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Free Movement of Workers, Transitional Arrangements and Potential Mobility from Croatia

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Research Report 402

Free Movement of Workers, Transitional Arrangements and Potential Mobility from Croatia

Hermine Vidovic and Isilda Mara

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The Vienna Institute for International Economic Studies
Wiener Institut für Internationale Wirtschaftsvergleiche

Free Movement of Workers, Transitional Arrangements and Potential Mobility from Croatia

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Abstract

International migration from Croatia has a long tradition and has been diverse and complex. The labour migration initiated in the 1960s still has a lasting effect on subsequent migration flows, particularly with regard to destination countries. Despite transitional arrangements in place in the major destination countries – Germany, Austria, Italy and Slovenia – a preliminary assessment of recent data shows that employment of Croatian nationals in these countries (except Italy) has increased after Croatia's EU accession. The main reasons for working abroad, as stated by potential movers, are the poor economic situation in Croatia, a better standard of living and higher career opportunities abroad as well as gaining work experience. The support of networks, e.g. friends, family and acquaintances living already in the country of destination, play a critical role for Croatian citizens wanting to work abroad and are important sources of information about job opportunities in other countries. Surveys indicate that potential migration in 2014 was much higher than it had been prior to accession. Typical (potential) migrants are young, unmarried, and highly educated. Different scenarios of potential migration have been projected. Under a scenario assuming the lifting of restrictions in accessing labour markets from July 2015, the stock of Croatian migrants is likely to increase by 217,000 (from 335,000 in 2013 to 552,000 in 2019). Accordingly, net migration because of the regime change is expected to be an additional 50,000 migrants compared to 167,000 projected under a scenario assuming that the status quo will apply to the entire seven-year period (July 2013 to July 2020) of transitional arrangements. In terms of origin-country population, net migration would account for a share of 3.9% and 5.1%, respectively, under the lower/upper bound of projections. Nevertheless, the stock of Croatian migrants as a share of EU population will continue to remain relatively low, hardly exceeding 0.1% under the different scenarios. Croatian migrants are expected to continue to migrate mainly towards those EU Member States that have been historically their main destination countries.

Keywords: mobility from Croatia, potential migration surveys, migration projections, gravity model

JEL classification: J11, J61, F22

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Executive Summary

International migration from Croatia has a long tradition and has been diverse and complex. Labour emigration became very common after Austria and Germany concluded recruitment agreements with Yugoslavia during the 1960s. At that time Croatian labour migrants constituted a relative majority among the first wave of so-called guest workers from Yugoslavia to other European countries. Later on, migration from and to Croatia was extremely high during the 1990s as a consequence of the war.

The labour migration initiated in the 1960s still has a lasting effect on subsequent migration flows, particularly with regard to destination countries. Available data suggest that in 2013 about 335,000 Croatian nationals of all ages (or 8% of the Croatian population) were residing in the EU-27, a similar number as in 2012. Germany has been the major recipient of Croatian movers, hosting about two thirds of all Croatian nationals in the EU-27, followed by Austria (17.5%), Italy (5%), the UK and Slovenia (about 2.5% each). Croatia is among the EU countries with the highest proportion of citizens of working age (more than 10%) living in another EU country. However, this is mainly due to 'old migration', reporting the highest shares of those who have spent more than ten years abroad. In 2013 the employment rate of Croatian nationals living in other EU countries was similar to the average of all mobile EU citizens (68.4%), higher than that of EU-2 nationals but lower than that of EU-10 nationals. The unemployment rate of Croatian movers was the lowest compared to all groups of mobile EU citizens (at 6.3%). The activity rate, however, was lower than those of EU-10 and EU-2 nationals.

Despite transitional arrangements in place in the major destination countries, a preliminary assessment of recent data shows that employment of Croatian nationals has increased in Germany, Austria and Slovenia (the exception being Italy) after Croatia's EU accession. This was probably made possible through exceptions from the strict regulations applied for highly skilled or seasonal workers or workers in shortage occupations.

As for the educational breakdown, about one quarter of Croatian working-age citizens living in other EU Member States are low-educated, and slightly more than 60% are medium-educated. The share of highly educated is 15% and has been growing over recent years. Movers from Croatia tend to work primarily in manufacturing (23%), trade (13%), health and social work (12%), construction (10%), accommodation and food and services activities (10%) and administrative and support service activities (6%). Croatian mobile workers are concentrated in occupations requiring intermediate (57%) and high skills (27%), while 16% work in low-skill jobs. The most frequent occupations are 'services workers and shop market sale workers', followed by 'craft and related trade workers' and 'technicians and associate professionals'.

The main reasons for working abroad (as stated by potential movers) are the poor economic situation in Croatia, a better standard of living and higher career opportunities abroad as well as gaining work experience. The support of networks, e.g. friends, family and acquaintances living already in the country of destination, play a critical role for Croatian citizens wanting to work abroad and are important sources of information about job opportunities in other countries. Surveys indicate that potential migration in 2014

was much higher than it had been prior to accession (though from very low levels). Typical (potential) migrants are young, unmarried, and highly educated.

Three scenarios of potential migration have been projected. Scenario I assumes that the status quo will apply to the entire seven-year period of transitional arrangements, thus providing a lower bound of potential mobility. Scenario II assumes a hypothetical potential migration that would have occurred if all EU Member States had lifted the restrictions upon Croatia's accession, in July 2013. Scenario III projects the upper bound of potential migration deriving from lifting the restrictions starting from July 2015.

A comparison of results shows that if restrictions in accessing labour markets are lifted from July 2015 (Scenario III), the stock of Croatian migrants is likely to increase by 217,000 (from 335,000 in 2013 to 552,000 in 2019). Accordingly, net migration because of the regime change is expected to be an additional 50,000 migrants, as it compares to 167,000 projected under Scenario I. In terms of origin-country population, net migration would account for a share of 3.9% and 5.1%, respectively, under the lower/upper bound of projections. Nevertheless, the stock of Croatian migrants as a share of EU population will continue to remain relatively low, hardly exceeding 0.1% under the different scenarios.

Croatian migrants are expected to continue to migrate mainly towards those EU Member States that have been historically their main destination countries – Germany, Austria, Italy and Slovenia. Half of potential mobility is expected to be directed towards Germany, one fourth to Austria and one tenth to Italy; the rest will be moving to other EU Member States.

Most recent evidence indicates that traditional host countries, in spite of applying restrictions to the access to their labour markets, continue to receive a higher number of migrants from Croatia. Furthermore, the projections about the migration potential of Croatian migrants confirm a similar trend in the medium term. This suggests that the effect of transitional arrangements is likely to be limited in controlling the inflow of migrants or producing any diversion effect away from countries that apply restrictions towards those that grant free access.

Introduction

Croatia joined the European Union on 1 July 2013. Similar to the two previous rounds of enlargement (2004 and 2007) the Accession Treaty with Croatia permits transitional arrangements regarding labour mobility. These arrangements allow other Member States to impose restricted access of Croatian nationals to their labour markets for a maximum period of seven years (2+3+2 formula). The first stage of transitional arrangements started in July 2013 and will end on 30 June 2015. The main objective of this study as laid out in the Terms of Reference (ToR) is to help the Member States which apply restrictions on the free movement of workers to assess whether they need to maintain those restrictions during the second stage of the transitional arrangements period. The findings of the study will be used for the Commission report on the functioning of transitional arrangements for Croatian workers to be presented in spring 2015.

Current regulation

Workers from Croatia currently have free access to the labour markets of 14 EU Member States while the other 13 EU countries[1] apply restrictions for Croatian workers, thus Croatian citizens have to obtain a work permit to work there.[2] According to the principle of reciprocity Croatia has informed the Commission that it is applying restrictions on the access to its labour market for citizens from the latter 13 countries.

The transitional period is split into three phases:

Phase 1: 1 July 2013 to 30 June 2015

EU Member States are free to apply their own national laws and are not required to respect the rules of EU free movement law regarding non-discrimination in access to their labour markets (Articles 1 to 6 of Regulation (EU) No 492/2011

Phase 2: 1 July 2015 to 30 June 2018

EU Member States must notify the European Commission if they wish to continue to apply their national laws for a further three year period and not to apply EU rules on access to employment.

Phase 3: 1 July 2018 to 30 June 2020

EU Member States may only apply their national rules in case of serious disturbances of their labour market or a threat thereof and after notifying the European Commission

---

[1] These are: Belgium, Germany, Greece, Spain, France, Italy, Cyprus, Luxembourg, Malta, the Netherlands, Austria, Slovenia and the United Kingdom.

[2] There are no restrictions on posted workers – with two exceptions: Germany and Austria apply temporary restrictions on Croatian workers posted by companies in certain sectors, but not on self-employed people.

1. Basic picture of Croatian movers across other EU Member States

International migration from Croatia has a long tradition and has been diverse and complex. Labour emigration started in the late 1950s (illegally) and Croatian labour migrants constituted a relative majority among the first wave of so-called guest workers from Yugoslavia to other European countries in the 1960s (Božić, 2007). At that time, when additional labour was needed in the wake of what is generally understood as the post-war reconstruction period in Western Europe, it became very common to attract labour particularly from the former Yugoslavia and Turkey; for instance, Austria concluded recruitment agreements with Turkey (1964) and Yugoslavia (1966) and recruitment agencies were established in Istanbul and Belgrade. Germany and Yugoslavia concluded a bilateral agreement on labour recruitment in 1968. As opposed to other former socialist countries, the Socialist Federal Republic of Yugoslavia (SFRY) tolerated and even supported temporary work abroad, which helped to relieve the labour market in the country; moreover, guest workers' remittances constituted an important source of foreign exchange. The peak of guest worker recruitment in Western European countries was reached in 1973, coinciding with the first oil price shock. As a consequence migration policy was changed, official recruitment came to a halt and labour market access was restricted. In the following ten years the number of guest workers both from Yugoslavia and Turkey fell significantly, but the decline was largely compensated by family migration, clandestine and asylum migration.

Later on, migration from and to Croatia was extremely high in the period of the 1990s. As a consequence of the war, emigration was particularly high in 1991, 1995, 1996 and 2000. Emigration was facilitated through the lifting of the visa requirements by France, Italy and Sweden[3] on humanitarian grounds for migrants from the former Yugoslavia, which also entailed a significant emigration of the skilled and highly skilled workforce (Kupiszewski, 2009). Austria hosted about 13,000 refugees from Croatia in 1991; most of them returned already in 1992.[4,5]

On the other hand, the inflow of migrants into Croatia was particularly high in 1993 when refugees from Bosnia and Herzegovina entered the country. As shown in Figure 1, migration flows to Croatia starting from 2001 were rather small and net migration turned negative from 2009 onwards, contributing also to the shrinking of the Croatian population. The 2011 population census indicates a decline of the population of 150,000 people as compared to 2001, due in particular to a negative natural growth rate.

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[3] Data available for Sweden show that the number of Croatian citizens increased from 764 persons in 1992 to 7,520 in 2000 – the peak level so far – and fell to 2,220 in 2012. In 2013 the number of Croatian nationals in Sweden increased to 2,525 persons. Between 2001 and 2006 about 6,000 Croatian nationals were granted Swedish citizenship; see Statistical Office of Sweden http://www.scb.se/en_/Finding-statistics/Statistics-by-subject-area/Population/Population-composition/Population-statistics/#c_li_BE0101F

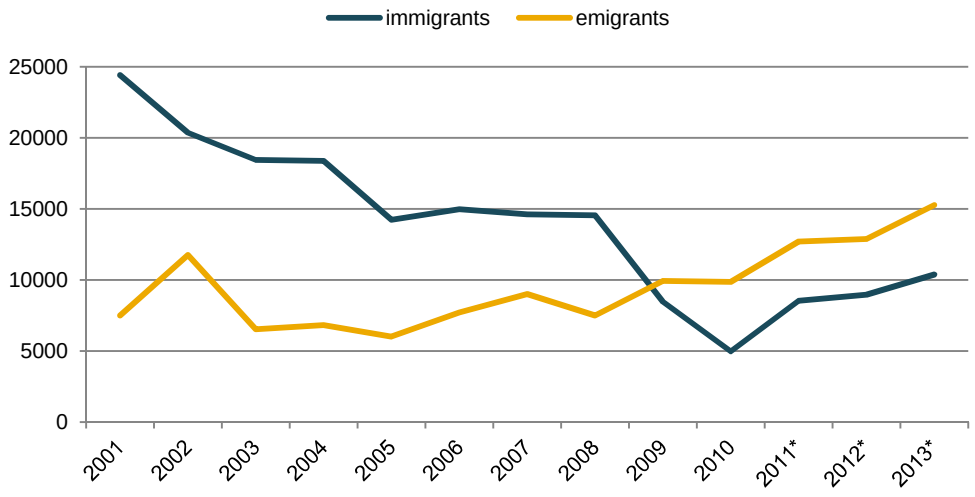
[4] http://www.integrationsfonds.at/oeif_dossiers/kroatische_migrantinnen_in_oesterreich/

[5] The majority of refugees (90,000) came to Austria from Bosnia, out of which about 60,000 were integrated in the Austrian labour market. Source, see footnote 4.

According to the estimates of the Statistical Office of Croatia, emigration from Croatia to Western Europe after 2001 was noticeably lower than in the period 1991-2001.[6]

Over the period 2001-2013 the outflow of Croatian citizens – based on national migration data – was most pronounced in 2013 when 15,262 persons left the country.[7] Major outward flows were directed towards Bosnia and Herzegovina, Serbia, Germany, Austria and Switzerland, while immigrants originated mainly from Bosnia and Herzegovina, Germany and Serbia (Figure 2). With regard to gender, men constituted the majority of migrants (51.8%), but the share had been slightly declining from 53.3% in 2011. In terms of age, the major part (35.7%) of Croatian emigrants in 2013 accounted for the age group 35-54 years, followed by those aged 25-34 years (18%) and the 55-64 years age group. In 2013, the age groups 25-34 years and 35-54 years accounted for a higher share than in 2011, while the share of those between 15-24 years fell significantly (by almost 5 percentage points). With regard to regions, in 2013 most Croatian migrants originated from the City of Zagreb, the Sisak-Moslavina region and the Split-Dalmatia region.[8]

Figure 1 / Immigrants to and emigrants from Croatia, persons, annual flows



**) Starting from 2011 migration statistics harmonised with international standards and EU legislation.*
Source: Croatian Bureau of Statistics.

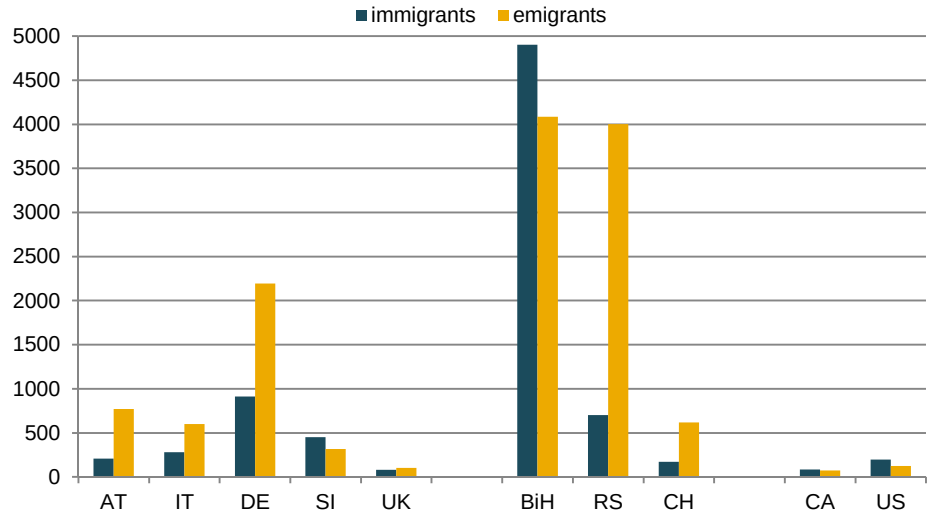
Overall, outward migration of Croatian nationals follows two directions: the first is oriented towards the countries of the former Yugoslavia, particularly Serbia and Bosnia and Herzegovina, which is 'often based on national and ethnic identification and family ties' (Meznaric and Stubbs, 2012) and to a smaller extent on labour migration. The second is oriented towards the other EU Member States and Switzerland and is mainly related to labour migration.

6 Croatian Bureau of Statistics (2011), Population projections of the Republic of Croatia 2010-2061.

7 Due to the implementation of the new Permanent Residence Act (NN, Nos. 144/12 and 158/13), the 2013 data include persons who were absent for more than a year from their permanent residence for temporary stay outside the Republic of Croatia and reported their absence to the Ministry of Interior.

8 http://www.dzs.hr/default_e.htm

Figure 2 / 'Immigrants to Croatia' and 'emigrants from Croatia' by main countries of origin/destination, persons, 2013



Source: Croatian Bureau of Statistics.

According to data from the EU migration statistics and national statistics, in 2013 about 335,000 Croatian nationals of all ages (or 8% of the Croatian population) were residing in the EU-27, a similar number as in 2012 (Table A.1a). The main destination country has been Germany, hosting about 225,000 Croatian citizens (or 67% of all Croatian nationals in the EU-27), followed by Austria (58,600 or 17.5%), Italy (17,100 or 5%), the UK (8,900 or 2.6%) and Slovenia (8,300 or 2.5%).

Over the period 2002-2013 the number of Croatian nationals living in EU Member States increased by a mere 1,996 persons. In 2004 the number of Croatian citizens residing in EU countries reached its peak level so far (348,000); it fell up to 2011 and increased slightly thereafter. Between 2002 and 2012 (latest data available) 50,984 Croatian citizens were naturalised in the individual EU countries, most of which in Germany and Austria, followed by Sweden, the UK, Italy and Slovenia (Table A.1b).

Data obtained from the EU Labour Force Survey (LFS) suggest that in 2013 out of the total 286,400 working-age movers from Croatia to other EU Member States the majority were residing in Germany (70%), Austria (19%) and Italy (5%). After reaching a peak in 2008, the working-age population decreased in the three consecutive years by a cumulated 60,600 persons and went up again moderately in the two following years. Thereafter, the most pronounced increase was witnessed in Austria and to a lesser extent in Italy while stocks in Germany were even declining. Croatia (along with Romania, Portugal and Lithuania) is among the countries with the highest proportion of citizens of working age (more than 10%) living in another EU country.[9] However, this is mainly due to 'old migration': Croatia is one of the countries (together with Portugal and Ireland) reporting the highest shares of those who have spent more than 10 years abroad.

[9] European Commission (2014), EU Employment and Social Situation, Quarterly Review, Supplement June, p. 4.

Table 1 / Number of working-age (15-64) people by group of citizenship and labour market outcomes (EU-28, 2013)

Group of citizenship	Number (in million)	Activity rate	Employment rate	Unemployment rate
Mobile EU citizens	10.3	77.7	68.0	12.4
of whom				
South (EU-15)	2.4	77.7	69.8	10.2
Other EU-15	2.7	75.1	68.8	8.2
EU-10	2.3	80.7	72.9	9.6
EU-2	2.5	78.5	60.9	22.4
Croats	0.3	73.1	68.4	6.3
Third-country nationals	15.5	67.7	52.6	22.2
Nationals	305.5	72.0	64.5	10.2
All groups (incl. nationals)	331.2	71.9	64.1	10.8

Source: Eurostat LFS, in: European Commission, EU Employment and Social Situation, Quarterly Review, Supplement June 2014, p. 4

As illustrated in Table 1, in 2013 the employment rate of Croatian nationals living in other EU countries was similar to the average of all mobile EU citizens (68.4%), higher than that of EU-2 nationals but lower than that of EU-10 nationals.[10] The unemployment rate of Croatian movers was the lowest compared to all mobile EU citizens (at 6.3%). The activity rate, however, was lower than those of EU-10 and EU-2 nationals.

Remittances

Workers' remittances have for many years been a source of income in Croatia, but are relatively modest compared to those in other countries of the region. Between 2000 and 2008 remittances rose steadily in absolute USD terms[11]; in the two following years they remained stagnant at about USD 1.2 billion, and thereafter they increased again to USD 1.5 billion, equalling an estimated 2.6% of the GDP in 2014.[12] A study by Poprzenovic (2007), examining the role of remittances on households in Croatia, finds that remittances are mainly used for savings and investments. Also in the context of general development planning in Croatia, and particularly in the context of rural and island development planning, there are examples of remittances supporting small-scale development (Meznaric and Stubbs, 2012, p. 16).

[10] EU-2: Bulgaria, Romania; EU-10: Czech Republic, Hungary, Poland, Slovakia, Slovenia, Estonia, Latvia, Lithuania, Cyprus, Malta.

[11] World Bank: Remittances Data, http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTDECPROSPECTS/0,,contentMDK:22759429~pagePK:64165401~piPK:64165026~theSitePK:476883,00.html

[12] Recent Eurostat data indicate an inflow of remittances worth EUR 852 million in 2013, a similar amount as recorded for Bulgaria, see http://ec.europa.eu/eurostat/documents/2995521/6457244/2-09012015-AP-EN.pdf/18f662ac-8b70-4254-a45b-10b78613a5a4

2. Review of existing literature about potential mobility from Croatia

There are only a small number of studies recently conducted with the purpose of investigating the migration potential of Croatians after the country's joining the EU. These are mainly research papers that attempt to statistically estimate the potential migration of Croatians under the assumption that future mobility is likely to follow the patterns of earlier waves of migration.

Even though 13 out of 27 Member States imposed restrictions, we find very few cases of impact assessment studies carried out with the purpose of disentangling any potential impacts of lifting restrictions on the labour market.

One exception is the impact assessment study conducted in the UK, by the end of 2012, aiming to estimate any potential undesirable effect on the labour market. The study considered two scenarios – full liberalisation of the labour market versus restrictions for a period of up to five years, with transitional arrangements applying in the first and second phases, and another review to take place after two years. Even though the impact assessment did not estimate the scale of potential migration in figures, the preferred option was to apply transitional restrictions. The arguments in favour were that transitional arrangements could serve the purpose of, first, preparing the UK labour market for the full accession of Croatia and, second, avoiding any potential risk that could disrupt the recovery of the UK labour market from a period of weaknesses. The study also concluded that previous accession experiences may be misleading. For instance, migrants from Lithuania, a country with a population lower than that of Croatia, account for the second largest group of new Member States (NMS) migrants living in the UK (134,000 in 2011).

Ireland was another country that conducted an impact assessment study but, as opposed to the UK, the decision of the Irish government was to open the labour market for Croatian migrants. The review conducted by Forfas found that opening the national labour market to Croatian migrants would hardly produce a significant impact on the Irish labour market. Among the arguments in favour of not imposing restrictions was the low propensity of Croatian migrants to move to Ireland due to the low number of Croatian migrants already living in the country, which is too small to act as a pull factor. Unfavourable economic and labour market conditions in Ireland are another discouraging factor for moving to Ireland. Lastly, by not imposing any restrictions Ireland wanted to send a message of openness and solidarity with the new Member States.

Differently from the impact assessments above, a small number of empirical studies attempted to evaluate potential migration looking at net flows until 2020, e.g. Kahanec and Fertig (2013). This study estimates migration flows from the EU-8 to the EU-14 between 1999 and 2009, assuming that the statistical relationship that holds for the migration structure between these countries would apply also in the context of Croatia. Thus, in the long-run future migration of Croatians is expected to be determined by the same factors as in the case of the migration patterns of EU-8 to EU-14. Low and high migration costs from the point-of-view of the migrants from the sending-country are considered. On the one hand,

accession to the EU and full labour market liberalisation offer new opportunities which might reduce migration costs. On the other hand, improved economic prospects at home due to closer economic integration make migration less attractive. The study estimates that under the low migration costs scenario the net flow of Croatian migrants to the EU between 2010 and 2020 might go up from 263,000 in 2010 to 747,382 by 2020. An estimated 6.7% share of the Croatian population may move to the EU under full liberalisation of the labour market, the main destination countries being Germany, Austria, Italy, the UK and France. Finally, the study concludes that uncoordinated transitional arrangement phases may create diversion effects and higher mobility of migrants to particular countries.

Strielkowski et al. (2013) estimate potential migration of Croatians after accession and in particular look at the mobility of Croatians to Germany between 1993 and 2011. The study uses the time series of the OECD Database and the Eurostat databases while migration data were collected from the German Statistics. Three different scenarios are assumed to project the future mobility of Croatian migrants to the EU. The so-called realistic scenario assumes that the employment rate remains unchanged but the GDP in Germany and Croatia grows by 2% and 4% respectively. The second, optimistic, scenario assumes faster convergence of the Croatian economy to the EU level. The third, pessimistic, scenario assumes the same GDP growth for the EU and Croatia. The employment rate is assumed to be higher than 2% compared to the basic scenario and then remains the same. The projected stock of migrants in all three scenarios is expected to be at around 220,000 in 2016, increase slightly until 2020 and then decline to a range between 175,000 and 185,000 by 2032. The study concludes that migration flows from July 2013 onwards could be easily manageable because of lower migration pressure due to better economic opportunities in Croatia following EU economic integration.

3. Surveys about mobility intentions of Croatian nationals

Surveys about mobility intentions of Croatian nationals are scarce. One of the most cited is Božić and Buric (2005), who have estimated Croatia's migration potential by making use of the micro analytic model for the Central and East European migration potential introduced by Fassmann and Hintermann (1997). Accordingly they estimated the 'total migration potential of Croatia at 460,000 persons older than 14 years or 12.5% of the country's population in that age group. The so-called 'likely migration potential' is 92,000 (2.5%) and the 'real migration potential' (persons who undertook already steps to migrate) 0.4% of the population above 14 years or 14,700 persons. Similar to other comparable countries, typical (potential) migrants are young, unmarried, and highly educated. The Croatian regions with the lowest share in GDP exhibit the highest share of potential migrants and 'not the regions which are geographically the closest to potential immigration countries'. The main reasons for emigration are primarily of an economic nature, in particular high unemployment.

In August 2011 the job search internet portal MojPosao carried out an opinion poll among 900 (mostly young) jobseekers about their willingness to move within the country or abroad for better jobs. Out of the respondents two thirds were females and about 85% were aged between 20 and 39 years; 14% were older than 40 years. In terms of qualification, 42% of the interviewees had a secondary education and more than half had a tertiary education (of which 37% had a university degree and 19% a non-university college degree).[13]

More than two thirds of the interviewees were ready to move within Croatia for a (better) job. Almost the same share said they would move abroad provided they obtained a permanent contract (81%), a fixed-term contract (75%) or a contract for more than one year. The majority of respondents (59%) said they would be willing to stay abroad for more than five years, a quarter for three to five years, while 17% wanted to return within three years. A 'better standard of living' was mentioned most frequently as the main driver for working abroad, followed by the 'poor economic situation in the country' (66%); 48% of the respondents saw higher career opportunities abroad, 43% wanted to gain work experience. Germany was considered the most favoured destination country (58%), followed by Switzerland (51%) and the United Kingdom (50%). Almost the same share of respondents (42%) declared the United States and Austria as their most favoured destinations, followed by Canada (37%), Sweden (36%) and Australia (35%).[14] About 30% of respondents preferred neighbouring Italy and about one quarter Slovenia as a destination country. London, Vienna, New York, Berlin and Munich were mentioned as the most popular cities by potential Croatian movers. Almost two thirds wanted to work in enterprises which pay well and half (47%) to those that offer career opportunities. Other reasons mentioned for choosing a firm were a good working atmosphere, possibilities for education and training as well as good working

[13] Based on the national system of qualifications comprising eight different professional categories: unskilled, semi-skilled, skilled, highly-skilled, basic school education, secondary education, non-university college degree and university degree.

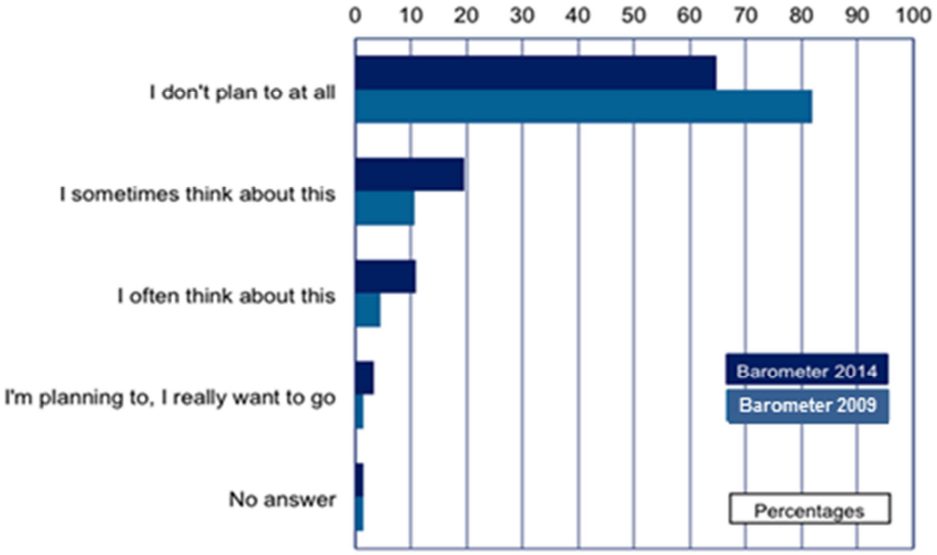
[14] The high preference for English-speaking countries may be explained by the fact that the majority of interviewees are highly educated; they are thus not representative of the total population.

conditions. With regard to specific companies, respondents wanted to work mostly in multinational companies such as Google, IBM, Hewlett Packard, Microsoft, Apple and BMW.

Opinion polls carried out in 2014[15] suggest that 75-85% of the young in Croatia stated that they would like to leave the country, with Canada being the most popular destination, followed by the United States, Australia, Germany, Austria and Sweden. Such statements do, however, not distinguish between intentions and realisation and results of this kind of surveys depend very much on the context of the survey and the wording of the questions. The growing wish of young Croatian citizens to go abroad is also reflected in the creation of the Facebook group 'Mladi napustimo Hrvatsku' (Young people, let's leave Croatia), which provides among others support and information about visa policies, jobs, work permits and scholarship opportunities in destination countries.[16].

A recent survey conducted in Croatia covered the issue of potential migration by asking adult persons (18+) whether they 'plan to leave Croatia soon and live abroad'. According to the responses to the survey (Figure 3), 65% of Croatian citizens interviewed 'don't plan at all to leave Croatia and live abroad', 20% 'sometimes think about it', 11% 'often think about it' and only 3.3% are 'planning and really want to go'. These figures suggest that in 2014 there was at least a potential of 3.3% of Croatian adult citizens who were very likely to leave the country and migrate and live abroad. Comparing the 'Barometer 2014' results with the ones attained from the 'Barometer 2009' it emerges that in 2014 the share of people who were 'planning and really wanted to go' had more than doubled, though from a very low base (1.5%). These results emphasise that potential migration in 2014 was much higher than it had been prior to Croatia's EU accession and in particular in 2009. Such findings imply that potential migration from Croatia has risen and in real numbers could amount to about 115,000 persons.

Figure 3 / Intentions of emigration: Are you planning to leave Croatia soon and live abroad?



Source: Pilar's barometer of Croatian society (2014), Institute of Social Sciences Ivo Pilar, Zagreb; available at http://barometar.pilar.hr

[15] *Croatia Week*, 23 April 2014.

[16] At the beginning of March 2015 this page had 46,980 'likes', https://hr-hr.facebook.com/pages/Mladi-Napustimo-Hrvatsku/347839398634915

Mobility intentions of Croatian citizens in international surveys are provided by the Single Market Eurobarometer survey carried out in 2013 and the 2011 Eurobarometer survey on Youth on the Move. According to the survey conducted in 2013, Croatia had the second highest proportion after Sweden of those who would consider working in another EU Member State (42%) within the next ten years. Comparisons with previous years are not available. In terms of drivers of mobility, for those who would consider working in another EU country the main reason is to get a better salary (80%), followed by those who think that they would 'benefit from better working conditions' and who 'cannot find a job in the own country' (30% of respondents each).

With regard to young people, the results of the Eurobarometer survey on Youth on the Move suggest that 29% of young Croatian adults would like to work in another EU country for a limited amount of time and 35% for a longer period. Slightly more than one third of the respondents (34%) declared that they were not willing to work in another EU country. More than two thirds of respondents from Croatia said that they were worried about the absence of jobs in their city or region.

Results from the Gallup World Poll[17] carried out in 2008-2010 and 2011-2012 show that the share of the Croatian population (15+) interested in moving permanently to another country increased from 12% to 18%. In terms of preferred destination countries, the share of EU countries rose from 38% to 44%. The remaining share (compared to 100%) is the proportion of those preferring to migrate to a non-EU country. In 2011-2012, Croatian citizens with a firm intention to move ('proportion of those planning to migrate in the following 12 months' was 0.5% of the population (15+), which is remarkably lower than the EU average (1.2%).

[17] EC (2013), EU Employment and Social Situation, Quarterly Review, June, http://ec.europa.eu/social/BlobServlet?docId=10312&langId=en, p. 38

4. Factors influencing mobility

Mobility of workers is influenced by a variety of (push and pull) factors, such as the political, labour market and social situation, wages etc. in the sending and destination countries. As earlier research found, pull factors in the host countries (labour market, wages) have been much more important drivers of migration than push factors (labour market situation) in the home countries. [18] In reality it might be hard to disentangle push and pull factors – a pull factor in the host country is often interlinked with a push factor in the country of origin. With respect to push factors, expectations regarding income differences, the probability to find a job abroad and the quality of life at home play an important role. In the crisis period it turned out that push factors started to play a bigger role than pull factors. In the case of Greece and Spain, for example, a 'strict correlation between emigration and the rise of unemployment' was observed.[19] There are also personal factors behind mobility decisions; for instance experience from the EU-10 and EU-2 movers shows that young people tend to be the most mobile.

Population

The Croatian population has been declining since the beginning of the 1990s due to negative natural population growth and increasing emigration. In 2013 Croatia had 4.3 million inhabitants, about 500,000 less than in 1991. About 37% of the Croatian population is living in North West Croatia, 41% in Central and Eastern Croatia, and the remainder in Adriatic Croatia.

Croatia, like most of the EU Member States, faces the problem of an ageing population. In 2013 the share of people aged 65 years and above accounted for 18.1% of the total population, which corresponds to the EU-28 average. This, combined with the very unfavourable ratio of working to retired people (early retirements, war veterans), has meant that the Croatian pension system has come under pressure.

Projections of the Statistical Office of Croatia indicate that the post-productive (65+) age population will further increase in the coming years, to about 24% in 2031.

Economic performance

Croatia is one of the countries hit hardest by the financial and economic crisis; it experienced a recession for six years in a row owing to a significant drop in domestic demand (investment in particular) and, to a lesser extent, of foreign demand (Table 2). Fiscal consolidation and the overly indebted enterprise sector were and still are obstacles to growth. Household consumption remains depressed

[18] Lee, E. S. (1966), 'A theory of migration', *Demography*, Vol. 3, No. 1, pp. 47-57; European Commission (2011), Employment and Social Development in Europe 2011, Chapter 6; Brücker et al. (2009), http://ec.europa.eu/social/main.jsp?langId=en&catId=89&newsId=497; Dhéret et al.(2013), Making progress towards the completion of the Single European Labour Market, p. 18, http://www.epc.eu/documents/uploads/pub_3529_single_european_labour_market.pdf

[19] Dhéret et al. (2013) see footnote 18; Bertoli, S., H. Brücker, and J. Fernández-Huertas Moraga (2013), 'The European Crisis and Migration to Germany: expectations and diversion of migration flows', IZA Discussion Paper N. 7170/Jan. 2013, IZA, Bonn.

owing to high and persistent unemployment and continuing deleveraging. The short-term outlook remains poor: available projections for 2015[20] suggest only a marginal GDP increase, while a more pronounced upswing is not to be expected before 2016. The persistent decline in GDP has also translated into a severe deterioration of the labour market situation, with the number of employed declining by 246,000 between 2008 and 2013. In addition to rising unemployment, 'the economic crisis also brought about an increase in the number of employees who do not receive their salary or whose salaries are paid with great delays'[21].

Table 2 / Croatia: Selected economic indicators

	2010	2011	2012	2013	2014 [1)]	2015	2016	2017
						Forecast		
Population, th pers., average [2)]	4,296	4,283	4,269	4,254	4,250	4,250	4,250	4,250
Gross domestic product, HRK mn, nom. [3)]	328,041	332,587	330,456	330,135	328,890	331,200	336,500	345,000
annual change in % (real) [3)]	-1.7	-0.3	-2.2	-0.9	-0.4	0.3	1.1	1.5
GDP/capita (EUR at exchange rate)	10,500	10,400	10,300	10,200	10,100	10,100	10,300	10,600
GDP/capita (EUR at PPP)	14,900	15,400	15,700	15,800	.	.	.	.
Employed persons, LFS, th, average [5)]	1,541	1,493	1,446	1,390	1,570	1,550	1,560	1,570
annual change in %	-4.0	-3.2	-3.1	-3.9	.	-1.3	0.5	0.5
Employment rate (15-64 years)	54.0	52.4	50.7	52.5	54.7			
Unemployed persons, LFS, th, average [5)]	206	232	272	288	321	.	.	.
Unemployment rate, LFS, in %, average [5)]	11.8	13.5	15.9	17.2	17.0	17.5	16.5	16.0
Unemployment rate, reg., in %, end of period	18.8	18.7	21.1	21.6	19.6	19.0	18.0	17.0
Average monthly gross wages, HRK	7,679	7,796	7,875	7,939	7,945	.	.	.
annual change in % (real, gross)	-1.5	-0.8	-2.3	-1.4	0.3	.	.	.
Average monthly net wages, HRK	5,343	5,441	5,478	5,515	5,520	.	.	.
annual change in % (real, net)	-0.5	-0.4	-2.6	-1.5	0.3	.	.	.

1) Preliminary and wiiw estimates; labour market data refer to the first three quarters (average). - 2) According to census April 2011. - 3) According to ESA'10. - 4) Enterprises with 20 and more employees. - 5) LFS from 2014 according to census April 2011 not comparable to earlier years.
Source: wiiw Databases incorporating national statistics. Forecasts by wiiw.
http://data.wiiw.ac.at/annual-database.html

Labour market in Croatia

The Croatian labour market has traditionally been characterised by low employment and activity rates and high unemployment. In 2014 the overall employment rate (15-64) stood at 54.7% and was lower than the EU average by almost 10 percentage points.[22] The female employment rate (50.1%) was by 9.2

[20] Forecasts of GDP growth: European Commission: 2015: 0.2%, 2016: 1.0%; EBRD: 2015: 0.5%; World Bank: 2015: 0.5%, 2016: 1.5%; Economic Institute Zagreb (EIZ): 2015: 0.2%, 2016: 0.9%.

[21] Strategy for Combating Poverty and Social Exclusion in the Republic of Croatia (2014-2020),p. 4.

[22] Starting from 2014 the LFS has been adjusted to the 2011 census, while previous data were based on the 2001 census. The adjustment resulted in a significant increase in the number of both employed and unemployed persons and a remarkable decline of the inactive population. Consequently employment and activity rates were revised upwards, while the unemployment rate remained almost unchanged. Hence, LFS data are not comparable with previous years.

percentage points lower than the male rate. Employment rates are among the lowest in the European Union both for males and females, but also with respect to young people (below 25 years) and those over 54 years. The low activity rate may be explained by the extensive use of early retirement schemes during the 1990s, the discouraged worker effect, an increasing number of disability retirements, the high number of war veterans and, last but not least, by the traditional role of women (EIZ, 2006).

According to the Second Quality of Life Survey (2012) Croatians work longer hours (due to second jobs) and in worse conditions than the average worker in the EU and are worried about their job security.

The unemployment rate in Croatia is still among the highest in the EU Member States, amounting to 17.1% in the first three quarters of 2014. Only Greece and Spain report higher unemployment rates. Unemployment fell significantly from 2000, reaching an all-time low in 2008 (8.4%) but has been rising steadily as a consequence of the financial and economic crisis ever since. With the exception of the 2011-2013 period, female unemployment rates have been traditionally higher than male rates. In 2014 the gender gap in the unemployment rate was 2.4 percentage points. Young people in Croatia are particularly affected, reporting the third highest unemployment rate (45.2%) among the EU countries. Similar to the overall unemployment rate, youth unemployment was on a steady decline until the crisis, but rose rapidly thereafter. The share of long-term unemployment in total unemployment has been traditionally high; it fell during the first years of the crisis due to the high number of new entrants into the unemployment pool, but increased again thereafter. In the first three quarters of 2014 the proportion of long-term unemployed accounted for 57.5% in Croatia compared to 49.6% on the EU average. Similarly, the long-term unemployment rate (long-term unemployment in per cent of the active population) was among the highest in the EU, at 9.7%, versus 5.1% on the EU average. As in many other EU countries unemployment differs across individual Croatian regions. Unemployment rates by NUTS 2 regions show that in 2013 (latest available data) the continental region indicated a higher than average unemployment rate (18.3% versus 17.3%), while it was below average on the Adriatic Sea (15%). Based on registration data, disparities in the unemployment rates are much more pronounced than based on information obtained from LFS data: in 2013 unemployment ranged from 9.5% in the city of Zagreb to 9.8% in Istria and as much as 34.7% in the county of Vukovar Srijem.[23]

As for the labour market situation in the main host countries of Croatian movers, Germany and Austria have been reporting the lowest unemployment rates among the EU countries even during the crisis period, while the Croatian unemployment rate has been on a steady increase in the past couple of years (Figure 4). Germany and Austria also report a much more favourable situation of young people on the labour market, with unemployment rates again on the lower end of the scale compared with other Member States. Unemployment also declined in the UK starting from the first quarter of 2012. In Slovenia, exhibiting a strong labour market performance before the crisis, unemployment remains relatively high at close to 10%, while unemployment in Italy continued to deteriorate, standing at 13% in the first three quarters of 2014.

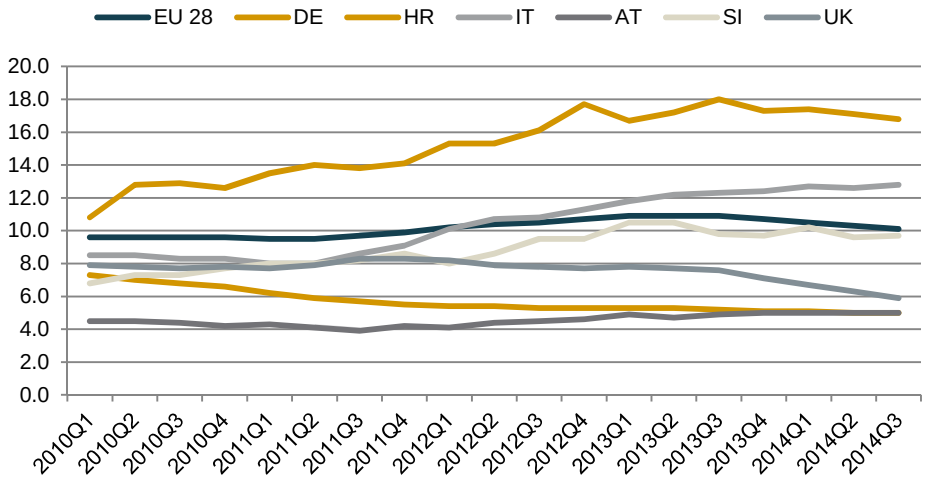
The shadow economy in Croatia, comprising undeclared work and underreporting of income, accounted for 28% of the GDP in 2013, 29% in 2012 and 30% in 2009.[24] Although that share has been decreasing, the portion of undeclared work is still much higher than the EU average. According to the Ministry of

[23] Registration data cover 21 Croatian counties (zupanije) and the City of Zagreb, while the LFS presents data at NUTS 2 level for two regions, Continental Croatia and Adriatic Croatia.

[24] http://www.setimes.com/cocoon/setimes/xhtml/en_GB/features/setimes/features/2014/02/20/feature-01

Labour the most common forms of undeclared work are hiring workers without an employment contract and without paying social security contributions, violating regulations related to working hours, delay in registration of workers and illegally hiring foreign labour.

Figure 4 / Unemployment rates in the main host countries of Croatian citizens, in %



Source: Eurostat.

Wages

Real average gross wages have been on a steady decline since 2009. In 2014 the average monthly earning amounted to about HRK 7,900 (or EUR 1,040), which is slightly more than one third of the Austrian and the UK wage levels or 40% of the German wage level. As in other comparable countries, average monthly wages are highest in financial intermediation and information and communication and lowest in agriculture. Comparison to the other new EU Member States (with the exception of Slovenia), however, the average monthly wage level in Croatia is higher (Table 3). In 2014, for example, the average monthly wage in Croatia was 2 to 2.5 times higher than in Romania and Bulgaria, but was also exceeding the wage levels of those new Member States having a higher economic level (GDP per capita) than Croatia. This makes the country's labour relatively expensive compared to its competitors.

The minimum wage regulations in Croatia have changed several times over the past years, of which most recently in April 2013 when the Croatian government adopted a new Minimum Wage Act.[25] The Act introduced a new formula for the calculation of the minimum wage 'in relation to indicators that are more socially sensitive': (i) the monthly poverty risk threshold for single-member households; (ii) the coefficient of the total number of inhabitants and the total number of households; (iii) the coefficient of the total number of people in the workforce; and (iv) any change in the average price index of consumer goods. The minimum wage is set by the government on the proposal of the Minister of labour and after consultation with the social partners once a year for the next year. According to the Act the social partners may agree that in exceptional cases the minimum wage can be 5% lower than recommended by the government applicable to all sectors. In 2014 the minimum wage amounted to HRK 3,017.61 or EUR 396.

[25] See also Eurofound: http://eurofound.europa.eu/observatories/eurwork/articles/industrial-relations-working-conditions/evolution-of-minimum-wage-levels

Table 3 / Average gross monthly wages, in EUR

	2010	2011	2012	2013	2014
EUR at exchange rate					
Bulgaria	331	351	374	396	414
Croatia	1,054	1,049	1,048	1,048	1,041
Czech Republic	944	995	997	965	933
Hungary	735	763	771	777	768
Poland	807	826	844	872	906
Romania	452	467	463	489	513
Slovakia	769	786	805	824	840
Slovenia	1,495	1,525	1,525	1,523	1,540
Austria	2,708	2,762	2,838	2,892	2,943
United Kingdom	2,559	2,556	2,782	2,699	2,949
Italy	2,121	2,142	2,146	2,173	.
Germany	2,366	2,443	2,511	2,563	2,631

Note: Gross monthly wages of NMS refer to national surveys on wages/earnings.
The data for AT, UK, IT and DE are based on gross wages of the National Accounts concept (wages divided by employees (heads)).
Source: wiiw Annual Database based on national sources and Eurostat.

According to the Tax Office, 78,822 workers were on the minimum wage during the first seven months of 2014. Out of this number about 32,000 employees were receiving less than the minimum wage.[26] Only a small portion of the unemployed is entitled to unemployment benefits. Data for December 2014 indicate that out of the total number of registered unemployed persons, 60,735 persons (or 19.2%) were entitled to unemployment benefits, which was 18.6% less than a year earlier.[27]

Similar to other recent EU Member States, spending on active labour market policy (ALMP) measures in Croatia is very low compared to the EU-15 countries: in 2013 expenditures on ALMPs accounted for 0.19% of the GDP.[28] ALMPs launched in January 2014 envisaged 11 new measures with a specific focus on women and young people. In May additional measures – 'Municipal Public Works – Elimination of the Consequences of National Disasters' (due to the floods) – were introduced. In 2012, 42,837 persons or 12.4% of the average number of unemployed were included in ALMP measures, out of which 13,820 were involved in public work programmes and 1,006 in new measures for young people starting in July 2013 (Youth for Europe, Youth for Youth, Youth for Community, Work after Traineeship).

Internal migration

As compared to the other new EU Member States that have lived in peace over the past decades, in Croatia the large disruptions caused by the war in the 1990s and its consequences have had an impact on the movement of the population within the country as well as enhanced outward migration. Between 1991 and 2001, 18 out of 21 counties lost population and only three, Zagrebačka, Brodsko-posavska and Splitsko-dalmatinska, showed a natural growth of population (Meznaric and Stubbs, p. 12). In 2013[29], 76,840 persons changed their permanent residence within Croatia, about 10,000 people more

[26] Croatia Week,14 October 2014.

[27] Croatian Employment Service, Monthly Statistics Bulletin 12, Year XXVII / 2014, p. 7.

[28] Information based on the 'National Social Report 2014' published by the Croatian Ministry of Social Policy and Youth; http://ec.europa.eu/social/BlobServlet?docId=12681&langId=en

[29] Croatian Bureau of Statistics, 'Migration of the Population of the Republic of Croatia, 2013', 15 July 2014.

than in 2012. The majority of the movers (44.2%) were aged between 20 and 39 years, more than half were females, migrating mostly from rural to urban areas and mainly because of economic reasons. Close to 40% of the internal migrants moved between towns/municipalities in the same county and about the same percentage between counties. Out of the 20 counties and the City of Zagreb, eight counties and the City of Zagreb recorded a positive net migration between counties. Similar to other EU countries, the typical movement went from the peripheral regions to the capital region, with the City of Zagreb reporting the highest positive net migration while the highest negative net migration was recorded in the counties of Vukovar-Srijem and in Slavonski Brod Posavina.

Social indicators

According to the Croatian Ministry of Social Policy and Youth, in 2012 the at-risk-of-poverty rate stood at 20.5% after social transfers, which is among the highest in the EU-28 (average 16.9%) after Greece, Romania, Spain and Bulgaria; the percentage of persons at risk of poverty and social exclusion amounted to 32.3%. The at-risk-of-poverty rate is highest for single-women households and for single-person households of those aged 65 years and above. With regard to the activity status, the at-risk-of-poverty rate is highest for unemployed persons and amounts to 42.9%, of which men (48.1%) are more affected than women (38%); this may be explained by the fact that unemployed men are more likely to live in a poor household as they are less likely to have a working partner than an unemployed woman. For employed persons, the at-risk-of-poverty rate stood at 6.1% and for pensioners at 21.8%. The Gini coefficient amounts to 0.31 and has not changed over the past three years, equalling the EU-28 Gini coefficient average.

Other factors influencing mobility flows from Croatia

Experience from past accessions shows than in many cases the impact of labour market restrictions on labour mobility was low, because other factors such as employment opportunities, networks, language and common culture played an important role for the choice of the country. For instance, Sweden[30] has so far not attracted many mobile workers from Croatia despite having opened its labour market for Croatian nationals from the very beginning. In order to circumvent restrictions movers may also accept undeclared work or working as self-employed, since there are no restrictions on the freedom of establishment. The latter is probably the case in Austria, where the number of self-employed Croatian nationals has grown relatively fast since Croatia's EU accession (see section 7 below)

With regard to job search in the EU countries, informal personal networks such as friends and acquaintances in other countries continue to play a major role for Croatian citizens wanting to work abroad and are important sources of information about job opportunities in other countries (Eurofound, 2014). Similar patterns are observed for movers from Estonia, Ireland, Lithuania and Poland. Historical factors play an important role in the case of Austria where the labour migration from Croatia initiated in the 1960s had and still has a lasting effect on both the current composition of the foreign resident population and subsequent migration inflows (Mara et al., 2013). Huber and Nowotny (2009), examining the regional effects of labour mobility in the EU, concluded that highly educated migrants are less affected by networks and prefer to locate in urban areas, whereas those with lower levels of education have strong connections with the ethnic groups and tend to locate in rural areas.

[30] According to the Swedish Migration Board the following number of work permits for Croatia citizens were issued: 150 (2010), 140 (2011), 161 (2012) and 41 (2013); http://www.migrationsverket.se/English/About-the-Migration-Board/Facts-and-statistics-/

5. Mid-term mobility projection of Croatian migrants to the EU

Upon Croatia's accession to the European Union in July 2013, a group of EU countries imposed restrictions on the access of Croatian migrants to their labour markets by taking advantage of the transitional arrangements phases which apply until 30 June 2020.

We evaluate the mid-term potential mobility of Croatian migrants between 2013 and 2019 by applying a macro-gravity model approach which follows Brücker et al. (2009) and Landesmann et al. (2013). This approach estimates that future migration will be affected by macroeconomic determinants such as earnings and employment opportunities in home and host countries, other determinants related to geographical and cultural proximity, and institutional features (migration constraints, labour market features, etc.) which might differ across countries.

In order to measure the impact of those various factors based on the past, we analyse the mobility of 16 sending countries towards 27 destination countries between 2001 and 2012. [31] The applied macro-gravity approach is flexible in the sense that it allows to estimate migration flows across pairs of countries and inter-regional mobility by combining determinants which might have an effect on bilateral migrant flows but also towards a particular region, e.g. EU-10, EU-7 or a group of countries that apply restrictions and those that have granted free access to their labour markets. The main variables of the model which are assumed to have an effect on migration include macroeconomic determinants, such as relative level of earnings of sending and potential destination country usually proxied by income per capita, and employment opportunities in the country of origin relative to the labour market conditions of other countries proxied by employment rates. Other determinants include population size of the origin and destination country as proxies for, respectively, migration potential as concerns the sending country and for hosting capacity as concerns the destination country. Also the previous stock of migrants of a particular sending country in a destination country is included. This variable aims to capture the pull (and support in integration) effect exercised by migrant networks towards a particular destination country. Gravity model determinants that enrich the set of explanatory variables consist of distance, contiguity/sharing common borders, language proximity or other cultural ties under the assumption that geographic and cultural proximity might be other pull factors which affect mobility.

The impact of different institutional conditions is captured by including level dummies depending on institutional conditions being in place. Accordingly, three level dummies represent each: countries that impose restrictions on access to their labour market; countries that impose restrictions but bilateral

[31] Sending countries include Croatia, Western Balkan countries (WB-5) represented by Albania, Bosnia and Herzegovina, the Former Yugoslav Republic of Macedonia, Montenegro and Serbia, and NMS-10 represented by Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovakia, Slovenia, Estonia, Latvia and Lithuania. The destination countries include Croatia, WB-5, NMS-7 represented by Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia, and EU-14 countries represented by Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Portugal, Netherlands, Spain, Sweden, United Kingdom. Luxembourg, Estonia, Latvia and Lithuania have been excluded from the list of destination countries due to missing information or negligible number of observations.

transitional agreements on access to certain sectors of their labour market apply; and lastly, countries where a free visa regime applies. This approach is flexible in the sense that it allows to measure the effect of different institutional conditions and their changes on migration flows between pairs of countries. Nevertheless, it fails to capture the effects of a change in migration regimes on other alternative destination countries. In the EU context, the so-called diversion effect attributed to a higher potential mobility towards countries that do not impose restrictions versus those who do so, it is demonstrated to have been taking place during the first and second waves of enlargement, in 2004 and 2007. Nevertheless, this diversion effect is mainly driven by determinants other than transitional arrangements being in place. In the context of Croatia any diversion effect is less likely to be occurring. The main destination countries for Croatians, Germany, Austria, Slovenia and Italy, simultaneously applied the right to keep their labour markets closed. So did the UK. Those EU Member States that did not impose restrictions appear to have employment and earning opportunities which are not very different from those in Croatia, with the exceptions of Portugal, Ireland and the Nordic EU countries. For instance, Romania and Bulgaria have a GDP per capita lower than Croatia's, while in other countries such as Hungary and Poland it is only slightly higher than in Croatia.

During the different phases of EU enlargement the EU-15 countries have applied different transitional arrangements (and visa regimes) with respect to NMS, Croatia and other Western Balkan countries. To address the issue of different institutional arrangements, the model takes account of, firstly, free movement of people but restricted movement of workers applied to EU-8 and EU-2 between 2001 and 2013; secondly, transitional agreements allowing access to specific segments of the labour market during transitional phases of free movement of people but restricted movement of workers; and thirdly, of free visa regimes applied to Western Balkan countries (WB-5).

The migration function is specified in the following form:[32]

eq. (1)

$$m_{fit} = \beta_1 * \ln\left(\frac{w_{ft}}{w_{it}}\right) + \beta_2 * \ln(e_{ft}) + \beta_3 * \ln(e_{it}) + \beta_4 * \ln(pop_{ft}) + +\beta_5 * \ln(pop_{it}) +$$

$$+$$

$$\beta_6 * dist_{if} + \beta_7 * contiguity_{if} + \beta_8 * com_language_{if} + \beta_9 * ethnic_language_c_{if}$$

$$+$$

$$\beta_8 * D_visa_free_{if} + \beta_9 * D_trans_Ag_{if} + \beta_{10} * D_rest_lmkt_{r_{if}}$$

$$+$$

$$+\beta_{11} * m_{fit-1} + \varepsilon_{fit}$$

with the macroeconomic determinants being:

[32] Landesmann et al. (2013); RCC (2014).

› m_{fit} refers to the stock of migrants residing in destination country (f) as a share of the population from the sending country (i). Subscript (f) stands for the destination country and takes values from 1 to 27, representing EU-14 destination countries, NMS-7 and WB-5 and Croatia; subscript (i) stands for the origin country taking values from 1 to 16, representing Croatia, NMS-10 and WB-5 countries;

› m_{fit-1} is the lagged stock of migrants from a particular sending country in a destination country, as a proxy for network effects;

› wage rates in the foreign and the origin country, correspondingly w_{ft} and w_{it}, to proxy expectations about the level of earnings in the foreign and home country;

› e_{ft} and e_{it} represent the employment rates in the respective foreign and the origin country;

› pop_{ft} and pop_{it} stand respectively for the population of the foreign and sending country, which implies that countries with a bigger population and thus labour force, as compared to smaller countries, have higher emigration potential as concerns the sending country and higher capacities to absorb the labour force coming from abroad as concerns host countries.

Gravity[33] model determinants which are country-specific and constant over time are represented by:

- $dist_{if}$, the geographical distance between the sending and host country;
- $contiguity_{if}$, the border proximity or commonality;
- $com_language_{if}$ refers to sharing the same official language;
- $ethnic_language_c_{if}$ when at least 9% of the populations of sending and host countries share the same language. [34]

The impact of different institutional conditions is captured by level dummies such as:

› $D_visa_free_{if}$ representing visa liberalisation applied to WB-5 should capture the effect of switching from restrictive to free visa regime for the group of (destination) countries to which this applies;

› $D_trans_Ag_{if}$ representing bilateral transitional arrangements agreed between countries during different phases of enlargement with the purpose of allowing employment in certain working sectors, e.g. those with labour market shortages;

[33] These variables are commonly used in gravity models and we have downloaded them from: http://www.cepii.fr/CEPII/en/bdd_modele/presentation.asp?id=8

[34] The literature that has explored the use of gravity model variables to explain determinants of migration suggests that sharing the same official language or a common ethnic language might positively affect migration (Lewer and Van den Berg, 2008; Mayda, 2010; Mayer and Zignago, 2011). In the EU context, which assembles more than 20 different languages, another variable of interest might be the secondary language spoken. Baas and Brücker (2011) argue that intra-EU mobility, particularly from EU-8 and EU-2 towards the UK and Ireland, is also stimulated by the knowledge of the English language. Nevertheless, the available data do not allow us to take into account also this determinant.

› D_rest_lmkt capturing restrictions in accessing the labour market in the destination country for NMS-10; Croatia and WB-5 over the periods in which these were in force.[35]

Historically, within the European Union, the main destination countries of Croatian migrants have been Germany, Austria, Italy, and Slovenia. However, the mobility of Croatian migrants in this last decade compared to the previous ones has been less intense.

In this context we therefore included country-specific dummies interacted with time-period dummies for EU-14 and EU-7 countries and employment slope dummies for WB-5 in order to account for such differences in mobility. The model has been estimated using FGLS estimators, which according to previous experience perform better compared to the other estimators. The estimation results are presented in Table A.2 in the Annex. The estimated coefficients are further used to project mid-term migration, 2013-2019, of Croatian migrants towards EU-14 and EU-7.

The database contains information on migration stocks (population of all ages) of 16 individual sending countries (Croatia, WB-5, NMS-10) towards 27 destination countries (Croatia, WB-5, NMS-7 and EU-14) for the period 2001-2012. Stock of migrants data have been obtained from Eurostat Population Statistics in combination with other international migration databases and national statistics.[36] Population mobility instead of labour mobility is used as a proxy to estimate migration potential. Available data on mobility of workers are limited and quite often incompatible, a condition which constrains the possibility to make comparisons across countries and over time. Population statistics are used as a substitute to estimate mobility of workers under the assumption that the latter strongly follows and is highly correlated to the former.

As an approximation for average earnings, we have used GDP per capita at PPPs obtained from the wiiw Database and the World Economic Outlook Database. Employment rates in each of the sending and destination countries have been taken from the wiiw Database and the World Economic Outlook Database. While wiiw Database variables have been used to estimate the model covering the period 2001-2012, the World Economic Outlook Database variables have been used to project potential migration of Croatian citizens in the medium term, 2013-2019.[37]

The estimation results obtained by the macro-migration gravity model suggest that the previous stock of migrants has an important and positive effect on the future mobility of migrants, pointing to networks being an important pulling factor that drives mobility. As expected, GDP per capita and employment opportunities in the destination country are other important pulling factors, whereas improvements in the income level and employment conditions in the country of origin would reduce the mobility abroad. Other determinants which show to have a significant and expected effect on mobility suggest that cross-

[35] Such dummies were constructed using the information about restricted mobility and transitional arrangements between EU-14 and EU-8 and EU-2 derived from http://ec.europa.eu/social and information provided by country experts as concerns WB-6. Given the very low employment rates in WB-6 countries, we wanted to capture specific WB-6 effects and a slope dummy has been introduced to distinguish between labour market conditions of WB-6 as destination countries relative to other destination countries.

[36] The stock of migrants consists of population stocks by citizenship. The time series on the stock of migrants for Austria and Germany have been obtained from the national statistics of the respective countries. The time series on the stock of migrants for Croatia and WB-5 have been obtained from national experts in combination with other data sources, national and international ones. International migration databases comprise the OECD International Migration Database, World Bank Migration Database, UN statistics.

[37] More details about the database can be found in the Annex.

bordering is more likely to happen among neighbouring countries as well among those that share cultural affinities. Determinants related to institutional constraints turn out to be significant, suggesting that free visa regimes as well as bilateral transitional arrangements push towards further mobility while restricting access to labour market negatively affect the mobility. Both coefficients of bilateral transitional arrangements and free visa regime show to be positive but the latter determinant compared to the former has a much higher and significant effect on mobility. By contrast, not granting access to national labour markets proves to deter mobility much more than the free visa regime would encourage it.

Mid-term mobility projection under three scenarios

The future mobility of Croatian migrants is obtained by applying the estimated coefficients to the determinants projected in the future such as GDP per capita, unemployment rates and population for the period 2013-2019. These projections have been obtained from the World Economic Outlook Database and the wiiw Database.

To disentangle the effects of institutional arrangements on mobility and to evaluate the mid-term mobility of Croatian migrants, we would need to predict mobility under different hypothetical scenarios: those under which EUMS open up immediately after the first, second or third transitional phase, and those under which restrictions are preserved during the first, second and third transitional phases. Such scenarios would provide projections about the upper and lower bound of potential migration from Croatia under constrained and free access to labour markets. The available data allow making projection for the first and second phases of transitional arrangements. Still, the third phase of transitional arrangement – in which most likely all EUMS will grant free access to their labour markets - is not covered due to data limitations. However, a comparison of the second and third scenarios provides some good hints about what to expect for this last phase.[38] Accordingly:

› Scenario I – the transitional arrangements agreed upon in July 2013 will hold also during the second and third phases of transitional arrangements, implying that countries will implement the same agreements throughout the period between 2013 and 2019.[39] Under this scenario the lower bound of mobility has been projected.

› Scenario II – from July 2013 onwards all countries would not have imposed restrictions and full liberalisation of the national labour markets would have been applied. This scenario projects hypothetical migration that would have occurred under the condition that with free movement of people also the free movement of workers would have been granted starting from July 2013. This projection would constitute the upper bound of potential migration from Croatia.

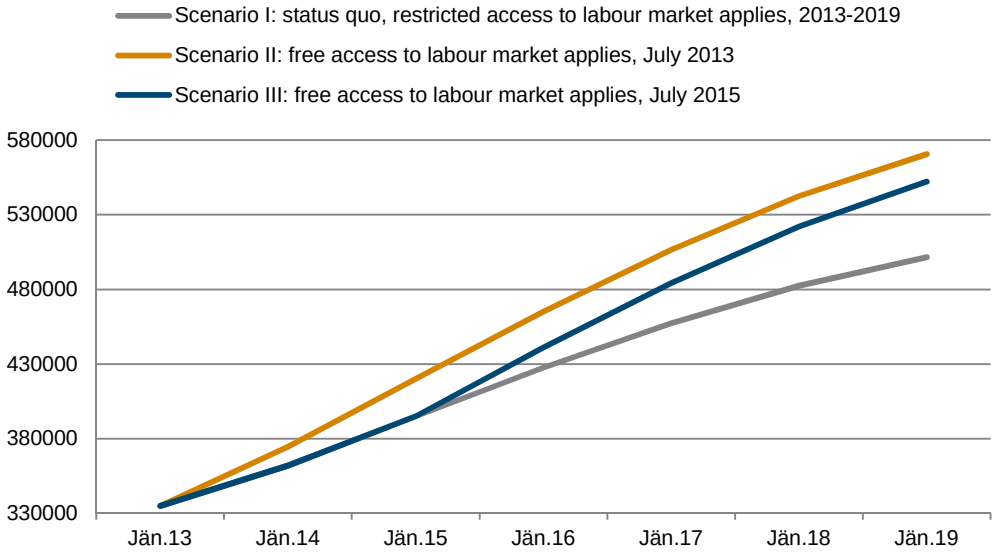
› Scenario III – starting from the second phase of transitional arrangements, from July 2015 onwards, countries that have applied restrictions in the first phase will give up their national rules and apply those of the community allowing for free labour mobility of Croatian migrants.

[38] The forecasting period runs until 2019, conditioned by data availability as concerns projections of other determinants of migration stocks, particularly projections on unemployment rate, GDP per capita and population.

[39] Countries that currently apply restrictions to Croatian migrants in accessing their labour markets are Austria, Germany, Belgium, France, the UK, Italy, Slovenia, Spain, Greece and the Netherlands, which we label RMS (Restrictive Member States). Countries that currently do not apply restrictions to Croatian migrants in accessing their labour markets are Bulgaria, Romania, the Czech Republic, Denmark, Finland, Hungary, Ireland, Poland, Portugal, Slovakia and Sweden, which we label URMS (Unrestrictive Member States).

Under the first scenario, labour market restrictions imposed by RMS (see footnote 39) are constant over time, during the entire period between 2013 and 2019. However, migrants might benefit from bilateral transitional employment agreements to move abroad. In addition, interacted country- and time-specific dummies allow for capturing potential mobility towards those destination countries which Croatian migrants are more likely or less likely to move to.

Figure 5 / Projected stock of migrants, 2013-2019, Scenarios I, II, III



Under Scenario I, between 2013 and 2019, the projected stock of Croatian migrants in EU-14 and EU-7 is expected to move from 335,000 in 2013 to 501,500 by early 2019, implying a net increase in the stock of migrants by 166,500, at close to +50% (Table A.3, Figure 5). Distinguishing between RMS (Restrictive Member States) and URMS (Unrestrictive Member States), the number of Croatian migrants to URMS is expected to more than double, rising from 7,800 to 19,600 by 2019. Nevertheless, the share of Croatian migrants to URMS in the total stock of Croatian migrants to the EU hardly exceeds 8% (Figures 6-7).

Instead, the new wave of migrants is expected to be directed mainly to Croatia's historical destination countries, namely Germany and Austria. Respectively 54% and 23% of new migrants will move to these countries in spite of restrictions being imposed (Table A.4).[40] The projected stock of migrants until 2019 suggests a net increase of 90,000 persons, with an annual inflow which is bell-shaped, going upwards for the first three years and then turning downwards for the rest of the period.

Similar patterns are observed for Austria, which is supposed to receive (still in Scenario I) more than 38,000 Croatian migrants between 2013 and 2019. Other RMS countries which are expected to register a sizeable increase in the stock of Croatian migrants are Italy and Slovenia, which are supposed to

[40] According to the Federal Statistical Office of Germany, a net increase of 17,529 Croatian migrants was recorded between 2012 and 2013 which is relatively higher compared to previous years. See https://www.destatis.de/DE/ZahlenFakten/GesellschaftStaat/Bevoelkerung/Bevoelkerung.html, Statistisches Bundesamt, Bevölkerung und Erwerbstätigkeit, Ausländische Bevölkerung, Ergebnisse des Ausländerzentralregisters.

experience a net inflow of 14,000 and 2,800 persons respectively, reaching a level of 31,000 and 11,000 migrants respectively by 2019.

The URMS countries, in spite of hosting a small share of Croatian migrants until 2019, are expected to see a doubling of the stock of Croatian migrants, in particular the Czech Republic and Sweden (see Figures 6-7).

Figure 6 / Projected stock of Croatian migrants to RMS, Scenario I, 2013-2019

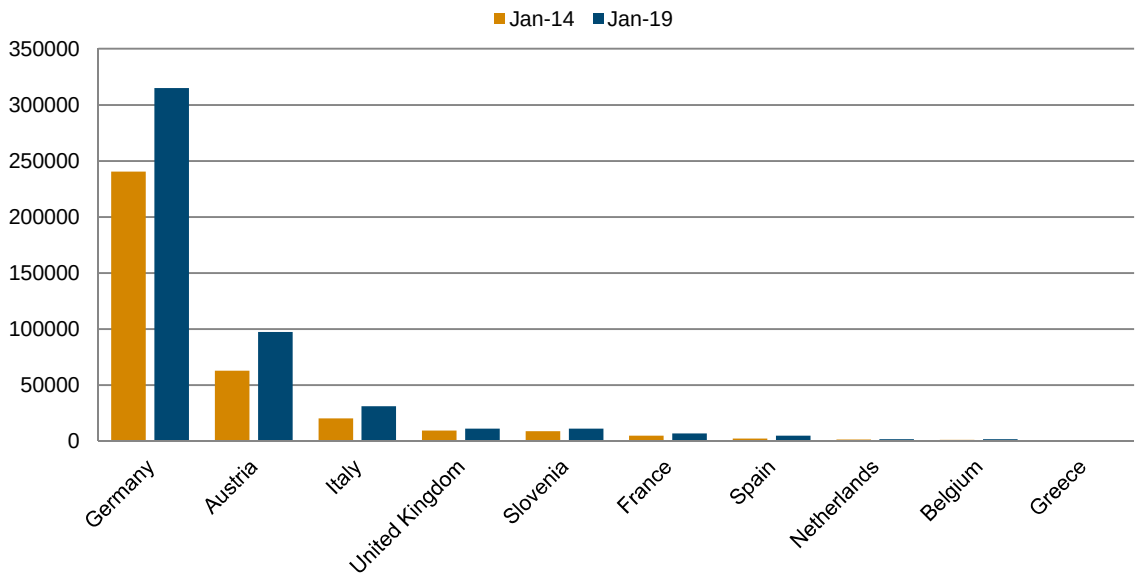
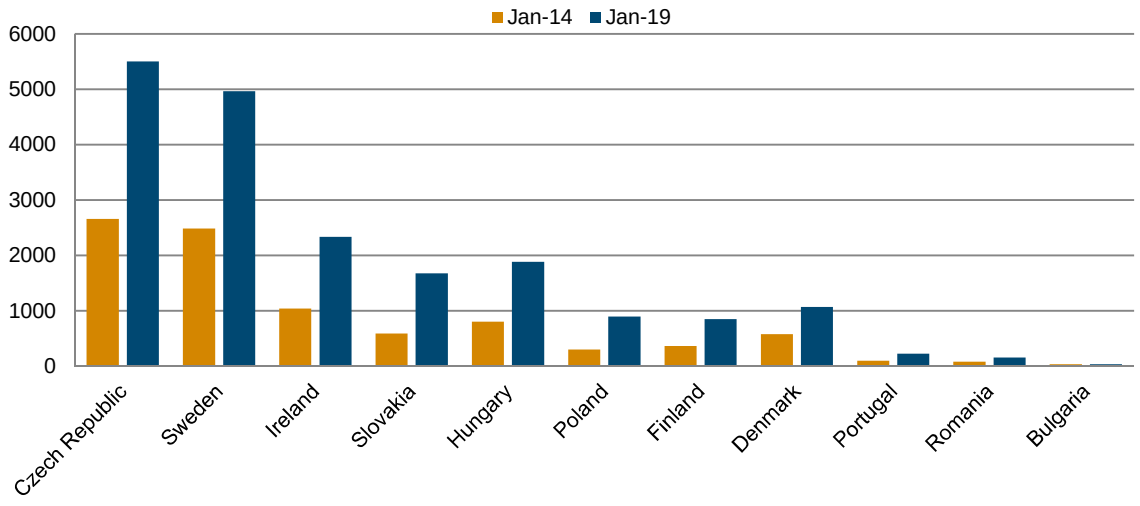
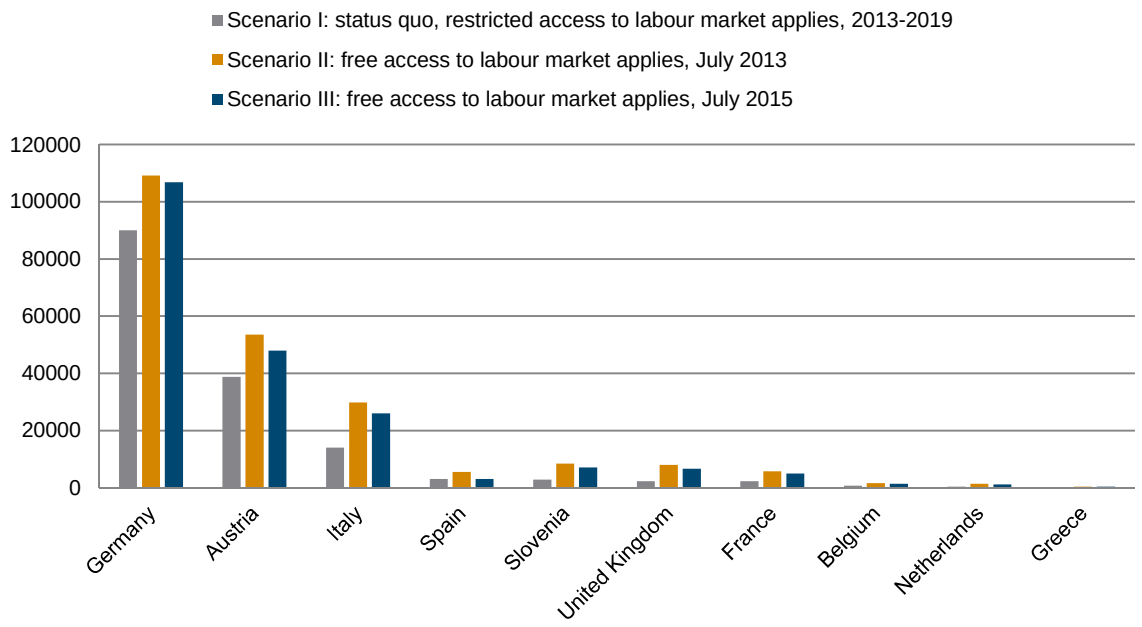


Figure 7 / Projected stock of Croatian migrants to URMS, Scenario I, 2013-2019



Comparing the first and second migration scenarios, if starting from July 2013 all EU Member States had granted free access to their national labour markets the generated mobility would have been higher. Fully liberalised access from 2013 to 2019 would have mobilised 235,000 Croatian movers, a number almost 70,000 higher than the one projected under Scenario I (Table A.7, Figure 8). Thus, in the absence of restrictions and transitional arrangements, almost 5.6% of the Croatian population would move abroad over 2013-2019 (Table A.6).

Figure 8 / Net migration 01/2013-01/2019, RMS, Scenario I



Under the third scenario (i.e. if RMS countries opted for liberalising their labour markets during the second phase of transitional arrangements, by July 2015) net migration of Croatian migrants between 2013 and 2019 would reach a level of 217,000 persons. Thus, opening up versus restricting access to labour markets would generate an additional 50,000 migrants from Croatia (217,000 vs 167,000), Overall, this compares to around 5.1% of origin country population under the scenario of openness from July 2015 (Scenario III) and 3.9% of maintained restrictions (Scenario I).

In terms of net migration, Scenario II projects a relatively higher stock of migrants which corresponds to an additional influx of 70,000 Croatian migrants. Hypothetical projections of mobility under full opening versus full restrictions starting from July 2013 would have further contributed to mobility by 41% (Scenario I vs Scenario II). If labour market access is granted starting from July 2015, an additional increase in mobility of 30% is expected to follow.

The previous waves of enlargement have demonstrated that transitional arrangements imposed by EU Member States might to some extent generate a diversion effect (Baas and Brücker, 2011). The enlargement in 2004 generated a diversion effect of EU-8 migrants from RMS, e.g. Germany and Austria, towards URMS, e.g. the UK, being attractive not only because of free labour mobility granted

but also because of favourable labour market conditions. The experience of the enlargement in 2007 and the international financial crisis following immediately thereafter, showed a moderate diversion of migration from EU-2 towards Germany and Austria, in spite of restrictions being imposed.

This last phase of enlargement, seeing the mobility of Croatian worker still restricted in main countries such as Germany, Austria, Slovenia, Italy and the UK, suggests that any diversion effect is less likely to be occurring. The main destination countries have simultaneously maintained restricted access to their labour markets. The UK has only recently started to recover from a languishing labour market, and the next door country Italy is still suffering from high unemployment. On the other hand, those EU Member States which opened up their labour markets are not attractive enough to pull Croatian migrants; for instance, Romania and Bulgaria have a GDP per capita lower than Croatia's, while in other countries such as Hungary and Poland it is only slightly higher than in Croatia.

The projections indicate that Germany and Austria will continue to attract a relatively high number of Croatian migrants as in these countries networks play an important role. Under more enlargement-friendly scenarios, such as Scenarios II and III, by 2019 between 0.9% and 1.1% of the Croatian population is likely to move to Austria, while between 2.1% and 2.5% of the Croatian population is expected to move to Germany (Table A.6). However, these net inflows represent significantly less than 1% of the destination countries' population (Table A.5).

Overall, the stock of Croatian migrants is likely to go up from 335,000 in 2013 to slightly more than 500,000 in 2019, following Scenario I. If labour market liberalisation were to be granted in July 2015 (Scenario III) the total stock of migrants would be 10% higher as compared to Scenario I, at around 550,000 migrants, a stock that accounts for 0.1% of the EU population in 2019.

In conclusion, transitional arrangements might have an impact on mobility; but their effect is moderate considering that the RMS continue to attract new waves of migrants in spite of restrictions being imposed.

6. Characteristics of potential movers

- Germany, Austria, Italy and Slovenia have traditionally been the major destinations of Croatian movers among the EU Member States. Despite transitional arrangements in place, a preliminary assessment of recent data shows that employment of Croatian nationals has increased in these countries (except Italy) after Croatia's EU accession. The latest projections carried out in the context of this study suggest that this trend will continue in the coming years as well. This is also confirmed by surveys carried out in Croatia with respect to migration intentions.
- Survey results suggest that the main drivers for working abroad are the poor economic situation in the home country, and a better standard of living, higher career opportunities as well as gaining work experience abroad. Surveys also indicate that potential migration in 2014 was much higher than it had been prior to accession and in 2009. Typical (potential) migrants are young, unmarried, and highly educated.
- The support of networks, e.g. friends, family and acquaintances living already in the country of destination, play a critical role for Croatian citizens wanting to work abroad and are important sources of information about job opportunities in other countries.

Main characteristics of Croatian migrants (see Figures A.1-A.3 and Table A.8)

- Slightly over 80% of Croatian nationals living in other EU countries are of working age (15-64 years) compared to an average of 66% in the total resident population of the EU-27 or close to 65% in the home country. In terms of gender, females account for more than half of the Croatian working-age population in other EU countries. The majority of Croatian citizens are between 35 and 54 years of age, with the share increasing over the past couple of years. Data available for Germany suggest that Croatian citizens are older than movers from countries joining the EU in 2004 and 2007 (47 years versus 36 years). This reflects the long history of migration from Croatia to Germany (see Section 1).
- As for the educational breakdown, about one quarter of Croatian working-age citizens in other EU Member States are low-educated, and slightly more than 60% are medium-educated. The share of highly educated is 15% and has been growing over recent years.
- Movers from Croatia tend to work primarily in manufacturing (23%), trade (13%), health and social work (12%), construction (10%), accommodation and food and services activities (10%) and administrative and support service activities (6%).
- Croatian mobile workers are concentrated in occupations requiring intermediate (57%) and low qualifications (16%) and 27% account for high-skilled occupations. The most frequent occupations are 'services workers and shop market sale workers', followed by 'craft and related trade workers' and 'technicians and associate professionals'.
- Croatian movers in EU Member States tend to stay longer than movers from 2004 and 2007 accession countries. German data suggest that movers from the 2004 and 2007 accession rounds stay on average for 9 years, while Croatian nationals for 27 years.
- Again, this reflects the old migration history from Croatia to Germany (see section 1).

7. Inventory of national data sources

Germany

Foreign population in Germany is reported by the Statistical Office of Germany (*Bundesamt für Statistik*), while data on employment (employees only) are reported by the *Bundesagentur für Arbeit*.

As shown in Table 4, the Croatian population (by citizenship) in Germany fell by about 7,300 persons between 2006 and 2010, which is partly due to naturalisations (5,223); return migration might have also contributed to the decline. From 2010 the number of Croatia citizens rose by 20,300 persons to 240,543 by 2013; the increase was most pronounced between 2012 and 2013 (by 15,572 or 6.9%).

Table 4 / Croatian citizens in Germany, persons as of 31 December

	2006	2007	2008	2009	2010	2011	2012	2013
Total	227,510	225,309	223,056	221,222	220,199	223,014	224,971	240,543
males	111,836	110,391	108,789	107,447	106,974	108,532	109,739	119,164
females	115,676	114,918	114,267	113,775	113,225	114,482	115,232	121,379

Source: Statistisches Bundesamt, Fachserie 1, Reihe 2, 2013.

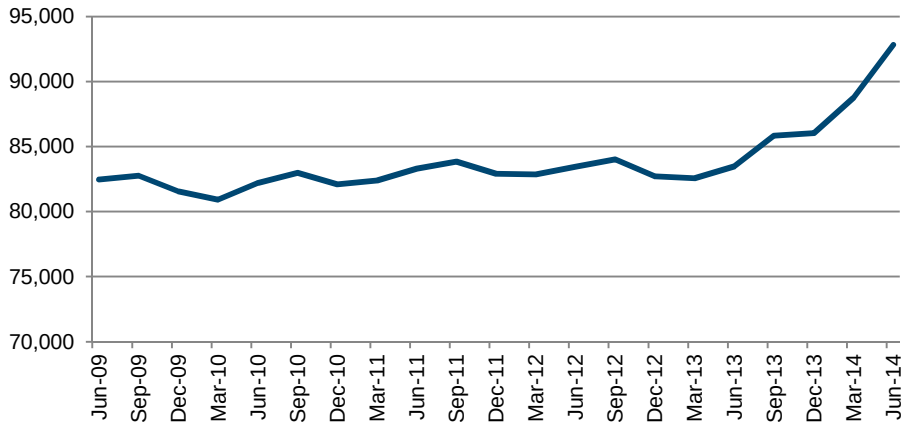
In general, the characteristics of Croatian movers to Germany differ from those of EU-10 and EU-2 movers, the only exception being Slovenian nationals with a similar migration history. Over the whole period the share of females from Croatia was slightly higher than that of men. In terms of age, Croatian movers to Germany show a different pattern compared to EU-10 and EU-2 movers with regard to all age groups. The disparities are most pronounced in the young and the older age groups. In 2013, about one fifth of Croatian nationals in Germany were older than 65 years, while the respective share for other recent EU movers was below 4%. Croatian movers are older than movers from EU-10 and EU-2: the average age is 47.2 years compared to 36 years (Table A.9). Also the duration of stay of Croatian citizens in Germany is much longer than for other nationals: in 2013 it was 29.2 years compared to 7 years for movers from the 2004 and 2007 accession waves (Tab. A.10). Again, this reflects the long migration history from Croatia to Germany.

As illustrated in Figure 9, employment of Croatian citizens in Germany (subject to social insurance) averaged close to 83,000 persons between June 2009 and June 2013. After Croatia's EU accession in July 2013 the number of Croatian workers grew steadily and reached 92,829 by the end of June 2014, representing 0.3% of total employed in Germany. More than half (52.4%) were men. Male employment was by 16.6% higher than in June 2013, while female employment rose by 5.8%. With regard to age, three quarters of Croatian nationals accounted for the 25-54 years age group[41], 7.6% were younger than 25, while the remainder accounted for those between 55 and 64 years. Compared to June 2013 an employment increase was mainly registered in the youngest age group where the number of workers was higher by about one quarter. With regard to education, more than half of the Croatian nationals had

[41] Out ot the age group 25-54 years, 31.2% were 25-34 years of age.

a ‘recognised vocational qualification’, 18.3% did ‘not have any qualification’ and 6.1% were ‘academically trained’ (the qualification of 21% of Croatian citizens in Germany is unknown). Almost half of the Croatian citizens were employed in medium-sized enterprises, close to one third in large enterprises and the remainder in small firms. Between June 2013 and June 2014 employment grew the most in small firms. In terms of activities, about two thirds of Croatian nationals are engaged in the services sector – trade, tourism, health, social care – and one third in industry (of which 10% in construction). Employment in agriculture is negligible, accounting for 0.5%.

Figure 9 / Croatian workers in Germany subject to social insurance, persons



Source: Bundesagentur für Arbeit.

Germany and Croatia have signed agreements on facilitating the employment of (seasonal) workers in the German service sector. The Croatian Employment Service performs a mediating role in organising employment of Croatian mobile workers for jobs lasting up to 18 months, at a quota of 500 workers. Other categories of potential Croatian mobile workers taking up German jobs are subject of direct agreements between the Croatian and German employment services. The direct agreements are concluded for three main labour force categories: i) the seasonal labour force in agriculture and catering industry (four-month jobs); ii) students during their summer break (three-month jobs in any sector); and iii) medical technicians (Eurofound, 2014). In the context of the agreement, language training is part of the deal. Young unemployed Croats can apply for free German language courses financed by the Croatian state before their departure to Germany, if they are willing to take up jobs (mainly seasonal) in specific sectors with labour shortages.

Regulations regarding the employment of Croatian citizens in Germany

Croatian nationals require an EU work permit if they intend to work in Germany. The application for a work permit must be lodged with the International Placement Service of the Federal Employment Agency. The permit will be issued either as a limited or as an unlimited EU work permit. There are numerous exceptions where a work permit is not required, e.g. for particular activities, positions or occupations such as managing directors, foreign university students who have been placed in vacation

jobs by the Federal Employment Agency, completion of a voluntary social year, seasonal employment, trainees/apprentices, graduate specialists when placed in an appropriately qualified occupation.[42]

Austria

Information on foreign population in Austria is reported by Statistik Austria and allows a division by gender, age and provinces. According to latest data available, the Croatian population in Austria (by citizenship) fell from 62,478 in 2002 to 58,297 in 2012 and increased to about 60,000 persons at the beginning of 2014. Naturalisations can be considered as an important reason for the decline: between 2002 and 2012 17,926 Croatian nationals acquired Austrian citizenship. More than half (53%) of Croatian nationals in Austria are men. A breakdown by age shows that Croatian citizens differ (significantly) from EU-10 and EU-2 movers – the only exception being Slovenian citizens, who have a similar migration history. Though the age group 25-49 years represents the majority (45%) of Croatian citizens, this share is much lower than e.g. for Hungarian, Czech and Slovak movers (with an about 60% share each in this age group). Croatian citizens exhibit the highest share of those between 50 and 64 years (21%). Polish nationals come next in this respect, while movers from Bulgaria and Romania account for only 7.6% and 9.7% in this age group. The share of Croatian citizens in the youngest age group 15-24 years is similar to those of Bulgarian and Romanian nationals and higher than for EU-10 and EU-2 movers. These characteristics of Croatian nationals reflect the long history of migration from Croatia to Austria.

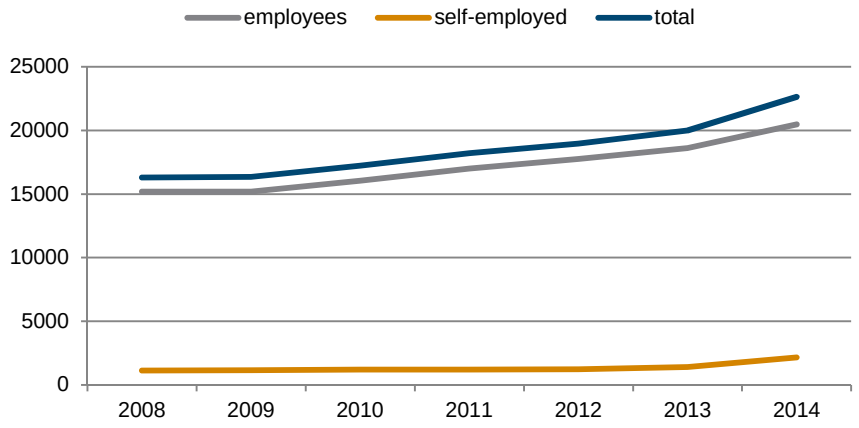
Employment data of foreigners by citizenship are provided (originally) by the Social Insurance Institute *(Hauptverband der Sozialversicherungsträger)* on a monthly and annual basis. Data are available for Austria as a whole and by individual provinces *(Bundesländer)*. Unemployment data based on registration are provided by the Public Employment Service of Austria *(Arbeitsmarktservice AMS)*. For some years now the Ministry of Labour, Social Affairs and Consumer Protection offers on its web portal BALI labour market indicators based on information obtained from the Social Insurance Institute and the PES.

Based on Social Insurance data, employment of Croatian nationals in Austria increased from 15,194 persons in 2008 to 20,479 in 2014 (Figure 10). The largest increase was reported between 2013 and 2014, by 1,872 persons or 10%. At the same time the number of self-employed rose by 772 people or 56%. The rise of the latter is very likely a consequence of Croatia's EU accession. Similar developments were observed in Austria particularly after Romania and Bulgaria joining the EU. Over the period 2008-2014 men accounted for the major share of Croatian workers in Austria, albeit declining from 59% to 56%.

Croatian citizens in Austria work predominantly in manufacturing (16.5%), followed by construction and trade (about 14% each). An almost constant portion has been employed in tourism (12.5%) and administrative and support service activities (10%). Their share in health and social work and transport accounts for about 5% each. Employment in agriculture, which is important e.g. in the case of Romanian movers, is negligible.

[42] For further information see http://www.zoll.de/EN/Businesses/Work/Foreign-domiciled-employers-posting/Residence-title-and-work-permit/Union-citizens-whose-freedom-of-movement-as-workers-is-restricted/union-citizens-whose-freedom-of-movement-as-workers-is-restricted_node.html

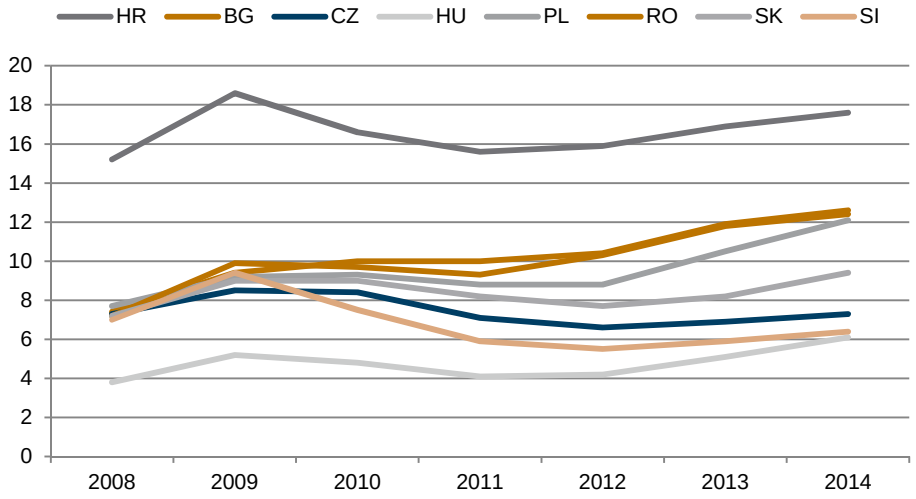
Figure 10 / Employment of Croatian citizens in Austria



Source: BALI web. http://www.qnet.at/bali2014/

Unemployment of Croatian nationals in Austria is high. Over the period 2008-2014 it was 2.5 times higher than the registered unemployment rate of Austrians (Figure 10). In 2014 the unemployment rate of Croatian citizens stood at 17.9% compared to about 6% reported both for Hungarian and Slovenian nationals. Once again, this figure is about all Croatians residing in Austria – and not those that came there recently.

Figure 11 / Registered unemployment by selected nationalities in Austria, %



Source: BALI web. http://www.qnet.at/bali2014/

Regulations regarding the employment of Croatian citizens in Austria

Workers from Croatia who want to take up an employment in Austria during the transitional period need a labour market permit granted by the Public Employment Service (PES). The intended employer applies for a work permit at the PES which is granted if certain conditions are fulfilled (Austrian wage and working conditions, no equally qualified registered workers available, no hiring-out of workers).

There are facilitated possibilities for highly qualified workers ('key workers'), skilled workers in shortage occupations, qualified health care personnel and seasonal workers in tourism (hotels and restaurants) and agriculture.[43]

Slovenia

According to the Statistical Office of Slovenia, the number of Croatian citizens in Slovenia increased from 7,738 persons in 2011 to 8,707 in 2014. At the same time the number of work permits for Croatian nationals issued by the Public Employment Service fell from 5,796 to 4,105.

Data provided by the Statistical Office of Slovenia indicate that the employment of Croatian nationals fell from 6,844 persons in 2002 to 5,770 in 2006, rose in the two following years and fell steadily up to 2013. 2014 was the first year after the crisis reporting an increase of Croatian workers by 2.8% to 5,538 persons. This figure also includes commuters. The majority of Croatian workers (89%) in Slovenia are men; about 7% are self-employed. In terms of age about half of the Croatian workers in 2014 accounted for the 35-54 age group, about 3% were between 15 and 24 years of age, 20% between 25 and 34 and about 15% between 55 and 64.

With regard to education, 19% of Croatian nationals were low-skilled, 67% had a medium level of education and the highly educated accounted for 14%. Croatian workers are mainly engaged in manufacturing (27%), followed by construction (22%), transport (13.5%), trade (8%) and accommodation and food and services activities (6%).

The number of daily commuters from Croatia to Slovenia fell steadily from 1,858 in 2009 to 1,384 in 2013, the vast majority (over 80%) being males.

[43] For further information see Ministry of Labour, Social Affairs and Consumer Protection: Transitional period for workers from Croatia.

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Table A.1a / Stock of Croatian citizens in other EU Member States, January 1st

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Austria		61422	62478	62163	61869	61126	59632	59229	58946	58505	58279	58297	58619
Belgium	683	667	667	637	669	701	733	765	797	808	952	1027	1092
Bulgaria	21	45	44	43	42	41	40	39	38	38	38	36	38
Czech Republic	1985	1765	1812	1845	1744	2075	2147	2223	2244	2305	2321	2364	2328
Denmark	489	484	446	440	424	425	431	455	472	485	499	503	528
Finland	260	319	328	337	342	321	304	299	273	275	281	289	299
France	5026	4543	4060	3577	3466	3355	3440	3525	3610	3695	3782	3871	4512
Germany		223819	230987	236570	229172	228926	227510	225309	223056	221222	220199	223014	224971
Greece	219	150	103	70	107	110	113	116	157	154	151	148	188
Hungary	927	931	800	902	847	789	813	865	922	923	959	676	674
Ireland	652	708	764	820	876	932	988	1044	968	854	858	855	873
Italy	12459	14936	17413	19890	20712	21232	21360	21308	21511	21261	21079	21470	17210
Netherlands	1582	1632	1650	1679	1595	1505	1480	1444	1421	1464	1498	1500	1528
Poland	186	138	90	91	92	93	94	95	141	148	149	232	239
Portugal	117	111	119	202	190	178	166	154	80	76	84	85	86
Romania	33	33	33	33	33	34	34	34	34	34	34	37	79
Slovakia	703	612	521	430	339	311	333	328	338	412	463	454	465
Slovenia	6751	7221	7208	6992	6831	6955	6829	6976	7202	7775	7738	7966	8317
Spain	669	853	1111	1311	1555	1861	1672	1765	1708	1672	1522	1448	1527
Sweden	7520	6859	5470	4194	3581	3221	2763	2562	2445	2400	2292	2237	2220
United Kingdom	6070	5753	5771	5789	5807	5825	5844	5862	5881	5899	6961	8214	8859
Total		333001	341875	348015	340293	340016	336726	334397	332244	330405	330139	334723	334652

Note: Estonia, Latvia, Lithuania, Cyprus, Luxembourg and Malta are not included due to the lack of data.
Source: Eurostat unless otherwise stated. Population on 1 January by five year age group, sex and citizenship, code: migr_pop1ctz
For Austria and Germany: national statistics; Belgium: data for 2004-2007 are imputated by applying the average growth rate of the previous year; Ireland: data for 2001-2006 are imputated; Greece: data for 2002, 2005, 2009 and 2010 refer to the OECD International Migration Database http://stats.oecd.org/Index.aspx?DataSetCode=MIG, for the remaining years data are imputated; France: data for 2001-2002, 2004, 2006-2008 are imputated; for 2009 and 2010 OECD International Migration Database, data for 2011-2013 are imputated; Poland: data for 2001, 2003-2006 are imputated; Portugal: data for 2004-2006 are imputated; Romania: data for 2002, 2010-2011 are imputated; Slovakia: data for 2001-2003 are imputated; UK: for 2010 and 2013 UN Statistics, Population division http://www.un.org/en/development/desa/population/migration/data/estimates2/estimatesorigin.shtml; data for the remaining years are imputated.

Table A. 1b / Acquisition of citizenship by formerly Croatian citizen

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Belgium	:	118	92	48	45	49	62	42	59	52	47	36	54
Bulgaria	:	:	1	0	1	1	2	0	1	0	0	0	0
Czech Republic	:	:	8	10	7	2	16	6	6	7	6	11	11
Denmark	36	26	39	16	31	2	5	:	5	8	5	2	2
Germany	3,316	3,931	2,974	2,048	1,689	1,287	1,729	1,224	1,032	542	696	667	546
Estonia	0	0	0	:	0	:	0	0	0	0	0	0	0
Ireland	:	:	:	:	:	12	23	13	94	52	66	66	119
Greece	:	:	:	:	:	:	:	1	:	5	0	6	0
Spain	12	15	13	14	13	17	30	26	16	14	34	13	9
France	:	:	:	:	140	92	:	49	28	25	20	28	22
Croatia	:	:	:	:	:	:	:	0	0	:	0	0	0
Italy	:	:	:	336	:	:	:	:	913	753	595	459	417
Cyprus	0	:	0	1	:	:	0	0	0	3	0	0	0
Latvia	0	0	0	0	0	0	0	0	0	0	0	:	0
Lithuania	0	0	:	:	0	0	0	0	0	0	0	0	0
Luxembourg	3	4	8	8	7	11	11	8	6	25	33	13	12
Hungary	118	45	17	413	22	50	31	26	34	25	26	61	50
Malta	:	:	:	:	:	:	:	1	0	1	1	1	12
Netherlands	177	114	98	63	127	101	77	63	61	54	58	57	53
Austria	1,642	1,986	2,537	2,588	2,212	2,276	2,494	1,349	824	440	456	363	401
Poland	:	2	2	8	6	11	0	3	3	3	9	4	7
Portugal	0	0	0	0	1	0	1	:	0	2	1	13	2
Romania	:	0	0	0	0	0	0	:	:	0	:	:	:
Slovenia	337	289	341	520	465	208	335	225	238	198	154	164	134
Slovakia	:	2	19	35	50	22	16	18	4	4	2	7	0
Finland	2	1	0	3	15	28	27	17	42	11	6	9	14
Sweden	231	925	1,569	1,531	780	504	624	314	230	181	195	162	160
United Kingdom	157	270	:	390	690	1,035	605	373	165	224	154	114	144
Total	6031	7728	7718	8032	6301	5708	6088	3758	3761	2629	2564	2256	2169

Source: Eurostat. Acquisition of citizenship by sex, age group and former citizenship, code: migr_acq.

Table A.2 / Estimation results

	(1) Stock of migrants_ ln_mst_o
ln_mst_o_1	0.811***
	(0.00779)
ln_gdp_o_1	-0.500***
	(0.0356)
ln_gdp_d_1	0.341***
	(0.0320)
ln_pop_o_1	0.181***
	(0.0139)
ln_pop_d_1	0.106***
	(0.00982)
ln_empl_o_1	-0.00968
	(0.103)
ln_empl_d_1	1.304***
	(0.200)
emp_dum_sl_WB_5	-1.681***
	(0.221)
contig	0.300***
	(0.0355)
lang_of	0.616***
	(0.143)
lang_ethn	0.0147
	(0.100)
dist	-0.000178***
	(0.0000184)
trans	0.0780*
	(0.0319)
rest_lmkt	-0.302***
	(0.0345)
free_visa	0.194***
	(0.0262)
dum_cr_AT	0.677
	(0.714)
dum_cr__BE	0.0945
	(0.349)
dum_cr__BG	-0.498
	(0.380)
dum_cr__CZ	0.283***
	(0.0535)
dum_cr__DK	-0.00717
	(0.130)
dum_cr__FL	0.114
	(0.126)
dum_cr__FR	0.199
	(0.281)
dum_cr__DE	0.843
	(0.840)
dum_cr__GR	-0.0691
	(0.630)
dum_cr__HU	-0.173
	(0.152)
dum_cr__IE	0.260**
	(0.0834)
dum_cr__IT	0.431
	(0.334)
dum_cr__NL	0.0323
	(0.0720)
dum_cr__PL	-0.0640
	(0.254)
dum_cr__PR	-0.0333
	(0.0992)
dum_cr__RO	-0.297+
	(0.171)
dum_cr__SK	0.120
	(0.316)
dum_cr__SL	0.272
	(0.250)
dum_cr__ES	0.295*
	(0.136)
dum_cr__SE	0.287
	(0.263)
dum_cr__UK	0.322+
	(0.171)
_cons	1.071**
	(0.413)
N	3474
RMSPE	0.169

Standard errors in parentheses
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A.3 / Projected net migration, 2013-2019

	Scenario I: status quo, restricted access to labour market applies, 2013-2019			Scenario II: free access to labour market applies, July 2013			Scenario III: free access to labour market applies, July 2015		
destination country	Jan-13	Jan-19	Net migration 01/2013-01/2019	Jan-13	Jan-19	Net migration 01/2013-01/2019	Jan-13	Jan-19	Net migration 01/2013-01/2019
Germany	224,971	315016	90045	224,971	334165	109194	224,971	331806	106835
Austria	58,651	97397	38746	58,651	112177	53526	58,651	106609	47958
Italy	17120	31163	14043	17120	46902	29782	17120	43097	25977
Spain	1962	5005	3043	1962	7533	5571	1962	5005	3043
Slovenia	8,317	11139	2822	8,317	16764	8447	8,317	15404	7087
United Kingdom	8859	11213	2353	8859	16876	8017	8859	15507	6648
France	4512	6854	2342	4512	10315	5803	4512	9478	4966
Belgium	1,092	1782	690	1,092	2682	1590	1,092	2465	1373
Netherlands	1,528	1940	412	1,528	2919	1391	1,528	2682	1154
Greece	188	392	204	188	590	402	188	542	354
Czech Republic	2,328	5504	3176	2,328	5504	3176	2,328	5504	3176
Sweden	2,220	4967	2747	2,220	4967	2747	2,220	4967	2747
Ireland	873	2334	1461	873	2334	1461	873	2334	1461
Hungary	674	1887	1213	674	1887	1213	674	1887	1213
Slovakia	465	1676	1211	465	1676	1211	465	1676	1211
Poland	239	899	660	239	899	660	239	899	660
Finland	299	852	553	299	852	553	299	852	553
Denmark	528	1067	539	528	1067	539	528	1067	539
Portugal	86	228	142	86	228	142	86	228	142
Romania	79	157	78	79	157	78	79	157	78
Bulgaria	38	37	-1	38	37	-1	38	37	-1
Total	335029	501508	166479	335029	570532	235503	335029	552204	217175

Table A.4 / Projected net migration, 2013-2019, distribution by destination country

	Net migration 01/2013-01/2019			Net migration 01/2013-12/2019 by destination country, in %		
dest	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Austria	38746	53526	47958	23.27%	22.73%	22.08%
Belgium	690	1590	1373	0.41%	0.68%	0.63%
Bulgaria	-1	-1	-1	0.00%	0.00%	0.00%
Czech Republic	3176	3176	3176	1.91%	1.35%	1.46%
Denmark	539	539	539	0.32%	0.23%	0.25%
Finland	553	553	553	0.33%	0.23%	0.25%
France	2342	5803	4966	1.41%	2.46%	2.29%
Germany	90045	109194	106835	54.09%	46.37%	49.19%
Greece	204	402	354	0.12%	0.17%	0.16%
Hungary	1213	1213	1213	0.73%	0.52%	0.56%
Ireland	1461	1461	1461	0.88%	0.62%	0.67%
Italy	14043	29782	25977	8.44%	12.65%	11.96%
Netherlands	412	1391	1154	0.25%	0.59%	0.53%
Poland	660	660	660	0.40%	0.28%	0.30%
Portugal	142	142	142	0.09%	0.06%	0.07%
Romania	78	78	78	0.05%	0.03%	0.04%
Slovakia	1211	1211	1211	0.73%	0.51%	0.56%
Slovenia	2822	8447	7087	1.70%	3.59%	3.26%
Spain	3043	5571	3043	1.83%	2.37%	1.40%
Sweden	2747	2747	2747	1.65%	1.17%	1.26%
United Kingdom	2353	8017	6648	1.41%	3.40%	3.06%
total	166479	235503	217175	100.00%	100.00%	100.00%

Table A.5 / Projected net migration, 2013-2019, share of destination country population

	Net migration 01/2013-01/2019			Net migration as share of destination country population			
dest	Scenario I	Scenario II	Scenario III	Destination country population, 2019,	Scenario I	Scenario II	Scenario III
Austria	38746	53526	47958	8.743.880	0.44%	0.61%	0.55%
Belgium	690	1590	1373	11.722.920	0.01%	0.01%	0.01%
Bulgaria	-1	-1	-1	7.021.270	0.00%	0.00%	0.00%
Czech Republic	3176	3176	3176	10.624.470	0.03%	0.03%	0.03%
Denmark	539	539	539	5.747.200	0.01%	0.01%	0.01%
Finland	553	553	553	5.590.560	0.01%	0.01%	0.01%
France	2342	5803	4966	67.374.750	0.00%	0.01%	0.01%
Germany	90045	109194	106835	80.670.270	0.11%	0.14%	0.13%
Greece	204	402	354	10.763.190	0.00%	0.00%	0.00%
Hungary	1213	1213	1213	9.809.120	0.01%	0.01%	0.01%
Ireland	1461	1461	1461	4.613.350	0.03%	0.03%	0.03%
Italy	14043	29782	25977	61.757.320	0.02%	0.05%	0.04%
Netherlands	412	1391	1154	17.081.430	0.00%	0.01%	0.01%
Poland	660	660	660	38.426.320	0.00%	0.00%	0.00%
Portugal	142	142	142	10.179.680	0.00%	0.00%	0.00%
Romania	78	78	78	19.732.430	0.00%	0.00%	0.00%
Slovakia	1211	1211	1211	5.417.000	0.02%	0.02%	0.02%
Slovenia	2822	8447	7087	2.083.990	0.14%	0.41%	0.34%
Spain	3043	5571	3043	45.945.720	0.01%	0.01%	0.01%
Sweden	2747	2747	2747	10.050.990	0.03%	0.03%	0.03%
United Kingdom	2353	8017	6648	66.287.030	0.00%	0.01%	0.01%
total	166479	235503	217175	499.642.890	0.03%	0.05%	0.04%

Table A.6 / Projected net migration, 2013-2019, share of origin country population

	Net migration 01/2013-01/2019			Net migration 01/2013-12/2019 as share of origin country, in %		
dest	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Austria	38746	53526	47958	0.9%	1.3%	1.1%
Belgium	690	1590	1373	0.0%	0.0%	0.0%
Bulgaria	-1	-1	-1	0.0%	0.0%	0.0%
Czech Republic	3176	3176	3176	0.1%	0.1%	0.1%
Denmark	539	539	539	0.0%	0.0%	0.0%
Finland	553	553	553	0.0%	0.0%	0.0%
France	2342	5803	4966	0.1%	0.1%	0.1%
Germany	90045	109194	106835	2.1%	2.6%	2.5%
Greece	204	402	354	0.0%	0.0%	0.0%
Hungary	1213	1213	1213	0.0%	0.0%	0.0%
Ireland	1461	1461	1461	0.0%	0.0%	0.0%
Italy	14043	29782	25977	0.3%	0.7%	0.6%
Netherlands	412	1391	1154	0.0%	0.0%	0.0%
Poland	660	660	660	0.0%	0.0%	0.0%
Portugal	142	142	142	0.0%	0.0%	0.0%
Romania	78	78	78	0.0%	0.0%	0.0%
Slovakia	1211	1211	1211	0.0%	0.0%	0.0%
Slovenia	2822	8447	7087	0.1%	0.2%	0.2%
Spain	3043	5571	3043	0.1%	0.1%	0.1%
Sweden	2747	2747	2747	0.1%	0.1%	0.1%
United Kingdom	2353	8017	6648	0.1%	0.2%	0.2%
Total	166479	235503	217175	3.9%	5.6%	5.1%
Total population Croatia, 2019				4217280	4217280	4217280

Table A.7 / Projected stock of migrants, 2013-2019

	Jan-13	Jan-14	Jan-15	Jan-16	Jan-17	Jan-18	Jan-19
Scenario I: status quo, restricted access to labour market applies, 2013-2019	335029	361902	395012	427543	457226	482540	501508
Scenario II: free access to labour market applies, July 2013	335029	374711	420075	465038	506621	542634	570532
Scenario III: free access to labour market applies, July 2015	335029	361902	395012	441127	484290	522204	552204

Database sources of projections:

GDP per capita at PPPs, Source: wiiw database 2001-2012
http://data.wiiw.ac.at/

GDP per capita at PPPs, Source: World Economic Outlook database 2013-2019
https://www.imf.org/external/pubs/ft/weo/data/changes.htm

Employment rates=1- unemployment rates, source: wiiw database 2001-2012
http://data.wiiw.ac.at/

Employment rates=1- unemployment rates, source: World Economic Outlook database 2013-2019
https://www.imf.org/external/pubs/ft/weo/data/changes.htm

Population statistics, Source: wiiw database 2001-2012
Population statistics, Source: wiiw database 2013-2019
http://data.wiiw.ac.at/

Stock of migrants statistics, Source: Eurostat Population Statistics
http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=migr_pop2ctz&lang=en
http://stats.oecd.org/Index.aspx?DataSetCode=MIG

Gravity model variables
http://www.cepii.fr/CEPII/en/bdd_modele/presentation.asp?id=8

Table A.8 / Sectoral distribution of Croatian citizens in EU-27 employment, %

	2008	2009	2010	2011	2012	2013
Agriculture	.	.	.	.	.	.
Mining and quarrying	.	.	.	.	.	.
Manufacturing	26.9	22.8	21.7	21.7	21.8	23.3
Electricity	.	.	.	.	.	.
Water supply; sewerage	.	.	.	.	.	.
Construction	12.9	12.6	10.5	12.9	12.8	10.4
Wholesale and retail trade; repair of motor vehicles and motorcycles	12.6	14.2	13.0	14.4	12.5	13.0
Transportation and storage	3.7	4.2	5.2	5.0	5.6	4.9
Accommodation and food service activities	9.8	10.2	10.5	10.2	10.7	9.8
Information and communication	.	.	.	.	.	.
Financial and insurance activities	.	.	.	.	.	.
Real estate activities	.	.	.	.	.	.
Professional	.	.	.	.	.	3.3
Administrative and support service activities	6.2	5.9	7.3	6.8	6.9	6.3
Public administration and defence; compulsory social security	.	.	.	.	.	.
Education	.	.	.	.	.	.
Human health and social work activities	11.6	12.0	11.8	11.2	12.1	12.8
Arts	.	.	.	.	.	.
Other service activities	.	.	.	.	.	.
Activities of households as employers;	.	.	.	.	.	.
Activities of extraterritorial organisations and bodies	.	.	.	.	.	.
No answer	.	.	.	.	.	.
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Eurostat LFS (annual averages).
Note: "." indicate figures too small to be reliable.

Table A.9 / Croatian citizens in Germany by broad age groups

	15-24	25-34	35-54	55-64	65+
EU-28	10.8	20.9	38.5	12.2	10.4
Czech Republic	10.5	26.9	41.9	8.6	4.2
Hungary	10.7	27.7	42.6	9.3	2.7
Poland	10.5	25.9	42.4	10.5	2.6
Estonia	14.2	30.9	33.9	5.5	5.5
Latvia	14.3	30.4	35.0	5.5	3.5
Lithuania	13.6	28.5	39.8	5.7	1.9
Slovakia	13.2	35.7	36.5	4.8	1.0
Slovenia	6.7	16.7	30.8	18.3	22.9
Bulgaria	12.2	29.5	37.3	4.8	10.0
Romania	14.2	32.5	36.8	4.1	1.7
Croatia	8.1	15.5	34.5	19.0	19.5

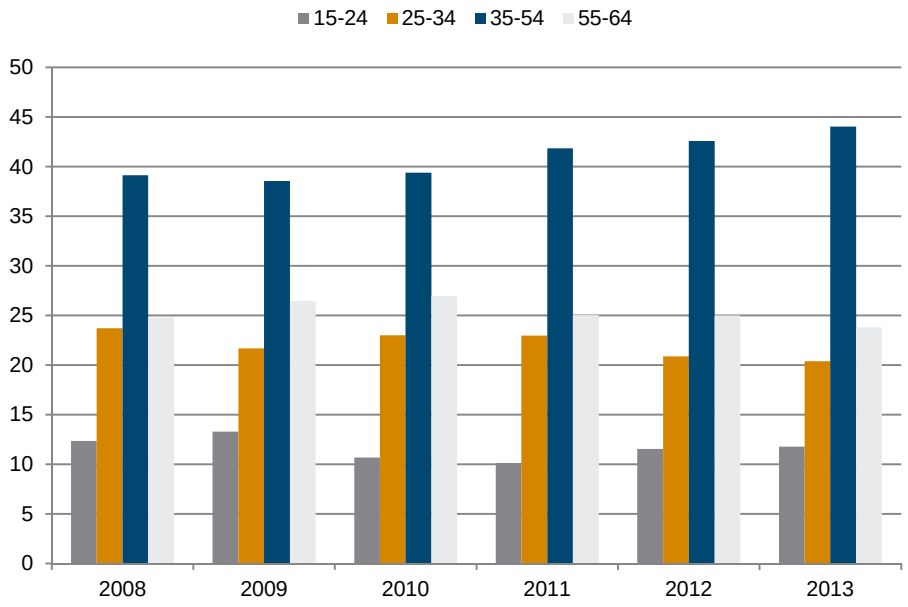
Source: Statistisches Bundesamt, Fachserie1, Reihe 2, 2013

Table A.10 / Croatian and other group of EU citizens residing in Germany by years of residence, 2013

	total	below 1 year	1 to below 4 years	4 to below 6 years	6 to below 8 years	8 to below 10 years	10 years and more	average duration of stay
EU-28	100	10.2	17.8	5.9	5.2	4.4	56.5	18.3
Czech Republic	100	12.0	21.2	7.6	7.3	7.9	44.0	10.8
Hungary	100	22.7	35.7	8.2	5.6	3.9	23.9	7.3
Poland	100	13.9	25.5	8.7	10.7	9.4	31.9	8.9
Estonia	100	11.8	25.8	8.6	7.1	8.5	38.2	8.7
Latvia	100	16.8	42.1	9.2	5.0	5.9	20.9	5.9
Lithuania	100	13.3	32.2	8.0	8.6	10.9	27.0	6.8
Slovakia	100	17.0	29.7	8.2	8.5	9.0	27.6	7.0
Slovenia	100	10.1	11.3	2.6	2.1	2.2	71.8	27.3
Bulgaria	100	19.6	40.5	13.5	7.1	4.0	15.3	5.1
Romania	100	23.9	39.7	10.8	6.5	3.4	15.8	5.0
Croatia	100	4.3	2.9	1.4	1.2	1.5	88.7	29.2

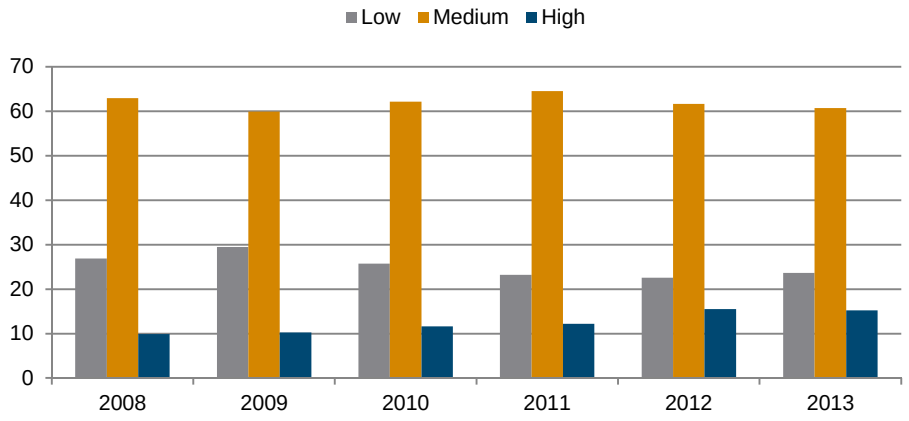
Source: Statistisches Bundesamt, Fachserie1, Reihe 2, 2013

Figure A.1 / Working-age Croatian population residing in EU-27 by age groups (in %)



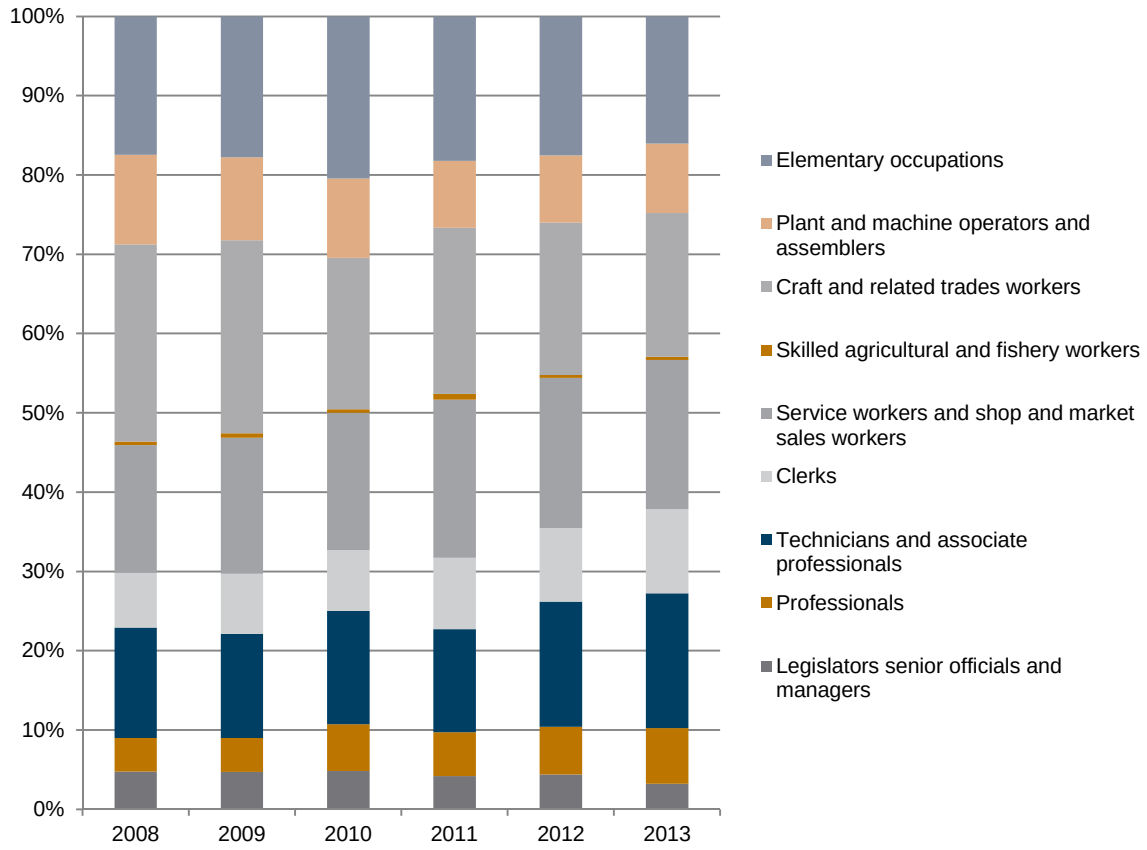
Source: Eurostat LFS, annual averages.

Figure A.2 / Educational attainment of Croatian citizens employed in EU-27



Source: Eurostat LFS (annual averages)

Figure A.3 / Occupational distribution of Croatian citizens employed in EU-27, %



Source: Eurostat LFS (annual averages)

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