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Investigating the role of migration for changes in Europe
labour supply in 2009-2019

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*To my beautiful wife Maria
and our lovely daughter Melina.*

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Investigating the role of migration for changes in Europe labour supply in 2009-2019

Dimitriou Thomas

Abstract

The slowdown in population growth and the ageing of the population are significant challenges for Europe in terms of the overall labour supply. This dissertation assesses the contribution of migration in the overall labour supply of the United Kingdom, Spain, Austria and the Netherlands, using the Labour Force Survey data from the Eurostat database for the period of 2009-2019 and focusing on two aspects of the labour supply. Firstly, the overall size of the labour force and secondly the tendency of people within working-age to participate in the labour market, as it counts from participation rates. These two aspects are interrelated and are both affected by population ageing and demographic stagnation. Furthermore, a differentiation occurred between EU-born and Third country national migrants so their contribution could be assessed separately. This paper also examined, the impact of the labour market participation upward trend of women and people aged 55-65 to the overall labour force. The findings show the leading role of migration in the increase in labour force that is mostly due to the population rather than the participation effect. The participation rates of native women have significantly increased; however, the effect of that increase in the overall labour force has been weakened by the reduction of their population in working-age. An increase has also been detected in the participation rates of native people aged 55-64 which attributed to the increase of age limits in pension systems and policies to reduce early retirement. That increase combined with an upward trend in their working-age population has been attributed to baby boomers. However, as cohorts of baby boomers exit the labour force the next decades, their population will be reduced, and their contribution to the growth of the labour force will decrease as well. As natives fail to contribute to the growth of the labour force due to population in working-age decreasing, migration flows remain the only solution to release the pressure from population ageing that will be more acute over the next decades.

Keywords: labour force, participation rates, migration, United Kingdom, Austria, Netherlands, Spain

**Διερευνώντας το ρόλο της μετανάστευσης στις αλλαγές της προσφοράς εργασίας στην
Ευρώπη κατά την περίοδο 2009-2019**

Περίληψη

Η επιβράδυνση της αύξησης του πληθυσμού καθώς και η γήρανση του πληθυσμού, αποτελούν σημαντικές προκλήσεις για την Ευρώπη, όσον αφορά τη συνολική προσφορά εργασίας. Στην παρούσα διπλωματική αξιολογείται η συμβολή της μετανάστευσης στην προσφορά εργασίας του Ηνωμένου Βασιλείου, της Ισπανίας, της Αυστρίας και της Ολλανδίας, χρησιμοποιώντας δεδομένα από την έρευνα του εργατικού δυναμικού από την βάση δεδομένων της Eurostat, για την περίοδο 2009-2019, εστιάζοντας σε δύο πτυχές της αγοράς εργασίας. Πρώτον το συνολικό μέγεθος του εργατικού δυναμικού και δεύτερον την τάση των ατόμων σε ηλικία εργασίας να συμμετέχουν στην αγορά εργασίας, έτσι όπως αυτή μετράται από τα ποσοστά συμμετοχής. Οι δύο πτυχές αυτές είναι αλληλένδετες και επηρεάζονται και οι δύο από την γήρανση του πληθυσμού και την δημογραφική στασιμότητα. Η συμβολή των μεταναστών εξετάζεται διακρινόμενη σε γεννημένους στην Ευρώπη και γεννημένους σε Τρίτη χώρα. Επίσης, εξετάζεται η επιρροή της αύξησης της συμμετοχής στην αγορά εργασίας, των γυναικών και των ατόμων ηλικίας 55-64 ετών, στη συνολική προσφορά εργασίας. Τα ευρήματα δείχνουν τον πρωταρχικό ρόλο της μετανάστευσης στην αύξηση του εργατικού δυναμικού, που οφείλεται κυρίως στην επιρροή του μεγέθους του πληθυσμού τους παρά στα ποσοστά συμμετοχής τους. Τα ποσοστά συμμετοχής των γηγενών γυναικών έχουν αυξηθεί σημαντικά. Ωστόσο το αποτέλεσμα της αύξησης στο συνολικό εργατικό δυναμικό έχει αποδυναμωθεί από την μείωση του πληθυσμού τους σε ηλικία εργασίας. Επίσης παρατηρήθηκε αύξηση στα ποσοστά συμμετοχής των γηγενών ηλικίας 55-64, που οφείλεται στην αύξηση των ορίων ηλικίας συνταξιοδότησης και σε πολιτικές μείωσης της πρόωρης συνταξιοδότησης. Η αύξηση αυτή συνδυάστηκε με ανοδική τάση στον πληθυσμό τους σε ηλικία εργασίας, που οφείλεται στους baby-boomers. Ωστόσο, καθώς οι baby-boomers θα εξέρχονται από το εργατικό δυναμικό, τις επόμενες δεκαετίες, ο πληθυσμός τους θα μειωθεί και η συμβολή τους στην αύξηση του εργατικού δυναμικού, θα μειωθεί επίσης. Καθώς οι γηγενείς δεν συμβάλουν στην αύξηση του εργατικού δυναμικού λόγω της μείωσης του πληθυσμού τους σε ηλικία εργασίας, οι μεταναστευτικές ροές παραμένουν η μόνη λύση για την μείωση της πίεσης που ασκείται από την γήρανση του πληθυσμού, η οποία αναμένεται να μεγαλώσει τις επόμενες δεκαετίες.

Λέξεις κλειδιά: Εργατικό δυναμικό, ποσοστά συμμετοχής, μετανάστευση, Ηνωμένο Βασίλειο, Αυστρία, Ισπανία, Ολλανδία

Introduction

One of the challenges that humanity has been facing over the last decades is the ageing of the population due to demographic shift caused by low mortality combined with low fertility rates. The rapid demographic change that occurs, is defined by two distinct phases. During the first phase, the population increases due to the declining death rates while the birth rates remain high. During the second phase, the population decreases but results remain positive due to a decline in birth rates. The shift takes over a century to complete and results in a much larger population size. The world's population is expected to increase by two billion people, from 7.7 billion at present to 9.7 billion in 2050, before reaching a peak of nearly 11 billion by the end of the century while fertility rates continue to decline (United Nations, 2020). However, population growth rates connect inevitably with the population ageing. At the same time, it is projected that in the global population, children below the age of 5 will be outnumbered by persons aged 65 or above (United Nations, 2020). According to World Population Prospects, by 2050, 1 in 6 people in the world will be over the age of 65, an increase from 1 in 11 in 2019 (United Nations, 2019).

Due to its numerous social and economic implications, population ageing is one of the most significant long-term challenges for many European countries. The median age of the population in the EU28 has increased from 34 in 1985 to almost 43 in 2015 (Spielvogel & Meghnagi, 2018). The population decline in conjunction with population ageing, challenges Europe, particularly in terms of current and future labour force supplies. Globally, people aged 65 and above are projected to account for 11.7 per cent of the total population in 2030, and 15.8 per cent in 2050, a significant rise from 9.3 per cent in 2017 (Kühn, Milasi, & Yoon, 2018). As the proportion of people aged 65 and over in the total population will increase substantially over the coming decades, the dependency ratio of people aged 65 and over as a percentage of the total labour force will be increased as well. There is a general agreement that the ageing of the population will affect the size and structure of the labour force. There are two aspects of labour supply which are of utmost importance. The first is the total number of economically active people as reflected in the size of the labour force (number of employed and unemployed people). The second is the propensity of people in working age to participate in the labour market measured by the participation rates (ratio of employed and unemployed people to the population). Due to labour participation rates being age-specific, an ageing population should have a negative outcome on the size and structure of the labour force (Fuchs, 2015). Labour shortages may accumulate in specific sectors or occupations, at different skill levels. The risk of shortages is especially acute in occupations where labour

demand is bound to increase because of ageing itself, such as healthcare or domestic services, or as a consequence of ongoing technological changes (Spielvogel & Meghnagi, 2018).

The declining labour force threatens the whole economy as it is connected directly to economic growth. Labour force decline risks to be combined with lower productivity.

In addition to reducing labour supply, population ageing can also lead to an increase in public funding for pensions, social insurance, health and third age services. As the resources in a society are limited, consequently this leads to a decline in the available resources for other social needs, therefore, governments are being forced to reform their countries' pension systems over the last decades. Increased retirement age and pension reductions are some of the changes that most European countries have already applied in their pension system. Although many reforms have taken place, the demographic trends in recent years and the pessimistic forecasts for the near future will nonetheless affect the overall economy.

This essay investigates the contribution of migration to the changes of the United Kingdom, Spain, Austria and Netherlands, overall labour supply for the period of 2009-2019. Furthermore, it examines, the impact of women and people aged 55-65 on the overall labour supply. The focus is on two aspects of the labour market. Firstly, on the overall size of the labour force and secondly on the tendency of people within working age to participate in the labour market, according to participation rates. A distinction between EU-born and Third-country nationals (TCN'-s) has been made to assess their impact on labour supply separately.

Aspects related to labour supply

Size of the labour force

The term labour force refers to the total number of employed and unemployed people (ILO, 1982). Low fertility rates do not allow adequate replacement of the labour force. As the first generations of baby boomers are entering retirement age, it is an aggravating factor. This is not only because the new generations of laborers cannot replace the retirees, but also the specific retiring generation is one of the largest that ever existed. Inevitably this process will affect the working-age population. In Europe particularly, there are fears that there will not be enough workers, or at least enough workers with the right set of skills, to replace those who will be retiring (Dumont & Aujean, 2014). The age structure is also considerably modified. The main characteristic of this change is the relative increase of the age group between 50-64 years (Bagavos & Fotakis, 2001). This is an extension of the ageing effect within the labour

force increasing the rates of older workers which are associated with low productivity and low participation rates (Samorodov, 1999).

Participation rates

The term participation rate is used to define the propensity of working-age people to participate in the labour market. As labour participation rates are age-specific, an ageing population should have a negative outcome on size and structure of the labour force (Fuchs, 2015). The decline in rates of older workers is usually associated with earlier retirement policies, a lower retirement age, especially in the former centrally planned economies, and more relaxed disability criteria (Samorodov, 1999). People have an early exit from the labour market retiring voluntarily, depending on their wealth and on financial incentives in social security and employer pension plans. However, the distinction between voluntarily and involuntarily is vague as many older workers face unattractive alternatives in the labour market such as pay cuts resulting in leaving the labour force (Auer & Fortuny, 2000). Given the increase in population ageing, and the trend towards lower sizes of the working-age population, the European demographic landscape implies a down-pulling effect on labour supply (Bagavos, 2019a). However, labour force participation rates of older people vary according to gender. A decline in activity rates had been particularly noticed among older men. In contrast, female participation rates had been increasing, even among older women (Auer & Fortuny, 2000).

In most OECD (Organisation for Economic Co-operation and Development) countries, female participation rates have risen sharply over the last decades. Among prime-age women (aged 25-54), participation rates climbed steadily from an average of 54% in 1980 to 71% in 2010 (Thévenon, 2013). The shift of employment to the tertiary sector has considerably increased women's job opportunities as well as the evolution of social norms towards more egalitarian gender roles, that may induce both family legislation and higher female labour force participation. Women are also now more likely to enter both fast growing and highly-skilled professions compared to men (Spielvogel & Meghnagi, 2018). In 2008, an OECD average of one-third of the female working population was employed in the service sector (Thévenon, 2013). In the past, the uprising female participation rate had partially offset the decline in male labour force participation rates (Auer & Fortuny, 2000).

As more European countries increase their retirement ages and implement active ageing policies, an increase in the participation rate of older workers is expected as well.

However, not only older but also younger people's participation rates are declining. The younger aged population is significantly less likely to be part of the labour force nowadays than it was 30 years ago, with similar trends observed for men and women. To a significant extent, declining labour force attachment reflects the secular trend toward greater investment in human capitalizing and higher school enrolment rates (IMF, 2018). As education is nowadays a crucial part of movement into the labour market, young people prefer to delay their entrance in labour market in order to be fully equipped in human capital. To increase the labour force, it is important to achieve the full potential of native workers. The elimination of the gender gap and the mobilization of young and older workers to participate in the labour market are important factors contributing to the labour force increase, however, there is still a factor that achieves faster results and that is migration.

The impact of migration

In the context of an economic crisis where economic growth is not achievable and declining in comparison to past years, the turn to migration as a renewal factor of the labour force is considered a way for continuation of economic growth and maintaining the status quo. Although the public belief is that a direct effect of migration is the decrease in average wages due to the competition between natives and migrants, there is not enough empirical data to support that idea. In fact, most research supports that, although the effects of migration in the destination countries economy are minor, those are usually positive (OECD/ILO, 2018). The basic contribution of migrants in the economy of the destination country is the reinforcement of the labour force. This is due to most of them being young and the motive of their migration being strongly related to their employment, therefore entering and strengthening the size of the labour force. Their capacity as workers lies in the very centre of the migration policies in most of the European countries. However, the contribution of migrants to the economy of the residence country does not limit to labour. Migrants as consumers, raise the demand for domestic goods and services, thus affecting the production levels and the prices. They also contribute to the public budget, while as bearers of new skills they create new job opportunities.

In most European countries' migration has been rising sharply while at the same time many of them have also been experiencing an increase in immigration outputs. Many times, in the past, migration presented as a solution to population ageing as migrants' age is significantly lower than the median age of native people in the destination country. In

addition, migrants tend to maintain fertility rates in the levels of country of origin during the first years of arrival, which are higher than that of the native population, implying a slowdown in the fertility decline.

Nowadays it is generally accepted that international migration cannot offset the negative consequences of population and labour force ageing in the long term (Spielvogel & Meghnagi, 2018). Migrants grow older similar to natives and their influence in general population structure age is temporary. In addition, migrant's fertility rates tend to converge towards those of native people as migrants integrate into the destination country norms.

Although long-term consequences of migration cannot offset the implications of population ageing in the labour market, migration can be an important relief to the pressure caused by demographic shift.

Human capital

Beyond size, human capital is a significant aspect related to migration and the labour market. The human capital among migrants sets the level of impact on labour market outcomes in the native work force. Usually, migrant's competition is likely to be concentrated on low skilled jobs that they can easily fill, particularly ones that do not demand language fluency, cultural knowledge or local experience (Somerville & Sumption, 2009). The differences in skills and education between migrants and natives are even more pronounced in the context of "baby boomers" exiting the labour market. The cohorts that exit are highly educated and although younger cohorts are even more educated, they are outnumbered, therefore there will be a demand for both high and low educated labour force (Spielvogel & Meghnagi, 2018). The education level of migrants varies by many factors such as the diversity of country of origin, the migration motives and the education policies in each country (Spielvogel & Meghnagi, 2018). Some migrants go to another country just for family reunion or humanitarian causes, which rarely involve education-related selection, while others move to study or work, in which case they are more likely to be or become highly educated. Intra-EU movers are on average much younger and higher educated than the non-mobile population. The over-qualification rate is nevertheless high, notably for people originating from central and eastern EU countries, as more than half of the tertiary graduates from those countries work in low or medium-skilled occupations (Dumont & Aujean, 2014). However, just replacing the large cohorts of baby boomers that are exiting the labour force is

not enough. Immigrants' skills are required to meet the demands of the labour market so as to avoid a mismatch between skills and jobs. In Europe, approximately 40% of labour migrants recruited from abroad have left the host country within five years and 50% of those who stayed are no longer in the job for which they were originally recruited (Dumont & Aujean, 2014). What is called a skills mismatch can increase unemployment, affect competitiveness, productivity as well as job creation (ILO, 2020). Although a perfect match is not easy to be achieved, education programs for migrants according to the demands of the labour market in the residence country can significantly reduce the mismatch consequences. In addition, labour market integration measures can help reduce skills mismatch in terms of accessibility to jobs, recognition of foreign credentials, and countering discriminatory practices (Sparreboom & Tarvid, 2017). Harmonizing migrants' skills with labour market demands reduces competition between natives and migrants and is beneficial to economic growth.

Migration participation rates

Education is heavily affecting participation rates. Nonetheless, the distinction here is not just between migrants and natives but also in migration itself. On the one hand some groups of migrants' participation rates, for example low educated women, in the labour market tend to be below average. On the other hand, high educated migrants have participation rates that may be above native average rate (Spielvogel & Meghnagi, 2018). In Europe the most common distinction in migrants is between EU-born and Third-country nationals (TCN'-s). For around 50% of EU-born migrants, the motive to move is work-related, meaning half the citizens either move to seek employment or to take up an offer of employment. As they are on average highly educated, EU-born migrants have higher employment rates than natives in almost half of the destination countries, however, they also have a slightly higher unemployment rate (European Commission, 2019). To a large extent, EU-born migrants feel overqualified for the job they are doing, which is most likely linked to the lack of language skills being the main obstacle to finding a job (European Commission, 2019).

Third-country nationals although having access to equal rights as natives, many not have access to the labour market and there are greater restrictions regarding their mobility within the European Union. Furthermore, their motivation for migration may be different as it's more likely to migrate for humanitarian or family reunification reasons. Eu-born migrants have similar or even higher participation rates than natives, but things are different for

immigrants from third countries. The differences between natives and TCN'-s in the labour market are particularly prominent.

As EU was in 2017 home to over 21.6 million Third-country nationals, which makes up more than 4% of the population of EU, the "Europe 2020 strategy" considers better integration of TCN'-s as a factor that will help it meet its first headline target of a 75% employment rate among 20–64 year-olds (OECD/EU, 2018). Natives' participation rates are generally higher than those of TCN'-s as they have higher levels of educational attainment. Labour-related gaps between TCN'-s and natives are wider among women and the highly educated. Although male TCN'-s are almost as economically active as their host country equals, women, on the other hand, are less likely to be economically active in relation to female nationals in most EU countries (OECD/EU, 2018).

Even though highly educated migrants have a greater chance of finding work, irrespective of nationality, the highly educated TNC's have less chances than those of highly educated natives in every EU country. On the contrary, in countries where foreign workers came to meet low-skilled labour market demands, mostly in Southern Europe, low educated TCN'-s tend to be more likely to have a job than their national peers (OECD/EU, 2018).

In all EU countries, highly educated TCN'-s are more likely than their host-country peers to work in jobs for which they are over-qualified, in fact in Southern Europe, where many immigrants arrived prior to the economic crisis to do low-skilled work, over-qualification is particularly widespread.

Female migration

The number of females that migrate not as part of a household, but on their own as migrant workers, students, or refugees, are significantly increasing over the last decades (Zlotnik, 2003). These increasing numbers create what is being called as "feminization of migration". Although this feminization of migration has been generally recognised as a trend, it has not been accompanied with gender-targeted policies for migrants. While the market is quite unfavourable for women in general, migrant women face twice the challenge, both by being a woman and a migrant. In the European Union, for instance, 54 per cent of women born outside the EU were employed in 2017, compared to 73 per cent of men born outside the EU and 68 per cent of women born in the reporting country (IOM, 2019). Also, immigrant women are more likely to be unemployed than both men and native women.

Additionally, school to work transition is more difficult to migrants compared to natives because of their poor education background, while for women it is even more stringent than for men due to the fact that they can start their reproductive lives during that age. The danger of overqualification for women is even higher than it is for men. Although they have on average a higher education level than men, many of them work in domestic labour. Refugee women are even worse in terms of labour market inclusion, given their more uncertain status and situation.

Labour migrants in Spain

During the late 1990s and early 2000s, Spain experienced a strong economic growth and low levels of unemployment. That economic growth, driven mostly from the growth of the real estate sector, led to a rise in demand for new workers, mostly in low- and middle-skilled sectors such as construction, hospitality and domestic services. At the same time, native labour force with low- and middle skills was shrinking because of population ageing and the choice of many Spaniards to pursue tertiary education and chase higher skilled work opportunities with better working conditions (Hooper, 2019). That demand for low skilled workers was covered by immigrants, most of them coming from Latin America and Eastern Europe. Between 1998 and 2008 the foreign-born population grew by almost six times. Those immigrants did not have trouble entering the labour market, they even had higher employment rates than natives. Most of them entered the labour market with low skilled jobs but moved to middle skilled positions. Especially workers from Latin America and non-EU15 countries were the most likely to move into middle skill jobs, while on the other hand immigrants from the EU-15 countries were the most likely to be in high skills positions (Rodriguez-Planas & Nollenberger, 2014).

As the economic crisis set in, unemployment rates rose sharply especially among young Spaniards, while high unemployment also affected to a large extent the immigrants and in specific the non-EU immigrants. That put a strain on immigration flows and foreign-born population in Spain, demonstrated by a decline from 6.6 million in 2010 to 6.2 million in 2018. The collapse of the construction sector led to high unemployment among migrant men while a decrease in household spending led to high unemployment among migrant women. The unemployment rate among non-EU migrants tripled between 2007 and 2013 as they found themselves in a worse position than both natives and EU-born workers. Migrants that had moved from low to middle skilled jobs found themselves in great risk and only those

with high skilled jobs could face the strains. The economic crisis led Spain to reduce migration channels for low- and middle-skilled migrants.

As Spain's economy is slowly recovering and demand is picking up in sectors that had traditionally relied on migrants, like construction and hospitality, the specific reduced channels might be reactivated (Rodríguez-Planas & Nollenberger, 2014).

Labour migrants in Austria

The increase in the labour force in Austria over the last decades has been mainly based on three different pillars. Firstly, the migration inflows in the early 1990s, secondly, the increase in women's participation in the labour market and thirdly the implementation of barriers to early- retirement and disabled pension. Based on the latest figures, a fourth pillar could also be included and that is the entry of refugees into the labour market (Biffel, 2019). In Austria more than 15% of the residents' population are foreign-born and, if natives with foreign-born parents were taken into consideration, around one third of the population is of migrant origin (OECD, 2019). The immigration landscape in Austria has been shaped by low-educated migrants that moved to Austria in the late 1980s, after the fall of Iron Curtains and the conflicts in the former Yugoslavia. More than half of the current migrant working-age population is from European countries, while a large part of the remaining are migrants from Yugoslavia which remained in Austria, as both countries have many historical and cultural ties. Whereas migrants from former Yugoslavia and Turkey had formed the majority of migrant labour until the 2000s, the lion's share is now taken by workers coming from Central and Eastern Europe.

The average educational background of migrants is not lower than in other countries, however, their position in the Austrian labour market is generally less favourable, as they concentrate more in low skilled jobs, are less represented in higher-skilled positions, and a larger proportion of them are overqualified for their present occupation. The number of migrants with university education is significant, however, the unemployment rate of highly educated migrants stands at 6.4% compared to an unemployment rate of 2.4% of highly educated natives (OECD, 2019). Also, more than 40% of highly-educated migrants with foreign degrees are over-qualified for their current occupation while slightly more than 30% of the highly educated native Austrians are over-qualified.

The suitable education level of neighbouring EU populations makes an important contribution to the Austrian economy through both immigration and cross-border workers.

According to OECD (2019), the share of migrant workers in employment, which had stayed around 10% in the 2000s surged after the liberalisation of intra-EU inflows in 2012 and has now reached 20% - the second highest proportion in the EU. Moreover, Austria faced a significant inflow of asylum seekers during the 2015-16 international migration crisis. As of 2017, accepted asylum seekers formed 0.3% of the labour force and this proportion is expected to increase. Two thirds of refugees came from Syria, Iraq and Afghanistan and more than half of them have less than upper secondary education. It takes some time for refugees to find a way into employment as they must register with the "Labour Market Service" to be able to access education and training programs to get basic income support (Biffl, 2019). Between 1990 and today severe restrictions on the recruitment of third country foreign workers prevent the inflow of third country migrant workers, while free mobilisation of labour within the European Economic Area raises foreign employment numbers.

As migration flows are expected to flatten due to Eastern and South Eastern neighbours developing further, Austrian authorities may need to increase efforts to attract highly skilled foreigners in the future.

Labour migrants in the Netherlands

Like other Western European countries, the Netherlands recruited guest workers in the 1960s and 1970s. Turkey, Morocco and Spain were the most important sending countries. Guest workers from Southern Europe mostly returned to their home countries, especially after Spain joined the EU, while in Turkey and Morocco return migration was less frequent because of unstable economic and political status. After 1975 recruitment stopped and re-entering the Netherlands or other European countries became more difficult for non-EU-citizens. Migration in 1980 was driven mostly by family reunification. Until 2007 family migration was the main source of migration to the Netherlands, accounting for almost 40 percent of all its immigrants (IMIS, 2014). Since 2007, labour migrants make up the largest group. The shift in migration types and increase in overall immigration were mainly driven by migration from Central and Eastern European countries that joined the European Union in 2004 and 2007. The Dutch practice separates the immigrants between Western and non-Western. With the term Western, encompassing people from Europe, North America, Oceania, Indonesia and Japan, and non-Western, people from Turkey, Africa, Latin American and the rest of Asia (IMIS, 2014). Labour migration law and regulations in the Netherlands are selective and labour migration policy is restrictive when it comes to low skilled work.

They categorize people according to the activity they will do, the kind of employer they will have and the sector they work in. This categorization defines migrant worker rights, the involvement of private sectors such as employers, or labour unions in case of policy design (Lange, Oomes, Gons, & Spanikova, 2019). The Dutch labour migration policy is mainly geared towards enhancing the knowledge-based economy and attracting highly skilled workers (Simic & Wörmann, 2015). Western immigrants do not face any legal restrictions and they enter usually as a labour migrant with a job secured before arrival while non-western immigrants may enter only on humanitarian grounds, as a family or asylum migrant, often having no permission for work immediately upon arrival, so they need some time to find their way into the labour market. Skills of non-western migrants may not be easily transferred and immigrants entering on humanitarian reasons may lack sufficient measured and unobserved qualifications (Zorlu & Hartog, 2012).

In 2016, 19% of the employed (aged 15–74) was first- or second-generation migrants from a Western origin country and 18% came from a non-Western origin country, such as Turkey, Morocco, Netherlands Antilles, and Surinam (Hartog & Salvera, 2018). Western immigrants have on average higher levels of education than native Dutch people because of different age distributions however their unemployment rate is higher than the Dutch natives. Non-Western immigrants have a lower education level than native Dutch, however, among these immigrants, the share with the lowest education level is decreasing dramatically. Non-western immigrants also have a higher unemployment rate than Dutch natives but in higher share than the western migrants. As a result of their high education level and their occupation in high skilled positions, western immigrants' incomes are close to or above those of native Dutch people, in contrast with non-western migrants that are far worse.

Labour migrants in the United Kingdom

The United Kingdom is one of the countries with the largest inflows of foreign nationals. Immigration in the United Kingdom has been affected by factors related to the imperial or colonial history of the state. Migrants originate mostly from countries like Bangladesh, Pakistan, India, Sri Lanka, Hong – Kong, sub – Saharan Africa, Malaysia, Singapore and Caribbean. In the late 1990s the migration increased to a historically unprecedented level. As the United Kingdom had a restricted work-related system for immigration outside the EU, the main reason for migration in the 1990s was family reunion.

Between 2001 and 2018 the foreign-born population doubled from 4.6 million to more than 9 million (Office for National Statistics, 2020a).

In the last decade, the EU migrants have increased more rapidly than non-EU migrants, however non-EU foreign-born still make up the majority of the foreign-born population. In 2019, 38% of migrants were born in the EU (Vargas-Silva & Rienzo, 2020). In 2019, the UK-born people working in the UK reached a record high 27.03 million. Also, people born in the EU working in the UK increased to 2.37 million while people born outside the EU working in the UK increased to a high record of 3.40 million (Office for National Statistics, 2020a).

However, since 2016, especially after the referendum for exiting the EU, the number of EU citizens arriving for work has fallen to 76,000, the lowest level since 2004. Although the main reasons for migrating to the UK were studies and a definite job offer, the incline in EU-born migrants in 2016 led to a decline in people migrating for a definite job and gradually increased migration for studies. In 2019 almost 36% of the migration to the UK was for formal studies (Office for National Statistics, 2020b).

Immigrants are, on average, more educated than their UK-born counterparts, and the educational attainment gap has been rising over time. However, migrants are overrepresented in both high and low skilled jobs. There is a larger than average percentage of immigrants in comparison to UK-born workers in professional occupations, but also there are more immigrants than average in possessing elementary occupations (Wadsworth, 2015). The employment rates for non-UK nationals from the EU has been higher than that for UK nationals since the mid-2000s reflecting higher employment rates from East European countries within EU (Office for National Statistics, 2020b). According to the UK government website (<https://www.gov.uk/>), from 2021 the UK will apply a new migration policy, as the free movement in the EU has been failing to meet the needs of the British people. That new policy is based on a point system for EU-born and non-EU born people, and will give top priority to those with the highest skills and the greatest talents and not the country of origin. That way the UK will try to shift the focus of their economy away from a reliance on cheap labour from Europe to more highly skilled workers and students aiming to create a high wage, high skilled and high productivity economy.

Method

Procedure

The analysis is based on the annual Labour Force Survey data provided by Eurostat for the period 2009-2019 and extracted from the Eurostat Database (Eurostat, 2020). The European Union Labour Force Survey (EU-LFS) is a large sample survey of people living in private households, which is conducted in 35 countries: the EU27 Member States, the United Kingdom, three EFTA countries (Iceland, Norway, Switzerland) and four Candidates Countries (Montenegro, North Macedonia, Serbia and Turkey). The National Statistical Institutes (NSIs) of the participating countries are responsible for: designing the sample, developing the national questionnaires, conducting interviews, and sending results to the Commission (Eurostat) following a common coding scheme which is centrally processed by Eurostat. Thus, it is possible to make available harmonised data at a European level by: using the same concepts and definitions, following International Labour Organisation guidelines, using common classifications (NACE, ISCO, ISCED, NUTS) and recording the same set of characteristics in each country. In all 35 participating countries, the EU-LFS is based on a probability sampling (random sampling). The EU-LFS population is defined as all persons aged 15 years and over living in private households. Persons carrying out obligatory military or community service are not included in the target group of the survey, as is also the case for persons in institutions/collective households. Individuals are classified into three categories as employed, unemployed or economically inactive. The definitions used in the EU-LFS follow the Resolution of the 13th International Conference of Labour Statisticians, convened in 1982 by the International Labour Organisation (ILO, 1982).

Unemployed individuals were defined as all persons aged 15 and over (or 16 and over in Spain and the United Kingdom) who during the reference week of the LFS, performed work even if just for one hour a week, for pay, profit or family gain. Also, employed defined all persons who were not at work during the reference week but had a job or business from which they were temporarily absent.

As unemployed persons defined all persons aged 15 to 74 years who were not employed according to the definition of employment stated above, currently available for work and actively seeking work. A person currently available for work means that they were available for paid employment or self-employment before the end of the two weeks following the reference week. A person actively seeking for work means that they had taken specific steps in the four-week period ending with the reference week to seek paid employment or

self-employment or who found a job to start within a period of at most three months from the end of the reference week. Education and training are considered as ways of improving employability but not as methods of seeking work.

Labour force is what the active population is called which is defined as the population of employed or unemployed persons. Economically inactive persons are those who are neither employed nor unemployed. The inactive population can include pre-school children, school children, students, pensioners and housewives or -persons, for example, provided that they are not working at all and not available or looking for work either; some of these may be of working-age.

Activity rate or labour force participation rate expresses the labour force as a percent of the working-age population (defined in this study as those aged 15 to 64). Activity rate reflects the propensity of persons wishing to have a job or equally to participate in the labour market. The aggregate or overall activity rate refers to the entire working-age population. Given that age and gender are closely related to the propensity of persons to participate in the labour market, activity rates are very often calculated by age and sex.

The working-age population is not identical to the potential labour force, which refers to persons not in employment who express an interest in this form of work but for whom existing conditions limit their active job search and/or their availability. This group is used to calculate alternative measures of labour underutilization.

Statistical analysis

The countries that have been selected in this essay are the United Kingdom, Spain, the Netherlands and Austria and none of them had a break in time series from 2009 to 2019.

Data are broken down by sex, three age groups (15-24, 25-54, 55-64) within the working-age (15-64 years) and migration status. In particular for migration status, it is referred to as the country of birth (native- vs. foreign-born). Furthermore, it takes place as a distinction between EU-born and Third-country nationals (TCN'-s). The labour force includes employed and unemployed persons. Participation rates by three age groups are estimated as the ratio of employed and unemployed persons to the overall population. Based on a mixed decomposition and standardization method the components of changes in the total size of the labour force, highlighted and in particular, the changing working-age population ("population effect") and the participation rates effect ("participation effect"). Those effects

are broken down by three age groups, sex, migration status, and the birth place of migrants (EU-born vs. TCN'-s).

The method, used in this paper, was presented by Bagavos (2019b) in the context of assessing the importance of foreign migration for shifts in the size of the labour force of European countries, and it also relied on previous work: by Bagavos (2019a) in the context of assessing the contribution of migration in shifts in the total number of births of receiving counties; by Hotchkiss (2009) and Cully (2011) aiming to decompose changes in the aggregate labour force participation; and by Fuchs (2015) who provides a decomposition of the projected change in the overall labour force.

Let f be the participation rate; P and L indicate population and labour force, respectively; and x signifies the age of the individuals.

The total labour force is given by the sum across ages of the product of participation rate multiplied by the population at every given age:

$$L = \sum_x f_x \times P_x \quad (1)$$

Then the decomposition of the change (Δ) in the total labour force between 2009 and 2019 is:

$$\Delta(L) = \sum_x \Delta(f_x \times P_x) \quad (2)$$

and

$$\Delta(L) = \sum_x f_x \times \Delta(P_x) + \sum_x P_x \times \Delta(f_x) + \sum_x \Delta(f_x) \times \Delta(P_x) \quad (3)$$

In equation (3), the rates and the population refer to the initial year (i.e., to the year 2009), whereas their changes (Δ) refer to the changes that occurred between 2009 and 2019.

There are two factors related to the impact of the shifts in participation rates and in population on the changes in the total labour force:

$$\sum_x f_x \times \Delta(P_x) \quad (4)$$

is the population effect (weighted by the previous participation rate) due to changes in population, and

$$\sum_x P_x \times \Delta(f_x) \quad (5)$$

is the participation effect (weighted by the previous population size) attributable to changes in the participation rates or else in the propensity to participate in the labour market.

Additionally, the interaction effects – i.e., the impact of simultaneous shifts in the population and in the participation rates – is estimated by:

$$\sum_x \Delta(f_x) \times \Delta(P_x) \quad (6)$$

By breaking down participation rates and population by three age groups, sex, migration status and the country of birth of migrants (EU born vs. TCN'-s), all the above-mentioned equations are estimated for the corresponding sub-group. Changes in the total labour force arise by summing up the results for the changes in the labour force of the various age, sex, migration and country of birth.

The aggregate labour force participation rate (F) is the weighted average of participation rates across separate sub-populations (f), with weights represented by population share (k), in particular the share of each group to the total working age population. At any given age x it is given by:

$$F = \sum_x k_x \times f_x \quad (7)$$

By following the same approach as previously described for the total labour force, changes in the aggregate labour force participation rely on shifts in participation rates and in population shares.

Statistical analyses were carried out using Microsoft Excel (2016).

Results

Comparing the real changes in the labour force with what would have occurred due to natives only is a good way of understanding the size of the migration effect. The changes in the overall labour force for the United Kingdom, Spain, the Netherlands and Austria, are presented in Figure 1, for the time period from 2009 to 2019.

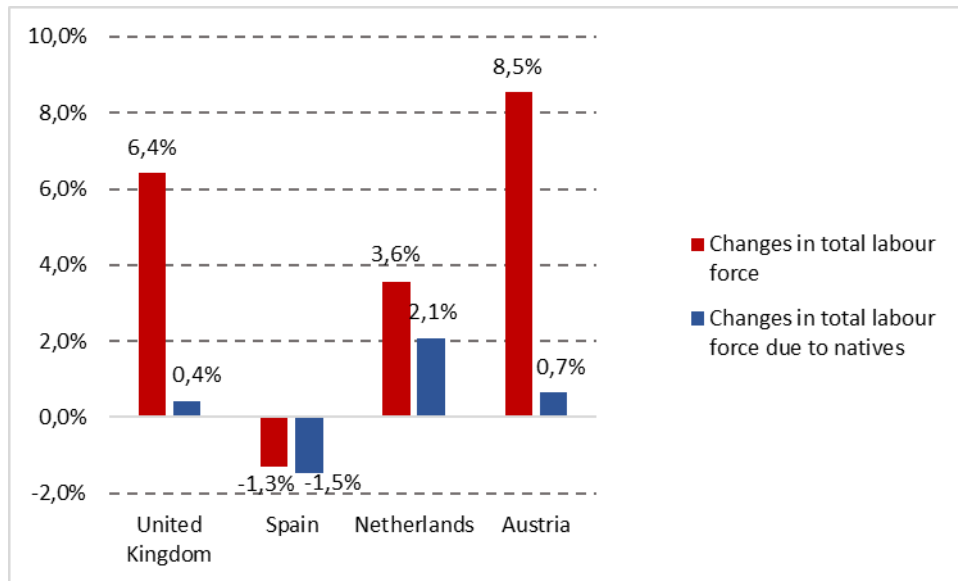


Figure 1. Changes in the total labour force between 2009 and 2019 for the United Kingdom, Spain, the Netherlands, and Austria (as % of the total labour force in 2009).

As shown in Figure 1 the largest increase in overall labour force occurred in Austria. In the United Kingdom and the Netherlands, the labour force increased as well, while in Spain decreasing trend was observed. The contribution of natives in the overall labour force is limited in the United Kingdom and Austria while in Spain the total decrease of labour force is due to the natives, and although migrants slightly increased, they did not manage to offset this decline. Concerning the Netherlands, the natives' contribution is higher than that of migrants but the difference between them was minor.

In Figure 2 changes between 2009 and 2019 in the aggregated participation rates, are presented for the United Kingdom, Spain, the Netherlands, and Austria.

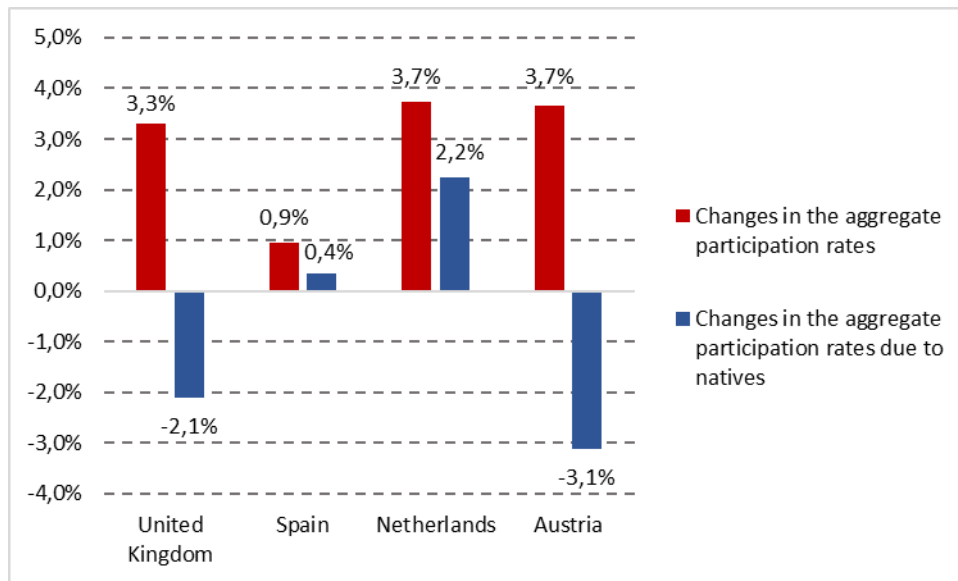


Figure 2. Changes in the aggregate participation rates between 2009 and 2019 for the United Kingdom, Spain, the Netherlands, and Austria (as % of the aggregate participation rates in 2009).

As shown in Figure 2, all countries have almost the same increase in participation rates, excluding Spain where the increase was minor. In the United Kingdom and Austria, the increase in participation rates is exclusively consequent to migrants and offsets natives' decline. Concerning the Netherlands more than half of the overall increase is due to natives while in Spain that trend is reversed but with a slight difference. Additionally, the increase of migrants in the United Kingdom and Austria is much higher than that in the Netherlands and Spain.

Table 1 and Table 2 summarize the results of the decomposition analysis relative to changes in the total labour force and aggregated participation rates, respectively.

As shown in Table 1, in all four countries the non-migrant population of working-age is shrinking while their participation rates are increasing. Thus, the impact of the participation upward trends of the non-migrant population in the overall labour force is limited (or in Spain offset) by the decrease of the non-migrant population in working-age.

EU-born migrants' contribution to the overall labour force is higher than those of Third-country nationals in all countries and with the exception of Spain that is mainly because of their higher increase of population in working-age. In Spain, although the population of Third-country nationals increased more than EU-born, their participation rates has been highly decreased. Table 2 present the increase to participation rates of migrants due

Table 1. Changes (in 1,000) in the total labour force between 2009 and 2019 due to shifts in:

	Non-migrants				Migrants (EU nationals)				Migrants (Third country nationals)				Migrants Total	All Total
	Population	Participation	Interactions	Total	Population	Participation	Interactions	Total	Population	Participation	Interactions	Total		
UK	-627	720	38	132	989	60	41	1090	533	166	45	745	1835	1967
ES	-1015	605	68	-342	2	-11	33	25	125	-112	1	14	39	-303
NL	-212	371	20	179	90	18	5	113	13	-4	4	13	126	305
AT	-187	179	34	27	175	17	8	200	98	18	10	126	325	353

Source: Own estimations based on LFS data provided by Eurostat (2020)

Table 2. Changes (percentage points) in the aggregate participation rates between 2009 and 2019 due to shifts in:

	Non-migrants				Migrants (EU nationals)				Migrants (Third country nationals)				Migrants Total	All Total
	Population	Participation	Interactions	Total	Population	Participation	Interactions	Total	Population	Participation	Interactions	Total		
UK	-3,42	1,78	0,04	-1,60	2,27	0,15	0,09	2,51	1,08	0,41	0,10	1,59	4,10	2,50
ES	-1,92	1,91	0,26	0,26	0,09	-0,03	0,11	0,17	0,63	-0,35	0,00	0,27	0,43	0,69
NL	-1,82	3,38	0,19	1,75	0,83	0,16	0,04	1,03	0,13	-0,03	0,03	0,13	1,17	2,91
AT	-6,00	3,23	0,45	-2,33	2,80	0,30	0,12	3,22	1,35	0,32	0,16	1,83	5,05	2,73

Source: Own estimations based on LFS data provided by Eurostat (2020)

more to EU-born than the Third-country nationals in all countries except for Spain, where the trend is reversed, but with a slight difference. This is mainly as a consequent of the increase in the working-age population rather than participation rates.

In Figure 3, the changes between 2009 and 2019 in the age groups labour force are presented for the United Kingdom, Spain, the Netherlands, and Austria.

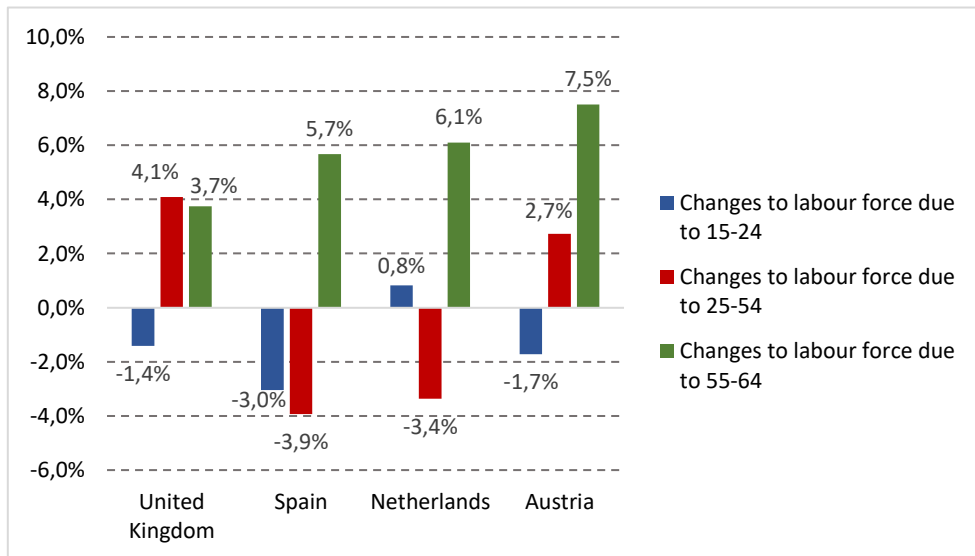


Figure 3. The changes in the age groups labour force between 2009 and 2019 for the United Kingdom, Spain, the Netherlands, and Austria (as % of the total labour force in 2009).

As shown in Figure 3, in most countries the highest increase occurred in the age group 55-64 and only in the United Kingdom was a similar increase observed in the 25-54 age group. The age group 15-24 presented a decrease in all countries except the Netherlands where it slightly increased, while the age group 25-54 declined in Spain and the Netherlands but increased in the United Kingdom and Austria.

In Figure 4, the changes between the year 2009 and 2019 in the age groups participation rates are presented for the United Kingdom, Spain, the Netherlands, and Austria. As shown in Figure 4, the participation rates of the age group 55-64 increased more than the other age groups in all four countries. The age group 15-24 participation rates declined in all countries except the Netherlands, where they were slightly increased, while the age group 25-54 participation rates declined in all countries except the United Kingdom, where they increased.

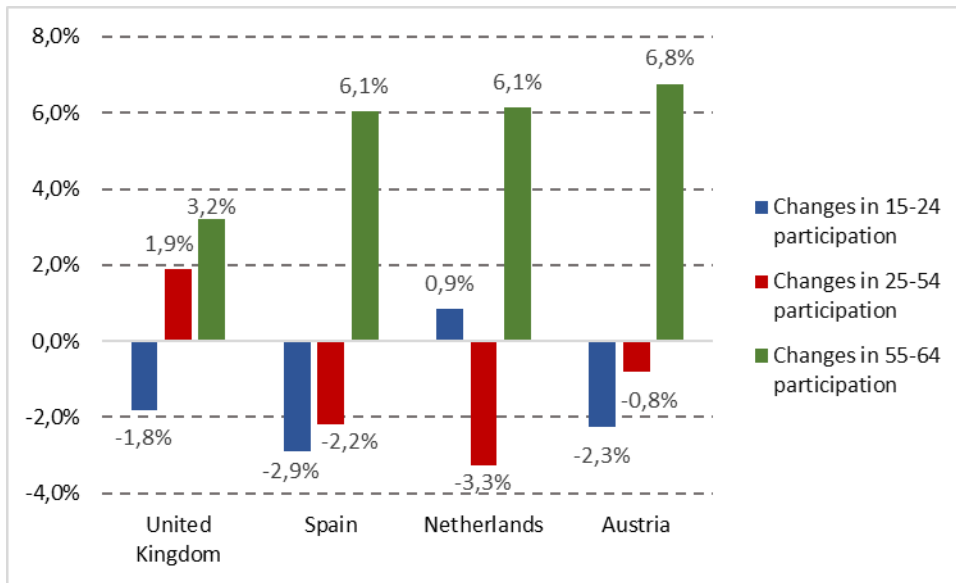


Figure 4. The changes in the age groups participation rates between 2009 and 2019 for the United Kingdom, Spain, the Netherlands, and Austria (as % of the aggregate participation rates in 2009).

Table 3 and table 4 summarize the results of the decomposition analysis in relation to changes between 2009-2019 in age groups labour force and participation rates, respectively. As shown in Table 3, the increase in the age group 55-64 labour force is due mostly to non-migrants. The increase of the non-migrant age group 55-64 labour force is driven by an upward trend in the working-age population combined with an upward trend in participation rates. The increase in the 25-54 age group labour force in the United Kingdom and Austria is driven by migration. Non-migrants fail to contribute as the shrinking of their population in the working-age offsets the impact of their participations upward trend. In Spain and Netherlands, the age group 25-54 is shrinking as migration did not offset non-migrants shrinking effect. The age group 15-24 decreased in all countries except the Netherlands. That decrease is due mostly to non-migrants as their population in working-age is shrinking, except for Spain where their decrease is due mostly to participation decline. Also, the age groups 15-24 and 25-54 of EU-born migrants have a higher increase than those of TCN'-s while in the 55-64 age group the trend reverses.

Table 4, shows that the increase in participation rates of the 55-64 age group in all countries due to non-migrants. The increase that occurred in the 25-54 age group in the

Table 3. Changes (in 1,000) in age groups labour force between 2009 and 2019 due to shifts in:

	Non-Migrants				Migrants (EU nationals)				Migrants (Third country nationals)				Migrants	All
	Population	Participation	Interactions	Total	Population	Participation	Interactions	Total	Population	Participation	Interactions	Total	Total	Total
United Kingdom														
15-24	-309	-173	11	-470	78	-17	-8	53	-9	-6	1	-14	39	-431
25-54	-649	373	-17	-293	881	48	40	969	406	140	28	575	1544	1251
55-64	331	520	44	896	30	29	8	68	136	32	16	184	252	1147
Spain														
15-24	-72	-511	21	-563	-45	-39	13	-71	-40	-35	4	-71	-142	-704
25-54	-1370	572	-52	-850	1	11	1	13	8	-78	-3	-72	-59	-909
55-64	427	544	99	1070	46	17	20	83	157	0	0	157	240	1310
Netherlands														
15-24	86	2	0	88	8	-3	-1	5	-22	-1	0	-23	-18	70
25-54	-351	-7	0	-357	75	4	1	80	-1	-9	0	-10	70	-288
55-64	52	375	20	448	8	16	5	28	36	7	3	46	74	522
Austria														
15-24	-49	-22	2	-68	10	0	0	11	-7	-7	1	-13	-2	-71
25-54	-232	68	-7	-171	158	9	6	174	86	18	6	110	284	113
55-64	94	133	39	266	6	7	2	15	18	7	4	28	44	310

Source: Own estimations based on LFS data provided by Eurostat (2020)

Table 4. Changes (percentage points) in age groups participation rates between 2009 and 2019 due to shifts in:

	Non-Migrants				Migrants (EU nationals)				Migrants (Third country nationals)				Migrants	All
	Population	Participation	Interactions	Total	Population	Participation	Interactions	Total	Population	Participation	Interactions	Total	Total	Total
United Kingdom														
15-24	-1,04	-0,43	0,04	-1,43	0,17	-0,04	-0,02	0,11	-0,04	-0,01	0,00	-0,05	0,06	-1,36
25-54	-2,88	0,92	-0,07	-2,03	2,03	0,12	0,09	2,25	0,81	0,35	0,06	1,22	3,46	1,44
55-64	0,50	1,28	0,07	1,86	0,06	0,07	0,02	0,15	0,31	0,08	0,04	0,42	0,58	2,43
Spain														
15-24	-0,11	-1,62	0,03	-1,69	-0,14	-0,12	0,04	-0,22	-0,10	-0,11	0,01	-0,20	-0,42	-2,12
25-54	-3,36	1,81	-0,13	-1,68	0,07	0,04	0,00	0,11	0,21	-0,25	-0,01	-0,05	0,07	-1,61
55-64	1,55	1,72	0,36	3,63	0,15	0,05	0,07	0,27	0,52	0,00	0,00	0,52	0,79	4,42
Netherlands														
15-24	0,81	0,02	0,00	0,83	0,08	-0,02	-0,01	0,04	-0,20	-0,01	0,00	-0,21	-0,16	0,66
25-54	-3,13	-0,06	0,00	-3,18	0,68	0,04	0,01	0,73	0,00	-0,09	0,00	-0,08	0,65	-2,53
55-64	0,49	3,42	0,19	4,11	0,07	0,14	0,04	0,26	0,33	0,06	0,03	0,42	0,68	4,79
Austria														
15-24	-1,25	-0,39	0,05	-1,59	0,16	0,01	0,00	0,16	-0,16	-0,12	0,02	-0,26	-0,10	-1,69
25-54	-6,11	1,23	-0,17	-5,06	2,56	0,16	0,10	2,82	1,22	0,33	0,08	1,63	4,45	-0,61
55-64	1,36	2,39	0,57	4,32	0,08	0,13	0,02	0,24	0,28	0,12	0,06	0,46	0,70	5,02

Source: Own estimations based on LFS data provided by Eurostat (2020)

United Kingdom as a result of migrants and mostly EU-born nationals due to an increase in their working-age population. An increase in migrant participation rates in the age group 25-54 also occurred in Austria, however, it could not offset the shrinking in the participation rates of non-migrants. That trend occurred in migrants 25-54 aged group due to an important increase of the EU-born working-age population. The participation rates of EU-born increases more than those of the TCN's in all age groups except for the 55-64 age group where the trend reverses and that's mostly due to the higher increase of the TCN's working-age population in that age group than that of EU-born.

In Figure 5, the changes between 2009-2019 in the male and female labour force are presented for the United Kingdom, Spain, the Netherlands, and Austria.

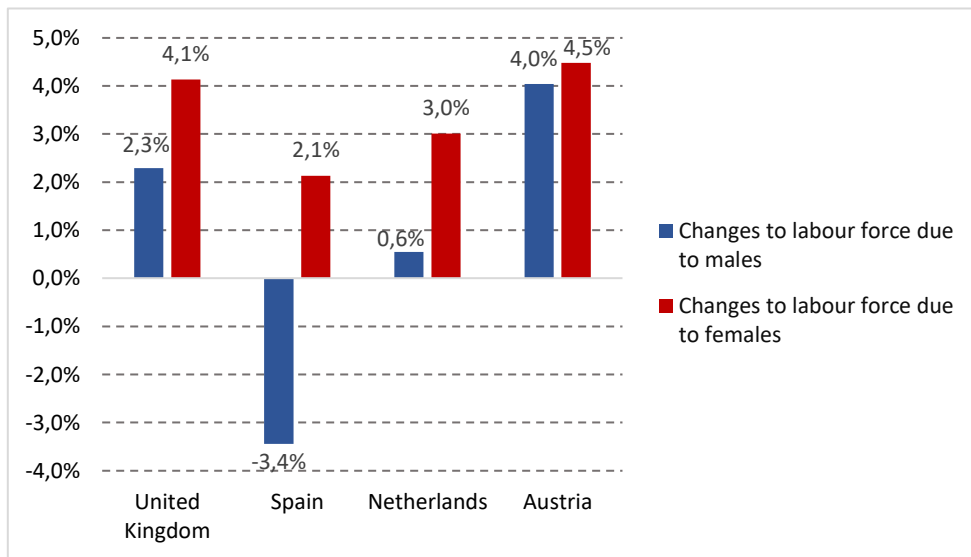


Figure 5. The changes in male and female labour force between 2009 and 2019 for the United Kingdom, Spain, the Netherlands, and Austria (as % of the total labour force in 2009).

As shown in Figure 5, the female labour force increase is higher than that of the male labour force in all countries, although in Austria occurred almost the same level as male. Spain is the only country where male participation showed a decline, while in the Netherlands it slightly increased.

In Figure 6, the changes between 2009-2019 in the male and female participation rates are presented for the United Kingdom, Spain, the Netherlands, and Austria.

As shown in Figure 6, female participation rates show quite a higher increase compared to males, although in Austria the difference is not that high. Also, all countries

showed an increase in male participation rates except Spain where their participation rates declined.

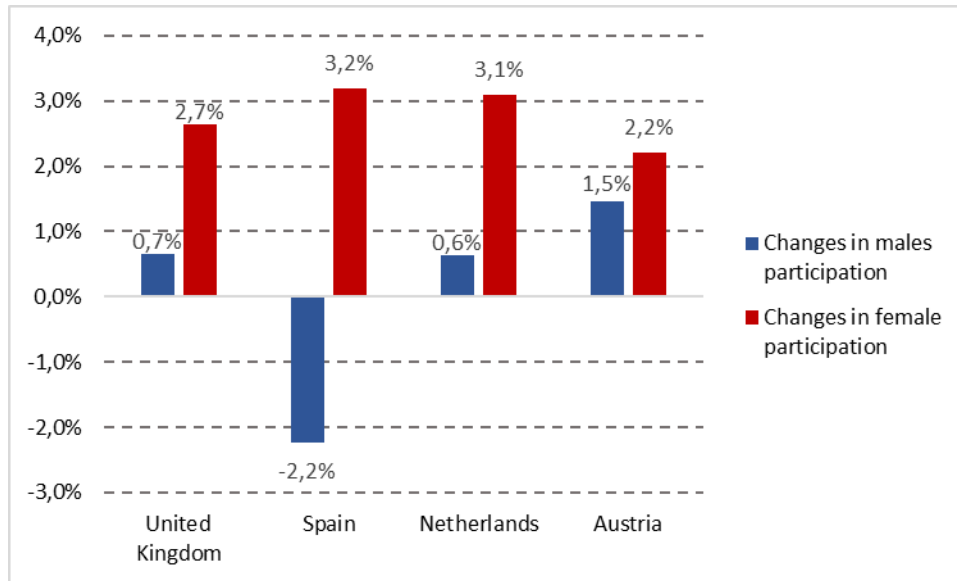


Figure 6. The changes in male and female participation rates between 2009 and 2019 for the United Kingdom, Spain, the Netherlands, and Austria (as % of the aggregate participation rates in 2009).

Table 5 and Table 6, summarize the results of the decomposition analysis relative to changes in male and female labour force and participation rates, respectively.

As shown in Table 5, in the United Kingdom and Austria the increase in the female labour force was due to migrants, while in Spain and the Netherlands that trend is reversed. In the first case, although female non-migrants have a significant increase in participation, the shrinking of their working-age population, combined with the increase of migrant working-age population does not allow them to make a significant impact in the female labour force. In the second case, the mitigated effect of female migrants does not exceed the female non-migrant effect.

There is an increase in the male labour force due to migrants in all countries, except for Spain where there is a decrease in both non-migrants and migrants, with migrants decreasing less than non-migrants. Also, non-migrant females increased, while non-migrant males decreased, in all countries except for Austria, where a slight increase occurred in both male and female non-migrants. Female migrants labour force increased almost the same as male migrants in all countries, except for Spain, where male migrant labour force decreased.

Table 5. Changes (in 1,000) in male and female labour force between 2009 and 2019 due to shifts in:

	Non-Migrants				Migrants (EU nationals)				Migrants (Third country nationals)				Migrants Total	All Total
	Population	Participation	Interactions	Total	Population	Participation	Interactions	Total	Population	Participation	Interactions	Total		
United Kingdom														
Males	-157	-9	12	-154	515	12	4	531	254	55	17	325	856	702
Females	-469	729	26	286	474	48	37	559	279	112	28	420	979	1265
Spain														
Males	-534	-186	36	-684	-22	-16	11	-28	-39	-46	2	-84	-112	-796
Females	-481	791	32	342	25	6	22	53	165	-66	-1	98	150	492
Netherlands														
Males	-110	99	11	-1	49	4	-1	53	3	-10	3	-5	48	47
Females	-102	272	10	180	42	13	5	60	11	6	1	18	78	258
Austria														
Males	-72	63	19	9	95	4	1	100	51	3	4	58	158	167
Females	-114	117	16	18	80	13	7	100	46	15	6	68	167	185

Source: Own estimations based on LFS data provided by Eurostat (2020)

Table 6. Changes (percentage points) in male and female participation rates between 2009 and 2019 due to shifts in:

	Non-Migrants				Migrants (EU nationals)				Migrants (Third country nationals)				Migrants	All
	Population	Participation	Interactions	Total	Population	Participation	Interactions	Total	Population	Participation	Interactions	Total	Total	Total
United Kingdom														
Males	-1,40	-0,02	0,03	-1,39	1,18	0,03	0,01	1,22	0,50	0,13	0,04	0,67	1,89	0,50
Females	-2,02	1,80	0,01	-0,21	1,09	0,12	0,08	1,29	0,59	0,28	0,06	0,92	2,21	2,01
Spain														
Males	-0,96	-0,59	0,10	-1,44	-0,03	-0,05	0,03	-0,04	-0,01	-0,15	0,00	-0,15	-0,19	-1,64
Females	-0,96	2,50	0,16	1,70	0,12	0,02	0,07	0,21	0,63	-0,21	-0,01	0,42	0,63	2,33
Netherlands														
Males	-0,94	0,90	0,10	0,05	0,45	0,04	-0,01	0,48	0,03	-0,09	0,02	-0,04	0,45	0,50
Females	-0,88	2,48	0,09	1,69	0,38	0,12	0,05	0,55	0,10	0,06	0,01	0,17	0,72	2,41
Austria														
Males	-2,73	1,13	0,27	-1,33	1,53	0,07	0,02	1,62	0,69	0,05	0,07	0,80	2,42	1,09
Females	-3,27	2,10	0,17	-1,00	1,27	0,23	0,11	1,61	0,66	0,28	0,09	1,02	2,63	1,63

Source: Own estimations based on LFS data provided by Eurostat (2020)

Both male and female EU-born working-age population showed a higher increase than those of TCN'-s in all four countries, except for Spain where the trend in females is reversed, while in males they both decline, with EU-born males declining less than TCN'-s males.

As shown in Table 6, in the United Kingdom and Austria there is an increase in female participation due to migrants, while in Spain and the Netherlands that trend is reversed. Like table 5, that trend is due to population effect rather than participation effect. The increase in the male participation rates is due to migrants in all countries, except for Spain where both non-migrants' and migrants' male participation decreased, with migrants decreasing less than the non-migrants.

Both male and female EU-born participation rates increased higher than those of the TCN'-s in all countries, except Spain, where in females that trend was reversed. That is trend due to the higher increase of the EU-born working-age population.

In Figure 7, a comparison is presented of the effect on shifts in the total labour force in participation rates of two groups with the highest participation rates (non-migrant female and non-migrants at ages 55-64) with the corresponding effect due to migrants.

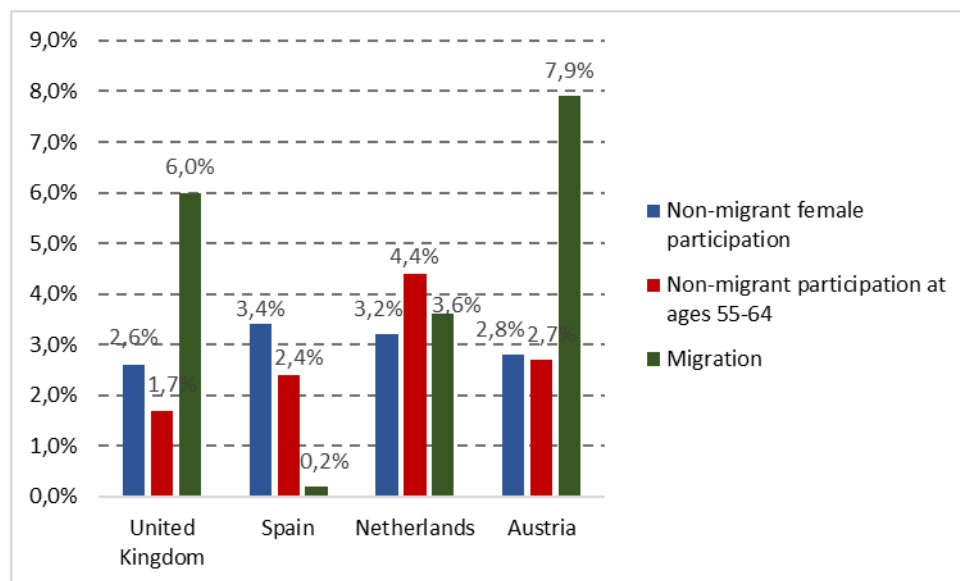


Figure 7. Comparison of the effect on changes in the total labour force of non-migrant female participation, non-migrant participation at ages 55-64 and migration between 2009 and 2019 (as % of the total labour force in 2009)

It appears there is a stronger effect of migration on shifts of the total labour size in United Kingdom and Austria, where the effect of the upward trend of non-migrant female participation and the non-migrants 55-64 age group is less than half of migrations. In Spain the highest effect in labour force shifts is that of non-migrant female participation while

migration effect is particularly low. The Netherlands is the only country where the effect of the upward trend of non-migrants 55-64 age group participation rates is more pronounced than both migration and the increase of non-migrant female participation rates.

Conclusions

The results of the present work highlight the leading role of migration in changes in labour supply overtime. In all the examined countries, except for the Netherlands, natives fail to contribute to the increase in labour force, as the increasing trend of their participation rates is minimized or even eliminated by their decrease in the working-age population. Consequently, the role of migration for increasing the labour force supply is crucial.

The influence of the significant increase in the participation rate of native women in the labour force is weakened by the reduction of their working-age population, while their influence on the general working population is almost eliminated by the large reduction of the participation rates observed in men. This is a trend that occurs in all four examined countries.

The increase in participation rates observed in the 55-64 age group of native people in all countries, is probably due to the increase in age limits in pension systems and policies to reduce early retirement. However, the influence of this increase in participation rates does not weaken from the number of their population, which increases due to baby boomers. That impact on the general workforce is offset due to the large decrease observed both in the working-age population and the labour market participation rates in the 15-24 natives age group. This decrease in labour market participation rates for young people results from their late entry to the labour market which is subsequent to their longer stay in higher education which lasts more years than it previously did. In addition, the exit of the large baby boomer population from the labour market in the coming years will probably result a decrease in the contribution to the labour supply of the 55-64 natives' age group.

As the increase in native's participation rates is weakened or even eliminated by the reduction in size of their working-age population, immigration is the only significant factor influencing the overall workforce. This influence is due more to the impact of the population effect (size of the working-age population) than to the participation effect (participation of migrants in the labour market). In all countries, except for Spain, the increase in size and changes in the age composition of the working-age immigrant population are strengthening the overall labour force. This trend is opposed to the ageing and shrinking of the native's population, leading to a positive impact on the overall labour force. At the same time, the impact of native's participation in the overall labour supply is minimal, which is mainly related to the downfall of young natives' participation rates.

Findings on the increase in female immigration at the same level as men in all four countries confirm the relevant theory that speaks of the feminization of immigration and the

increase of women migrating for work, a trend that is expected to continue in the coming years.

Regarding the impact of migration on the labour force related to the origin of migrants, there is the same trend in all four countries. The impact of migration comes mainly from EU-born migrants. Higher EU-born participation rates mean that the impact of immigration on the workforce is stronger for countries that host more EU-born than TCN'-s migrants.

As the demographic ageing of the population continues, the labour force will keep shrinking more and more. The role of migration as a factor in relieving the pressure exerted by the shrinking labour force will become increasingly important. As migration cannot fully offset the effects of an ageing population, to make its impact as effective as possible, immigration policies aimed at higher rates of labour market integration need to be implemented. Such policies are, matching migrants' skills with the needs of each market, learning the language which is a key factor in finding a job for immigrants as well as training immigrants in skills that are lacking in the host country's labour market.

References

- Auer, P., & Fortuny, M. (2000). *Ageing of the Labour Force in OECD Countries: Economic and Social Consequences*. Employment Sector. Geneva: International Labour Office. Retrieved from [https://www.ilo.org/employment/Whatwedo/Publications/WCMS_142281/lang--en/index.htm](https://www.ilo.org/employment/Whatwedo/Publications/WCMS_142281/lang-en/index.htm)
- Bagavos, C. (2019a). On the multifaceted impact of migration on the fertility of receiving countries: Methodological insights and contemporary evidence for Europe, the United States, and Australia. *Demographic Research*, 41. doi:10.2307/26850641
- Bagavos, C. (2019b). The importance of foreign migration for shifts in the size of the labour force of European countries: Methodological insights and contemporary evidence from SIRIUS and from selected Non-SIRIUS countries. *SIRIUS: Skills and integrations of migrants, refugees and asylum applicants in European labour market*(2), pp. 1-43.
- Bagavos, C., & Fotakis, C. (2001). *Demographic dimension of labour force trends: national and regional diversities within the European Union*. Università degli Studi di Roma “La Sapienza”. Retrieved from <https://www.jstor.org/stable/29788678>
- Biffl, G. (2019). *MIgration and Labour Integration in Austria*. Report of the Austria SOPEMI corresponded to the OECD, Danube University Krems, Department for Migration and Globalization, Krems.
- Carone, G., Costello, D., Guardia, N. D., Mourre, G., Przywara, B., & Salomaki, A. (2005). The economic impact of ageing populations in the EU25 Member States. *EUROPEAN ECONOMY*(236).
- Cully, M. (2011). *How much do migrants account for the unexpected rise in the labour force participation rate in Australia over the past decade?* Paper presented at the Austrelian Conference of Economists. Retrieved from <https://www.homeaffairs.gov.au/research-and-stats/files/migrants-account-unexpected-rise-labour-force-rate-aus-2000-2010.pdf>
- Dumont, J. C., & Aujean, L. (2014). *Matching economic migration with with labour market needs in Europe*. OECD Publication. Retrieved from https://www.oecd-ilibrary.org/social-issues-migration-health/matching-economic-migration-with-labour-market-needs_9789264216501-en

- European Commission. (2019). *2018 Annual Report on intra-EU Labour Mobility*. Luxembourg: Publications Office of the European Union. Retrieved from <https://ec.europa.eu/futurium/en/employment/2018-annual-report-intra-eu-labour-mobility>
- Eurostat. (2020). *Eurostat*. Retrieved from Eurostat: Statistics explained: https://ec.europa.eu/eurostat/statistics-explained/index.php/Main_Page
- Fuchs, J. (2015). Decomposing the Effect of Population Ageing on Labour Supply. *Athens Journal of Social Sciences*, 2(2), 1-16. Retrieved from <https://www.atiner.gr/journals/social/2014-1-X-Y-Fuchs.pdf>
- Gov.uk. (2020). *The UK's points-based immigration system: policy statement*. Retrieved from Brexit transition: new rules for 2021: <https://www.gov.uk/government/publications/the-uks-points-based-immigration-system-policy-statement/the-uks-points-based-immigration-system-policy-statement>
- Hartog, J., & Salvera, W. (2018). *The labor market in the Netherlands, 2001–2016*. IZA World of Labor. IZA. doi:10.15185/izawol.418
- Hooper, K. (2019). *Spain's Labour Migration Policies in the Aftermath of Economic Crisis*. Brussels: Migration Policy Institute Europe. Retrieved from <https://www.migrationpolicy.org/research/spain-labor-migration-aftermath-economic-crisis>
- Hotchkiss, J. L. (2009). *Decomposing Changes in the Aggregate Labor Force Participation Rate*. Federal Reserve Bank of Atlanta Working Paper 2009-06. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1433124
- ILO. (1982). Resolution concerning statistics of the economically active population, employment, unemployment and underemployment, adopted by the Thirteenth International Conference of Labour Statisticians. *Thirteenth International Conference of Labour*. Retrieved from https://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS_087481/lang--en/index.htm#banner

- ILO. (2020). *What is skills mismatch and why should we care?* Retrieved 11 2020, 15, from International Labour Organisation: https://www.ilo.org/skills/Whatsnew/WCMS_740388/lang--en/index.htm
- IMF. (2018). *World Economic Outlook 2018: Cyclical Upswing, Structural Change*. International Monetary Fund. Retrieved from <https://www.imf.org/en/Publications/WEO/Issues/2018/03/20/world-economic-outlook-april-2018>
- IMIS. (2014). *Focus Migration: Netherlands*. Institute for Migration Research and Intercultural Studies. Retrieved from <https://www.google.gr/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjQ0NvU-7ntAhVPxIUkHeepAv0QFjABegQIAhAC&url=https%3A%2F%2Fwww.migrationinstitute.org%2Fpublications%2Fnetherlands-migration-profile-1%2F%40%40download%2Ffile&usg=AOvVaw>
- IOM. (2019). *World Migration Report 2020*. Geneva: International Organization for Migration. Retrieved from https://publications.iom.int/system/files/pdf/wmr_2020.pdf
- Kühn, S., Milasi, S., & Yoon, S. (2018). Population ageing and future labour market challenges. In *World Employment and Social Outlook* (Vol. 2018, pp. 45-50). International Labour Organisation. Retrieved 08 16, 2020, from <https://doi.org/10.1002/wow3.127>
- Lange, T., Oomes, N., Gons, N., & Spanikova, V. (2019). *Labour Migration and Labour Market Integration of Migrants in the Netherlands: Barriers and Opportunities*. Amsterdam: SEO AMSTERDAM ECONOMICS. Retrieved from https://www.seo.nl/wp-content/uploads/2019/01/Annex_D_Barriers_to_Migration_and_Integration.pdf
- OECD. (2019). *OECD Economic Surveys: Austria*. OECD. Retrieved from <http://www.oecd.org/economy/surveys/Austria-2019-OECD-economic-survey-overview.pdf>
- OECD. (2020). *International Migration Outlook 2020*. Paris: OECD Publishing. Retrieved from https://www.keepeek.com//Digital-Asset-Management/oecd/social-issues-migration-health/international-migration-outlook-2020_ec98f531-en#page2

- OECD/EU. (2018). *Settling In 2018: Indicators of Immigrant Integration*. Brussels: OECD Publishing. Retrieved from <https://www.oecd.org/publications/indicators-of-immigrant-integration-2018-9789264307216-en.htm>
- OECD/ILO. (2018). *How immigrants contribute to developing countries' economies*. Paris: OECD Publishing. Retrieved from <https://www.oecd.org/migration/how-immigrants-contribute-to-developing-countries-economies-9789264288737-en.htm>
- Office for National Statistics. (2020a). *Migration Statistics Quarterly Report: May 2020*. Office for National Statistics. Retrieved from <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/bulletins/migrationstatisticsquarterlyreport/may2020#:~:text=An%20estimated%20282%2C000%20more%20non,was%20first%20collected%20in%201975.>
- Office for National Statistics. (2020b). *UK and non-UK people in the labour market: November 2019*.
- Rodriguez-Planas, N., & Nollenberger, N. (2014). *A Precarious Position: The Labour Market Integration of New Immigrants in Spain*. Washington, DC and Geneva: Migration Policy Institute and International Labour Office. Retrieved from https://www.migrationpolicy.org/sites/default/files/publications/DG-Employment-Spain-FINALWEB_0.pdf
- Samorodov, A. (1999). Ageing and labour markets for older workers. *InternEmployment and Training Department*, pp. 1-33. Retrieved from https://www.ilo.org/employment/Whatwedo/Publications/WCMS_120333/lang--en/index.htm
- Simic, S., & Wörmann, H. (2015). *Labour Market Shortages and Migration: Determining labour market shortages and the need for labour migration of third-country nationals in the Netherlands*. European Migration Network. EMN. Retrieved from https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/networks/european_migration_network/reports/docs/emn-studies/20a_netherlands_determining_labour_shortages_final.pdf
- Somerville, W., & Sumption, M. (2009). *Immigration and the labour market: Theory, evidence and policy*. Migration Policy Institute. Equality and Human Rights

- Commission. Retrieved from <https://www.migrationpolicy.org/research/immigration-and-labour-market-theory-evidence-and-policy>
- Sparreboom, T., & Tarvid, A. (2017). *Skills mismatch of natives and immigrants in Europe*. Geneva: International Labour Office. Retrieved from https://www.ilo.org/global/topics/labour-migration/publications/WCMS_548911/lang--en/index.htm
- Spielvogel, G., & Meghnagi, M. (2018). *Assessing the role of migration in european Labour force growth by 2030*. OECD Social, Directorate for Employment, Labour and Social Affairs. OECD Publishing. Retrieved from https://www.oecd-ilibrary.org/employment/assessing-the-role-of-migration-in-european-labour-force-growth-by-2030_6953a8ba-en
- Thévenon, O. (2013). *Drivers of Female Labour Force Participation in the OECD*. Paris: OECD. Retrieved from https://www.oecd-ilibrary.org/social-issues-migration-health/drivers-of-female-labour-force-participation-in-the-oecd_5k46cvrgnms6-en#:~:text=Drivers%20of%20Female%20Labour%20Force%20Participation%20in%20the%20OECD,-This%20paper%20analyses&text=The%20resu
- United Nations. (2019). *World Population Ageing 2019: Highlights (ST/ESA/SER.A/430)*. Department of Economic and Social Affairs, 1-39. Retrieved from <https://www.un.org/en/development/desa/population/publications/pdf/ageing/WorldPopulationAgeing2019-Highlights.pdf>
- United Nations. (2020). *United Nations*. Retrieved from <https://www.un.org/en/un75/shifting-demographics>
- Vargas-Silva, C., & Rienzo, C. (2020). *Migrants in the UK: An Overview*. University of Oxford, The Migration Observatory. Retrieved from <https://migrationobservatory.ox.ac.uk/resources/briefings/migrants-in-the-uk-an-overview/#:~:text=In%202019%2C%20people%20born%20outside,or%20people%20of%20retirement%20age>.
- Wadsworth, J. (2015). *Immigration and the UK Labour Market*. The London School of Economics and Political Science, Centre for Economic Performance, London. Retrieved from <https://cep.lse.ac.uk/pubs/download/EA019.pdf>

Zlotnik, H. (2003). *The Global Dimensions of Female Migration*. Retrieved from Migration Policy Institute: <https://www.migrationpolicy.org/article/global-dimensions-female-migration/>

Zorlu, A., & Hartog, J. (2012). Employment Assimilation of Immigrants in The Netherlands: Dip and Catchup by Source Country. *International Journal of Population Research*, 1-23. doi:10.1155/2012/634276

Appendix

Table A1. Changes (in 1,000) in age groups of the male and female labour force between 2009 and 2019 due to shifts in:

	Non-Migrants				Migrants (EU nationals)				Migrants (Third country nationals)				Migrants Total	All Total
	Population	Participation	Interactions	Total	Population	Participation	Interactions	Total	Population	Participation	Interactions	Total		
United Kingdom														
Males														
15-24	-119	-123	7	-235	50	-9	-5	36	-7	-13	1	-19	17	-218
25-54	-224	39	-1	-186	453	9	7	470	180	52	7	239	709	523
55-64	185	76	6	268	11	11	2	25	81	15	9	105	130	397
Females														
15-24	-190	-50	5	-235	27	-8	-2	17	-2	7	0	5	22	-213
25-54	-425	335	-16	-107	428	39	33	499	226	88	21	335	835	727
55-64	146	444	38	628	19	18	6	43	55	17	7	79	122	750
Total	-627	720	38	132	989	60	41	1090	533	166	45	745	1835	1967
Spain														
Males														
15-24	-35	-286	10	-311	-22	-20	6	-36	-26	-17	2	-40	-76	-386
25-54	-772	-26	2	-795	-27	-1	0	-28	-100	-27	2	-125	-153	-948
55-64	273	126	24	422	27	4	5	36	86	-2	-2	81	117	539
Females														
15-24	-37	-225	11	-252	-23	-19	6	-35	-14	-18	2	-31	-66	-318
25-54	-598	597	-54	-55	28	12	1	41	108	-51	-5	53	94	39
55-64	154	419	76	648	19	12	15	47	71	2	2	76	123	771
Total	-1015	605	68	-342	2	-11	33	25	125	-112	1	14	39	-303
Netherlands														
Males														
15-24	46	-6	0	40	5	-1	-1	4	-14	0	0	-14	-11	29
25-54	-184	-59	4	-239	41	-4	-2	35	-4	-15	0	-19	16	-223
55-64	28	163	7	198	3	9	2	14	21	5	2	29	43	241
Females														
15-24	40	8	0	48	3	-2	0	1	-8	-1	0	-9	-8	41
25-54	-167	53	-4	-118	34	8	3	45	3	6	0	9	54	-64
55-64	24	212	13	249	5	7	3	14	15	2	1	17	32	281
Total	-212	371	20	179	90	18	5	113	13	-4	4	13	126	305
Austria														

Table A1. (continued)

	Non-Migrants				Migrants (EU nationals)				Migrants (Third country nationals)				Migrants	All
	Population	Participation	Interactions	Total	Population	Participation	Interactions	Total	Population	Participation	Interactions	Total	Total	Total
Austria														
Males														
15-24	-26	-5	0	-30	6	0	0	6	-3	-5	0	-7	-2	-32
25-54	-106	8	-1	-99	86	1	1	88	42	3	1	45	133	34
55-64	60	60	19	139	2	3	0	6	12	5	3	20	26	166
Females														
15-24	-23	-17	2	-38	4	1	0	5	-4	-2	0	-6	-1	-39
25-54	-126	61	-6	-71	72	8	5	85	45	16	5	65	151	80
55-64	34	73	20	127	4	4	1	9	6	1	1	8	17	144
Total	-187	179	34	27	175	17	8	200	98	18	10	126	325	353

Source: Own estimations based on LFS data provided by Eurostat (2020)

Table A2. Changes (percentage points) in age groups of the male and female participation rates between 2009 and 2019 due to shifts in:

	Non-Migrants				Migrants (EU nationals)				Migrants (Third country nationals)				Migrants	All
	Population	Participation	Interactions	Total	Population	Participation	Interactions	Total	Population	Participation	Interactions	Total	Total	Total
United Kingdom														
Males														
15-24	-0,44	-0,30	0,03	-0,72	0,11	-0,02	-0,01	0,08	-0,03	-0,03	0,00	-0,06	0,03	-0,70
25-54	-1,24	0,10	0,00	-1,15	1,05	0,02	0,02	1,09	0,34	0,13	0,01	0,48	1,57	0,42
55-64	0,28	0,19	0,01	0,47	0,02	0,03	0,00	0,05	0,18	0,04	0,02	0,24	0,30	0,77
Females														
15-24	-0,60	-0,12	0,01	-0,71	0,06	-0,02	0,00	0,03	-0,01	0,02	0,00	0,00	0,04	-0,67
25-54	-1,64	0,83	-0,06	-0,88	0,99	0,10	0,08	1,16	0,47	0,22	0,04	0,74	1,90	1,01
55-64	0,23	1,10	0,06	1,38	0,04	0,04	0,01	0,10	0,12	0,04	0,02	0,18	0,28	1,66
Total	-3,42	1,78	0,04	-1,60	2,27	0,15	0,09	2,51	1,08	0,41	0,10	1,59	4,10	2,50
Spain														
Males														

Table A2. (continued)

	Non-Migrants				Migrants (EU nationals)				Migrants (Third country nationals)				Migrants	All
	Population	Participation	Interactions	Total	Population	Participation	Interactions	Total	Population	Participation	Interactions	Total	Total	Total
Spain														
15-24	-0,04	-0,91	0,01	-0,94	-0,07	-0,06	0,02	-0,11	-0,07	-0,05	0,01	-0,12	-0,23	-1,16
25-54	-1,90	-0,08	0,01	-1,98	-0,05	0,00	0,00	-0,05	-0,22	-0,09	0,00	-0,30	-0,36	-2,33
55-64	0,99	0,40	0,09	1,47	0,09	0,01	0,02	0,12	0,28	-0,01	-0,01	0,27	0,39	1,86
Females														
15-24	-0,06	-0,71	0,02	-0,76	-0,07	-0,06	0,02	-0,11	-0,04	-0,06	0,00	-0,09	-0,20	-0,95
25-54	-1,46	1,89	-0,13	0,30	0,12	0,04	0,00	0,17	0,43	-0,16	-0,02	0,26	0,42	0,72
55-64	0,56	1,32	0,27	2,16	0,06	0,04	0,05	0,15	0,23	0,01	0,01	0,25	0,40	2,56
Total	-1,92	1,91	0,26	0,26	0,09	-0,03	0,11	0,17	0,63	-0,35	0,00	0,27	0,43	0,69
Netherlands														
Males														
15-24	0,43	-0,05	0,00	0,37	0,05	-0,01	-0,01	0,03	-0,13	0,00	0,00	-0,13	-0,10	0,28
25-54	-1,64	-0,54	0,03	-2,14	0,37	-0,03	-0,02	0,32	-0,04	-0,14	0,00	-0,17	0,15	-1,99
55-64	0,26	1,49	0,07	1,82	0,03	0,08	0,02	0,13	0,19	0,05	0,02	0,26	0,39	2,21
Females														
15-24	0,38	0,07	0,00	0,45	0,03	-0,01	0,00	0,01	-0,07	-0,01	0,00	-0,08	-0,07	0,38
25-54	-1,49	0,48	-0,03	-1,04	0,31	0,07	0,03	0,41	0,03	0,05	0,00	0,09	0,50	-0,54
55-64	0,23	1,93	0,12	2,28	0,04	0,06	0,03	0,13	0,14	0,01	0,01	0,16	0,29	2,57
Total	-1,82	3,38	0,19	1,75	0,83	0,16	0,04	1,03	0,13	-0,03	0,03	0,13	1,17	2,91
Austria														
Males														
15-24	-0,66	-0,09	0,01	-0,74	0,10	-0,01	0,00	0,09	-0,07	-0,09	0,01	-0,15	-0,06	-0,80
25-54	-2,95	0,14	-0,02	-2,83	1,40	0,02	0,02	1,44	0,57	0,05	0,01	0,62	2,06	-0,77
55-64	0,88	1,08	0,28	2,24	0,03	0,06	0,01	0,09	0,19	0,09	0,05	0,33	0,42	2,66
Females														
15-24	-0,59	-0,30	0,04	-0,85	0,06	0,01	0,00	0,07	-0,09	-0,03	0,01	-0,11	-0,04	-0,89
25-54	-3,17	1,09	-0,15	-2,23	1,16	0,14	0,08	1,38	0,66	0,28	0,07	1,01	2,39	0,16
55-64	0,49	1,31	0,29	2,09	0,06	0,08	0,02	0,15	0,09	0,03	0,01	0,13	0,28	2,36
Total	-6,00	3,23	0,45	-2,33	2,80	0,30	0,12	3,22	1,35	0,32	0,16	1,83	5,05	2,73

Source: Own estimations based on LFS data provided by Eurostat (2020)

