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**"THE IMPACT OF MIGRANTS AND REFUGEES ON THE FEMALE  
LABOUR MARKET AND FERTILITY CHOICES IN THE HOST  
COUNTRY"**

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## **OVERVIEW**

The aim of this dissertation is to frame the ongoing Ukrainian crisis in light of the empirical results on the impact of low-skilled immigration on the labour market outcomes and fertility choices of native women in receiving countries.

In the first chapter we review the literature regarding the determinants of migration and the effects of immigrants on the labour markets of host countries.

In the second chapter, we deeply analyse the impact of low-skilled immigration on the labour market outcomes and fertility choices of native women.

In the third and last chapter we provide evidence of the possible impacts of the Ukrainian crisis on the labour market outcomes and fertility choices in Poland, the country receiving the most refugees.

# 1. DETERMINANTS OF MIGRATION AND LABOUR MARKET EFFECTS

## I. Analysis of the literature on the determinants of migration

### a. pre-1960 literature

To analyse the theoretical literature on the determinants of migration it is important to define what migration is. In a global context, migration is defined as the movement of a person over an international boundary or inside a country for more than one year, regardless of the reasons for migration (involuntary or voluntary) or the means of migration (irregular or regular) (European Commission, 2022). Both, internal and external migration, involve human capital investment. As a consequence, the literature on the determinants of migration is based upon the human capital investment model (Chiswick and Miller, 2015).

Adam Smith (1776) sowed the seeds of the theoretical literature upon migration. In his book *“An Inquiry into the Nature and Causes of the Wealth of Nations”*, the economist suggested that migration is a consequence of the spatial disequilibrium in labour markets. In his opinion, the key determinant of migration is the higher returns to labour supply in the place of arrival. Smith also observed that migration flows are relatively small if compared with international wage differences. The reason behind the huge gap, as observed by the same economist, is that migration involves direct and indirect costs that prevent people from moving.

Ravenstein (1889) was the second economist to write significantly upon migration and in 1889 investigated British census data, integrated with immigration records and statistics, to provide the seven migration ‘laws’. They were summarized by Greenwood (1997): (1) The majority of migrants go only a short distance and generally to large cities; (2) Rapidly growing cities tend to be inhabited by migrants from nearby rural regions, whereas gaps in the rural population create migration from further away; (3) In-migration and out-migration are inversely related; (4) A big migration wave will generate a compensatory counter-wave; (5) Long-distance migrants are more likely to settle in large cities; (6) Rural people are more likely than urban people to move, and (7) Women are more likely than men to migrate.

Zipf (1946) predicted the degree of interaction between destination and origin using Newton's law of gravity. The migration gravity model, as it is known, implies that the magnitude of migration is inversely proportional to the distance between destination and origin, so the direct cost of migration, in this model, is measured by distance (Chiswick and Miller, 2015). Another implication of the model is that communities with larger population will face higher migration. After these theoretical studies, two empirical models identified more determinants of migration.

The first one was a paper by Jerome's (1926), which pointed out three key determinants: (1) immigration responds to changes in the employment of the origin country; (2) the labour market impact on immigration of the destination country is higher than the domestic one; (3) immigration affects domestic employment as well as domestic employment affects immigration, so, it is a two-way causality.

The second paper was published by Kuznets and Rubin (1954) and focuses on the macroeconomics aspects of migration, based on the finding that war and restrictive policies were inversely correlated with population increase rates in the U.S. between 1870 and 1940.

All these early studies identified many aspects of the determinants of migration that were later formalized in the human capital model.

#### b. The Sjaastad model, recent theoretical and empirical models

Chiswick and Miller (2015) support the idea that both, internal and external migration may be defined in a single theory based on the traditional human capital model, which implies that migrants seek to enhance utility by selecting the destination with the best net return on human capital, and therefore labor supply.

The first economist to use the human capital model to describe migration was Sjaastad (1962). He claimed that migration is placing one's talents in the market that pays the most, then migration does not imply a significant change in geographic location (Chiswick and Miller, 2015). The Sjaastad model introduced a dynamic element to the migratory decision, which is time. Although Sjaastad did not provide a formal mathematical model, he asserted that the prospective migrant calculates the value of the opportunity available in the market at each alternative destination relative to the value of the opportunity available in the market at the point of origin, subtracts away the costs of moving (assumed to be proportional to migration distance), and chooses the destination that maximizes the present value of lifetime earnings (Chiswick and Miller, 2015). The model thus suggests that migrants take into account four decisions: (1) the asynchronies between benefits and costs over time; (2) the earning gap between two locations; (3) the cost of leaving in each location; (4) time preference rate.

This 1962 model is a very simplified work, and as such it has many limitations (e.g., it is a single period of time model, it does not involve family and friends influence, opportunities in the two locations are considered to have the same weight and it assumes perfect information).

In the same years, Becker (1964) argued that the decision to relocate is an investment decision, as there are direct and indirect costs that are outweighed by an uncertain pay-off in the future (future earnings).

Sjaastad and Becker models' serve as a baseline for the subsequent theoretical and empirical literature, that extend the Sjaastad model by adding additional migration drivers or other migration costs (Chiswick and Miller, 2015).

Hugo (1981), Taylor (1986), and Massey and Garcia Espana (1987) introduce the influence of migrant networks (areas were friends and family already migrated) on job costs, language barriers and lower housing costs.

Taylor (1968) also modelled the influence of kinship networks in the reduction of the risk of migration, arguing that networks are a special form of insurance.

To address the single period of time limitation of the Sjaastad model, Polachek and Horvath (1977) state that migration is an investment decision based on the maximization of the utility of a set of characteristics and as these characteristics change, migrants can choose to relocate to another destination. They also argue that multiple relocation episodes during the life-cycle happen if people can easily acquire information about the various destinations.

The most recent models on the determinants of migration (post-2000) emphasize the endogeneity of migration decisions and of wages (Chiswick and Miller, 2015). There are models that explain migration as a static decision, where the migration choice is endogenous, and more complex models that treat migration as a dynamic decision.

This paper will focus on dynamic models that were studied by Galor (1986), Djajic (1989), Glomm (1992), Wong (1997), Urrutia (1998), Klein and Ventura (2009), and Mandelman and Zlate (2012). Chiswick and Miller (2015) argue that "the standard dynamic model of endogenous migration extends the baseline model [...] to incorporate physical capital accumulation". If physical capital is assumed to be mobile, then a fixed factor of production (such as land) with diminishing returns must be introduced to guarantee equilibrium in which labor and capital are moving across the two regions without moving costs (Wildasin, 1994; Simpson, 2001; Klein and Ventura, 2009).

The utility received by an agent would thus be determined by capital accumulation and migratory decisions. Another assumption is that human capital is exogenous, which implies that actors are either talented or unskilled.

In the Chiswick and Miller dynamic model, migrants weigh the present value of future income against four options: (1) remaining unskilled and staying in the home region; (2) remaining unskilled and migrating; (3) investing in education and staying in the home region; or (4) investing in education and migrating. For an agent, the value function is the best option among these four. The return on physical capital is similar throughout areas when capital mobility is complete. An agent should be agnostic to the four options within the interior solution equilibria. As a result, the decision to migrate is influenced by the relative returns to migration costs,



talents in every area, the skilled and unskilled employees stock in each area, the relation between the production inputs, the stock of land in every area, and the stock of physical capital in every area.

According to Dustmann and Glitz (2011), the primary premise behind human capital accumulation is that human capital has declining returns and that factors of production are complementary in the generation of new human capital.

Dustmann and Glitz (2011) developed a comprehensive dynamic model with endogenous migration and human capital accumulation (but with exogenous wages and no savings decision). In this framework, migration decisions depend on the relative returns to skill in both, the origin and destination, in addition to the length of migration [...]. Those with high ability and who migrate earlier in life experience steeper wage profiles and higher wage growth (Dustmann and Glitz, 2011).

Although the literature on the determinants of migration is wide, theoretical issues that remain unaddressed or unresolved (Chiswick and Miller, 2015) include:

- The effects of migrants age on the propensity to migrate;
- The effects of exchange rates;
- The joint migration and remittance decision;
- Distinct determinants of illegal migration.

## II. Drivers of migration

### a. Migrants' decisions, push and pull factors

Although some economists (Skeldon 1990; de Haas 2011) view push and pull models as too simplistic and determinist, they exploit clearly the motives behind the migration process.

Push factors are considered as a combination of characteristics of a country or region that arouse people's desire to migrate to another destination. On the other side, pull factors are the set of attributes of a country that for some reason are appealing to people living outside of it.

The term drivers (Van Hear, Bakewell and Long, 2018) is reserved to describe the array of factors that may make up the external structural elements shaping the decision space for those considering migration. Drivers thus shape the broader context within which aspirations and desires to migrate are formed and in which people make their migration decisions – whether to move or not. Van Hear, Bakewell and Long (2018) consider factors, as “conditions that may shape migration” and *drivers* as “activated factors”. They also introduce the idea that four different drivers: (1) predisposing; (2) proximate; (3) precipitating; and (4) mediating;

differently combined, shape the circumstances and environment in which people decide whether to migrate or not.

To begin with, *predisposing drivers* contribute to the creation of a context in which migration is more likely (Van Hear, Bakewell and Long, 2018). They include: (i) economic disparities, as the wage gap; (ii) political disparities, such as the persecution of minorities; (iii) environmental disparities, e.g., the quantity of natural resources; and (iv) geographical factors, namely the proximity to the border of the desired destination country.

The second set are *proximity drivers*, that have a more direct bearing on migration and are derived from the aforementioned deep-seated structural features (Van Hear, Bakewell and Long, 2018). In countries and regions of origin, like economic downturns, and in places of destination, for instance employment opportunities and economic prosperity.

Subsequently, there are *precipitating drivers* that actually trigger departure, as individuals and households take decisions to move or stay put. Precipitating factors are usually tied to an identifiable event or events (Van Hear, Bakewell and Long, 2018). These drivers often involve the less rationale behind the decision to move. Thus, they can be easily detected in a drastic change in employment due to the bankruptcy of a firm, the escalation of a conflict, the beginning of a war or a natural disaster.

Last but not least, there are *mediating drivers* that, as the definition suggests (Van Hear, Bakewell and Long, 2018), enable, facilitate, constrain, accelerate or consolidate migration, and may diminish migration too. The mediating drivers that ease migration are, for instance, the presence of an efficient infrastructure between the place of origin and the destination, a similar education system, the language spoken in the two countries and the possibility to exploit one's skills in the place of arrival.

The four main drivers described above, instead of being considered individually, can be combined in many *driver complexes*, that differ in relation to the dimension and preponderance of one driver in respect to another.

#### b. Driver complexes, one case study

Van Hear, Bakewell and Long (2018) observe that “drivers can cluster to shape the specific form and structure of population movements”, and this may explain the differences among the waves of migrants that occurred and are occurring nowadays.

The authors analysed the Afghan and Somali migrations to explain the *cultural-economic driver complexes* that can be identified in the two processes. This paper will briefly review the

peculiarities and findings about the Afghan migration wave, which is useful to better understand the ongoing Ukrainian crisis, further explained in the last chapter.

It is important to precise that both, the Afghan migration and the Ukrainian exodus are set in a refugee crisis situation. Given that each migration flow involves a different combination and intensity of the four drivers, the models always differ and can hardly be taken into account for other circumstances.

Migration to Iran and Pakistan long predates the slow collapse of the Afghan state that followed the overthrow of the Afghan monarchy in 1973 (Monsutti 2006). The Afghan refugee population peaked in 1990 at 6.22 million, a number which at the time represented around 40% of the entire Afghan population (Van Hear, Bakewell and Long, 2018). Despite huge repatriation efforts [...], as of May 2016, there remained around 2.6 million registered Afghan refugees, 1.5 million of whom were residing in Pakistan and 950,000 of whom were residing in Iran (UNHCR 2016).

*The first driver complex* that Van Hear, Bakewell and Long observe in the Afghan situation is “outward migration and the political economy of a conflict”. Afghan migration to Iran and Pakistan is usually long-term and determined by conflict and insecurity. The authors place in this complex: (1) a predisposing driver, which is caused by cultural and economic interdependency in border regions; (2) a precipitating driver, due to the ongoing conflict and political insecurity; and (3) a proximate driver, given the poor economic prospects in Afghan.

The *second driver complex* is inward migration and the political economy of opportunity (Van Hear, Bakewell and Long, 2018). We can place in this complex a proximity driver, given that the GDP per capita in the three countries shows the disparity: Afghanistan’s is \$634 US Dollars, in contrast to Pakistan’s \$1317 US Dollars and Iran’s \$5443 US Dollars (World Bank 2015)

Also, the job opportunity prospects in Pakistan and Iran are positive. For instance, there are incentives in Pakistan for some local skilled workers in the carpet weaver market.

Finally, the *third driver complex* that the authors uncover is the journey: in the past decade (Van Hear, Bakewell and Long, 2018), international and state-driven policy responses, aimed at both facilitating refugee return and regulating Afghan migration, have made Afghan migrants’ journeys to Iran and Pakistan overwhelmingly irregular, clandestine and risky. As a matter of fact, in Iran and Pakistan, the migration policies are based on the idea that Afghans will shortly go back to their place of origin. A mediating driver can also be placed in this complex, as kin networks and tribal links facilitate the development of informal migration networks and smuggling routes (Van Hear, Bakewell and Long, 2018).

We have so far analyzed the determinants of migration and the possible drivers that lead people to move, focusing on one case study. In the next section the aim is to explain the effects of migration on developed host countries, especially on the labour market.

### III. The effects of immigration on the labour market of host countries

#### a. The impact of immigration in the short-run

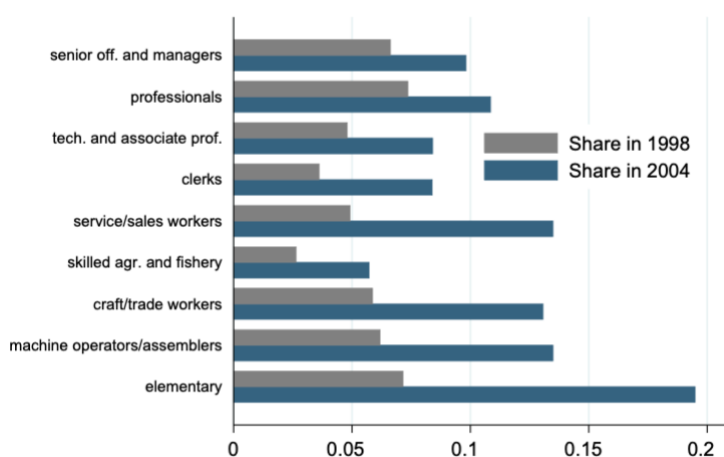
Over the past ten years, immigrants represented 47% of the increase in the workforce in the United States, and 70% in Europe (OECD, 2012). It is thus necessary to give full disclosure of the impact of migrants on the labour market. Although the literature on this topic is wide, economists have often focused their attention on single or just a few countries and have mainly given an overall positive or negative conclusion about the effects of migrants on the job market. In order to overcome the limits that these models imply, Damette and Fromentin (2013) analysed the relationship between immigration and the labour market using nonstationary panel data methodology for OECD countries. In their study they clearly distinguish between short-run and long-run effects.

Moreno-Galbis and Tritah (2015) give theoretical and empirical evidence of the effects of immigration on the labour markets of EU countries, using data from the harmonized European Labour Force Survey (ELFS) between 1998 and 2004. This short-run model gives insights on the positive effects of immigration on European frictional labour markets, with exogenous migration and rigid wages. Moreno-Galbis and Tritah (2015, p.78) observe that “immigrants and natives differ with respect to their outside opportunities of employment. For instance, immigrants arriving in a host country are likely to be non-eligible to unemployment benefits, they are likely to have a lower value of domestic production or leisure than natives, and they certainly lack other valuable assets. As a result, when considering the immigrant population as a whole, their average outside opportunity of employment is lower than that of natives”. In this model, occupations (Moreno-Galbis and Tritah, 2015) are broadly defined in 9 groups which are (1) senior officials and managers, (2) professionals, (3) technicians and associate professionals, (4) clerks, (5) service workers and shop and market sales workers, (6) skilled agricultural and fishery workers, (7) craft and related trade workers, (8) plant and machine operators and assemblers, and (9) elementary occupations. As the authors underline, immigrants and natives in the same occupation are more likely to have similar skills, even though they may not be perfect substitutes. The rise in the share of immigrants, especially low-

skilled, in European countries between 1998 and 2004 is well represented by the authors in Fig. 1 (below).

Moreno-Galbis and Tritah (2015, p.81) plotted the share of immigrants in 1998 and 2004, revealing that “there are important disparities in the share of immigrants across occupations within countries, and across countries within occupations”. Crucial for their difference-in-differences (DID) model is the unequal increase of immigrants across occupations over time. They use IV estimates to conclude that (Moreno-Galbis and Tritah, 2015) there is a small but positive effect of immigration on male natives' employment rate: a 10% increase in the share of immigrants within an occupation increases natives' employment rate within that occupation by 0.47%.

*E. Moreno-Galbis, A. Tritah / European Economic Review 84 (2016) 76–98*



**Fig. 1.** Share of immigrants in the labor force by occupation.

The second specification that Moreno-Galbis and Tritah (2015) analyze is at the occupation-sector level. In this model, given the 9 broad occupation groups, moving from one labour market to another is too costly for native workers, but they can always move across sectors in a given occupation. While (Moreno-Galbis and Tritah, 2015) most of the literature has focused on a crowding-out effect, whereby native mobility has an offsetting effect on the supply shock created by immigrants, [this] model is consistent with a crowding-in effect (employment is more than proportionally concentrated in the sectors that received an immigrant inflow). The authors also observe that, potentially, the employment increase caused by immigration can be linked to a job-to-job turnover over natives. This is in line with the recent literature on the positive effect of immigrants on natives' wages.

It is important to remark that the model above involves EU countries. As a matter of fact, Damette and Fromentin (2013) observe a difference of the impact of migration on

unemployment in the short term: the effect of immigration on unemployment is not significant in Anglo-Saxon countries (Australia, USA and Canada); but unemployment decreases with immigration in European countries, consistently with the Moreno-Galbis and Tritah (2015)'s study. The reasons behind this divergence can be found: (i) in the lower flexibility of the European labour markets and wages; (ii) in the different migration policies among the countries of interest; and (iii) in the existence of strong network effects associated with the presence of compatriots in the host country (Saint-Paul, 1997) for the European case. Another implication of the Damette and Fromentin (2013)'s model in the short-run is that variations in the immigration rate significantly have a positive effect on wages, in line with the complementary hypothesis between immigrants and highly skilled natives (Borjas, 2003), which is the focus of the second chapter of this paper.

#### b. Long-run effects

The research conducted by Damette and Fromentin (2013) involves panel data set of 14 OECD countries, that well represent developed countries, between 1970 and 2008. The model initially assumes homogeneity between European and North American countries. However, it is proposed (Damette and Fromentin, 2013) to check the robustness of this assumption by estimating [the model on two sub-panels: European (Belgium, France, Germany, Italy, the Netherlands, Spain) and Anglo-Saxons (USA, Australia, Canada, UK) countries.

The authors use a Dynamic Ordinary Least Squares (DOLS) estimator to find a long-term relationship between immigration, unemployment and wages. In order to find the causality linking immigration and the labour market outcomes, Damette and Fromentin (2013) use a heterogeneous panel cointegration tests and estimate a panel trivariate Vector Error Correction Model (VECM). However, (Damette and Fromentin, 2013) considering the endogeneity issue due to the collinearity between the one-period lagged error term and the lagged dependent variables, a dynamic panel Generalized Method of Moments (GMM) estimator [which has been shown more efficient than other methods] is needed. The results of the estimation show (Damette and Fromentin, 2013) that: on one hand, the immigration rate and wages in the long run are positively correlated in the Anglo-Saxon case and negatively correlated in European countries (it is important to remark that the coefficient for the European case is not significant, so further studies should be conducted); on the other hand, the immigration rate and unemployment are not correlated in the long term for both, Anglo-Saxons and European countries. The lack of correlation between immigration and unemployment in the long run is in

line with the findings of Gross (2004) in the Canada case and Ghatak and Moore's (2007) study of European countries.

Altogether, despite public opinion has a negative understanding of the impact of immigration, polls show that there is significant concern that immigration lowers wages (European Social Survey, 2002; US Bureau of Labor Statistics, 2009), empirically there is no evidence of such adverse relations. Immigration, especially in European countries, is the main source of population growth, thus the aim of immigration policies should be to effectively and quickly integrate newcomers in the labour markets.

As shown in Fig. 1 (above), most of the immigrants hosted by European countries between 1998 and 2004 have elementary occupations, at least in the short-term. In the ongoing Ukrainian crisis, millions of people, mainly young women and children, are fleeing to nearby European states and the first channel of integration for these people is the labour market.

In this framework, our aim is to provide evidence of the impact of the refugees on the female labour market of host countries, starting, in the second chapter, from an analysis of the empirical evidence of the effects of low-skilled immigration on natives' high-skilled female labour market outcomes and fertility choices.

## **2. THE IMPACT OF IMMIGRATION ON THE LABOUR MARKET OUTCOMES AND FERTILITY CHOICES IN THE HOST COUNTRY**

### **I. The impact of immigration on the female labour market**

#### **a. The effects of low-skilled immigration on high-skilled native women**

Cortes (2008) observed that the recent waves of low-skilled immigration have led to lower prices of services that are close substitutes for household production, [so] we should expect natives to substitute their own time invested in the production of household goods with the purchase of the now cheaper services available in the market. The higher availability of such household services may lead to an increase of the working hours for natives that benefit of the lower prices.

Furtado (2015) found that men increase their labour supply in response to immigrant inflows but the impacts are much stronger for women, most likely because women bear the most of the responsibility for childcare and housework. The increase in the female labour supply supports the empirical evidence regarding the positive effects of immigration on highly skilled natives' wages, in line with the complementary hypothesis of Borjas (2003).

Barone and Mocetti (2011) estimated the impact of unskilled immigration on the female labour market in the Italian case, where the female labour participation is one of the lowest in the EU and women dedicate more time to domestic activities compared to their European peers. Using an instrumental variable strategy, Barone and Mocetti (2011) found that a higher ratio of immigrants who supply household services to the female population enables native women to spend more time at work without affecting their labour force participation. Moreover, the impact is concentrated on highly skilled women who have a higher opportunity cost of their time.

Farré, González and Ortega (2011) support the empirical evidence regarding the positive effects of low-skilled immigration on natives' high-skilled women labour market outcomes in a study that involves Spain, a peculiar country, as it is still characterized by geographically close family networks and a family-based provision of care for children and elderly (Esping-Andersen, 1990). The authors (Farré, González and Ortega, 2011) found that the labour supply of skilled women with family responsibilities increases in response to immigration, relative to skilled women without children or elderly care responsibilities, whose labor supply is found to be unaffected.

Cortes and Tessada (2011) illustrate a simple time-use model to analyze the interactions between wage levels, the decision to purchase household services, the market price of household services, and labor supply. The authors (Cortes and Tessada, 2011), using census data for the United States, estimated that the low-skilled immigration wave of the 1980s and 1990s increased by about 20 minutes a week the time women at the top quartile of the wage distribution spent working in the market. Cortes and Tessada (2011) also found that low-skilled immigration has allowed highly skilled women to increase significantly their probability of working more than 50 and 60 hours. In addition, they provide evidence that low-skilled immigration has decreased the amount of time that women at the top of the skill distribution devote to household work and has increased the amount of services purchased in the market; a result that is implicit in their reported dollar expenditures in housekeeping services.

However, the empirical studies of Barone and Mocetti (2011), Farré, González and Ortega (2011) and Cortes and Tessada (2011) take into account a specific country, and, as countries differ consistently in terms of family policies (that affect female labour supply), a more exhaustive study is needed.

Forlani, Lodigiani and Mendolicchio (2015) exploited a multilevel cross-country analysis to present a set of results based on a more extensive sample. They formulated a static model based on the Cross-National Equivalent File (CNEF), obtained with harmonized data from different national surveys, for three years (2001, 2003, and 2005) and for five countries (Australia,



Germany, Switzerland, UK, and US), that differ in terms of family policies. They used the International Standard Industrial Classification to frame the occupation of the unskilled immigrants and the Sustainable Governance Indicators (SGI) to frame the different family policies. Migrants are defined as follows: (1) foreign-born individuals for Australia and Germany; (2) people with foreign first nationality for Switzerland; (3) migrants as for the Labour Force Survey (LFS) for the UK; and (4) migrants as for the Annual Community Survey (ACS) for the US. To define the migrant labour supply in services, they consider migrants without higher education, aged 16-65 and who declare themselves to be employed in one of the following sectors: health and social work, other services to person, household services. Forlani, Lodigiani and Mendolicchio (2015) take into account native women aged 22-45 who are married, cohabitant with partners, or the single head of the household, and who are not enrolled in school, to better focus on women of fertile age, with or without young children, for which the link between time spent in household production and labour market decisions is stronger. In addition, skilled women are the ones that have a bachelor or higher degree. To study the effects of a variation in the prices in the household service sector, Forlani, Lodigiani and Mendolicchio (2015) exploited the variability of the concentration of unskilled immigrants employed in household services. This identification strategy may be biased by: (i) the drivers that lead migrants to settle in a country, as seen in the first chapter of this dissertation; and (ii) illegal and undocumented migration. To address these possible endogeneity problems, Forlani, Lodigiani and Mendolicchio (2015) adopted a standard instrumental variable strategy, using as an instrument the past distribution of migrants by country of origin (Card, 2001). Testing for the instrument's validity, they found that the instrument is significant and valid. The results regarding the effects of unskilled migration on the native female labour market differ if the sample is divided according to the educational level of native women, and they found a positive and statistically significant impact of unskilled migrants in services on skilled women. As a matter of fact, a 10 percent increase in the labour supply of migrants' services increases the weekly working hours of skilled women by 36 minutes (i.e., about seven minutes per day over five working days). Their specification also concludes that there are no significant effects in the amount of working hours for unskilled female natives. As the authors observe (Forlani, Lodigiani and Mendolicchio, 2015, p. 472), "given that wages are positively correlated with education levels, it is not surprising to find that unskilled and skilled natives react differently to a migrant labour supply shock". Dividing the sample by wage distribution, Forlani, Lodigiani and Mendolicchio (2015), in line with the study by Cortes and Tessada (2011), found that for high-paid women, both unskilled and skilled women in the highest percentile of the wage distribution benefit from an increase in the migrants' labour supply in the service sector.

Exploiting (Forlani, Lodigiani and Mendolicchio, 2015) the cross-country dimension, the impact of unskilled migrants on the native female labour supply is stronger in countries with less supportive family policies and this suggests that unskilled migration in services might be, in a way, a substitute for family policies.

The empirical evidence analyzed so far suggests that one of the possible explanations of the positive effects on native high-skilled women's wages as a consequence of unskilled migration, is given by an increase in the working hours as a substitution of the time spent in household works, that are now purchased (at a lower price) from the newcomers.

In the next section of this dissertation, we analyze the impact of low-skilled immigration in the German labour market. Our interest in the German case arises from three reasons: (i) in 2019 Germany has been the second OECD destination country, after the USA (OECD, 2022); (ii) immigrants in Germany are mainly low-skilled: in 2010, 78% of the newcomers had primary or secondary education and female immigrants represent a significant fraction of the labor employed in services and in elementary occupations (OECD-DIOC); and (iii) as of May 03, 2022, the total number of registered Ukrainian refugees in Germany amounts to 402 651.

At first, we focus on a peculiar analysis of Glitz (2012) which involves the immigration flows from former Soviet Union countries to Germany between 1987 and 2001. Subsequently, we analyze a more recent empirical study by Forlani, Lodigiani and Mendolicchio (2021) which involves immigration flows to Germany between 1999 and 2012.

#### b. The German case

Between 1987 and 2001, more than 2.8 million ethnic German immigrants moved to Germany, increasing its population by 3.5% (Glitz, 2012). The so-called ethnic German immigrants (Glitz, 2012), used to live in large numbers in central and eastern Europe and the former Soviet Union before they gained the opportunity to immigrate to Germany as a result of the political changes in the former Eastern Bloc toward the end of the 1980s. Glitz (2012) analyzed the effects of this particular group of immigrants that was exogenously allocated upon arrival to specific regions by the government. The decision, based on the Assigned Place of Residence Act introduced in 1989, took into consideration the proximity to family networks (hence the skill level of immigrants was not a determinant) and immigrants were sanctioned if they did not follow the imposed destination. The settlement (Glitz, 2012) can thus be viewed as exogenous and provides a unique opportunity to study the effects of migration on the German labour market. The analysis of Giltz (2012) focuses on West Germany, excluding Berlin, and covers

the period 1996-2001, during which the allocation policy was in effect. The empirical model assumes that: (1) immigration affects local labor markets by changing the relative supplies of different skill groups (cf. Card 2001); (2) in each labor market, a competitive industry produces a single output good using a constant elasticity of substitution type aggregate of skill-specific labor inputs and capital. As a consequence, relative wages and relative employment rates will only depend on the relative supply of each skill group. The author can therefore use as an instrument the skill-specific ethnic German inflow rate. To measure the skill level of immigrants, Glitz (2012) exploited the data published by the Federal Administration Department in Germany on the last occupation in the country of origin. To define the skill groups, the author distinguished five broad occupation lines (Card 2001): (I) farmers, laborers, and transport workers, (II) operatives, craft workers, (III) service workers, (IV) managers, sales workers, and (V) professional and technical workers. As observed in the literature, natives and immigrants working in the same occupational group are assumed to have similar skills, regardless of their educational attainment. As a consequence of this specification (Glitz, 2012, p. 183), “year-to-year changes in the local skill shares are driven by new individuals becoming employed in a given skill group”. The theoretical model predicts that ethnic German immigrants only affect relative labor market outcomes if their inflow leads to changes in the relative supply of different labor inputs and this would require the ethnic German immigrant population to differ from the resident population with respect to their skill distribution. As a matter of fact (Glitz, 2012), 60% of the immigrants worked in low-skill occupation groups I and II compared with only about 40% of the resident population. Given the difference in the skill distribution of ethnic Germans relatively to the natives, the model can be used to predict the labour market consequences of immigration. As the descriptive statistics show, in terms of labor market outcomes (Glitz, 2012) there has been an overall increase in the employment/labor force rate across all occupations by between 0.7 and 3.0 percentage points, a decrease in real wages in the lowest skill occupation group I of around 2.2%, stagnation of wages in occupation group II, and an increase in wages in the higher skill occupation groups III–V of between 2.8% and 3.6%. The empirical results of this model, show that unobserved skill-specific demand shocks lead to downward-biased OLS estimates of the effect of these relative supply shifts. Instrumenting the supply shifts with the ethnic German inflow rate [the model] points toward a short-run displacement effect of around 3.1 unemployed resident workers for every 10 immigrants that find a job. To better understand the effects of immigration, the author divided the sample in two sub groups: men and women. Glitz (2012) found that (in the short-run) the impact on the overall employment/labor force rate of men is negative (-0.266) and significant at the 5% level, [while] the point estimate for women is close to zero (-0.021) and not statistically significant. The

estimates of the short-run effects of immigration on wages are not significant, probably as a consequence of Germany's relatively inflexible labor market due to its strong unions and strict labor market regulations. As a conclusion, the author observes that: (1) with rigid wages and at least some degree of substitutability between the resident workforce and newly arriving immigrants in the production process, an increase in labor supply through immigration leads to an increase in unemployment of native men but has no significant effects on women; and (2) there are no detrimental effects on wages, both, for men and women, at least in the short run. Although the model of Glitz (2012) found no overall effects on wages as a consequence of the migration of ethnic Germans, the descriptive statistics suggest that further research is needed, as the sample taken into account can be better specified to focus on the effects on native high-skilled fertile women.

Forlani, Lodigiani and Mendolicchio (2021) analyzed the immigration flows in Germany between 1999 and 2012 exploiting the German Socio-Economic Panel (GSOEP) individual data combined with the regional Indikatoren und Karten zur Raumentwicklung (INKAR - Indicators and Maps on Spatial and Urban Development) data. The authors take into account native women aged 22-45 born in Germany and frame three groups based on their skill level: (i) low-skilled: women with a high school diploma or lower education; (ii) medium-skilled: women with an upper-secondary education; (iii) high-skilled: women with a bachelor degree or higher. Forlani, Lodigiani and Mendolicchio (2021, p. 9) observe that "if the increase in female immigrants in Germany has raised the availability of household services and reduced their prices, we expect that female immigrants may increase native women's labor supply and decrease the hours a woman spends on household activities". Their empirical specification is based on a standard instrumental variable (IV) model, using as an instrument the past distribution of migrants by country of origin (Card, 2001). On the labour market side, the results provided by Forlani, Lodigiani and Mendolicchio (2021) suggest that an increase of 10% in the female migrant share increases by 0.84% the working hours of female natives, which corresponds to an increase of 15 minutes with respect to the average weekly working hours. Considering the three different skill groups, the estimates show a positive and statistically significant effect on medium-skilled native women (an increase of 10% in the female migrant share increases by 1.01% the working hours of medium-skilled natives). In addition, the authors find that immigration increases the probability of medium-skilled and high-skilled women of working more than 35 hours per week, increasing the probability of switching from part-time to full-time for medium-skilled women. The estimates on the effects of low-skilled immigration on weekly hours dedicated to household activities, are negative and significant only for the medium-skilled group (a 10% increase in the share of female migrants induces a decrease of

2.27% in the weekly hours devoted to home production). These results show that, in the German case, the positive effects of female low-skilled immigration on natives' labour market outcomes are mainly driven by the medium-skilled group rather than the high-skilled group. The authors, as a possible explanation, observe that high-skilled women can be less affected by the cheaper availability of household services provided by unskilled immigrants due to the lower quality of these services.

On the employment side, the results are not significant for all skill groups, suggesting that low-skilled immigration has no effects on the employment rate of women, in line with the previous study of Glitz (2012).

In the next section of this dissertation, we analyze the empirical evidence regarding the effects of immigration on women's fertility choices, as women may respond to the higher availability of cheaper household and childcare services increasing their total number of children, especially in countries that lack of childcare facilities and, thus, immigrants can substitute or complement such inadequacies. We conclude the discussion with an analysis of the impact of low-skilled immigration on fertility rates in Germany, since we have seen that unskilled immigrants have positive effects on the labour market outcomes of medium-skilled women and we can suppose that fertility choices are affected too.

## II. The impact of immigration on women's fertility choices

### a. Fertility effects of immigration on high-skilled women

Furtado (2014) exploited U.S. census data between 1980-2000 to analyze the impact of unskilled migration on U.S.-born non-Hispanic college-educated women of childbearing age. Sharply differentiating immigrants and natives by skill (Furtado, 2014) minimizes the possibility of competition for jobs, which might directly affect female employment prospects. The low-skilled group includes women with at most a high-school degree; while the high-skilled group includes natives with at least a college degree. Furtado (2014) adopted an instrumental variable (IV) strategy, which relies, as seen in the previous models, on the propensity of new entrants to locate in areas with high historical concentrations of immigrants from the same country of origin (Bartel 1989; Card 2001). The results of the specification suggest that fertility rates of women with graduate degrees (high-skilled) are more responsive to immigrant inflows than fertility rates of women with just college degrees (low-skilled). The second stage estimates (Furtado, 2014) imply that a 10-percentage point increase in the share of low-skilled immigrants in a city yields a 2.9 percentage point increase in the likelihood that

a high-skilled woman has a child of less than a year old in the household. Furtado (2014) observed that the most sensitive group to immigration, in terms of fertility rates, consists of women above the age of 36. A possible explanation (Furtado, 2016) is that oldest women in the sample cannot decrease future fertility to compensate for increases in current fertility, [so] it seems likely that when women face immigrant-induced lower childcare costs, they do increase completed fertility. In addition, the author estimated that women are more responsive to immigrant inflows when deciding to have higher order births, as the effect on the decision to have a third child is more than double than the effect on the decision to have a first child. Dividing the sample in two sub-groups, married and unmarried women, the estimates suggest that married women's fertility choices are more affected from immigration flows than unmarried ones.

As observed in the previous analyses of Forlani, Lodigiani and Mendolicchio (2021), it is possible that educated and high-income women demand a higher quality of care (Blau and Hagy 1998; Hotz and Kilburn 1991). In this direction, Furtado (2014, p. 6) found that “native-born women have strong fertility responses to immigrant inflows from “high childcare” countries [those origin countries in the top quartile of the share in childcare distribution] and no statistically significant responses to inflows from “low childcare” countries [all other origin countries]”.

To conclude with, the results show that native high-skilled women's fertility choices are positively affected by the inflows of low-skilled female immigrants. Interestingly, Furtado (2014) found that the positive effects are significant exclusively when female immigrants come from countries that are specialized in household and childcare services, and therefore offer a higher childcare quality.

Romiti (2018) analyzed the effects of immigration on fertility decisions of native women in the UK between 2000-2007, exploiting an instrumental variable model based on the past country-specific distribution of immigrants across regions. The author, differently to Furtado (2014), found that fertility decisions were not significantly affected by the inflow of immigrants working in household and childcare services. Romiti (2018) suggests that the different results may be a consequence of the shorter time span compared to the model of Furtado (2014). An additional explanation is that in the UK childcare facilities are more efficient than in US and, therefore, women are less affected by the higher availability of cheaper childcare services.

Overall, the studies of Furtado (2014) and Romiti (2018) suggest that fertility choices of high-skilled women are affected by the inflow of unskilled immigrants if: (1) immigrants come from countries that specialize in childcare services (the so-called “high childcare” countries); and (2)

the availability of childcare facilities in the host country is scarce and therefore immigrants complement the inadequacies of the system.

In the following section, we focus on the effects of low-skilled immigration on fertility choices of native German women, as the previous analysis on Germany suggested a positive impact of immigration on medium-skilled women.

#### b. The German case

Forlani, Lodigiani and Mendolicchio (2021) analyzed the effects of low-skilled immigration on fertility choices of German native women. Their instrumental variable strategy, as seen for the effects on the labour market outcomes, considered native women aged 22-45 divided into three skill levels (low, medium and high). The authors (Forlani, Lodigiani and Mendolicchio, 2021) found that an increase in the share of unskilled female immigrants has a positive and statistically significant effect on the probability of having a child for medium-skilled women, while it has no significant effects for low-skilled and high-skilled women. Forlani, Lodigiani and Mendolicchio (2021) divided the medium-skilled group by age, and, similarly to Furtado (2014), they observed that the estimates are positive and statistically significant for older women, as a 10% increase in the share of female immigrants induces a 0.33 percentage point increase in the probability of a medium-skilled native woman having a child younger than 1 year old in the household, but it induces a 0.36 percentage point increase for those aged 36-45. While Furtado (2014) found that high-skilled women are the most affected in terms of fertility rates, Forlani, Lodigiani and Mendolicchio (2021) found that the positive results are driven by medium-skilled women. As an explanation, Forlani, Lodigiani and Mendolicchio (2021) suggest that high-skilled women may demand higher quality childcare and, as a consequence, are less affected by low-skilled immigration. We remark that Furtado (2014) observed that the positive results on high-skilled women are driven by immigrants coming from “high childcare” countries.

Therefore, this thesis supports both findings, that can be considered complementary, as medium-skilled women may be more affected by immigrants coming from “low-childcare” countries, while high-skilled women may be more affected by immigrants coming from “high-childcare” countries. Further research can be made in this direction, shifting from the general focus on the skill level of immigrants to a deeper consideration of the characteristics of the country of origin that lead to a different quality of household and childcare services.

As we have seen, the heterogeneity of countries and immigrants implies different effects of immigration on natives' labour market outcomes and fertility choices, and, on purpose, we concentrated on the German case. In the next chapter, we analyze the ongoing Ukrainian refugee crisis, based on the data available so far, framing the possible effects of the refugees on European host countries, in light of the results provided above.

### **3. REFUGEES AND THE POSSIBLE EFFECTS OF THE UKRAINIAN CRISIS**

#### **I. Refugees and asylum seekers**

##### **a. Refugees' drivers and the impact on the labour market of host countries**

The growing literature regarding refugees and asylum seekers focuses mainly on the overall effects on the labour market and on the differences in their integration respectively to other migrants in the same host country. In the first section of this last chapter, we review the empirical evidence available so far, keeping in mind that our dissertation has the objective to frame the possible impacts of Ukrainian refugees on European host countries.

A refugee is a person who crosses an international border while fleeing conflict or persecution, and who has been recognized as requiring protection due to inability to return to his or her country of nationality (Thompson, 2020). We can therefore distinguish a refugee from other migrants exploiting the analysis of the driver complexes of migration described at the first chapter of this thesis. As a matter of fact, adopting the definitions of Van Hear, Bakewell and Long (2018), a refugee is forced to migrate to other countries or regions mainly due to a precipitating driver, such as the escalation of a conflict, the beginning of a war or a natural disaster. The driver complex that can be framed in this situation also includes a mediating driver, as refugees, to flee their country as quick as possible, choose a destination country that is connected with an efficient infrastructure system. In addition, refugees take into consideration kin networks that were established before the crisis and that can therefore facilitate their integration in the host country.

An asylum seeker is a person whose request for protection from a nation-state other than her or his own has yet to be processed (Thompson, 2020). As the two definitions suggest, a refugee becomes an asylum seeker when he or she has applied for a visa or any other form of asylum status in a country. Since application processes are usually long, such procedures may hinder early labor market attachment, allowing skills to atrophy while the individual is unable to work, and create habitual persistence of dependence on welfare (Brell and Dustmann, 2020). Bertoli, Brücker and Moraga (2020) found that the number of asylum applications received by European



countries appears to be significantly affected by variations in some of the key facets of uncertainty facing asylum seekers, namely the recognition rate, the expected processing time, and the risk of repatriation for asylum seekers that are denied refugee protection.

On the labour market side, Brell and Dustmann (2020) observe that refugees typically arrive in a host country with less locally applicable human capital, including language and job skills, than economic migrants and consequently are likely to start at significantly lower levels of wages and employability. Another implication that can hinder the integration of refugees and asylum seekers is the skill downgrading process, Akresh (2008) analyzed US data from the 2003 New Immigrant Survey (which records the last job held abroad), to show that refugees, compared to other immigrants, display the sharpest downgrading in occupational prestige.

Brell and Dustmann (2020) exploited country-specific public survey data of nine countries (Australia, Canada, Denmark, Finland, Germany, Norway, Sweden, UK and US) and the EU Labour Force Survey (LFS) to analyze the integration of refugees into the labour market of developed countries and to compare them to other immigrants. At first, the descriptive statistics show that for almost all countries, the gap between refugees and other groups is closing over time, although refugees have persistently lower employment rates than other immigrants and natives ten years after migration (with the exception of the US, where refugees catch up with other immigrants and natives at a faster pace). On a positive note, the authors observe that refugee employment rates increase the most sharply during the first two or three years after arrival, suggesting that the first years after arrival are a crucial period for integration. In addition, dividing the sample into two sub-groups, males and females, Brell and Dustmann (2020) found that refugee women are likely to be employed at lower rates in each country considered. The authors conclude that keeping the asylum process short, providing early support to address health issues, and facilitating refugees to join the labor market at the earliest possible stage are of key importance. In addition, they observe that such policies reduce skill loss, help to reduce uncertainty about future residence, and improve the effectiveness of human capital investment, thus enhancing incentives to invest. Fasani, Frattini and Minale (2020) suggest that governments have the power to negatively influence the speed and quality of refugee integration by implementing potentially suboptimal and counterproductive asylum policies, so, a large determinant for the successful integration of refugees into the labour market is given by favorable long-run policies implemented by receiving countries, rather than short-run measures aimed at minimizing costs.

## II. The Ukrainian crisis

### a. Facts and figures

As of May 27, 2022, the total number of refugees fleeing from Ukraine amounts to 6,737,208 (UNHCR, 2022), around the 16% of the Ukrainian population (Eurostat, 2021). The ongoing situation represents the largest displacement of people in European countries since the Second World War. The key differences of the ongoing crisis compared to past refugee flows are: (1) the magnitude: more than 6 million people have fled Ukraine in just three months; (2) the composition: refugees are mainly women with their children and elderly; and (3) the policy response of Europe: the EU has so far granted a 1-year permit to stay in member countries and free movement inside the Schengen area. The Temporary Protection Directive includes a residence permit, access to the labour market, housing, medical assistance and access to education for children, thus facilitating the integration of Ukrainians. The largest inflows are registered in neighbouring countries as a consequence of the infrastructure systems connecting Ukraine to Poland, Romania, Hungary and Moldova. The main receiving (non-neighbouring) country is Germany, followed by the Czech Republic and Italy (CReAM, 2022).

b. The possible effects of Ukrainians on host countries

We suggest that the labour market outcomes and fertility choices of female natives in receiving countries may be affected by the mechanisms analyzed in the second chapter of this dissertation, as the peculiar composition of the refugees (90% of refugees are children and young women) can lead to an increase of the supply of childcare and household services at a cheaper price. As a matter of fact, 31% of Ukrainians have tertiary education, 51% have secondary education, 14% have primary education and 3% have no education (Ukrainian Census, 2001). Data show that the main educational attainment in Ukraine is secondary education (at most a high-school diploma) and, as seen in the previous section, refugees typically arrive in a host country with less locally applicable human capital, including language and job skills, than economic migrants and consequently are likely to start at significantly lower levels of wages and employability. In addition, adopting the definition of Furtado (2014), Ukraine is a so-called “high-childcare” country, since, according to the 2001 census, the highest proportion of females in working age (16-54) is employed in elementary occupations, as seen in Fig.2 below.

Total population  
Female

	Total	including the population at the		
		younger than able-to-work age	able-to-work age*	older than able-to-work age
	<i>persons</i>			
Total employed population	8392392	861	7921277	470134
including:				
Legislators, officials, directors	732247	-	676094	56151
Professionals	1293471	4	1179664	113793
Specialists	1528762	7	1444926	83811
Technical staff	492280	9	469500	22766
Employed in sphere of trade and service	1348230	154	1303499	44539
Skilled workers employed in agriculture, forestry and fishing	260125	89	253560	6474
Skilled workers with tools	349709	6	333438	16258
Machine operators and assemblers	662483	29	632878	29570
The simplest professions	1703598	550	1607128	95899

<sup>1</sup>  
\* Men 16-59 years, women 16-54 years

Fig.2 (State Statistics Committee of Ukraine, data from the 2001 census).

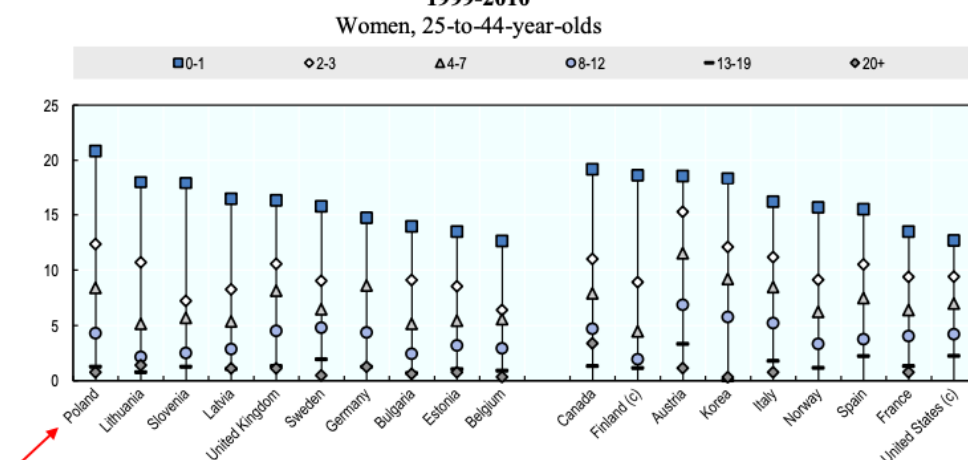
We can therefore assume, that female Ukrainians entering European countries will increase the supply of childcare and household services, lowering the price of such services. On one side, high-skilled and medium-skilled native women of host countries may substitute their time spent in household and childcare services with an increase of the working hours, purchasing the services from the newcomers. On the other side, given that Ukrainians specialize in childcare services, high-skilled natives may increase their number of children, positively affecting fertility rates in receiving countries. It is important to remark that the most European countries lack of childcare facilities (with the exception of the UK and Nordic countries) and therefore refugees can be seen as a complement in the childcare system.

### c. The impact of Ukrainian refugees on natives in Poland

The country that has so far hosted the most refugees is Poland: as of May 30, 2022, Poland received 3,627,178 refugees (UNHCR, 2022), nearly a half of the total. The main drivers that lead Ukrainians to choose Poland can be: (i) the train and bus route connections from the most important Ukrainian cities to Poland: from Kiev to Warsaw the train takes 15 hours (public companies in the EU are currently offering free tickets for Ukrainians); (ii) the connections with kin networks that established in Poland before the escalation of the conflict: Poland was the first destination county for Ukrainian migrants even before 2022 (ZUS 2020); (iii) the labour market opportunities offered in Poland, as unemployment is one of the lowest in the EU: in 2021 Ukraine's unemployment rate was 8.9%, while Poland's was 3.4% (ILOSTAT, 2022); and (iv) the proximity of Poland to Ukraine: refugees may think they can return to their country once the conflict is over (although it will take years to rebuild Ukrainian cities).

Young women in Poland are more likely to have a university degree than young men: 43% of women and 29% of men aged 25-34 years old have attained tertiary education (OECD, 2022). The proportion of employed women in Poland is 59% (around the OECD average) and women are more likely to have permanent employment than men and to work in professional occupations (OECD, 2022). As a matter of fact, the proportion of women managers in Poland (36%) is one of the highest among OECD countries (the average is 32%). We can therefore assume that a major proportion of women in Poland is high-skilled and, as data show, females are employed in professional occupations, implying that they belong to the highest percentile of the wage distribution (among OECD countries the pay gap in Poland is one of the lowest). Women with children in Poland dedicate more time to care activities than their peers in other OECD countries, although the time dedicated to household and childcare activities decreases as children get older, as shown in Fig. 3 below. It is thus reasonable to say that high-skilled natives in Poland, as a consequence of the cheaper household and childcare services offered by Ukrainians, may substitute the time dedicated to care activities with an increase of the working hours, purchasing the services from the refugees.

**Chart LMF2.5.B: Percentage of time spent on care work<sup>a</sup> by women, by age of youngest child, 1999-2010<sup>b</sup>**



Countries are ranked by decreasing percentage of care time dedicated to 0-1 year old children.  
a) Care work includes here all episodes of care work declared as primary or secondary activity, except for Austria, Canada, Finland, France, Italy, Korea, Norway, Spain and the United States where only care as a primary activity is considered. Care work also includes the time spent to care for household members or to informally help other households.  
b) 2000: Estonia; 2001: Slovenia, Sweden, United Kingdom; 2002: Germany, Mexico; 2003: Latvia, Lithuania; 2004: Poland; 2006: Belgium; 2008: Italy; 2008/2009: Austria; 2009: Finland, Korea; 2009/2010: France, Spain; 2010: Canada, Norway, United States.  
c) No information on household children aged 18 or older in Finland and the United States.  
Source: For European countries, National Time Use Surveys as reported in the Harmonised European Time Use Surveys dataset (HETUS) dataset except for Austria, Canada, Finland, France, Spain, Norway; results from National Time Use surveys for Australia, Canada, Korea and Mexico.

Fig. 3 Time dedicated to care activities (OECD family database, 2022)

Analyzing the data on family policies in Poland, we find that family cash benefits (family-related transfers to families) are at the highest among OECD countries, as shown in Fig. 4 below, suggesting that women can purchase household and childcare services even with the benefits provided by the government.

Total family benefits for a two-child family, by family type and earnings level, as a % of average full-time earnings (AW), 2018

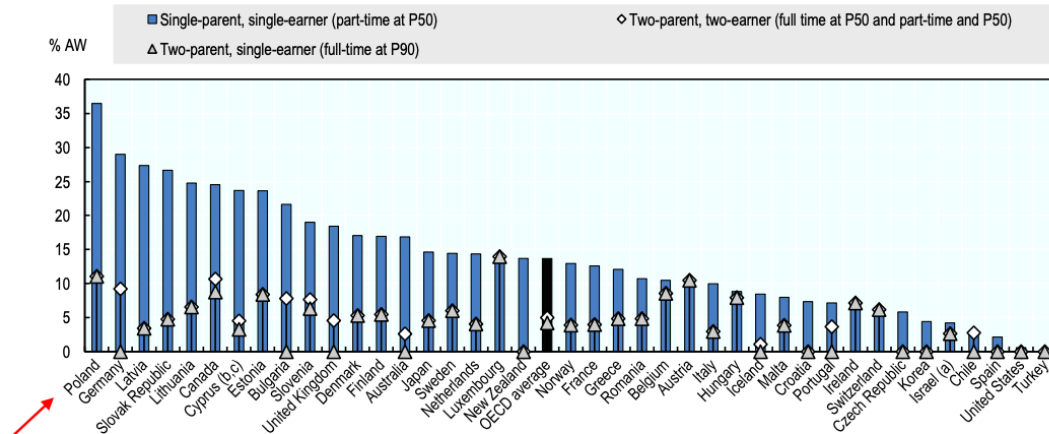


Fig. 4 Value of family benefits by family type and earnings (OECD family database, 2022)

On the fertility rates side, Poland is experiencing a decrease in the total number of children per woman of fertile age, similarly to other European countries, as shown in Fig. 5 below.

Average number of children born per woman over a lifetime given current age-specific fertility rates and assuming no female mortality during reproductive years

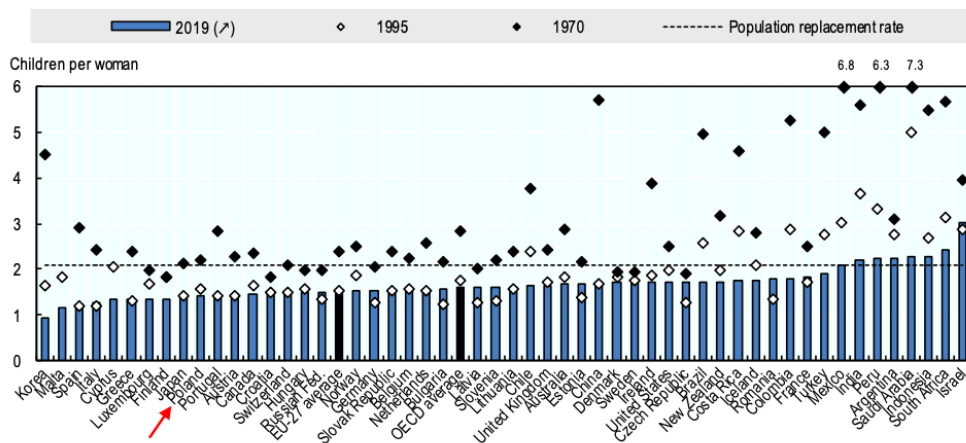


Fig. 5 Total fertility rate, 1970, 1995 and 2019 (OECD family database, 2022)

### III. Conclusions

To conclude our thesis, we now try to frame the mechanism behind our analysis on the Ukrainian crisis: (1) the escalation of the conflict between Ukraine and Russia that began in 2014 and escalated with the Russian invasion of Ukraine on February 21, 2022, has initiated the largest inflow of refugees in Europe since the Second World War; (2) the refugees are mainly low-skilled females with their children and elderly and this can increase the supply of childcare and household services in the receiving countries; (3) nearly a half of the refugees is

fleeing to nearby Poland, a country that is characterized by a major proportion of high-educated women and high employment rates; (4) women in Poland dedicate a lot of time to care activities and the government grants high cash family benefits, suggesting that high-skilled women can substitute the time in childcare and household activities with the purchase of these services from Ukrainian refugees; (5) the time spared by natives can be allocated in working hours, with a consequent increase in the wages of high-skilled women in Poland; (6) women can decide to have more children, increasing fertility rates in Poland, as childcare services are now cheaper and family cash benefits are granted by the government.

Our research on the possible consequences of the Ukrainian crisis on the female labour market outcomes and fertility choices of natives in Poland is an early study, as data are constantly updated and the conflict is ongoing. We therefore suggest that further studies can be made in this direction, once the conflict is over and refugees establish to their desired country. The objective of European policy makers to address the Ukrainian crisis should be to keep the asylum process short, provide early support for health issues and facilitate refugees to join the labor market at the earliest possible stage.

## ABSTRACT

La tesi ha l'obiettivo di definire come l'attuale crisi migratoria ucraina potrebbe impattare sul mercato del lavoro femminile e sulle scelte di fertilità delle donne dei paesi ospitanti.

Il primo capitolo analizza la letteratura sulle determinanti della scelta migratoria, focalizzandosi sul modello del capitale umano di Sjaastad del 1962. Successivamente, vengono approfonditi i driver dell'emigrazione, che, diversamente aggregati in base all'episodio migratorio cui ci si riferisce, spiegano motivi alla base della scelta del paese di destinazione. Il capitolo si conclude con un'analisi dei risultati empirici sull'impatto dell'immigrazione sul mercato del lavoro dei paesi sviluppati.

Il secondo capitolo si concentra sull'effetto positivo dell'immigrazione cosiddetta 'low-skilled' sul mercato del lavoro femminile e sulle scelte di fertilità delle donne più istruite del paese ospitante. L'evidenza suggerisce che un aumento di donne immigrate poco istruite comporta una maggiore offerta di servizi domestici e cura dei bambini, abbassandone il prezzo. Di conseguenza, le donne più istruite dei paesi ospitanti, soprattutto di quelli in carenza di strutture assistenziali, possono usufruire di tali servizi sostituendo il tempo risparmiato in ore lavorative. Inoltre, le donne in età fertile possono decidere di aumentare il numero di figli, usufruendo dei servizi offerti dalle donne immigrate.

L'ultimo capitolo ipotizza l'effetto dell'attuale crisi migratoria Ucraina sui paesi ospitanti, in particolare la Polonia, il paese che sta ricevendo il maggior numero di rifugiati. Alla luce di quanto analizzato, le donne più istruite in Polonia potranno avvalersi della maggiore disponibilità di servizi domestici e di cura dei bambini offerti dalle rifugiate ucraine, aumentando le ore lavorative e il numero di figli. La tesi è supportata dai dati presenti nei database dell'OECD, che dimostrano come la Polonia sia un paese caratterizzato da un alto livello di istruzione femminile e un'alta occupazione femminile in posizioni professionali.

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