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Migrant Labor Market Policies in the EU:
An Exploration of the Trends and Relationship with Migrant Labor Market Outcomes

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List of Acronyms

MIPEX   Migrant Integration Policy Index
EU   European Union
EEA   European Economic Area
EU-LFS   European Union Labor Force Survey
TCN   Third-Country National
GDP   Gross Domestic Product
OLS   Ordinary Least Squares
AT   Austria
BE   Belgium
BG   Bulgaria
CY   Cyprus
CZ   Czech Republic
DK   Denmark
EE   Estonia
FI   Finland
FR   France
DE   Germany
GR   Greece
HU   Hungary
IE   Ireland
IT   Italy
LV   Latvia
LT   Lithuania
LU   Luxembourg
MT   Malta
NL   Netherlands
PL   Poland
PT   Portugal
RO   Romania
SK   Slovakia
SI   Slovenia
ES   Spain
SE   Sweden
UK   United Kingdom
US   United States

Abstract

This study focuses on trends in migrant labor market policy in the EU between 2007 to 2019. The Migrant Integration Policy Index (MIPEX) is used to track and analyze policy changes both in different policy areas and as a whole. A panel data analysis is used to explore the possible effects that policy has on migrant employment and employment gaps between migrants and EU citizens. The main questions are:

- What have been the main trends in migrant labor policy over the period 2007 to 2019?
- Have these changes in migrant labor policy been effective in increasing migrant employment or reducing the employment gap between (non-EU) migrants and EU citizens?

The questions are addressed through both a qualitative analysis of the trends in migrant labor market policy changes and a quantitative analysis of how these policies affect migrant employment rates and the employment gap between migrants and EU citizens. The analysis is sensitive to the possibility of migrants dropping out of the labor force or "discouraged workers." With a few exceptions, the main findings of the study are that policy is in general becoming more open in the EU. Portugal has the most open labor market policies as of 2019 and there is no employment gap between migrants and non-migrants – a feature which does not occur in any other country during the time frame of interest. The quantitative analysis shows that more open labor market policies reduce the migrant-non-migrant employment gap by about 9-10 percent. Not surprisingly, the main policy measure which reduces the employment gap is if migrants have immediate access to a country's labor market. The results highlight the substantial role that more open labor market policies are able to play in reducing employment gaps.

Relevance to Development Studies

This topic relevant to Development Studies insofar as migrants bring important economic and social contributions to their host societies. Their rights in the labor market are important both for the economic development of the host country, but also for the social integration of the migrant themselves. Migrants who have jobs are not only integrating economically, but jobs are also found to be beneficial for their mental health. However, migrants have different working rights in different countries, and with the EU now being the largest migrant destination, it is important to see if the current changes in migrant labor market policy are becoming more open, which will help the EU economy as well as the migrant themselves, and if these policies seem to have an effect on migrants being employed and employment gaps.

Keywords

Migration, migrants, labor market, migrant employment, migrant labor market policy

Chapter 1
Introduction

By researching the European Union (EU), one has the opportunity to be exposed to many different national contexts under the umbrella of the world's only supranational organization (Center for European Studies at UNC, 2022). At the moment, there are 27 EU countries covering four million square kilometers with 447.7 million inhabitants (European Union, 2022). The EU has much diversity within its borders with an estimated 160 distinct cultures (Encyclopedia Britannica, 2022). In recent years, the EU has experienced the world's highest rates of immigration creating further diversity and requiring immigration laws to be updated (UN Department of Economic and Social Affairs, 2019).

The EU recognizes the importance of migrants being able to work for successful integration as well as that the average employment rate of migrants is lower than for EU citizens. Often, issues in migrant integration do not arise from cultural issues but rather due to employment and income. Employment rights, not culture, needs to be the basis of immigration policy in the EU (Hansen 2012, p.1). The European Commission holds the belief that employment should become the basis of migrant integration policies. For instance, (Hansen 2012, p.3) notes, "The great failure of all Western European immigration policies has been their ability to ensure that migrants acquire and retain work." It is notable that given the similar development levels and importance in modern migration patterns of the EU and North America, United States (US) and Canada, that the two have very different migrant employment strategies. The North American strategy has created a situation in which the migrant unemployment rate was at most 33% higher than the unemployment rate of citizens between 2008 and 2010, whereas the European strategy created a situation in which the migrant unemployment rate was on average 60% higher than that of citizens for the same time period (Hansen 2012, p.5). In some EU countries this figure is much higher, i.e., the Netherlands at 213% in 2010 (Hansen 2012, p.5). Unlike the US and Canada, there are also differences in unemployment in the EU for both second and third generation migrants which highlights the possible policy failure of migrant rights in the EU that the European Commission would like to solve starting from the beginning with the migrants themselves (Hansen 2012, p.1). With the attitude of the European Commission being that labor market mobility is the most important right for migrants to have since at least 2012, it is important to see how policies regarding the labor market have changed and how effective the changes have been.

Drawing from the aforementioned facts, this paper analyzes trends in migrant labor policy in the EU as well as how these changes in labor laws affect migrant employment rates and employment gaps between migrants and non-migrants. Departing from the standard definition of the employment rate (employment as a share of labor force participants), keeping in mind the possibility of discouraged workers who drop out of the labor market, the paper also analyzes migrant employment defined as a proportion of working age migrants in a country. Employment gaps between migrants and EU citizens are also examined both using the traditional employment rate as well the one including discouraged workers. The definition of migrant will be that followed by Eurostat, the primary data source for migration statistics in the EU, "person changing their residence to or from a given area (usually a country) during a given time period (usually one year)." (Eurostat, 2018). The EU though has very few laws pertaining to the rights of immigrants, particularly in the labor market. This is largely left up to the individual EU countries creating a situation in which immigrants will have more labor market mobility in some EU countries compared to others. The EU has been working

on a common EU-wide plan for the integration of third country nationals (TCNs) as of 2016 but has yet to fully implement one (European Commission, 2016). Thus, individual country law changes are the focus of this paper.

Specifically, this paper tries to address the following research questions:

- What have been the main trends in migrant labor policy over the period 2007 to 2019?
- Have these changes in migrant labor policy been effective in increasing migrant employment or reducing the employment gap between (non-EU) migrants and EU citizens?

To examine these questions, this paper relies on data on migrant labor policy changes, migrant employment, and control variables over the time period 2007 to 2019 for the EU-28 countries, excluding Croatia. Given the time frame this data is available, the United Kingdom (UK) was still an EU member and will thus be included. However, Croatia did not join the EU until 2013 and so data for Croatia is not available for the entire period so Croatia has been excluded. For migrant labor policy changes the Migrant Policy Integration Index (MIPEX) is used as it tracks changes in labor market mobility policies for migrants in the EU as well as tries to quantify how equally migrants are treated in the labor market as compared to EU citizens. This index will be used to qualitatively analyze the trends in labor market mobility for migrants in the EU. Subsequently, the MIPEX data in combination with Eurostat, World Bank, and European Central Bank data on migrant employment and populations and control variables from 27 EU countries from 2007 to 2019 will be used to run a panel data analysis on how these policy changes may have affected employment rates.

Examining the changes in policy and their effect on employment is important in understanding how much of an effect labor-policymakers have on migrant labor inclusion, which is possibly the most important factor in migrant integration. Are labor policies effective in helping achieve labor market mobility for migrants or could other factors be of more importance? Should policymakers shift away from the areas of migrant labor policy they are currently focusing on?

The context will be further explained in Chapter 2. Chapter 3 lays out the analytical framework with a focus on the background and justification of the variables of choice: MIPEX labor market mobility scores and indicators, interest rates, inflation, GDP (gross domestic product) growth rate, year fixed effects, and country fixed effects. Chapter 4 explains MIPEX, and Chapter 5 provides a qualitative analysis of trends in migrant labor market policy. Chapter 6 explains the panel data analysis methodology while Chapter 7 displays and discusses the results. Chapter 8 concludes the paper.

Chapter 2
Context of the EU

The EU has become a prominent subject for research as it is the only supranational organization in the world and has become the destination for migrants, and the rights of migrants in the EU. Since the shift to the EU as a destination for immigration instead of a source of emigration in the late 1970s with a large pick up in immigration beginning in the 1990s and continuing today, there have been challenges with integrating and not discriminating against migrants when it comes to many important aspects of society including the education system, health care system, political system, naturalization, and the labor market.

The number of international migrants in 2019 was approximately 272 million of which about 82 million were in Europe, the highest in the world according to the UN Department of Economic and Social Affairs (2019, p. 4). Figure 1 shows that in recent years these migrants have mostly originated from non-EU countries instead of within EU migration. Since at least 2013, new non-EU migrants have outnumbered new EU migrants. The large spike in 2015 is largely due to the Syrian refugee crisis; however, it is notable that total non-EU migrants in 2019 surpassed 2015 levels without such a crisis.

Figure 1. Annual Within vs. Outside EU Migration
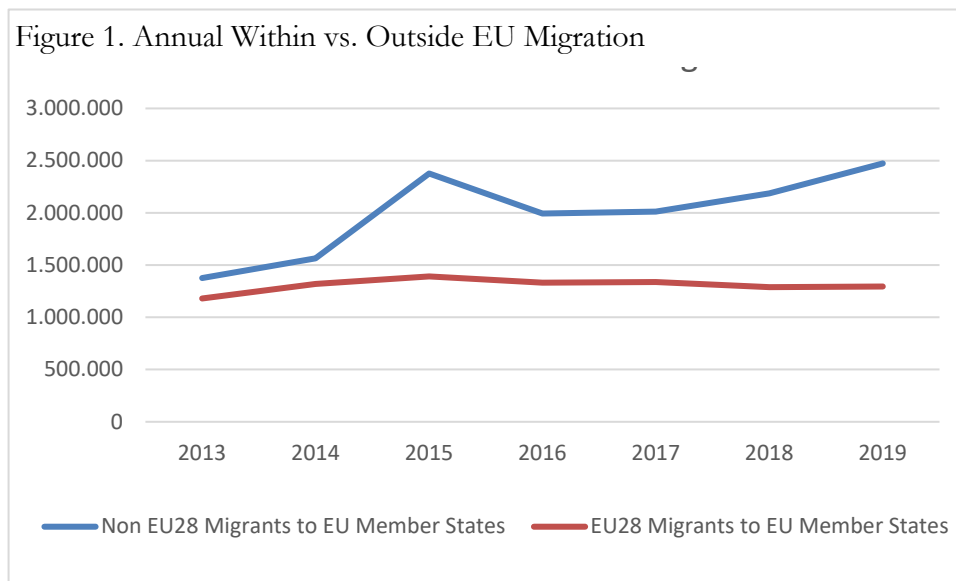
Source: (Eurostat, 2022a)

When comparing the distribution of immigrants to the EU by EU country, non-EU immigrants are a substantial proportion of the immigrant population in each EU country. Figure 2 shows that this stays consistent between 2013 and 2019, but as can be expected from the increase in non-EU migration while EU migration has remained relatively stagnant, the proportion of non-EU migrants is rising.

Figure 2. Distribution of EU Immigrants by Citizenship 2013 & 2019[1]

Source: (Eurostat, 2022a)

Table 1 shows that the proportion of non-EU citizens is rising in 21 of the 27 EU countries. In the six countries where the proportion of non-EU citizens is not rising, neither is the proportion of EU28 migrants in three of them. Additionally, in these three countries, Bulgaria, Italy, and Slovakia, the rate at which the proportion of non-EU28 migrants is declining is slower than that of EU28 migrants. This shows that some countries are becoming less popular destinations with non-EU28 migrants, or that there has been a large influx of another type of migrant, i.e., in Bulgaria return migrants increased their portion of Bulgaria's migrant distribution by 146% likely through a combination of rising return migration as well as declining migration in all other categories. Overall, the average percent change in the EU immigration distribution for non-EU28 migrants is an increase of 45.75%. This is almost 30% higher than the average percent change for EU28 migrants. Additionally, those who are stateless had the highest and lowest swings of known citizenships. This suggests that preferences of those who are stateless changed over this time as well as some countries may have changed their migrant regulations regarding stateless migrants to be more or less open. For example, the proportion of those who are stateless in Italy rose over 1100% while it declined by 100% in Greece and Romania. These types of shifts in where migrants are settling and what type of migrants they are is likely in part due to migrant labor market policy openness. Given the rise in non-EU28 migrants, this shows the further importance of attempting to show if policy measures are effective in helping non-EU migrants in the labor market.

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[1] Reporting country refers to return migrants

Table 1. Percent Change in EU Immigration Distribution by Citizenship 2013-2019

Percent Change in EU Immigrant Distribution by Citizenship 2013-2019					
Country	Reporting Country	EU28 (except reporting country)	Non-EU28 Countries	Stateless	Unknown
BE	5%	-14%	18%	113%	377%
BG	146%	-63%	-46%	-90%	-96%
CZ	-78%	-31%	79%	0%	0%
DK	-1%	9%	-7%	-62%	0%
DE	46%	-24%	18%	31%	-9%
EE	-34%	501%	-2%	0%	0%
IE	-18%	-3%	26%	0%	10%
GR	-43%	-59%	124%	-100%	0%
ES	-3%	-37%	22%	45%	0%
FR	-4%	-28%	24%	0%	0%
IT	122%	-30%	-6%	1101%	0%
CY	59%	-42%	41%	0%	-100%
LV	-29%	-42%	67%	-66%	2340%
LT	-41%	-29%	337%	58%	0%
LU	-8%	-13%	50%	335%	-43%
HU	-17%	-53%	80%	0%	0%
MT	-69%	-8%	32%	0%	0%
NL	-20%	3%	12%	425%	1306%
AT	1%	6%	-10%	-40%	-24%
PL	-17%	-20%	49%	-26%	0%
PT	-48%	93%	114%	0%	0%
RO	-12%	593%	75%	-100%	2274%
SI	-26%	-58%	30%	0%	0%
SK	24%	-30%	-13%	0%	0%
FI	4%	-37%	29%	-14%	-82%
SE	-14%	-5%	12%	-77%	-10%
UK	-21%	-24%	26%	0%	0%

Source: (Eurostat, 2022a)

The EU is becoming more reliant on migrants to maintain or grow its population. At the beginning of 2019, the population of the EU was estimated at almost 513.5 million, up about 1.1 million from 2018. During 2018, there were 5.3 million deaths and 5.0 million births, showing that the population of the EU should have declined (Eurostat 2019, p. 1). So, the natural change of the EU population was negative for a second consecutive year as it was also negative in 2018. Women in the EU have on average 1.53 children which is below the 2.1 average needed for population replacement and since 2013 more of these women having children have been migrants than not (Eurostat, 2021a). The population change was therefore due to positive net migration. Having a growing population or maintaining one is important to maintain many aspects of the quality of life in the long-term. With a declining population, tax receipts could decline, social security funding could decline, health expenses for the many including the elderly could rise, all because of a smaller working population. Immigration helps prevent this by maintaining or growing the working population highlighting the importance of migrant labor market mobility policies for all.

Having a migrant labor force to help with the EU's population problems can only work if migrant labor policies are open. The EU wants migrants to work to help with their population problem which should stave off the issue of declining tax receipts that are used to fund welfare programs, especially for the retired which is a growing population, as well as help with their overall integration into their host country. As can be seen in Table 2, in the EU member states, typically, the citizen employment rate is the highest followed by that of those with EU citizenship, and then those with non-EU citizenship. The EU average rate of employment for citizens, EU28 migrants, non-EU28 migrants, and stateless persons from 2007 to 2019 is 91.74%, 90.59%, 84.75%, and 81.68% respectively. In many central and eastern EU countries though, EU migrants have a higher employment rate than citizens. They are the Czech Republic, Hungary, Latvia, Lithuania, Slovakia, and Poland. This may indicate a preference of those moving to central and eastern Europe to have secured employment before moving instead of searching while in the country. There are two exceptions to this regional divide, Malta and the UK, which is likely due to local policies and economic situations. In some central and eastern EU countries, non-EU28 migrants have a higher employment rate than citizens. They are Bulgaria, Cyprus, the Czech Republic, Romania, and Slovakia. This is of course not the majority, however, this result in combination with EU28 migrants experiencing a similar trend implies that western and central/eastern Europe experiences different migration trends. Migrants of either EU or non-EU origin seem possibly more likely to move to western EU countries without already having secured employment than to move to central/eastern EU countries without already having secured employment. Central and eastern EU countries may also have stricter laws regarding how employment is gained, with many likely requiring for it to be secured prior to arrival. The employment rate of those who are stateless in relation to the other three categories varies greatly. There is no strong regional pattern, simply some countries have a high employment rate of the stateless, i.e., the Czech Republic, Estonia, Malta, and UK, while others have a low employment rate of the stateless, i.e., Austria, Belgium, and Denmark. It could be said that the stateless employment rate seems to be lower in the west than in the central and eastern parts of the EU. This may be due to western countries possibly receiving more stateless people or having a weaker legal framework for their right to work. Overall, non-EU28 and stateless migrants have lower employment rates on average than citizens and EU28 migrants which is likely due in part to migrant labor market policies.

Table 2. Average Employment Rates in the EU 2007-2019

Country	Citizen Employment Rate	EU28 Migrant Employment Rate	Non-EU28 Migrants Employment Rate (excluding stateless)	Stateless Employment Rate
		Average Employment Rates in the EU 2007-2019		
AT	95.63%	92.82%	86.48%	71.52%
BE	93.36%	89.77%	72.92%	61.78%
BG	91.48%		91.82%	
CY	90.25%	87.84%	92.71%	
CZ	94.80%	95.54%	95.07%	99.21%
DK	94.17%	90.06%	84.29%	
EE	92.69%	90.49%	85.33%	92.11%
FI	92.18%	89.25%	78.42%	
FR	91.42%	90.98%	77.11%	
DE	95.00%	93.03%	85.89%	74.27%
GR	81.66%	79.35%	75.72%	
HU	92.28%	93.43%	92.27%	
IE	90.04%	88.02%	87.64%	
IT	90.36%	87.43%	86.20%	
LV	89.18%	93.76%	84.39%	
LT	89.86%	100%	88.22%	
LU	96.36%	93.83%	82.79%	
MT	94.49%	94.73%	92.78%	93.26%
NL	95.01%	93.52%	86.21%	
PL	92.27%	94.51%	89.64%	
PT	88.95%	86.71%	81.00%	
RO	93.62%		95.04%	
SK	88.89%	94.02%	89.75%	
SI	92.94%	90.14%	86.54%	
ES	82.57%	77.04%	70.83%	
SE	93.40%	91.54%	71.87%	
UK	94.00%	94.51%	90.51%	92.13%

Source: (Eurostat, 2022b)

According to European Commission (n.d.), "Discrimination based on sex, racial or ethnic origin, religion or belief, disability, age or sexual orientation is illegal throughout the Union. However certain groups, such as third country nationals and ethnic minorities, face difficulties in accessing the world of work. Supporting their labor market participation is fundamental for ensuring equality of opportunities, and becomes an economic imperative in a context of ageing workforce." Lamberts et al. (2014) concludes that various initiatives in EU countries, including the EU legal framework, national strategies on employment discrimination, civil society, and employer organizations, when taken together show that efforts are not centrally organized or monitored, and that the lack of a comprehensive framework hinders efforts to fight discrimination in employment effectively. The report also notes that non-EU migrants, particularly those of color or women, are the most vulnerable group to employment discrimination in the EU.

Migrants do worse than citizens in terms of employment rates and earnings, after controlling for education, potential experience, and regional location as well (UN Department of Economic and Social Affairs, 2019). This halts their integration into their host country's society and has a negative impact on both their livelihood and mental health. Hooijer and Picot (2015) finds that in all western EU countries, except Portugal, non-EU migrants face a higher risk of poverty than natives even when statistically controlling for the composition of the migrant population. The situation of migrants is characterized by both high poverty rates and relatively higher poverty rates than citizens in Belgium, France, Luxembourg, Finland, and Sweden (Lelkes, 2007). In Belgium, over half of non-EU migrants lived in poverty in 2007. This figure was 45% in France and Luxembourg. The average for the EU in 2007 was that about one in three non-EU migrants tends to be in poverty (Lelkes, 2007). This not only affects materiality and physical living conditions but also mental health. Yijälä and Luoma (2018) finds that being employed as a migrant is essential to their mental health. The way in which employment creates a rhythm in daily life and provides the opportunity for mental stimulation has a significant impact on the psychological and physical well-being of migrants. On the other hand, unemployment and dependence on social security has a significant negative impact on well-being. Many migrants noted that employment is a virtue and earning their own livelihood is a matter of honor. Even holding entry-level jobs when they have experience in their home country, i.e., being underemployed, strengthened immigrants' perception of being part of society. Even if earned income does not always substantially improve an immigrant's livelihood, employment can still provide several other benefits that promote well-being and adaptation to the new country of residence. Working expands social networks and provides connections with life in the host society that is hard to find otherwise.

These factors make the need to have an accessible labor market for migrants high in the EU. In this case, specifically non-EU migrants just as EU migrants should have the right to look for a job in an EU country, work there without needing a work permit, reside there for that purpose, stay there even after employment has finished, and have equal treatment with nationals in access to employment, working conditions, and all other social and tax advantages (European Commission, 2022). Immigration policies differentiate between forms of labor based on the duration of work, permanent or temporary/seasonal, required education, and/or the level of salary. Additionally, having a work permit does not necessarily entitle migrants to welfare services nor guarantee the right to residency (Könönen, 2019). Having less restrictive policies in labor market access, employment services, access to welfare, and more should in theory increase the employment of migrants. It should be noted that migrant labor market policies do not directly regulate the allocation of jobs to all immigrant jobseekers. Instead, equal legal rights and promotional measures have more indirect effects that are difficult to quantify for the entire immigrant population. Recently more resources are trying to quantify the effectiveness of labor migrant market policies, including MIPEX.

Since the turn of the century, there have been more efforts to create migration policy databases. These databases were usually only tracking policy changes or trying to quantify policy openness. It is far more recent, that databases have both and very few do due to the recency of interest and the large task of tracking policies across the world and quantifying their changes. MIPEX began doing this in 2007 but edited their process over time so the current version which will be used in this paper is their 2015 methodology which will be further explained in Chapter 4. The next chapter, Chapter 3, will cover the theories relating to the effect of policies on migrant labor market outcomes as well as other variables and introduce the macro models this paper will use.

Chapter 3
Literature Review & Analytical Framework

3.1 Literature Review

Participation in the labor market is one of the most important factors in successful integration of migrants into society as noted by Alba and Nee (2005), Joppke and Morawsk (2003), and Hansen (2012). Büchel and Frick (2005), Kogan (2007) and Wanner (2011) argue that socio-demographic factors only explain part of why migrants perform less well in labor markets than citizens. The other key factors are based on labor market structures and regulations as well as immigration and integration policies. Pastore (2010) notes that there is a gap in research looking into how effective migrant policymaking is, with a partial exception being papers looking at policies that specifically affect refugees and those on family reunion permits. The late 2000s and early 2010s has seen an increase in studies on migrant labor market policies and labor market outcomes due to those policies, but they are still uncommon and now most papers on the topic are five to ten or so years old. The literature that does exist on the topic argues that migrants face ongoing inequalities in the labor market, i.e., Kogan (2006) and Fleischmann and Dronkers (2007).

Countries migrant policies and migrant labor market outcomes can be difficult to compare as migrants in different countries can often be of different backgrounds that explain why they choose the host country and how different populations have moved. Additionally, different countries' economies and the state in which they are in a certain year can also affect migrant employment. There is literature that provides insight into shared patterns across countries due to the newfound importance of gathering and publishing more data about migrants specifically in the late 2000s, i.e., Fleischmann and Dronkers (2007). These studies have mainly been limited to the western EU based on how they have historically been the positive net migration countries in Europe (World Bank, 2019). While it has long been assumed that policy can be influential and effective in labor market outcomes for migrants, the recent development of data driven literature on the topic tends to disagree.

Kogan (2016) notes the contradiction between host countries' increasing integration efforts and immigrants' ongoing labor market mobility difficulties suggesting that labor market integration policies may not substantially contribute to migrants' labor market integration. Many studies using MIPEX labor market mobility have found no significant link between it and migrant labor market outcomes. These papers, however, use a previous version of MIPEX in which the methodology was different. These studies include Cebolla, Boado, and Finotelli (2011), Pichler (2011), and Kogan (2016) who did not generally find statistically significant effects of labor market policy and labor market integration programs on unemployment.

Cebolla, Boado, and Finotelli (2011) used the MIPEX index for a statistical comparison of northern and southern Europe's labor market policies and their unemployment levels for migrants and found insignificance in either's labor market policies affecting migrant unemployment rates. What was significant was GDP growth - rising GDP growth lowered migrant unemployment rates even more than citizen unemployment rates. This, the largest EU-only study involving MIPEX, covered 17 EU countries over a three-year period. Another study, Pichler (2011) also used MIPEX labor market mobility data and covered 30 European countries from 2002 to 2008. Pichler (2011) found again that labor market mobility did not have an effect on employment. The study noted, however, the lack of immigrant-based labor market surveys and survey questions at the time of the study as a weakness. More recently, Kogan

(2016) used the MIPEX index, microlevel migrant employment statistics and propensity score matching to see if labor market policies had an effect on migrant employment. The paper concluded that training is largely ineffective in employment outcomes but can vary by country as there was a positive effect in Italy but a negative effect in Ireland. This may be due to the self-selective nature of such trainings. This was not a panel data analysis though which the paper highlights as a weakness and suggests that future research be done using a panel data analysis when researching migrant labor market policies and employment outcomes.

While these three studies focused on several countries, most previous papers focus on only one or a few countries, which seems to be the trend in migrant labor market policy research. Other MIPEX studies have also found labor market policy to be insignificant with respect to labor force participation, occupational prestige, and occupational class. Some studies have found significance in terms of not being underemployed and subjective well-being (Bilgili, Huddleston and Joki, 2015). These three studies also focused on the overall MIPEX labor market policy score, but there are studies that look into specific areas of migrant labor market policy.

In the EU, countries can differ and differ widely in specific areas of labor market policies such as work permit requirements, residence, social security access, and trainings. These can, in general, reflect the openness of policies to migrants. Qualitative studies note that immigration policies do play a role in migrant integration into society across Europe. More quantitative studies, i.e., Fleischmann and Dronkers (2007) and Reitz (2002), find that these types of policies are unable to explain cross country differences in migrant employment. Reitz (2002) notes that the policies more likely have an indirect effect on migrant labor market outcomes, making them difficult to quantify for such studies.

When it comes to literature on specific areas of labor market policy effectiveness the literature tends to be more recent, but the focus tends to be on marginalized groups, such as refugees and women, i.e., Fasani, Frattini and Minale (2021) and Grigoleit-Richter (2017). Literature on the EU specifically has another preferred topic, and the focus has been on EU migrants and enlargement effects instead of non-EU migrants, i.e., Drinkwater, Eade and Garapich (2006). Many papers do specifically discuss the importance of immediate labor market access, job-specific language training, integration programs, and unemployment benefits, all of which are MIPEX indicators. These papers are usually qualitative in nature or analyzing one specific group in one country leaving a literature gap on the quantitative side, i.e., McCollum and Findlay (2015), McHugh and Challinor (2011), and Chauvin, Garcés-Mascareñas and Kraler (2013).

One of the specific areas of policy that is focused on is different types of trainings. It is generally agreed that job training has an insignificant impact on migrants. While integration programs as a whole are debated, they are unlikely to be significant for employment outcomes. When it comes to language training, many countries have courses targeting foreigners, however, it was found that unless the language trainings were restricted to foreigners then they primarily benefited citizens. What occurs is that foreigners are represented in these courses to an extent that is disproportionately low based on their need for such language trainings as compared to citizens according to Böhning and Zegers de Beijl (1995). A less focused on area is social security.

Unemployment benefits appears to have the biggest literature gap. There are few studies, but Nyman and Ahlskog (2018) find that unemployment benefits are more often used by migrants than natives, but this does not have a negative budget effect, nor is the possibility of receiving unemployment benefits a reason for migration to a specific country. Additionally, Fleischmann and Dronkers (2007) found statistical discrimination in hiring migrants as

a result of higher employment protection and welfare levels. Of labor market policy areas, immediate labor market access is considered to be more important than others.

None of the results of papers on migrant labor policy and migrant employment suggest that policies do not matter but instead that policies are not targeted and implemented in the same way across countries or effectively in some cases. Castles (2004) notes how the more a country seems to try to manage migration the less successful they seem to be in doing so. According to the paper, many states view the migration process as a short-term process when in fact migration is a long-term social process that begins with the decision to migrate and ends with community formation and the birth of a new generation instead of simply arriving legally and having the right to find some type of job. This, along with other factors, helps result in policies surrounding migration, including migrant labor market policies, to not meet the objectives they were meant to. Another issue with the migrant labor market policymaking that Castles finds is that many policymakers view migration decisions through a cost-benefit analysis wherein people will move abroad if it maximizes their utility, i.e., they receive a higher income, and either stay or move back when the equation balances and do not move when the equation favors the home country. This has been untrue though as throughout the last century, it has been found that people move to a new country without the legal right to work or with the legal right to work but staying when they lose that right. This cost-benefit analysis ignores the social aspect of migration, i.e., family and community in the host country, age at which migration occurs, as well as home country economic, political, and conflict situations, and therefore many policies do as well. Migrants are often treated as temporary by labor market policies, but migrants do not only react to economic changes in their decision-making as policies suggest. Policies in themselves cannot explain migrant employment and are often a small or insignificant factor in migrant employment due to ineffective policymaking in the area. Does current data support these ideas from previous studies? This paper will look both qualitatively and quantitively at both overall labor market mobility and specified areas of labor market mobility for all non-EU28 migrants and if they are affecting their employment.

3.2 Towards a Macro-Model of Employment

This paper tries to fill some of the research gap in the area of migrant labor market mobility. This can be done in part due to new resources, a gap within the current literature is that most of the studies were executed in the late 2000s and early 2010s. Since then, there have been many changes in migrant labor market policy as well as what areas of migrant labor market policy are being changed in the EU. It was also around ten to fifteen years ago that indexes were starting to be created in order to try to track and quantify migrant labor market mobility. So, when previous papers were written the timeframe was often only a few years whereas this paper has the ability to analyze thirteen years of data. Additionally, while some of the previously mentioned studies use MIPEX, they do not use the updated 2015 methodology that this paper uses due to when they were written. A synthesis of literature using MIPEX, Bilgili, Huddleston, and Joki (2015), was gathered for creating the 2015 methodology to examine possible improvements that were considered and led to the creation of policy areas and their indicators, so it is possible that more important areas of policymaking have been identified from the literature and are now used in MIPEX. This new version of MIPEX may yield different results in the quantitative analysis. Another gap is noted by Pichler (2011) in that at that time of his study, there was a lack of immigrant-based labor surveys and how it was a weakness both in his study and in the field. Now, there are immigrant-based labor surveys or labor surveys with sections dedicated to immigrants. This paper has the benefit of the European Union Labor Force Survey (EU-LFS) now having a section dedicated to migrant labor that is published by Eurostat.

Other gaps besides when the studies last occurred is where they occurred and who they included. In previous studies, it is common that the number of countries analyzed in these studies ranges from one to four countries. This is largely due to wanting to focus on one country or a region of similar countries. The focus was on the western EU as that was the migrant destination in the EU at the time. However, given that the eastern EU is now becoming a migrant destination, excluding eastern Europe from studies on EU migration is no longer justifiable and examining how migrants are treated in the labor market as a whole in the EU is growing in importance. This is why this paper will include all EU countries that were members as of 2007. Therefore, this paper looks into 27 EU countries for a more holistic approach. Additionally, most previous studies have focused on two different groups, EU migrants during enlargements and marginalized groups. This paper does not include EU migrants when talking about migrant labor market policy since EU migrants have the same rights as citizens of the EU country they move to and therefore migrant labor market policy is not targeted at them. A weakness of previous studies is that many of the studies done on migrant labor market policies within the EU do not state whether or not they are including migrants from other EU countries as migrants. Additionally, there are many migrants who are not a part of any marginalized group and are therefore often left out of studies on the effectiveness of migrant labor market policy. This paper will use all non-EU migrants since this paper wants to look at the overall effect of migrant labor market policies. This paper looks at labor market policy effectiveness for all migrants across 27 EU countries. A qualitative analysis of the trends in EU labor market policies is done followed by an empirical analysis of the effect these policy changes have on migrant employment.

On the basis of the literature, a macro model in which the migrant employment rate and the migrant-non-migrant employment gap are both treated as a function of labor market policy score, interest rates, inflation, and GDP growth rates is developed. A second model in which the labor market policy score is broken down into different policy areas with the other variables remaining the same is also developed. Both models will be estimated using panel data to address shortcomings as noted by Kogan (2016). That is, in addition to the variables mentioned above, the estimated models will include country fixed-effects to account for time-invariant country influences on employment and time-fixed effects to account for changes over time that might affect employment prospects in all countries included in the analysis. Drawing on macro theories of employment the following sections describe the potential links employment and key macro variables such as interest rates, inflation, and GDP growth.

3.2.1 Interest Rates

There are other factors thought to affect employment rates aside from labor market policy, including monetary policy which usually comes in the form of long-term interest rates. It is thought that higher interest rates lower consumption from consumers and investments from business which leads to less hiring and more layoffs thus reducing employment. While employment is not the main focus of monetary policy, there has been a shift in recent years to make employment the main objective to lessen the impact of crises (Swastika and Masih, 2016). Keynes (1936) rejected the neoclassical view of economics that employment is determined by the price of labor (wages) instead of the spending of money. He took this as a justification for using monetary policy to achieve full employment. Another economist, however, Robertson, spent the 1930s exploring interest rates and unemployment in a series of papers including Robertson (1936), a direct response to Keynes's previously mentioned idea, and determined that full employment is both unrealistic and hinders economic progress but that interest rates can help reach the natural employment level (Boianovsky and Presley, 2002). Later on, Blanchard (2003) argued that interest rates affect the cost of capital and

therefore capital accumulation, and since capital accumulation affects the demand for labor then interest rates affect employment. In this paper, long term interest rates will be regressed on migrant employment in conjunction with labor market policy scores.

3.2.2 Inflation

In Phillips (1958), Phillips shows that inflation and unemployment have a negative relationship. High inflation meant low unemployment and vice versa. This created the Phillips curve with inflation on the y-axis and unemployment on the x-axis with a negative concave curve showing their relationship. This showed that attempts to lower unemployment would increase inflation while attempts to lower inflation would increase unemployment. This concept was widely accepted by governments in the 1960s and influenced policies. In Friedman (1976), the lecture given when he won the Nobel Prize, and in a series of previously published papers in the 1960s, he argued that the government could not permanently trade off inflation and unemployment as they had been doing and from this the previously created Phillips curve became the short run version while what Friedman argued was the long run version. He stated that if unemployment is at its natural rate and real wages are constant then workers ask for wage increases at the rate of expected inflation, so they do not lose purchasing power. However, when the government tries to lower unemployment below this level then after an adjustment period in which demand increases, prices rise faster than expected and eventually people realize their real wages have fallen and less labor is supplied in favor of increasing wages from the workers' side and unemployment returns to normal. This was shown to be true in the 1970s when inflation rose and so did unemployment due to the long run consequences of the 1960s policies in conjunction with other factors. Now it is generally accepted that there is some rate of unemployment that if maintained will come with a stable inflation rate. Today there are also Phillips curves with inflation expectations. Given the way in which inflation and employment affect one another, it will be included as a regressor.

3.2.3 GDP Growth

Okun (1962) states, based on regression of unemployment on output, that a country's real GDP must grow at about four percent in a year to achieve a one percent reduction in unemployment. More specifically, real GDP must grow approximately two percentage points faster than the growth rate of potential GDP over that period. So, if the potential rate of GDP growth is two percent in a year, then real GDP must grow at about four percent in a year to in order to achieve a one percentage point reduction in the unemployment rate of a country. The background is that output depends on the amount of labor used in the production process, so there is a positive relationship between output and employment. Total employment is the labor force minus unemployed persons. This means that there is a negative relationship between output and unemployment. Of course, this is not strictly a law but more of an estimate of the amount of GDP that may be lost when the unemployment rate is above the natural unemployment rate. More recent studies including Dumitrescu, Dedu and Enciu (2009) found that a one percentage point rise in unemployment led to a decline of approximately half of a percentage point in real GDP growth. Given this relationship, real GDP growth will also be included in the regression analysis.

The macro models based on the literature, and the data at hand, will be explained in Chapter 6. There will be four dependent variables defined below in Table 3 treated as a function of labor market scores, indicator scores, interest rates, inflation, and GDP growth rates.

Table 3. Dependent Variable Definitions

MigrantEmployment$_{it}$	Employed Non-EU28 migrants in the EU country as a share of Non-EU28 migrants in the labor force (standard definition of the employment rate)
MigrantEmploy-ment_Alternative$_{it}$	Employed Non-EU28 migrants as a share of the total working age Non-EU28 migrant population in order to include potentially discouraged workers (alternative definition of the employment rate)
EmploymentGap$_{it}$	Migrant employment rate – EU citizen employment rate based on the standard definition of the employment rate
Employ-mentGap_Alterna-tive$_{it}$	Migrant employment rate based on working age population – EU citizen employment rate based on working age population

The next chapter will explain the previously mentioned MIPEX in order to analyze trends in migrant labor market policies, and further explain the labor market score and indicator variables.

Chapter 4
What is MIPEX?

MIPEX measures and tracks migrant integration policies in 56 countries, including all members of the EU. Most indices try to measure the quality of migrant integration policies, but MIPEX is the first to both try to measure the quality of openness of migrant integration policies while also tracking and explaining policy changes (MIPEX 2020b). It was developed in cooperation with the British Council, Migration Policy Group (MPG), Foreign Policy Centre, and University of Sheffield (MIPEX 2020b). This index is often used and cited by many policymakers and NGOs as well as the European Commission as it is very comprehensive compared to other indices.

The 2015 MIPEX methodology used in this paper was created by MPG, Barcelona Centre for International Affairs, the European Fund for the Integration of Third-Country Nationals, and the International Organization for Migration (MIPEX 2020b). The MIPEX score is an average of scores coming from eight policy areas: labor market mobility - the focus of this paper, family reunification, education, political participation, permanent residence, access to nationality, anti-discrimination, and health (MIPEX 2020b). Each policy area has indicators which are questions relating to one of the specific areas of policy. Each answer has set value options ranging from 0-100, i.e., 0-50-100 and 0-33-67-100, based on how equally migrants are treated compared to citizens with 100 being completely equal (MIPEX 2020b). When an indicator's score changes, the law change is noted and explained. Each indicator of a policy is averaged for an overall policy score and then all eight policy scores are averaged for an overall MIPEX score annually (MIPEX 2020b).

These eight policy areas and their indicators were chosen from an original set of 167 indicators. MIPEX conducted a qualitative and quantitative analysis of all 167 indicators to determine which were the key drivers of variation between countries (MIPEX 2020b). All indicators are not necessary since if a country has policy A, then it is highly likely to have policies B, C, D, and E so MIPEX would only need an indicator for policy A (MIPEX 2020b). The MIPEX team established the reliability of the indicators through distribution analysis, correlation analysis, Cronbach's Alpha, and categorical principal component analysis (MIPEX 2020b). The qualitative part assessed the thematic scope of the indicator, i.e., which indicators are best for a policy area, overlap, wording, and answer options. Leading experts were interviewed on this to help guarantee proper wording, policy relevance, and ability to update in the future. From this, 58 indicators were selected and put into 8 policy areas. These 58 were then tested against the original 167 and they had the same statistical and conceptual accuracy according to MIPEX (2020b).

MIPEX sends out a questionnaire annually to be completed by at least one national expert per country to gather their data. The MPG research staff then checks the experts' responses to ensure the questions are understood in the same way and answered in the same way across countries. They then cross check the responses against publicly available data and legal texts. Every country gets three MPG researchers to check their questionnaires. When there are queries and concerns, the original experts are contacted for more information, but if there are still questions about the responses then other national experts are consulted. Then a final check occurs for consistency of the changes over time to ensure countries are being scored in the same way. Details are available in MIPEX (2020b).

This paper focuses specifically on the labor market mobility score and its indicators. There are nine indicators of labor market mobility which are explained in Table 4 below:

Table 4. MIPEX Labor Market Mobility Indicators

Indicator	Question	Answers	Scores
1: Immediate Access to the Labor Market	What categories of foreign residents have equal access to employment as nationals?	**A.** Permanent residents	**100** - All of them
		B. Residents on temporary work permits (excluding seasonal) within period of ≤ 1 year	**50** - A and C or certain categories of B
		C. Residents on family reunion permits (same as sponsor)	**0** - Only A or none
2: Access to the Public Sector (activities serving the needs of the public; not restricted to certain types of employment or private or public law)	Are foreign residents able to accept any public-sector employment under equal conditions as nationals? (excluding exercise of public authority i.e., police, defense, heads of units/divisions but not excluding civil servants and permanent staff)	**A**. Yes. There are no additional restrictions than those based on type of permit mentioned in 1	**100** – A
		B. Other limiting conditions that apply to foreign residents	**50** – B
		C. Certain sectors and activities solely for nationals (please specify)	**0** – C
3: Access to Self-Employment	Are foreign residents able to take up self-employed activity under equal conditions as nationals?	**A**. Yes. There are no additional restrictions than those based on type of permit mentioned in 1	**100** – A
		B. Other limiting conditions that apply to foreign residents, i.e., linguistic testing (please specify)	**50** – B
		C. Certain sectors and activities solely for nationals (please specify)	**0** – C
4: Access to Public Employment Services	What categories of foreign residents have equal access?	**A**. Permanent residents	**100** - All of them

		B. Residents on temporary work permits (excluding seasonal)	**50** - A and (C or certain categories of B)
		C. Residents on family reunion permits (same as sponsor)	**0** - Only A or none
5: Access to Education, Vocational Training, and Study Grants	What categories of foreign residents have equal access to: **1**. Higher Education and Vocational Training **2**. Study Grants	**A**. Permanent residents	**100** - All of them have access to both 1 and 2
		B. Residents on temporary work permits (excluding seasonal)	**67** - All of them have access to 1
		C. Residents on family reunion permits (same as sponsor)	**33** - A and C or certain categories of B have equal access to 1
			0 - Only A or none has equal access to 1
6: Recognition of Academic Qualifications Abroad	Are academic qualifications acquired abroad recognized?	**A**. Same procedures and fees as for nationals	**100** – A
		B. Different procedure than for nationals (i.e., more documents and/or higher fees are required)	**50** – B
		C. Ad hoc/No procedure for recognition of titles for certain TCN residents or certain fields of study (i.e., recognition depending on mutual recognition agreements)	**0** – C
7: Economic Integration Measures of TCNs	Do all TCNs have access to: **1**. Targeted training for TCNs other than generic language training	**A**. 1 and 2	**100** – A

	(i.e., bridging courses, job specific language training, etc.) **2**. Programmes to encourage hiring of TCNs (i.e., employer incentives, work placements, public sector commitments, etc.)	**B**. 1 or 2	**50** – B
		C. Only ad hoc (mainly through projects implemented by NGOs)	**0** – C
8: Economic Integration Measures of Youth and Women	Do targeted measures to further integration of TCNs into the labor market include: **1**. National programmes to address labor market situation of migrant youth **2**. National programmes to address labor market situation of migrant women	**A**. 1 and 2	**100** – A
		B. 1 or 2	**50** – B
		C. Only ad hoc (mainly through projects implemented by NGOs)	**0** – C
9: Access to Social Security and Assistance	What categories of TCNs have equal access to social security? (unemployment benefits, old age pension, invalidity benefits, maternity leave, family benefits, social assistance)	**A**. Long-term residents	**100** - All of them
		B. Residents on temporary work permits (excluding seasonal)	**50** - A and C or certain categories of B
		C. Residents on family reunion permits (same as sponsor)	**0** - Only A or none

Source: (MIPEX, 2020a)

From 2007-2019 some EU countries made more changes to migrant labor market policies than others. Chapter 5 analyzes trends in migrant labor market policy changes.

Chapter 5
Trends in Migrant Labor Market Policy

5.1 Overall Score Changes

The overall average MIPEX labor market mobility score for the EU28, excluding Croatia, rose by five points from 2007 to 2019. Figures 3 and 4 shows that this is due to the majority of countries' overall labor market mobility score increasing with the exception of: Ireland, the Netherlands, Sweden, and the UK where policies have become more restrictive and the Czech Republic, Denmark, Luxembourg, and Romania where the score remained the same indicating the same level of policy restrictiveness. Denmark though did have a score change in 2011 that increased its score but another change in 2014 that brought it back to the same score as before 2011 as the law that was enacted in 2011 was abolished. This can be seen in Figure 4.

Additionally, while most countries remained on the same side of the EU average in both years, some did not. As can be seen in Figure 3, the UK went from above the EU average for migrant labor market policy openness to below the EU average. The UK did not experience the biggest drop in score though, the Netherlands did but remained above the EU average as they began with more open policies than the UK. Greece, on the other hand, went from below the EU average to above the EU average with the largest increase in score.

Figure 3. Labor Market Mobility 2007 & 2019
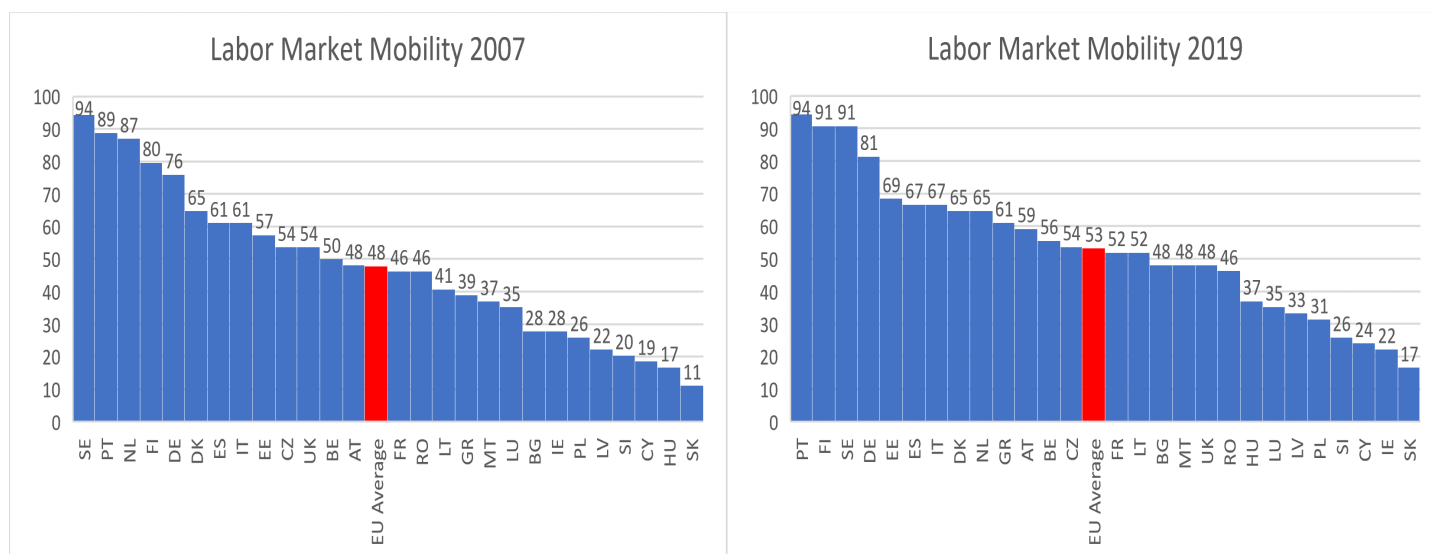
Source: (MIPEX, 2020a)

Figure 4. Labor Market Mobility 2007-2019

Labor Market Mobility 2007-2019
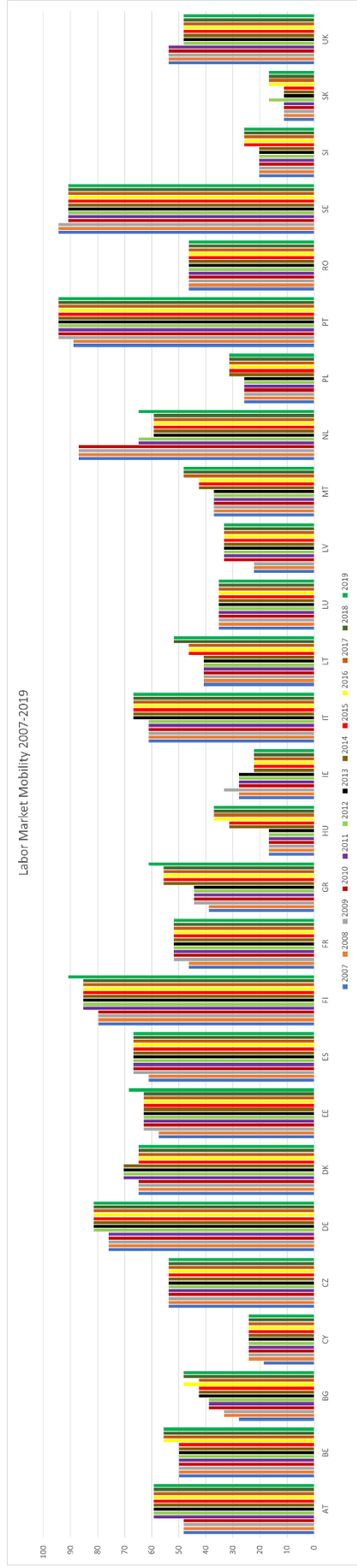
Source: (MIPEX, 2020a)

While overall scores did change for most countries, not every indicator changed for every country. Some indicators were more commonly changed across countries than others. Looking into how the indicators changed can help show which policy areas in migrant labor market mobility are being focused on by policymakers and how they are being focused on, making them more open or less.

5.2 Indicator Changes

While no indicator was unchanged from 2007 to 2019, the most commonly changed indicator was Indicator 1 as can be seen in Table 5. Eleven EU countries changed their laws surrounding immediate access to the labor market a total of 12 times, nine of which were positive. One of these positive changes, however, was quickly reversed, so up until 2019 there were only truly eight positive, lasting changes. Having equal access to employment as compared to citizens and EU migrants is on the rise. As was previously mentioned, the EU has a problem with an aging population and a birth rate that is not high enough to replace its labor force. Immigration is one option to help solve this problem, as immigrants can work and contribute to making up the gap in the EU which is why having immediate access to the labor market is of increasing importance and being recognized by EU countries more than other indicators.

Table 5 shows that the second mostly commonly changed indicator is Indicator 7. Nine EU countries changes their laws surrounding economic integration of migrants a total of nine times, seven of which were positive. This makes sense as the economic integration of TCNs further increases their access to the labor market. Overall, job-specific language training, bridging courses, and employer incentives to hire TCNs is on the rise further increasing TCNs' access to employment in their host-countries labor market. Learning not only the local language for everyday life but industry-specific jargon is very important to function in basic work activities. Industry-specific language changes by language and/or by country as even two countries with a common language, i.e., Spanish, have differences. This makes TCNs working ability in the local culture stronger and more efficient as well as opens more opportunity for career advancement in the host country. Additionally, employer incentives to hire TCNs, i.e., tax breaks, are also important as locals are usually preferred due to employers being able to understand more about their background like the quality of university attended, their culture, and language skills. While this is rising in importance in the eyes of policymakers, many training courses relating to work are found to be insignificant in labor market outcomes for migrants and there is a literature gap in employer incentives.

Indicator 9 is the indicator most split between positive and negative changes as shown in Table 5. A total of four countries changed it a total of six times, four of which were positive. Like with Indicator 1, one of the countries made a positive change followed by a negative change reverting to the previous law, but not immediately like with Indicator 1, instead four years later. Access to unemployment benefits and other social security programs that are funded by the government and taxes is politically controversial. Many do not want their taxes to be spent on programs being disproportionately used by those who are not them, individually and culturally. As mentioned earlier, the literature on unemployment benefits for migrants does generally agree that migrants do use these programs more; see (Nyman and Ahlskog, 2018), which does make allowing migrants access to unemployment benefits politically controversial. Many hold the view that if one has not been paying taxes for these programs for a long time or at all then they should not receive benefits. Since migrants use these programs more often there may be a misconception that this is hurting the budget and the future availability of these funds to natives despite empirical evidence to the contrary.

Indicator 2 is the indicator that changed the least in Table 5. Italy was the only country to make policy changes surrounding migrant access to the public sector from 2007-2019. In 2013, the law changed from certain public sectors being only for citizens to those with a long-term or EU permit being able to be civil servants on the same conditions as EU citizens. What the law was changed to is the case in most EU countries, and it seems as though Italy was catching up. There are still countries where certain public sectors are restricted to citizens.

From 2007-2019, three countries made no changes in their labor market mobility policy covered by these nine indicators. They are the Czech Republic, Luxembourg, and Romania.

Table 5. Indicator Changes

Indicator Changes				
Indicator	Number Countries that Changed it	Total Number of Changes	Number of Positive Changes	Number of Negative Changes
1	11	12	9	3
2	1	1	1	0
3	3	3	2	1
4	2	2	2	0
5	4	4	3	1
6	5	5	5	0
7	9	9	7	2
8	4	5	4	1
9	4	6	4	2

Source: (MIPEX, 2020a)

Since there were many changes during this time period, it can be interesting to see the changes in the highest and lowest scores and therefore the theoretically best and worst countries in the EU for migrant labor market mobility.

5.3 Best and Worst Countries for Labor Market Mobility

Having the highest labor market mobility score implies that that country has the most equal labor market in the EU for migrants as compared to EU citizens. Table 6 shows that the highest score stayed consistent at 94 for the time period 2007-2019, though the country that held the highest score changed. It started off in 2007 as Sweden and stayed that way until a tie emerged in 2009 with Portugal. In 2009, Portugal began recognizing academic qualifications acquired abroad by migrants in the same way as for citizens. In 2010, Sweden introduced greater restrictions on study grants for migrants thus breaking the tie making Portugal hold the highest score for the rest of the time frame. Portugal holds scores of 100 every year in Indicators 1, 2, 3, 4, 5, 8, and 9 with indicator 6 achieving 100 in 2009. This makes Indicator 7 the only area Portugal can improve on.

Having the lowest labor market mobility score implies that that country has the least equal labor market in the EU for migrants as compared to EU citizens. Table 6 shows that the lowest score rotated between 11 and 17 from 2007-2019. It started off in 2007 as Slovakia until a tie emerged in 2012 when Slovakia's score rose to 17 due to allowing those on only a family reunion permit to enter the labor market and tied with Hungary whose score had been

17 since the start of the time period. However, the next year, 2013, Slovakia removed the law allowing those on only a family reunion permit to enter the labor market without applying for more permits thus reducing the score back to 11. From 2013 the country with the lowest score remained Slovakia, but the score did rise back to 17 in 2016 due to the introduction of a procedure to recognize TCNs' diplomas whereas there never was one before, but it is still not equal to EU citizens. Slovakia holds scores of 0 every year in Indicator 1, except in 2012, and Indicators 2, 3, 4, 7, 8, and 9. The only indicator with a score of 100 is Indicator 5.

This implies that Portugal as of 2019 has the most equal labor market for migrants whereas Slovakia has the least equal labor market for migrants. If true, this could imply that the employment rate for migrants in Portugal is higher than in Slovakia. Additionally, as was previously mentioned, Portugal was the only Western EU country with no poverty gap between migrants and citizens, labor market policies may play a role in this. Portugal also has very small to no employment gap when including discouraged workers during this time period. This is uncommon as the average is -8.6% meaning migrant employment is on average 8.6% lower than EU citizen employment when using the population instead of the labor force. In western Europe, this figure is often lower than -8.6%, i.e., it is always around -25% in the Netherlands, and it is often positive in central and eastern Europe.

Table 6. Best and Worst Labor Market Mobility Scores

Best and Worst Labor Market Mobility Scores				
Year	Highest Score	Highest Score – Country	Lowest Score	Lowest Score – Country
2007	94	SE	11	SK
2008	94	SE	11	SK
2009	94	SE, PT	11	SK
2010	94	PT	11	SK
2011	94	PT	11	SK
2012	94	PT	17	SK, HU
2013	94	PT	11	SK
2014	94	PT	11	SK
2015	94	PT	11	SK
2016	94	PT	17	SK
2017	94	PT	17	SK
2018	94	PT	17	SK
2019	94	PT	17	SK

Source: (MIPEX, 2020a)

5.4 Individual Country Cases

Having discussed the broad changes, three countries have been selected for a deeper discussion of their recent migrant labor market policy history and changes. These countries are Greece, Hungary, and the Netherlands. Greece was chosen as it had the largest increase in its labor market mobility score. Hungary was chosen as it represents an average case for former Soviet satellites that have joined the EU. The Netherlands was chosen because it had the largest decrease in its labor market mobility score. These countries are all also regionally different as Greece is in southern Europe, Hungary is in central Europe, and the Netherlands is in western Europe. Going deeper into the history of migration, migrant labor market policy changes, and attitudes towards migrants in these countries can help explain the why their labor market scores change while representing some unique and general cases.

5.4.1 Greece

Greece has seen the sharpest changes in its migrant labor market mobility score during the period under scrutiny. In the 1990s, there was a large influx of migrants to Greece and Greece did not have a proper legal framework or systems of migration management to handle it at the time. Thus, a law was enacted in 1991 restricting migration to Greece in which the only way into the labor market was to have a proper permit before arrival (Kiprianos, Balias and Passas, 2003). This did not curb illegal migration though and in fact increased it resulting in high deportation rates. The first regularization program came in 1997 (Kiprianos, Balias and Passas, 2003). It is not thought to be well designed and makes it difficult for migrants to be regularized, but prior to this, deportation was essentially the only way Greece handled migrants, so it was seen as a step forward. In 2001, restrictive legal migration channels were introduced, and the regularization program became larger and more comprehensive (Triandafyllidou, 2009). Migrants gained right in areas such as the right for a translator in the migration process as well as migrant children's access to Greek education (Triandafyllidou, 2009). The labor market, however, was not helped. Certain aspects of the new immigration law, such as the need to renew visas every year, neglected the needs of the Greek labor market to fill positions in a relatively short time. In 2004 this law was changed to needing to renew visas every two years, but the limited duration, and the general policy orientation of the Greek government was not conducive to creating sustainable migrant labor policy. It then became a priority to help regularization and labor market mobility after a substantial review of Greek law concerning immigrants in 2006 (Triandafyllidou, 2009).

Greece had the largest increase in their labor market mobility score from 39 in 2007 to 61 in 2019, an increase of 22 points. In 2009, Indicator 1's score changed from 50 to 100 due to providing full labor market access to those on a family reunion permit making the overall score 44. In 2014, Indicator 3 went from 0 to 100. The New Code of Immigration and Social Integration integrated the residence permit for dependent employment and independent work. It also states that the holder of a residence permit for dependent employment may exercise, under some specific provisions, an independent economic activity only if they obtain a long-term residence permit. Prior to this TCNs had to apply for self-employed activity and were required to submit a business and viability plan proving that such activity would contribute to the development of the Greek economy and must deposit €60,000 in a recognized bank, and some professions were reserved solely for Greek citizens. This change made the overall score 56. Finally, in 2019 Indicator 7 went from 0 to 50. The State Agency for the Unemployed implemented training and programmes for employers to encourage hiring TCNs and TCNs became allowed to register with this agency which removes obstacles proving permanent residence. This made their overall score 61.

5.4.2 Hungary

Prior to 1989, Hungary was a Soviet satellite and both immigration and emigration were highly restricted. Entrance was generally only granted to those from other parts of the Soviet Union and, even then, it was not common. After the fall of the Soviet Union in 1989, Hungary reverted back to the immigration laws from its 1949 constitution (DEMIG, 2022). The law changes immediately following this were focused on allowing Hungarians to travel and live abroad if they wanted as well as returning Hungarian citizenship to those who lost it during Soviet occupation. So, altering immigration policy was put off. A governmental office for migration affairs, outside of refugees, was not established until 1993 (DEMIG, 2022). In 1991, a law was passed stating migrants need a work permit to work in Hungary. One cannot move to Hungary and look for work as work permits are issued for specific jobs and only if there is not a qualified Hungarian who applied (DEMIG, 2022). 1993 saw an increase in the

time period to be living in Hungary before being allowed to apply for citizenship as well as stricter qualifications to become a Hungarian citizen. These restrictive law changes were in response to the high influx of people fleeing the Balkans and entering Hungary during the Yugoslav Wars during which anti-immigrant sentiment began to take hold (DEMIG, 2022). 1996 saw the greater specification of the previously mentioned law passed in 1991 stating that foreigners who travel to Hungary with the purpose of working there must obtain an employment visa or an income earning activity visa before entering Hungary, regardless of the length of their stay there (DEMIG, 2022). A Hungarian work permit can be issued only if there is no one who is a citizen or already has a work permit that applied with relevant qualifications to fill the post. Employers became obliged to register their labor force demand 60 days in case of seasonal or occasional employment, or 30 days otherwise prior to the submission of the application for an employment permit (DEMIG, 2022). 1999 saw further labor market mobility restrictions when a quota was introduced on temporary work permits depending on previous period vacancies but stated executives of foreign companies no longer needed temporary work permits (DEMIG, 2022). In 2000, in order to gain EU accession, Hungary became required to bring its legislation on migration in line with the EU's legislation. After this citizenship requirements eased, the existing regime on immigration was consolidated, and the right to appeal rejected permits was introduced before accession in 2004 (DEMIG, 2022). Greater policy consolidation and specifications were made between 2004 and 2007 when Hungary gained Schengen zone entry. Despite the growing anti-immigration sentiment of the people of Hungary as well as the Fidesz party which has been in power since 2010, Hungary's labor market mobility continues to improve to keep up with EU regulations.

Hungary represents an average case for central and eastern Europe with its score going from 17 in 2007 to 37 in 2019. Like most of central and eastern Europe, if there was a change in score it was a change of around 20 points. Additionally, many Indicators still hold a score of 0 or are rising from 0. In 2014, Indicators 4, 5, and 8 rose from 0 to 50, 0 to 33, and 0 to 50 respectively. For Indicator 4, long-term residents, refugees, and subsidiary protected and people employed with a single permit[2] became entitled to public employment services. For Indicator 5, single permit holders became entitled to participation in higher education under the same terms as Hungarian citizens. Long-term residents and refugees already had this right. Additionally, eligibility for study grant became dependent on the status of the student and not on the type of residence permit. For Indicator 8, long-term residents, refugees, stateless persons, Blue-Card[3] holders, and employees with a single permit have equal access to social security. TCNs with other residence permits are not entitled to social security access. In 2016, Indicator 1 rose from 0 to 50. There became no need of a work permit for employees leased by a temporary job agency registered in any of the European Economic Area (EEA) countries outside Hungary to a Hungarian employer. A work permit is not needed if the employer is leased by a temporary work agency, the employee is a citizen of a neighboring country, the job agency is registered in an EU member state, and the job the employee is hired for is on the list of preferred positions issued by the Minister of Economic Affairs. Additionally, TCNs whose residence is in a neighboring country can be employed without a work permit in certain jobs declared every year by the responsible minister.

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[2] "The single permit is a residence permit allowing a third-country national to enter into a contract for employment relationship with an employer and to reside legally in the territory of Hungary for the purpose of work." (National Directorate-General for Aliens Policing, 2020)

[3] "The EU Blue Card is a residence permit for highly qualified employment of third country nationals in the European Union." (EU Blue Card, 2021)

5.4.3 The Netherlands

Overall, there was a loss of targeted economic integration measures for migrants as well as a decline in the accessibility to the labor market in the Netherlands. The previously held idea of integration while preserving ethnic identity became criticized in the 1990s because it might contribute to the unemployed and segregated position of many first- and second-generation migrants (de Koster, Achterberg and van der Waal, 2012). So, the 1990s saw emphasis being put on reducing unemployment and welfare dependency, particularly through improving labor market participation for migrants (Ho, 2013). The Netherlands began having a surplus of immigrants in the 1960s, but it was not until 1998 that the Dutch government officially acknowledged that the Netherlands had become a country of immigration (Ho, 2013). This led to increased debates in parliament about immigration as a problem. Many political parties disliked the idea of having a large immigration surplus in the Netherlands. Official policy considered immigration as a temporary phenomenon at the time (Ho, 2013). This debate became more common and began to have a stronger sense of urgency to it after the September 11, 2001 terrorist attacks in the US with more average Dutch citizens opposing immigration and multiculturalism (de Koster, Achterberg and van der Waal, 2012). In 2002, for the first time in Dutch political history, issues of immigration and immigrant integration played a dominant role in local and national elections and in the Dutch political debate (Ho, 2013). After the 2002 elections, integration policies became focused more on assimilating and immigration policies became more selective (Ho, 2013). From there policies improved only for highly skilled migrants with at least a master's degree as permits became easier to receive (Ho, 2013). The Dutch government prefers stimulating labor market participation of women and older employees over inviting foreign workers to the Netherlands, particularly after 2001.

The Netherlands had the largest decrease in its labor market mobility score. The score went from 87 in 2007 to 65 in 2019, but at one point had an overall score of 59. This is a drop of 22 points, a true exception as most countries scores rose and those who did decline, other than the Netherlands, declined by no more than six points. In 2011, Indicators 7 and 8 both went from 100 to 0. National targeted migrant labor integration programs were cut to subsidize migrant-specific training and policies related to all areas of integration. Since the passage of the Act on Integration, integration was the responsibility of the migrant alone. Migrants in principle only get an intake to define whether they fall into the scope of the integration act. If they are obliged to integrate, they have to do an integration exam within three and a half years after their arrival. Courses for the exam are run by private organizations and are self-funded. No specific policies target the employability of TCNs but instead policies do not discriminate between EU citizens and TCNs. The idea is that improving general labor market access will improve it for all. In 2014, it was recognized that Indicator 8 needed to be improved as the labor market participation of women and youth migrants was declining, but no act was adopted for another five years. In 2013, Indicator 1's score dropped from 100 to 50. Prior to 2013 a labor market permit could be renewed, and no new labor market test would be applied. However, from 2013 on, the labor market permit will only be provided for a maximum of one year, which is down from three, and will be subject to a renewed labor market test. There is no possibility to renew the same labor market permit, and a new permit will have to be requested each time. In 2019, they achieved part of their goal of reintroducing specific labor market integration for migrant women and youths by providing it for youths raising their score to 65.

The next chapter will explain the quantitative methodology; data sources can be found in Appendix 1.

Chapter 6
Methodology

6.1 Econometric Model

As mentioned in Chapter 3, to analyze the relationship between migrant labor market policies and the migrant employment rate (both variants) and the migrant-non-migrant employment gap (both variants), this paper uses a panel data approach. This approach combines times series and cross section data which increases the number of observations, and which should allow for more control over country level heterogeneity. Panel data models also help control for unobservable factors that could interfere with the results if only time series or cross-sectional data is used. This helps avoid spurious regressions. A fixed effects model will be used, this will ensure that there are country fixed effects to further control for country level differences. Additionally, year fixed effects are included to control for year-to-year differences that can affect migrant employment. The estimated models for this paper are as explained and shown in the next section.

6.1.1 Equations

Below are the equations of the macro model of employment along with definitions for the variables in Table 7.

$$1: MigrantEmployment_{it} = \beta_0 + \beta_1 LaborMarketScore_{it} + \beta_2 GDPGrowth_{it} + \beta_3 InterestRate_{it} + \beta_4 Inflation_{it} + \beta_5 Year_t + \beta_6 Country_i + \varepsilon_{it}$$

$$2: EmploymentGap_{it} = \beta_0 + \beta_1 LaborMarketScore_{it} + \beta_2 GDPGrowth_{it} + \beta_3 InterestRate_{it} + \beta_4 Inflation_{it} + \beta_5 Year_t + \beta_6 Country_i + \varepsilon_{it}$$

$$3: MigrantEmployment_{it} = \beta_0 + \beta_1 Indicator1\text{-}50_{it} + \beta_2 Indicator1\text{-}100_{it} + \beta_3 Indicator3\text{-}50_{it} + \beta_4 Indicator3\text{-}100_{it} + \beta_5 Indicator5\text{-}33_{it} + \beta_6 Indicator5\text{-}67_{it} + \beta_7 Indicator5\text{-}100_{it} + \beta_8 Indicator7\text{-}50_{it} + \beta_9 Indicator7\text{-}100_{it} + \beta_{10} Indicator9\text{-}50_{it} + \beta_{11} Indicator9\text{-}100_{it} + \beta_{12} GDPGrowth_{it} + \beta_{13} InterestRate_{it} + \beta_{14} Inflation_{it} + \beta_{15} Year_t + \beta_{16} Country_i + \varepsilon_{it}$$

$$4: EmploymentGap_{it} = \beta_0 + \beta_1 Indicator1\text{-}50_{it} + \beta_2 Indicator1\text{-}100_{it} + \beta_3 Indicator3\text{-}50_{it} + \beta_4 Indicator3\text{-}100_{it} + \beta_5 Indicator5\text{-}33_{it} + \beta_6 Indicator5\text{-}67_{it} + \beta_7 Indicator5\text{-}100_{it} + \beta_8 Indicator7\text{-}50_{it} + \beta_9 Indicator7\text{-}100_{it} + \beta_{10} Indicator9\text{-}50_{it} + \beta_{11} Indicator9\text{-}100_{it} + \beta_{12} GDPGrowth_{it} + \beta_{13} InterestRate_{it} + \beta_{14} Inflation_{it} + \beta_{15} Year_t + \beta_{16} Country_i + \varepsilon_{it}$$

Table 7. Variable Definitions

$MigrantEmployment_{it}$	Employed Non-EU28 migrants in the EU country as a share of Non-EU28 migrants in the labor force (standard definition of the employment rate)
$MigrantEmployment\_Alternative_{it}$	Employed Non-EU28 migrants as a share of the total working age Non-EU28 migrant population in order to include potentially discouraged workers (alternative definition of the employment rate)

EmploymentGap$_{it}$	Migrant employment rate – EU citizen employment rate based on the standard definition of the employment rate
Employ-mentGap_Alterna-tive$_{it}$	Migrant employment rate based on working age population – EU citizen employment rate based on working age population
LaborMarketScore$_{it}$	MIPEX labor market mobility score (average of the 9 indicators)
AdjustedLaborMar-ketScore$_{it}$	Average of Indicators 1, 3, 5, 7, and 9
Indicator1-50$_{it}$	Dummy of Indicator 1 with value 50 (immediate access to the labor market)
Indicator1-100$_{it}$	Dummy of Indicator 1 with value 100 (immediate access to the labor market)
Indicator3-50$_{it}$	Dummy of Indicator 3 with value 50 (access to self-employment)
Indicator3-100$_{it}$	Dummy of Indicator 3 with value 100 (access to self-employment)
Indicator5-33$_{it}$	Dummy of Indicator 5 with value 33 (access to education, vocational training, and study grants)
Indicator5-67$_{it}$	Dummy of Indicator 5 with value 67 (access to education, vocational training, and study grants)
Indicator5-100$_{it}$	Dummy of Indicator 5 with value 100 (access to education, vocational training, and study grants)
Indicator7-50$_{it}$	Dummy of Indicator 7 with value 50 (economic integration measures of TCNs)
Indicator7-100$_{it}$	Dummy of Indicator 7 with value 100 (economic integration measures of TCNs)
Indicator9-50$_{it}$	Dummy of Indicator 9 with value 50 (access to social security and assistance)
Indicator9-100$_{it}$	Dummy of Indicator 9 with value 100 (access to social security and assistance)
Indicator9-50&100$_{it}$	Dummy of Indicator 9 with values 50 and 100 (access to social security and assistance)
GDPGrowth$_{it}$	Annual percentage growth rate of GDP at market prices
InterestRate$_{it}$	Long-term interest rate (unspecified rate type, debt security issued, 10 years maturity, new business coverage, unspecified counterpart sector), averaged from monthly data
Inflation$_{it}$	Annual percentage change in the cost to the average consumer of acquiring a basket of goods and services (consumer price index, CPI)
Year$_t$	Year fixed effects
Country$_i$	Country fixed effects

Since the dependent variables are continuous, OLS regressions are used to estimate the various panel data fixed effects models. A few comments are in order. Since, not all countries have observations for every variable in each year of interest, estimates are provided for an unbalanced panel, and then with only the countries in which there are complete observations in each variable for each year of interest, that is, a balanced panel. The countries without complete data and therefore not included in the regressions with the balanced panel are Bulgaria, Estonia, Lithuania, Romania, and Slovakia.

The first two equations relate to the overall labor market score. In addition to the dependent variables below, versions of the equations with the alternative employment rate and employment gap are run. An adjusted labor market score variable will be used with each dependent variable as well. This adjusted labor market score variable will include six out of the nine indicators as due to limited variations in the data, only six indicators are used in the final two equations (disaggregated labor market policy scores).

In the last two equations, the labor market score variable is disaggregated to see if policy changes in specific indicator categories have a statistically significant effect on the four dependent variables mentioned previously. This can be useful to policymakers when trying to determine which area of migrant labor market policy to focus on in order to better help increase migrant employment and/or decrease migrant employment gaps. It can also see how much the score changes matter. It may be that a change from a score of 0 to that of 100 has a significant effect on migrant employment rates while that of 0 to 50 does not or vice versa. The level to which the policy has changed may matter as well. Going from 0 to 50 implies going from no access in a certain indicator area, i.e., immediate labor market access, to some access. Whereas 0 to 100 implies going from no access to full access. One may have a greater effect. As can be seen below, Indicators 2, 4, 6, and 8 have been excluded. This is due to lack of variation in the data as well as the overlap between Indicators 7 and 8. In the balanced panel, there is not much variation in the data for Indicator 9 and therefore the variable Indicator9-50&100 will be used as it combines the values for 50 and 100. The indicator variables are dummy variables that always reference the variable that represents the zero value of its indicator, i.e., Indicator1-50 and Indicator1-100 use Indicator1-0 as a reference point since the indicators are not continuous values. In the results table, the indicators will be presented as their definition and indicator number in parentheses with the value, i.e., 50, next to it.

There is potential endogeneity between the employment rates and the overall labor market scores and indicator scores. It could be the case that a country has a very low employment rate for its migrants, and this then led to the opening of migrant labor market policies. Due to this, the regressions should be viewed as exploratory, and the estimates interpreted as correlations and should not be interpreted as causal effects.

6.2 Summary Statistics

Table 8 shows the descriptive statistics for the unbalanced panel data. The 2007-2019 EU averages and standard deviations of the four dependent variables should be noted. The average migrant employment rate is 84.7% while the figure is 58.11% for the alternative migrant employment rate. In contrast the corresponding figures for non-migrants are 91.7 and 66.28%. Thus, the average employment gap between migrants and EU citizens is about 7% based on the traditional employment measure and slightly higher (8.6%) based on the alternative employment gap. The main variables of interest, the labor market score, has an average of 50.47 with a standard deviation of 20.94 showing that countries vary greatly in their migrant labor market policy openness. For the other variables, reflecting stable economic conditions, GDP growth, inflation, and interest rates over the period average 1.8%, 1.9%, and 3.4%, respectively.

Table 8. Descriptive Statistics for Unbalanced Panel

Variable	Obs	Mean	Std. Dev.	Min	Max
LaborMarketScore	351	50.47	21.78	11	94
AdjustedLaborMarketScore	351	50.929	20.941	16.667	91.667
TotalEmployedMigrants (#)	328	329522.26	546983.08	2200	2549800
TotalMigrantLaborForce (#)	332	397943.37	663811.87	2300	2819200
TotalWorkingAgeMigrantPopulation (#)	335	584968.66	981451.12	2300	4427200
MigrantEmployment (%)	328	84.7	8.33	59.542	98.131
MigrantEmployment_Altnerative (%)	323	58.11	9.48	36.179	82.114
TotalEmployedEUCitizens (#)	351	7652016	9616638.1	152100	38515300
TotalEUCitizenLaborForce (#)	351	8346846.2	10373277	162600	39645600
EUCitizenEmploymentRate (%)	351	91.74	4.42	73.28	97.9
TotalWorkingAgeEUCitizenPopulation (#)	351	11547596	14065804	275000	50716500
EUCitizenEmployment_Alternative (%)	351	66.28	6.319	49.01	79.399
EmploymentGap (%)	328	-6.994	6.892	-32.39	8.533
EmploymentGap_Alternative (%)	323	-8.6	11.31	-30.79	20.877
GDPGrowthRate (%)	351	1.822	3.696	-14.84	25.18
Inflation (%)	351	1.922	2.083	-4.48	15.402
InterestRates (%)	338	3.353	2.664	-.2525	22.498

Chapter 7
Results & Discussion

7.1 Labor Market Score Equations

The results of the unbalanced, fixed effects panel data analysis using the labor market score variable are shown below in Table 9. Table 10 shows the results with the balanced, fixed effects panel data analysis.

Table 9. Labor Market Score, Unbalanced Panel

	(1) MigrantEmployment	(2) MigrantEmployment_Alternative	(3) EmploymentGap	(4) EmploymentGap_Alternative
LaborMarketScore	-0.0274	-0.0459	-0.0148	-0.1336**
	(0.0556)	(0.0626)	(0.0452)	(0.0533)
GDPGrowthRate	-0.176	-0.234*	-0.173*	-0.197*
	(0.110)	(0.124)	(0.0893)	(0.105)
Inflation	0.479**	0.448*	0.0175	0.0640
	(0.207)	(0.233)	(0.168)	(0.199)
InterestRates	-1.316***	-1.097***	-0.496***	-0.418**
	(0.177)	(0.199)	(0.144)	(0.169)
_cons	0.946***	0.665***	-0.0211	0.0236
	(0.0336)	(0.0381)	(0.0273)	(0.0325)
N	315	310	315	310
R^2	0.398	0.264	0.107	0.124

Notes: Standard errors in parentheses; Year and country fixed effects are included in all regressions; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 10. Labor Market Score, Balanced Panel

	(1) MigrantEm- ployment	(2) MigrantEm- ployment_Al- ternative	(3) Employ- mentGap	(4) Employ- mentGap_Al- ternative
LaborMar- ketScore	-0.0468	-0.0397	-0.0234	-0.1194[**]
	(0.0547)	(0.0632)	(0.0431)	(0.0536)
GDPGrowthRate	-0.0585	-0.157	-0.0800	-0.151
	(0.112)	(0.129)	(0.0881)	(0.110)
Inflation	0.543[**]	0.572[**]	0.0974	0.181
	(0.213)	(0.246)	(0.168)	(0.209)
InterestRates	-1.308[***]	-0.949[***]	-0.470[***]	-0.293[*]
	(0.178)	(0.206)	(0.140)	(0.174)
_cons	0.944[***]	0.645[***]	-0.0305	-0.00136
	(0.0336)	(0.0388)	(0.0265)	(0.0329)
N	286	286	286	286
R^2	0.425	0.247	0.114	0.126

Notes: Standard errors in parentheses; Year and country fixed effects are included in all regressions; $^{*} p < 0.10$, $^{**} p < 0.05$, $^{***} p < 0.01$.

Both sets of estimates, balanced or unbalanced, yield similar results. Since the larger, unbalanced sample yields more efficient results, the discussion below focuses on the results in Table 9.

As shown in columns 1, 2, and 3 of Table 9, the relationship between the labor market score variable and migrant employment outcomes is negative but statistically insignificant. The only specification where there is a significant effect is the role of the labor market score in reducing the employment gap between non-EU migrants and EU citizens (column 4, Table 9). This specification may be considered a preferred specification as it takes into account the possibility of discouraged workers and due to its focus on the relative difference between migrant and non-migrants it accounts for factors that affect the employment rates of both groups equally. The result indicate that if the overall labor market score rises by a point, then the employment gap declines by 0.1336 percent. During this period, the average increase in the labor market score (indicating more migrant friendly policies) was 6 which translates into a 0.8016 percent reduction in the employment gap. Given that the mean employment gap is 8.6 percentage points (see Table 8) this translates into an effect of 9.32 percent at the mean (0.8016/8.6*100). These results suggest that greater openness in labor market policies works towards reducing the employment gap between migrants and non-migrants but labor policy related factors, at best, account for about 9-10 percent of the gap. This is not trivial but at the same time indicates the limits of policy in eroding the gap.

With regard to the other variables, based on the estimates in column 4, Table 9, an increase in GDP growth works towards reducing the migrant employment gap. A one percent increase in GDP growth translates into a 0.197 percent reduction in the gap. The mean GDP growth rate during this period was about 2%, thus, at the mean, the increase in GDP growth helped reduce the migrant employment gap by 4-5 percent (0.197*2/8.6*100).

Unlike the effect of GDP, inflation had more of an unexpected relationship (not consistent with the long-run Phillips curve) with the dependent variables. Based on the estimates

in column 1, Table 9, a one percent rise in inflation translates into a 0.479 percent rise in migrant employment. This is in favor of the short run Phillips curve for inflation and unemployment.

As has been theorized, a rise in interest rates may lead to a decline in employment through its effect on the cost of borrowing/investment. This effect is found across all the models and a rise in interest rates tends to translate into a reduction in migrant employment (see, for instance, Table 9, columns 1 and 3). However, there is an interesting twist. The estimates in columns 2 and 4 show that a rise in interest rates works towards decreasing the migrant employment gap (a 1 percent increase in interest reduces the migrant employment gap by 0.42 percent) suggesting that the negative effect of a rise in interest rates has a larger negative employment effect on non-migrants as opposed to migrants and thus translates into a reduction in the migrant employment gap. It is also consistent with the idea that in times of rising interest rates and rising cost of doing business, employers may resort to substituting potentially cheaper migrant labor in place of non-migrant labor.

7.2 Adjusted Labor Market Score Equations

The results of the unbalanced, fixed effects panel data analysis using the adjusted labor market score variable are shown below in Table 11. Table 12 shows the results with the balanced, fixed effects panel data analysis. This adjusted labor market score was created since it is the average of the indicators used in the indicators based regressions (Tables 13 and 14). These estimates are provided as a prelude to the more disaggregated regressions which are based on the limited set of labor market policy indicators (1, 3, 5, 7, 9) that display variation over time. The main point coming out of Tables 11 and 12 is that the effects of the regressions based on adjusted labor market score are not very different from the estimates reported in Tables 9 and 10. The effect of the adjusted labor market score on reducing the employment gap is negative and of the same magnitude as in Table 9.

Table 11. Adjusted Labor Market Score, Unbalanced Panel

	(1) MigrantEmployment	(2) MigrantEmployment_Alternative	(3) EmploymentGap	(4) EmploymentGap_Alternative
AdjustedLaborMarketScore	-0.041	-0.037	-0.026	-0.1085**
	(-0.88)	(-0.71)	(-0.69)	(-2.43)
GDPGrowthRate	-0.179	-0.235*	-0.175*	-0.200*
	(-1.63)	(-1.90)	(-1.96)	(-1.90)
Inflation	0.451**	0.447*	-0.00277	0.0577
	(2.17)	(1.90)	(-0.02)	(0.29)
InterestRates	-1.323***	-1.099***	-0.502***	-0.423**
	(-7.47)	(-5.52)	(-3.49)	(-2.50)
_cons	0.953***	0.660***	-0.0148	0.0107
	(32.16)	(19.63)	(-0.62)	(0.38)
N	315	310	315	310
R^2	0.399	0.264	0.108	0.123

Notes: t statistics in parentheses; Year and country fixed effects are included in all regressions; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 12. Adjusted Labor Market Score, Balanced Panel

	(1) MigrantEm- ployment	(2) MigrantEm- ployment_Al- ternative	(3) Employ- mentGap	(4) Employem- entGap_Alter- native
AdjustedLabor- MarketScore	-0.0738*	-0.0237	-0.045	-0.082**
	(-1.90)	(-0.53)	(-1.47)	(-2.15)
GDPGrowthRate	-0.0619	-0.157	-0.0822	-0.154
	(-0.56)	(-1.22)	(-0.94)	(-1.40)
Inflation	0.455**	0.572**	0.0380	0.159
	(2.11)	(2.28)	(0.22)	(0.75)
InterestRates	-1.331***	-0.951***	-0.485***	-0.305*
	(-7.49)	(-4.61)	(-3.46)	(-1.74)
_cons	0.959***	0.636***	-0.0186	-0.0216
	(36.66)	(20.95)	(-0.90)	(-0.84)
N	286	286	286	286
R^2	0.432	0.247	0.121	0.125

Notes: t statistics in parentheses; Year and country fixed effects are included in all regressions; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

7.3 Indicators Equations

The results of the unbalanced, fixed effects panel data analysis using the indicators variables are shown below in Table 13. Table 14 shows the results with the balanced, fixed effects panel data analysis. These indicator variables are a breakdown of the labor market score excluding indicators without enough data variation and are used in order to identify important areas of migrant labor market policy.

Table 13. Indicators, Unbalanced Panel

	(1) MigrantEmployment	(2) MigrantEmployment_Alternative	(3) EmploymentGap	(4) EmploymentGap_Alternative
Indicator1-50 (immediate access to the labor market)	-0.0962	2.6785**	-1.6045*	-1.3984
	(1.0984)	(1.2849)	(0.9313)	(1.1151)
Indicator1-100 (immediate access to the labor market)	-4.9315**	-2.4407	-4.0215**	-5.3167***
	(1.9629)	(2.2962)	(1.6641)	(1.9928)
Indicator3-50 (access to self-employment)	0.1056	3.6322	1.8638	5.0541**
	(2.0036)	(2.3439)	(1.6987)	(2.0342)
Indicator3-100 (access to self-employment)	-8.9181***	-5.4875**	-3.237*	-0.7348
	(2.0105)	(2.3522)	(1.7045)	(2.0414)
Indicator5-33 (access to education, vocational training, and study grants)	4.9904**	1.6439	2.3406	-1.5337
	(2.3815)	(2.7871)	(2.0191)	(2.4189)
Indicator5-67 (access to education, vocational training, and study grants)	-6.7661*	-2.46	-10.205***	-6.7233*
	(3.9965)	(4.6788)	(3.3883)	(4.0605)
Indicator5-100 (access to education, vocational	-0.6444	-0.8532	-3.1282	-3.6757

training, and study grants)				
	(3.0604)	(3.5861)	(2.5947)	(3.1122)
Indicator7-50 (economic integration measures of TCNs)	-1.5653	-1.6977	-0.491	-0.8169
	(1.0062)	(1.1772)	(0.85306)	(1.0217)
Indicator7-100 (economic integration measures of TCNs)	7.1832***	5.695*	4.0803*	3.9331
	(2.6459)	(3.0953)	(2.2433)	(2.6863)
Indicator9-50 (access to social security and assistance)	-1.248	-1.854	-0.33214	-1.6389
	(1.4436)	(1.6886)	(1.2239)	(1.4655)
Indicator9-100 (access to social security and assistance)	-7.2581*	-13.941***	-2.5702	-10.115***
	(3.8338)	(4.4871)	(3.2503)	(3.8942)
GDPGrowthRate	-0.129	-0.176	-0.165*	-0.212**
	(0.105)	(0.123)	(0.0890)	(0.107)
Inflation	0.564**	0.497*	-0.0299	-0.00581
	(0.234)	(0.275)	(0.198)	(0.238)
InterestRates	-1.236***	-0.996***	-0.493***	-0.413**
	(0.170)	(0.199)	(0.144)	(0.172)
_cons	0.989***	0.682***	0.0219	0.0253
	(0.0365)	(0.0430)	(0.0310)	(0.0373)
N	315	310	315	310
R^2	0.503	0.341	0.196	0.184

Notes: Standard errors in parentheses; Year and country fixed effects are included in all regressions; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 14. Indicators, Balanced Panel

	(1) MigrantEmployment	(2) MigrantEmployment_Alternative	(3) EmploymentGap	(4) EmploymentGap_Alternative
Indicator1-50 (immediate access to the labor market)	0.1351	3.1727**	-1.7719**	-1.5052
	(1.0472)	(1.2544)	(0.8655)	(1.0978)
Indicator1-100 (immediate access to the labor market)	-4.4994**	-1.7946	-4.0902***	-5.3549***
	(1.8549)	(2.2219)	(1.5331)	(1.9445)
Indicator3-50 (access to self-employment)	1.6464	7.0506***	2.289	7.0602***
	(2.0386)	(2.4419)	(1.6848)	(2.137)
Indicator3-100 (access to self-employment)	-10.598***	-7.2916***	-4.2323**	-2.112
	(2.0882)	(2.5013)	(1.7258)	(2.189)
Indicator5-33 (access to education, vocational training, and study grants)	4.6349*	3.5424	-0.2297	-3.329
	(2.6544)	(3.1796)	(2.1938)	(2.7826)
Indicator5-67 (access to education, vocational training, and study grants)	-8.3147**	-0.3802	-11.204***	-4.9826
	(3.9052)	(4.6779)	(3.2276)	(4.0938)
Indicator5-100 (access to education, vocational training, and study grants)	-1.8368	0.8592	-3.8141	-2.1681
	(3.0431)	(3.6453)	(2.5151)	(3.1901)
Indicator7-50 (economic	-1.7381*	-1.5285	-0.62003	-0.6712

	(1)	(2)	(3)	(4)
integration measures of TCNs)	(0.9462)	(1.1334)	(0.782)	(0.9919)
Indicator7-100 (economic integration measures of TCNs)	7.0092***	5.0375*	4.0852**	3.5972
	(2.4862)	(2.9781)	(2.0548)	(2.6063)
Indicator9-50&100 (access to social security and assistance)	-1.2598	-1.9047	0.6339	-0.483
	(1.5428)	(1.8481)	(1.2751)	(1.6173)
GDPGrowthRate	-0.0342	-0.114	-0.0670	-0.152
	(0.106)	(0.127)	(0.0877)	(0.111)
Inflation	0.498**	0.629**	-0.0446	0.129
	(0.244)	(0.293)	(0.202)	(0.256)
InterestRates	-1.291***	-0.817***	-0.518***	-0.271
	(0.171)	(0.205)	(0.141)	(0.179)
_cons	0.967***	0.597***	0.0130	-0.0329
	(0.0343)	(0.0411)	(0.0284)	(0.0360)
N	286	286	286	286
R^2	0.544	0.357	0.226	0.206

Notes: Standard errors in parentheses; Year and country fixed effects are included in all regressions; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Both sets of estimates, balanced or unbalanced, yield similar results. Since the larger, unbalanced sample yields more efficient results, the discussion below focuses on the results in Table 13. The focus of the discussion will be on the employment gap between non-EU migrants and EU citizens (column 4, Table 13). To reiterate, this specification is preferred as it considers the possibility of discouraged workers and since it focuses on the relative difference between migrant and non-migrants it accounts for factors that affect the employment rates of both groups equally.

The disaggregated labor market policy score yields three findings. First, with regard to the alternative employment gap, an increase in access to labor markets (Indicator 1) from a score of 0 to 100 is associated with a 5.3 percent decline in the employment gap. The mean gap in the data set during this time period is 8.6 percent, suggesting that a substantial proportion (62%) of the gap may be eliminated if migrants have open access to the labor market. This makes sense as having the right to work upon arrival, should make finding employment easier and thus reduce the employment gap. Second, Indicator 5, access to education, vocational training, and study grants, works towards reducing the employment gap. The results indicate that an increase in the score from 0 to 67 is associated with a reduction in the employment gap. The magnitude is large but not very precisely estimated. Finally, (Indicator 9),

access to social security and assistance is also associated with a sharp decline in the unemployment gap. Thus, three indicators help reduce the employment gap with immediate access to the labor market being the most important followed by access to social security and assistance and access to education, vocational training, and study grants.

Some of the results though are counterintuitive. For example, if an indicator's score going from 0 to 100 has a significant, negative impact on the migrant employment rate then it can be expected that for the employment gap, if significant, it will have a positive impact and vice versa. This means that as the migrant employment rate declines, the employment gap rises. However, there are many instances when this is not the case, and the employment gap declines despite declining migrant employment. This implies that EU citizen employment is also declining and at a greater rate than migrant employment. Of course, this can also happen with MigrantEmployment_Alternative and EmploymentGap_Alternative. This type of situation occurs with Indicator1-100, Indicator3-100, Indicator 5-33, Indicator5-67, and Indicator9-100 in the unbalanced panel and Indicator1-100, Indicator3-50, Indicator3-100, Indicator5-67, Indicator7-100 in the balanced panel. These results are interesting and could be further looked into to see if migrant labor market policies affect EU citizen employment.

The results of the regressions for GDP growth, inflation, and interest rates are not very different from those reported in Table 9. The effects are of the same magnitude, interest rates continue to have the largest effect on all of the dependent variables, and thus the discussion in section 7.1 is sufficient.

Chapter 8
Conclusions

The main questions of this paper were:

- What have been the main trends in migrant labor policy over the period 2007 to 2019?
- Have these changes in migrant labor policy been effective in increasing migrant employment or reducing the employment gap?

These questions have been answered through both qualitative and quantitative methods. Beginning with the first question, in the EU, in the most recent available year, 2019, Portugal has the most open migrant labor market policies while Slovakia has the most restrictive migrant labor market policies. These countries made few policy changes between 2007 to 2019. In contrast, Greece, Hungary, and the Netherlands experienced many changes. Greece experienced the greatest openness in its migrant labor market policies during this period largely due to the fact that Greece is a major migrant destination given Greece's prime location bordering the middle east and the fact that Greece did not have a proper immigration system in the 1990s and is still building it up. Hungary is also opening its policies in an effort to keep up with EU policy as well as fill in gaps after the fall of the Soviet Union. The Netherlands, on the other hand, is creating more restrictive policies since that is what is politically supported. While the majority of countries in the EU are creating more open labor market policies, particularly in the areas of immediate labor market access and economic integration of TCNS, the question remains if these policy changes seem to help migrants be employed or reduce employment gaps.

The results of the empirical analysis, which aims to answer the second question, shows that interest rates are the most important factor in determining both migrant employment rates and gaps. Migrant labor market policy as a whole does have a reasonably large effect on reducing the employment gap between migrants and non-migrants, especially when the employment gap measure corrects for the possibility of discouraged workers. Based on the unbalanced panel data estimates reported in column 4, Table 10, greater openness in labor market policy during the period analyzed (a 6 point increase in the measure) works towards reducing the employment gap by nearly 10% at the mean. Having the same rights as EU citizens, a more open migrant labor market policy, should and does lead to a smaller employment gap since companies do not have to do extra work when hiring a migrant as compared to a citizen. Additionally, the most important area of migrant labor market policy is immediate access to the labor market. In fact, based on the unbalanced panel data estimates reported in column 4, Table 14, moving from 0 to 100 (no to full access) on this measure would reduce the employment gap, at the mean, by close to 60% (5.3/8.6). This makes sense as having the right to work without additional permits needed makes hiring migrants easier for companies. The simpler it is for companies to hire migrants, the lesser the employment gap between migrants and EU citizens.

Notably, Portugal, the country with the highest MIPEX score, has little to no alternative employment gap in each year of the timeframe. This could be due to there not being many or any differences in how migrants are hired compared to citizens. It could be that while some EU countries have more open policies than others, the openness of the policies more accurately allocates migrants to where they are more wanted and well received. Migrants could be aware of discrimination and/or restrictive labor policies in certain countries and choose not to move without having a job lined up there already, which could explain the

positive employment gap (migrants are more likely to be employed) in many eastern EU countries, i.e., Poland and Hungary. Future analysis should look into the west and east divide in migrant employment and employment gaps and policy.

To emphasize, these regressions were exploratory and were not attempting to make causal claims on the relationship between migrant employment and migrant labor market policy. Nevertheless, they do reveal the power of policy and the extent to which greater openness in labor market policy may work towards reducing employment gaps. At the same time, it needs to be pointed out that quantifying policy measures as done in MIPEX is difficult. MIPEX is trying to find the best way to quantify migrant related policies for cross country comparisons, but it is a difficult task and the ways in employers and institutions choose to interpret said policies can vary from country to country depending on their knowledge of the policies and policy enforcement. Therefore, it can only be ranked how open the policies are on paper which can be different from the reality. Nevertheless, the exploration of the relationship between migrant labor market policy and migrant employment is worth being considered in contributing to discussions on migrant rights, integration, and labor market outcomes.

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Appendices
Annex 1
1.1 MIPEX

This source is used for the labor market scores as well as the indicator scores. The source has been previously explained in Chapter 4.

1.2 Eurostat

Eurostat receives labor data from the quarterly EU-LFS. The survey asks about the total population, activity, activity rates, employment, employment rates, self-employment, employees, temporary employment, full-time employment, part-time employment, population in employment having a second job, population in employment working during unsocial hours, working time, total unemployment, inactivity, and quality of employment. EU-LFS defines employment as those older than 15 and are "persons who during the reference week worked for at least one hour for pay or profit or family gain and persons who were not at work during the reference week but had a job or business from which they were temporarily absent...pay includes cash payment or payments in kind" (Eurostat, 2021b). This is the definition used under the variable "Employed persons." The other variable that needs defining is "Persons in the labor force" which they define as, "the active population, also called labor force, is the population employed or unemployed." (Eurostat, 2021b). Unemployed persons by the EU-FLS definition is, "Unemployed persons comprise persons aged 15 to 74 years who were: not employed according to the definition of employment, are currently available for work, i.e. were available for paid employment or self-employment before the end of the two weeks following the reference week, and are actively seeking work, i.e. had taken specific steps in the four week period ending with the reference week to seek paid employment or self-employment, i.e., having been in contact with a public employment office to find work etc., or who found a job to start later, i.e. within a period of at most three months from the end of the reference week. Persons without work and in education or training will only be classified as unemployed if they are 'currently available for work' and 'seeking work'." (Eurostat, 2021b). More examples of "specific steps" can be found at (Eurostat, 2021b).

Given the long and complex definition of employed and unemployed by EU-LFS, respondents are asked a series of questions about their labor market behavior in a reference week instead of if they are employed or unemployed:

Figure 5. EU-LFS Labor Force Classification
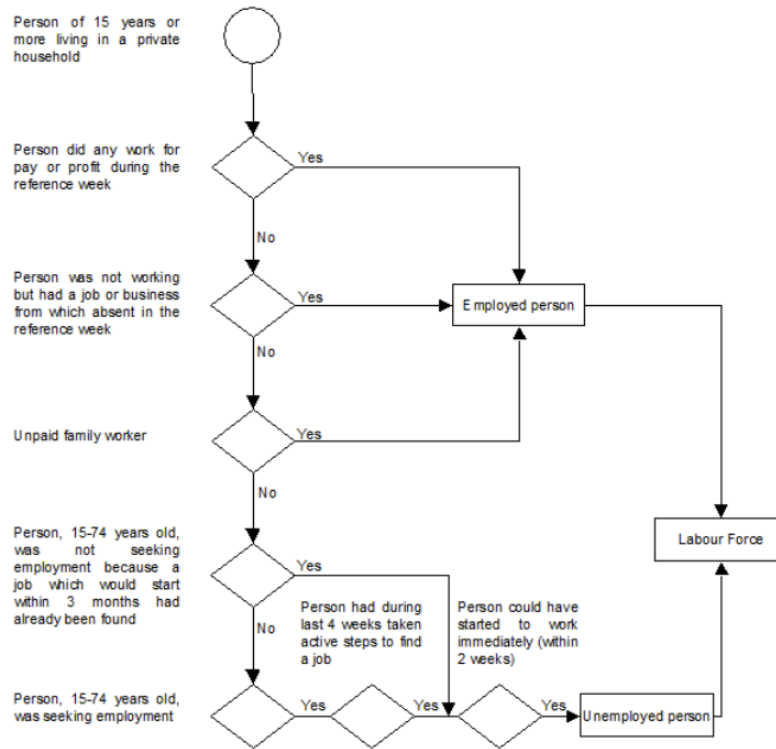
Labour force classification in the EU-LFS

Source: Eurostat (2021b)

Respondents are also asked demographic questions, including where they hold citizenship which helps the survey and this paper identify migrants.

While the survey is quarterly, the data published on Eurostat is annual. Eurostat does this in two ways: one being that variable collected quarterly have quarterly results and are averaged for the year producing "annual average results" and the other being that some variables are collected annually thus no change is needed for these "annual results." Eurostat prefers "annual average results" due to less sampling error and therefore publishes those over "annual results" when possible. Eurostat does publish EU and non-EU area aggregates, which this paper uses, which is expressed in absolute values, in this case number of persons.

In order to create migrant employment rates, migrant employed/population rates, employment gaps, and migrant employed/population gaps for those who do not have EU citizenship the Eurostat database entitled "Population by sex, age, citizenship and labour status (1 000)" was used with access on 17 July 2022. From here specifications were made to look into those ages 15-64, the working age population, and the labor categories "Employed persons", "Persons in the labor force", and "Population" with the citizenship categories being "Non-EU28 countries (2013-2020) nor reporting country", "Stateless", "Reporting country" and "EU28 countries (2013-2020) except reporting country". By combining the totals of "Non-EU28 countries (2013-2020) nor reporting country" and "Stateless" for all three labor categories then the result is the totals for all non-EU citizens employed in said country, the total non-EU labor force in said country, and the total non-EU working age population in said country. Similarly, combining the totals of "Reporting country" and "EU28 countries (2013-2020) except reporting country" for all three labor categories results in the totals for

all EU citizens employed in said country, the total EU citizen labor force in said country, and the total EU citizen working age population in said country. These are mixed and matched in Table 15 to create the four dependent variables in this paper.

Table 15. Dependent Variables Calculation

Dependent Variable	Citizenship Categories	Labor Categories	Combined Eurostat Variables	Calculation
MigrantEmployment	"Non-EU28 countries (2013-2020) nor reporting country" "Stateless"	"Employed persons"	"Non-EU28 countries (2013-2020) nor reporting country" "Employed persons" + "Stateless" "Employed persons" = **Total Employed Migrants**	Total Employed Migrants / Total Migrant Labor Force
		"Persons in the labor force"	"Non-EU28 countries (2013-2020) nor reporting country" "Persons in labor force" + "Stateless" "Persons in labor force" = **Total Migrant Labor Force**	
MigrantEmployment_Alternative	"Non-EU28 countries (2013-2020) nor reporting country" "Stateless"	"Employed persons"	"Non-EU28 countries (2013-2020) nor reporting country" "Employed persons" + "Stateless" "Employed persons" = **Total Employed Migrants**	Total Employed Migrants / Total Working Age Migrant Population
		"Population"	"Non-EU28 countries (2013-2020) nor reporting country" "Population" + "Stateless" "Population" = **Total Working**	

			Age Migrant Population	
Employment Gap	"Non-EU28 countries (2013-2020) nor reporting country" "Stateless" "Reporting country" "EU28 countries (2013-2020) except reporting country".	"Employed persons" "Persons in the labor force"	"Non-EU28 countries (2013-2020) nor reporting country" "Employed persons" + "Stateless" "Employed persons" = **Total Employed Migrants**	(Total Employed Migrants / Total Migrant Labor Force) – (Total Employed EU Citizens / Total EU Citizen Labor Force)
			"Non-EU28 countries (2013-2020) nor reporting country" "Persons in labor force" + "Stateless" "Persons in labor force" = **Total Migrant Labor Force**	
			"EU28 countries (2013-2020) except reporting country" "Employed persons" + "Reporting country" "Employed persons" = **Total Employed EU Citizens**	
			"EU28 countries (2013-2020) except reporting country" "Persons in labor force" + "Reporting country" "Persons in labor force" = **Total EU Citizen Labor Force**	

EmploymentGap_Alternative	"Non-EU28 countries (2013-2020) nor reporting country" "Stateless" "Reporting country" "EU28 countries (2013-2020) except reporting country".	"Employed persons" "Population"	"Non-EU28 countries (2013-2020) nor reporting country" "Employed persons" + "Stateless" "Employed persons" = **Total Employed Migrants**	(Total Employed Migrants / Total Working Age Migrant Population) – (Total Employed EU Citizens / Total Working Age EU Citizen Population)
			"Non-EU28 countries (2013-2020) nor reporting country" "Population" + "Stateless" "Population" = **Total Working Age Migrant Population**	
			"EU28 countries (2013-2020) except reporting country" "Employed persons" + "Reporting country" "Employed persons" = **Total Employed EU Citizens**	
			"EU28 countries (2013-2020) except reporting country" "Population" + "Reporting country" "Population" = **Total Working Age EU Citizen Population**	

1.3 World Bank

1.3.1 Inflation

Inflation is the annual percent change in the cost to the average consumer of buying a basket of goods and services that may be fixed or change at specified intervals (World Bank, 2022b). This is the CPI measurement and the Laspeyres formula is used (World Bank, 2022b). The World Bank gets this data from the International Monetary Fund's international financial statistics and data files (World Bank, 2022b).

1.3.2 GDP Growth Rate

The GDP growth rate is the annual percent growth rate of GDP at market prices based on constant local currency (World Bank, 2022a). GDP is the sum of the value added by all producers in said country (World Bank, 2022a). The "value added" is the value of the gross output of producers minus the value of intermediate goods and services used in production, but not including the consumption of fixed capital in production (World Bank 2022a). The GDP growth rate of a country and its components are calculated using the least squares method and constant price data in the local currency (World Bank, 2022a). The World Bank gets this data from their own national accounts data as well as the Organization for Economic Co-operation and Development national accounts data (World Bank, 2022a).

1.4 European Central Bank

The European Central Bank has statistics relating to interest rates for long-term government bonds denominated in the euro for euro-zone Member States and in national currencies for Member States that have not adopted the euro. Long-term interest rates in this case are the monthly average interest rates for long-term government bonds issued by each country with a maturity of 10 years (European Central Bank, 2022). When there is no harmonized long-term government bond yields data available, proxies are derived from private sector bond yields or interest rate indicators are used (European Central Bank, 2022). Estonia is the only EU member to not have a long-term government bond during the timeframe of interest (European Central Bank, 2022). Interest rates are published as monthly statistics and, for the purposes of this paper, they have been averaged to get an annual average long-term interest rate.