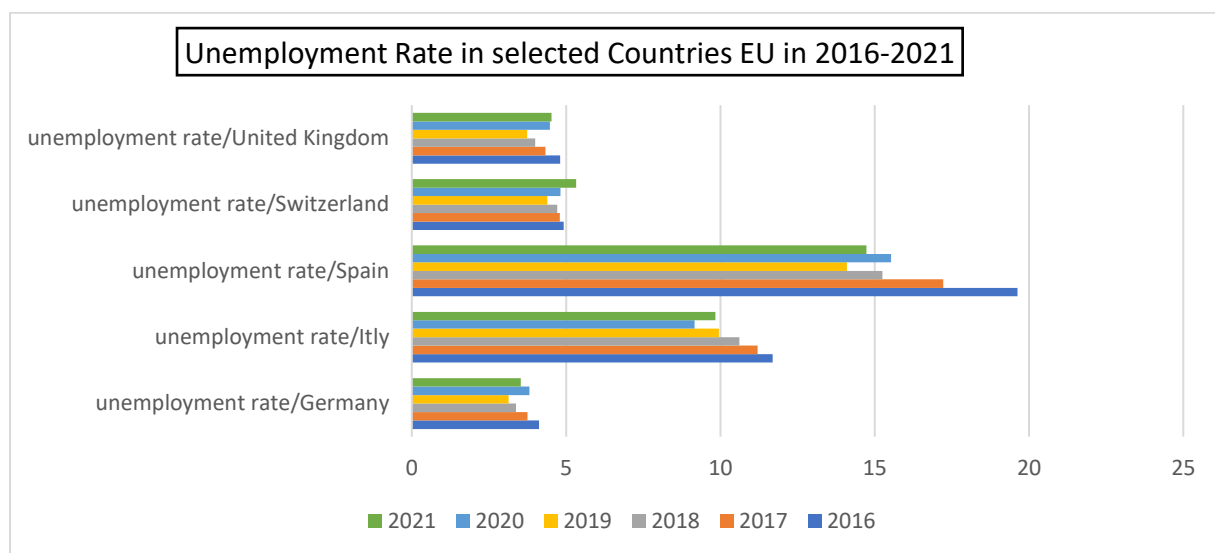


Figure1: *The unemployment rate in selected EU Countries in 2016-2021*
Source: *Authors' compilation based on International Migration Database and World Development Indicators 2022 data.*

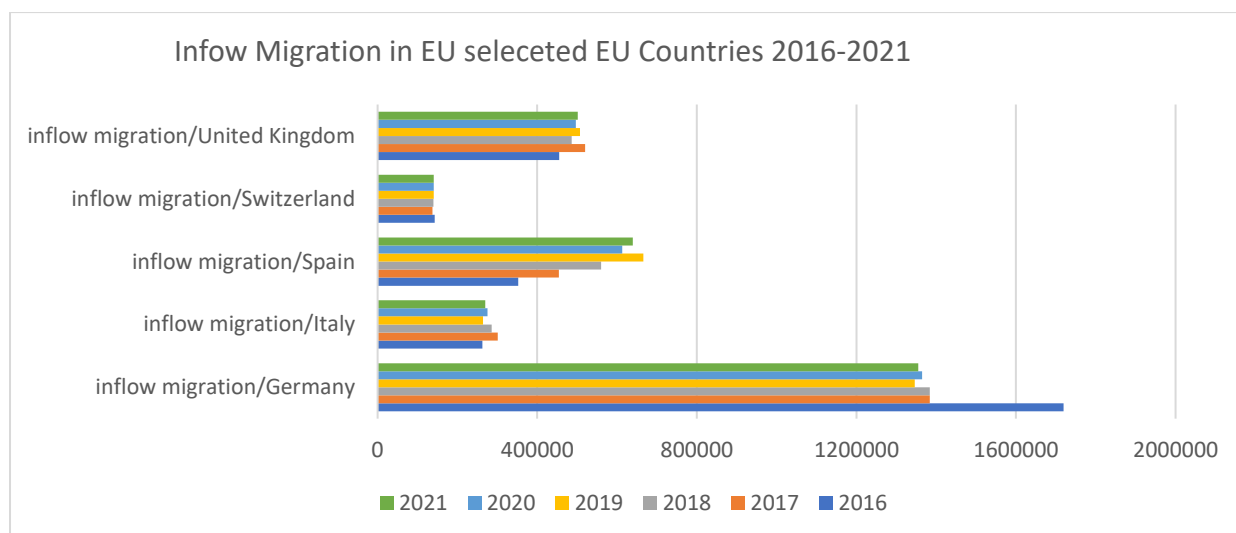


Figure 2: *The Inflow Migration rate in selected EU Countries in 2016-2021*

Source: Authors' compilation based on International Migration Database and World Development Indicators 2022 data.

From figures 1 and 2, it is clear that with the increase in the number of immigrants in the countries under study in the period from 2016-2021, unemployment rates decrease, which confirms the inverse relationship between immigration and unemployment, as the results are shown in Table 7 above.

Findings & Recommendations

Using panel data analysis, the research investigates the effects of inflow of emigration on unemployment in the selected European countries between 1995 and 2021. According to estimates, influx migration has a negative long-term, statistically significant, and detrimental impact on unemployment rates. and in the short run, it has no discernible impact. This indicates that, over time, an increase in migration causes the unemployment rate to decline. The findings of Prymachenko, Fregert, and Andersson (2013)¹⁸ as well as Cuneyt Kilic, Mesut Yucesan, and Halil Ozekicioglu (2019), and others are in agreement with this one.¹⁶

So, the research concludes that while there is no control over outflows, immigration is subject to low legislative restrictions. As a result, it appears that immigration policy is responsible for the reaction of net migration on unemployment. Also, improved economic conditions in the receiving nation can lessen lobbying pressure against labor migration and concerns about the relationship between migration and employment possibilities for the native-born.

Furthermore, the research discovered evidence that immigrant inflows contribute to the economic prosperity of the host country (a positive response of GDP%), and all other control factors have a statistically significant association in both the short and long runs. The employment prospects of citizens of the host nation are unaffected by the immigration of new citizens. The economic progress of the receiving nation is also aided by immigrants may be caused by the high skill level of recent immigrants. These results match Serdar Oztuk and Sevil Ozdil (2020), as he found that immigration has a favorable impact on the economic growth of the host country and is correlated with the level of education of migrants.²¹

The research recommends that immigration may be seen as a viable option to make up for the labor shortfall in several EU countries in order to address the issue of aging populations. As the findings show that immigration does not negatively impact locals' employment chances. So, EU nations may receive more migrants without worrying about a negative impact on growth and employment and alter their immigration policy to meet the needs of the labor market.

It is worth noting that these results cannot be generalized to all countries of the world, but they apply only to this group of European countries due to the fact that it is a special case characterized by a shortage in the number of citizens of working age, and that it attracts only skilled labor, and then the impact of immigrants was positive on the variables economy only in those countries and not in others.

Data availability statement:

The datasets presented in this study can be found in online repositories. The names of the repository/repositories and accession number(s) can be found below: world bank database.

Author contributions:

SO is responsible for model and data selection. FH is responsible for paper writing, Introduction, literature review, abstract, and findings, PP is responsible for the literature review. All authors contributed to the article and approved the submitted version.

Conflict of interest:

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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