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Andrea Kovač

**LABOUR MARKET SHORTAGES IN CROATIA AS A
CONSEQUENCE OF POPULATION EMIGRATION**

Undergraduate Thesis

University of Zagreb

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Zagreb, July 2022

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Undergraduate Thesis

University of Zagreb

Faculty of Economics & Business

Course: Croatian Economy

JMBAG: 0067580515

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Zagreb, July 2022

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1 INTRODUCTION

The aim of this paper is to present the Croatian labour market and its main issue - shortages of workers due to population emigration. Standard of living, working conditions, workforce and labour market are the most important determinants of economic development. Stable employment leads to economic growth and the ability to keep growing even during a financial crisis. That is why it is important to keep the workforce as the source of skills and knowledge inside the country, although there are various impacts on labour shortages.¹ The following chapters present information about the Croatian labour market, its working conditions, why emigration is Croatia's biggest issue and how the country can prevent people from leaving it. Furthermore, it is important to mention the situation in the labour market in Croatia during the Covid-19 pandemic that has affected the whole world. Finally, there is an example of a lack of health workers in Croatia due to emigration to Germany.

All the data in this paper is based on scientific literature, including various articles and books.

¹ Topel, R. (1999). Labor markets and economic growth. *Handbook of labor economics*, 3, 2943-2984.

2 LABOUR MARKET OF CROATIA

To understand better the Croatian labour market today, we need to be familiar with its history and past events that have left a mark on it. The Republic of Croatia has suffered significant consequences from the Great Recession in 2009. A long-lasting crisis caused a significant worsening of labour market conditions. Until 2013, the real GDP cumulatively declined by more than 12. There was a slowdown in capital inflows, a decline in international trade, a contraction of aggregate demand, and declining employment in almost every economic sector. The biggest decrease happened in construction, wholesale and retail trade where the number of employees fell by more than 100 000, that is to say, a reduction of 21% in the whole industry from 2009 until 2013. On the other hand, some activities were not negatively affected; they increased. Those were activities controlled by the public sector, such as public administration and defence or education and human health activities.²

The overall structure of the Croatian market, trade and the whole economy has changed since 2013 when Croatia entered the European Union. Croatia became a part of the European single market, and was given access to 10.7 billion euro in grants from EU structural and investment funds, new institutional reforms were introduced etc. Accordingly, since 2015 Croatian economy moderately started to grow, and public finances have been put in order, fiscal stabilization has been achieved, and the unemployment rate has dropped. Accessing the EU has also provided free movement for Croatian workers to the other EU Member States, but more on that could be found in the following chapter: "Emigrations from Croatia".

According to the Croatian Employment Service (CES), in 2017 Croatia experienced bottlenecks in the labour market. In other words, there were many jobs that lacked skilled candidates. Furthermore, the Croatian labour market had a low resilience. To improve the situation on the

² Brkić, M. (2015). Labor market duality and the impact of prolonged recession on employment in Croatia. *Croatian economic survey*, 17(1), 5-45.

market, the government has introduced a few reforms, but that has not solved another critical issue of low geographical mobility within the territory of Croatia. Many unemployed Croatians are unwilling to work in neighboring countries despite the financial benefits they could gain. As a consequence of skill shortages, wages for jobs in those sectors increased. That caused wage inflation which led to a loss of competitiveness, lower GDP and slower economic development.³

Although Croatia surpassed the pre-crisis (2008) level in 2018, its overall employment rate was still one of the lowest in the EU, with only 46.9% of the population older than 15, and 65.2% of the population from 20 to 64 years being employed. On the other hand, the unemployment rate was extremely high with 8.5% of the non-working population out of which more than 40% of those unemployed were considered long-term unemployed.

Figure 1 represents the average annual unemployment rate of the population between 15 and 74 years, from 2000 to 2018. It also shows a comparison between Croatian and European Union's yearly average unemployment. It can be concluded that Croatia constantly has a higher unemployment rate.

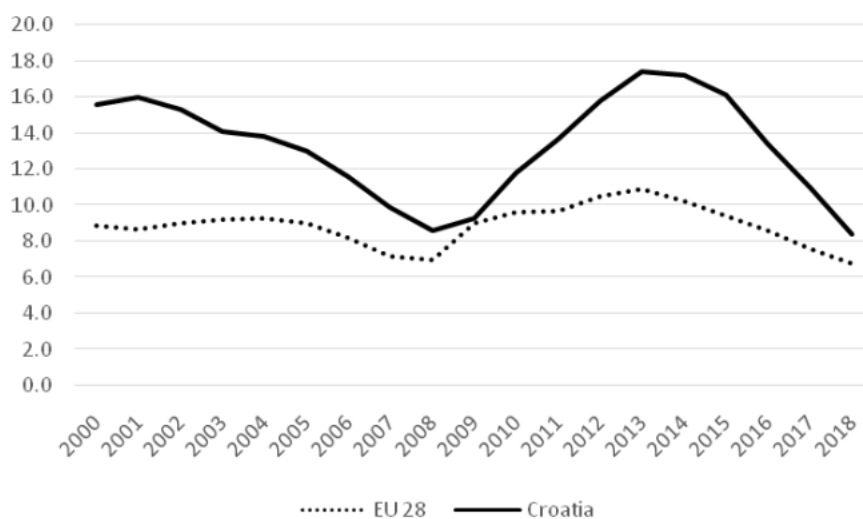


Figure 1 Average annual unemployment rate, age 15-74, in Croatia and EU28, from 2000 to 2018

Source: Hakansson, P. G., & Bejakovic, P. (2020). Labour market resilience, bottlenecks and spatial mobility in Croatia. *Eastern Journal of European Studies*, 11(2), 5.

³ Hakansson, P. G., & Bejakovic, P. (2020). Labour market resilience, bottlenecks and spatial mobility in Croatia. *Eastern Journal of European Studies*, 11(2), 5.

Furthermore, Croatian labour market was characterized by low activity rate of just 71% mostly caused by early retirement, especially for particular groups of the population such as war veterans, people with disabilities etc.⁴ As a result, those people retire on average at the age of 52.6. Furthermore, research has shown that more than 40% of employed people want early retirement. To solve this problem, there was a proposal for an extension of working life (the possibility to work after 65) but it was put on hold at the time. The main argument against that idea was that the life expectancy in Croatia is lower than in other countries of the EU (for women, 2.5 years and for men, 4.3 years lower).⁵

The last data from 2020 states that Croatian GDP, living standards and purchasing power of the population are still among the lowest in Europe. Wage growth is present but not followed by an increase in labour productivity, as is the case with most European countries.⁶ The most important sectors in 2020 were wholesale and retail trade, transport, accommodation and food services, industry, education, health and social work activities. Furthermore, international trade is one of the key factors in Croatia's economic development considering that its trade in goods accounted for 55% of GDP in 2021. 67% of Croatia's exports were made inside of the EU (mainly Germany, followed by Italy) while in terms of imports, 77% came from EU Member States (mostly Germany, followed by Italy). The Republic of Croatia mainly exports petroleum oils, medicines and wood while its main imports are crude oil, cars, medicines and electricity.⁷ In order to improve the standard of living and achieve and maintain economic growth, Croatia needs to solve structural problems present in the labour market and create efficient economic policies.

2020 was also the year that has great importance for the Croatian economy, market and population because in that year, the first case of Covid-19 appeared. More about the Covid-19

⁴ Tomić, I., Rubil, I., Stubbs, P., & Nestić, D. (2019). The employment and social situation in Croatia.

⁵ Zrinščak, S., Vehovec, M., & Čengić, D. (2020). Croatia. In *Extended Working Life Policies* (pp. 195-204). Springer, Cham.

⁶ Prvonožec, S. (2020). The impact of wages on the labour market in the Republic of Croatia. *Oeconomica Jadertina*, 10(2), 115-126.

⁷ Kurecic, P., & Furdy, I. (2021). INTERNATIONAL TRADE OF THE REPUBLIC OF CROATIA WITH THE EUROPEAN UNION: TRENDS AND PERSPECTIVES. *Economic and Social Development: Book of Proceedings*, 509-520.

pandemic and its effect on Croatian labour market you can find in the chapter: "Croatian labour market in the Covid-19 pandemic".

2.1 Working conditions in the public sector

Good working conditions represent the strong economy of the country. They have a great influence on quality of work and life satisfaction among workers while contributing to the economic performance of the country. In Croatia, the Labour Act regulates employment, stating that minimum age for employment is 15 years. There is a 40-hour work week with a 30-minute daily break and a minimum 24-hour rest period during the week. Also, every employee has the right to take 18 days of vacation.

Among various working conditions, we are going to focus mostly on wages, working time and ethical principles.

Considering wages, the minimum wage was frozen during the recession (2009-2012) but due to the introduction of the Minimum Wage Act in 2013, nominal wages have increased in all sectors between 2013 and 2019. Despite that, Croatia was determined as a country with the lowest monthly gross wage for a full-time job.⁸ Between 2013 and 2017 the average wage in the public sector was higher for about 25% than in the private sector, although that difference became smaller in 2018-2019 to around 13%. It is important to mention that the return on higher education was higher in the private sector. The average monthly payments per person in legal entities for 2019 were HRK 6,457, which is 17.1% higher than the net wage from 2013 (HRK 5.515). The highest average net earnings per person were in Financial and Insurance activities (HRK 8.862), while the lowest incomes in 2019 were in Administrative and support service activities (HRK 4.956). As it can be concluded, some sectors (i.e., manufacturing of textiles) are more exposed to the influence of minimum wage in comparison with others. Finally, in January 2022, the average wage increased to HRK 7.378 per month, according to Bureau of Statistics.⁹

⁸ Nestić, D., Babić, Z., & Blažević Burić, S. (2018). Minimum wage in Croatia: sectoral and regional perspectives. *Economic research-Ekonomska istraživanja*, 31(1), 1981-2002.

⁹ Eurofound. <https://www.eurofound.europa.eu/> (6.7.2022.)

For a better understanding, we can observe Figure 2 showing the gross wages and salaries indexes in Croatia from 2009 to 2021.

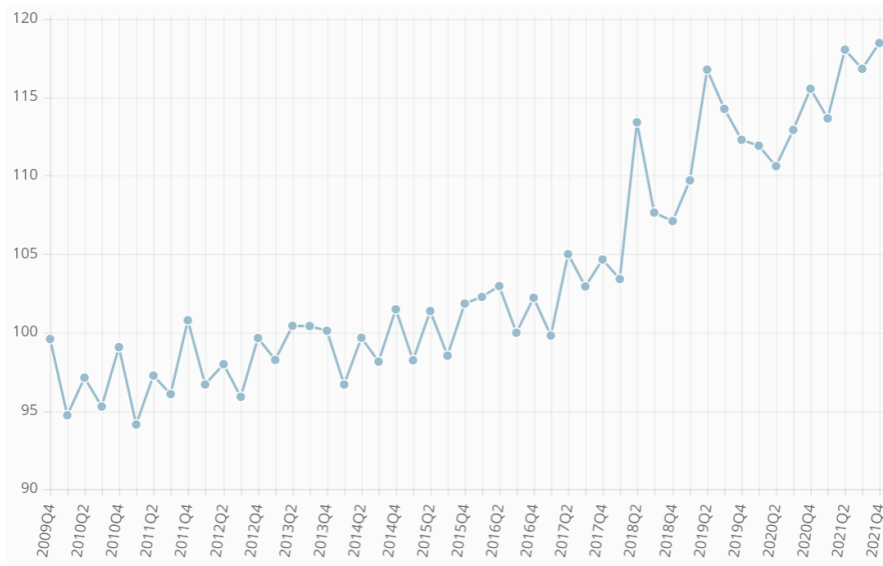


Figure 2 Index of Gross Wages and Salaries in Industry of Croatia from 2009 to 2021

Source: Croatian Bureau of Statistics

Another important working condition is working time, as any period during which the worker is working at the employer's disposal and carrying out his duties in accordance with national laws.

As already stated, according to Article 61 of the Labour Act, a typical working week is 40 hours which can be evenly or unevenly distributed. In the case of uneven distribution of working hours, a working day can be longer or shorter than usual. The maximum number of working hours per week, including overtime, is 50 or 180 hours a year. Also, overtime work by minors is prohibited. Other than a full-time job, there is also a possibility of part-time work (any work shorter than full-time work). According to Eurostat, his type of employment, as a portion of total employment, fell from 5.6% in 2012 to 4.5% in 2020. Compared with other EU countries, Croatia has a low share of people employed as part-time workers, especially women.

For some people option of night work (between 22:00 and 06:00; in the agricultural sector, between 22:00 and 05:00; for minors working in the industry from 19:00 until 07:00) is not so

attractive. Normal working hours for night workers should not exceed, on average 8 hours in a 24-hour period due to possible consequences on mental health. That is why employer must provide night workers with a health assessment before they start working.

Finally, there is the principle of equality for all people or in this case, for all workers. Everyone deserves to receive the same treatment and should not be discriminated against based on age, sex, disability, nationality, race or religion. In Croatia, any form of discrimination is prohibited by the Antidiscrimination Act. Unfortunately, there is a relatively high unadjusted gender pay gap in Croatia (1.2% higher than the average for EU27). According to the World Bank (2019), men in Croatia earn much more than women (the average monthly pay for women makes only 88% of the average pay for men).¹⁰

¹⁰ Bejaković, P. & Klemenčić, I. (2021) Living and working in Croatia. *EUROFOUND*.

3 CROATIAN LABOUR MARKET IN THE COVID-19 PANDEMIC

The Covid-19 pandemic negatively affected the whole world by its appearance in 2019, although it came to Europe in 2020, and has seriously damaged European Union industries. In this chapter, we will focus only on the consequences of the pandemic on Croatia and its labour market.

Covid-19 has affected Croatian economy more than the global financial crisis of 2009. According to The European Commission Autumn Economic Forecast, Croatia suffered a recession of around 9.6% in 2020 mainly because of a fall in the tourism sector, domestic consumption and difficulties in export. Staff wages, social security charges, payment of invoice and rent were the most common problems during the lockdown. Furthermore, the budget deficit was at 8% of GDP, while the public debt was 87.3% of GDP. There was a strong depreciation pressure on domestic currency against the euro. To maintain the stability of the kuna against the euro and the stability of the whole financial system, one of the main Croatian National Bank's (CNB) objective was to calm the foreign exchange market. CNG managed to supply the system with about 2.7 billion EUR by conducting several publicly announced foreign exchange interventions and a few bilateral transactions with commercial banks. Finally, the exchange rate was stabilized while the confidence among market participants in stability of domestic currency increased.

Additionally, a significant decline in the bond market's liquidity occurred. Investment funds faced outflows of investors who started withdrawing their shares in order to own as liquid forms of assets as possible. This resulted in pressures on the domestic bond market, as funds aimed to gather much-needed liquidity. Furthermore, the domestic equity market, known for its limited liquidity, was under huge sellers' pressure. As a result, the value of net assets of investment funds decreased by more than 30%. The decline was recorded in all types of

investment funds and in assets in equity (due to the falling stock prices).¹¹ The following Figure 3 represents a decline in assets and value in investment funds.

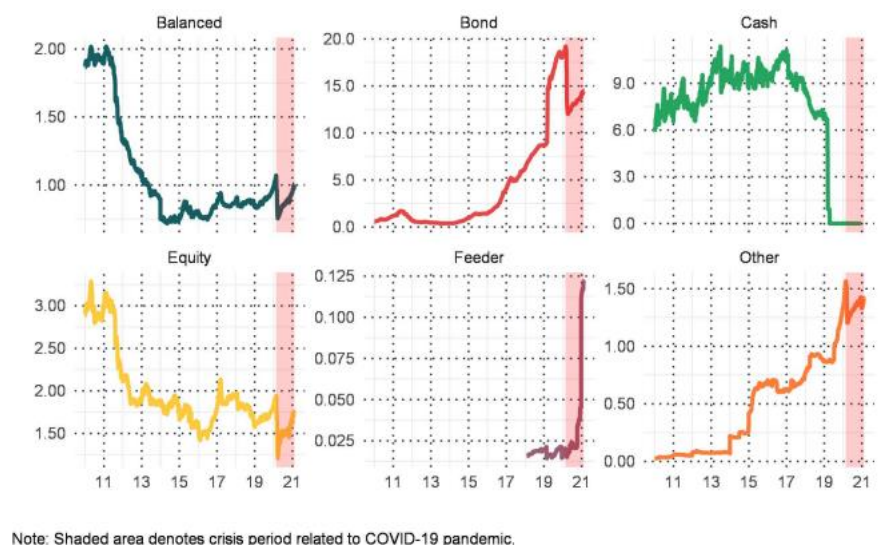


Figure 3 Investment funds - decline in assets and value

Source: Žigman, A., Ridzak, T., & Dumičić Jemrić, M. (2021). Crisis management in public institutions-Croatian financial system and the Covid-19 pandemic. *Management: Journal of Contemporary Management Issues*, 26(Special Issue), 1-16.

Additionally, unemployment started to grow due to countries' lockdown and introduced measures to prevent further spread of the Coronavirus. Some measures were reduced working hours, closing bars, clubs and restaurants, and a limited number of people inside an object, etc. Also, there has been a high rate of bankruptcy, mainly in the activity of wholesale and retail trade. According to Croatian Bureau of Statistics, the rate increased by 31% in 2021 compared to 2020. Lack of money is one of the most important reasons companies fail to survive in the market. It is proven that 80.9% of SMEs can operate with existing cash flow in only 1 to 5 months. All that resulted in major layoffs. According to The Croatian Employment Institute¹², there were around 150 000 unemployed people in December 2020, which is a 21.3% increase

¹¹ Žigman, A., Ridzak, T., & Dumičić Jemrić, M. (2021). Crisis management in public institutions-Croatian financial system and the Covid-19 pandemic. *Management: Journal of Contemporary Management Issues*, 26(Special Issue), 1-16.

¹² Croatian Employment Service. <https://www.hzz.hr/en/> (6.7.2022.)

compared to December 2019.¹³ Finally, the total unemployment rate in 2020 was 7.5%, while the employment rate was 67.1%. Interestingly, during the pandemic, firms reduced the average share of females in permanent full-time employment.

Figure 4 shows unemployment in Croatia from 2018 to 2022. It is evident how the Covid-19 pandemic negatively influenced the Croatian labour market with an increase in unemployment.

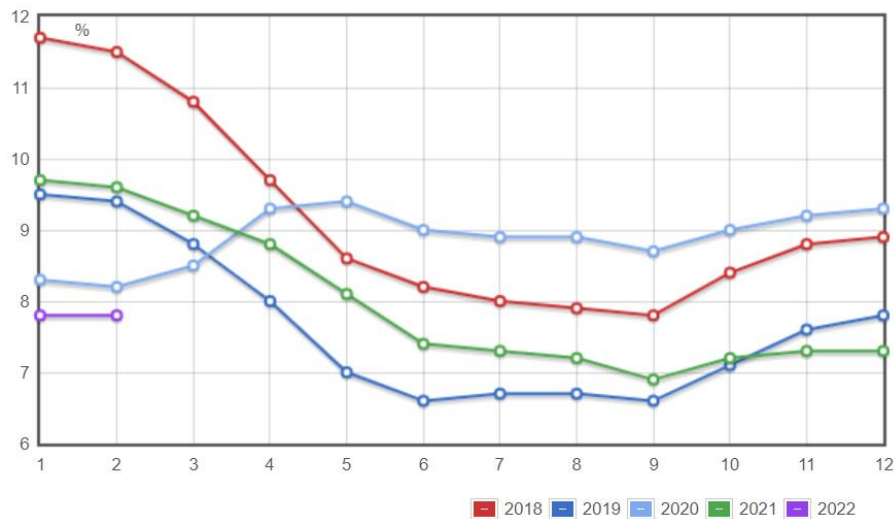


Figure 4 Unemployment rate in Croatia from 2018 to 2022

Source: Croatian Bureau of Statistics

To reduce the negative consequences pandemic was leaving, in 2020, the government presented relief measures to help the economy. It reduced tax rates and introduced a certain amount of aid for the preservation of employment for a few months. Furthermore, payment of VAT, as well as submission of tax returns, forms and reports related to the annual reporting, could be postponed. All tax payers whose businesses were suspended were entirely or partially exempted from payment of public charges for certain months. Also, interest rates were lowered from 0.5 – 1% to 0.1 – 0.25%.¹⁴ Despite the introduction of a broad set of measures, Croatian

¹³ OECD (2021) The Covid-19 Crisis in Croatia

¹⁴ Sataic, I. (2021). Attitudes About the Economic Impact of the COVID-19 Lockdown in the Republic of Croatia on Micro, Small and Medium Enterprises. *European Journal of Economics*, 1(1), 22-33.

GDP decreased significantly, and citizens' satisfaction with the support measures dropped. In 2020 only 12% of the population believed that support measures were fair, while in 2021, that rate declined to 10%. On the other hand, the Covid-19 crisis can be beneficial for many businesses, as about 13% of business workers continue to work at home, and companies invest more money in digitalization. Also, 4.5% of firms in Croatia introduced delivery as part of their business. Furthermore, the crisis has put a spotlight on some issues in the labour market, such as existing inequalities in the society that are widening due to the disproportionate impact of the pandemic on vulnerable groups such as women, young people and those on the margins of society.

For Croatia, tourism is considered a key sector of the economy constituting nearly 20% of overall GDP in 2019. Thus, it was hurt the most during the COVID-19 crisis. Some of the main consequences of the pandemic are an acceleration of the decline of the period of mass tourism, an increase in demand for individual travel and a decrease of the demand for group travel. Finally, Croatia realized 50% of last year's tourism revenues in 2020. We cannot forget about domestic travelling either. According to the Croatian Bureau of Statistics, 2.2 million or 62.4% of the population did not go on private trips with overnight stays in 2020. A decrease was also recorded in business or professional trips with a drop of 62.4%.

4 EMIGRATION FROM CROATIA

Throughout its history, Croatia has been characterized as an emigrant country with a diaspora being spread all around the world due to various reasons and circumstances.

The first wave of emigration happened in the 15th century with the expansion of the Ottoman Empire, because of which Croats emigrated mainly to Austria, Germany, Slovakia and Italy.¹⁵

The second wave occurred in the second half of the 19th and early 20th centuries as a consequence of the Second World War. Around 157 000 Croats emigrated from Croatia between 1941 and 1948 as refugees, prisoners of war or members of the defeated military forces. They mostly emigrated to North and South America, Australia, New Zealand and South Africa. In this wave of emigration, the former Yugoslavia began to allow travel and work abroad, so many people were leaving Croatia, as foreign workers, mostly to West Germany.¹⁶

The period between 1991 and 2000 was also very turbulent for Croatian population due to the Homeland war (1991-1995) and migrations in and out of Croatia. According to the data from the Central Bureau of Statistics, more than 60,000 people have emigrated from Croatia.

Joining the EU in 2013 represents a big milestone in Croatian emigration history. Before entering the EU, Croatia had a positive net migration balance. However, by joining the EU, Croatia became a part of the single market, and as such, it benefits from "the four freedoms": the free movement of goods, services, capital and labour. The free movement of labour triggered labour mobility and emigration from Croatia to the labour markets of other Member States. As a result, more than 85% of Croatian emigrants moved to Germany, Austria and Ireland.

Figure 5 shows the comparison of emigration destinations for Croatians before (the year 2010) and after (the year 2016) entering the EU. It can be concluded that the main destinations

¹⁵ from Croatia, E. (2015). Croatian Migration History and the Challenges of Migrations Today. *altreitalie*.

¹⁶ Pasarić, S. (2020). Croatia, deserted island under the European sky: Migration flows from and within Croatia and their social impacts. *Project partners/4*, 40.

remained almost the same, with the exemption of Ireland as a country that became very popular for Croatians after the accession.

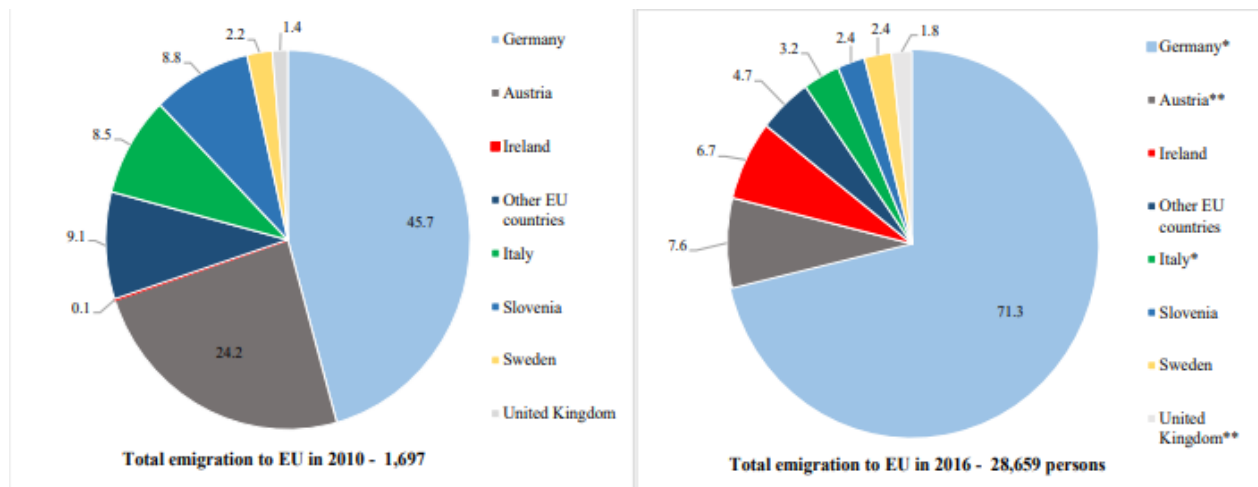


Figure 5 Main EU emigration destinations for Croatians in 2010 and 2016

Source: Draženović, I., Kunovac, M., & Pripuzić, D. (2018). Dynamics and determinants of emigration: the case of Croatia and the experience of new EU member states. *Public Sector Economics*, 42(4), 415-447.

Today, (better) educated, working, and married people are more likely to emigrate from Croatia, which was not the case with previous migrations from the 20th century. Furthermore, there is not the same amount of emigration in all areas in Croatia. According to the research by Jurić (2018), the following conclusions are made on 1,200 Croats who emigrated since the country joined the EU. Most of the emigrants come from Zagreb, Slavonia and Baranja, while emigration is the lowest in regions with the highest tourism profits, such as Southern Dalmatia and Istria. Finally, it can be concluded that the Croatian push factors are stronger than other countries' pull factors. For example, 79% of respondents are completely satisfied with life in Germany. Most of the emigrants, that is to say, 85% do not even consider returning to Croatia, 15% of them think about short or medium time return, while for 40% of the respondents returning is not an option.¹⁷

¹⁷ Jurić, T. The contemporary migration of Croats to Germany.

While there was a high rate of emigration, with an estimation of 230 thousand emigrants in the period from 2013 until 2016, there was no significant effect on the number of immigrants, which can be seen from the Figure 6.

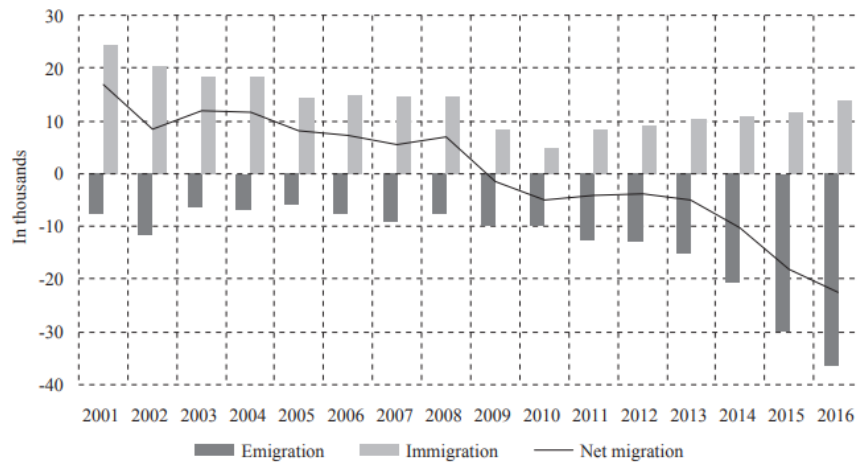
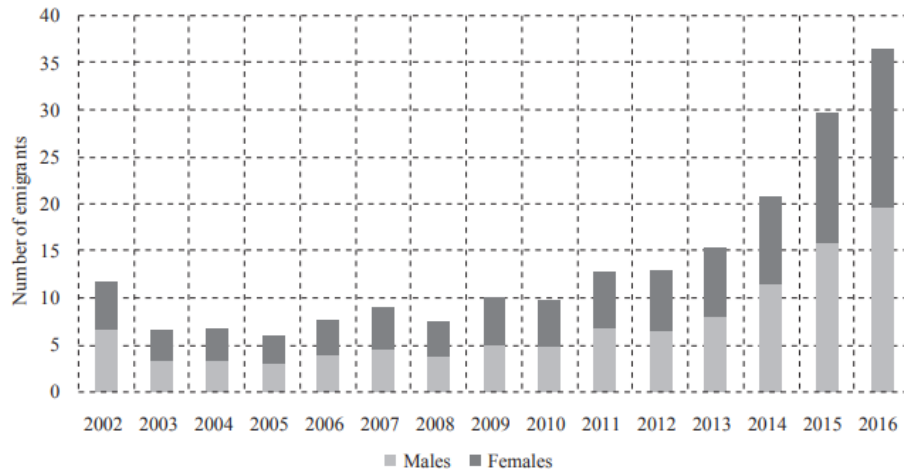


Figure 6 Net Migration Balance of Croatia between 2001 and 2016

Source: Draženović, I., Kunovac, M., & Pripužić, D. (2018). Dynamics and determinants of emigration: the case of Croatia and the experience of new EU member states. *Public Sector Economics*, 42(4), 415-447.

Figure 7 represents data about the structure of emigrants from Croatia by sex between 2002 and 2016. Based on numbers, it can be concluded that there was an almost equal share of male and female emigrants during that period, with the percentage of male emigrants slightly increasing at times of high migration.



Note: In thousands.

Figure 7 Structure of emigrants from Croatia by sex between 2002 and 2016

Source: Draženović, I., Kunovac, M., & Pripužić, D. (2018). Dynamics and determinants of emigration: the case of Croatia and the experience of new EU member states. *Public Sector Economics*, 42(4), 415-447.

Furthermore, the age structure suggests a shift towards younger emigrants in the last emigration wave, that is to say, an increase in the number of youngest emigrants (age 0-15). Estimates show that the average age of the emigrants between 2001 and 2013 was 41.5 but dropped in 2016 when the average age reached 33.6 years. It is also estimated that around 50 thousand young citizens with children left Croatia permanently from 2009 until 2016, mostly from less-developed Croatian regions which are characterized by high unemployment.¹⁸

According to the Croatian Bureau of Statistics, a total of 33,414 people immigrated to Croatia in 2020. On the other hand, 34,046 people emigrated from the Republic of Croatia which makes a negative net migration to foreign countries. Furthermore, 61.4% of emigrants were Croatian citizens while 38.6% were foreigners. About 34,2% of emigrants moved to Germany. With regard to sex and age structure, there were more men (64.4%) than women that emigrated from Croatia while the highest number of emigrants were aged 20-39.

4.1 Case study: Emigration of health workers from Croatia to Germany

¹⁸ Draženović, I., Kunovac, M., & Pripužić, D. (2018). Dynamics and determinants of emigration: the case of Croatia and the experience of new EU member states. *Public Sector Economics*, 42(4), 415-447.

Germany will keep welcoming young workers of all educational levels and of various professions from Croatia. In this subchapter, we are going to focus on the emigration of health workers from Croatia to Germany.

As already stated, the healthcare system across Europe is facing demographic ageing of staff and users, increasing the demand for health needs and care. In the past ten years, one in four nurses (7,500 – 8,000 nurses) has moved out of the healthcare system of Croatia and emigrated to Germany. Even before the pandemic, Croatia lacked 12,000 nurses. From 2009 to 2013, 4,279 nurses emigrated; from 2013 to 2018, approximately 3,130 nurses and technicians went abroad, mostly to Germany. At the same time, Croatia had total of 14,094 doctors in 2020, while it is expected that the country will lose a third of its doctors in the next five years due to emigration. According to the Atlas of Croatian Medicine (2020) and Croatian Medical Chamber (2020), more than a thousand specialist doctors emigrated, and another 940 are about to leave, asking for a letter of resignation, while by 2025, Croatia will lose another 2,700 doctors.¹⁹

There are many reasons why Croatian health care workers are emigrating to Germany. Some of them are the inability to advance in the profession, unpaid overtime hours, exhaustion, perception of corruption in the country, the feeling of legal inequality, general negative atmosphere. There are five groups in which we can categorize the emigration of health care workers: (1) Personal/family/professional, (2) Organizational, (3) Healthcare system factors, (4) General environmental factors, and (5) Other factors (i.e., legislation).²⁰

Furthermore, forecasting the migration of health workers can be achieved by the usage of Google Trends analytical tools. The Google Search Index cannot estimate the exact number of searches, so it cannot show the exact number of emigrated health care workers, but it can confirm the increase in the emigration trend. In Croatia in 2020, the German word "Lebenslauf" (germ. Resume, CV) has been searched even more intensively than when Croatia entered the EU, and this trend is expected to remain constant, suggesting that many Croats are ready to

¹⁹ Jurić, T. (2021). Medical brain drain from Western Balkan and Croatia to Germany and Austria—an approach to the digital demography. *medRxiv*.

²⁰ Barić, V., & Smolić, Š. (2012). Strategija ljudskih resursa u hrvatskom zdravstvu—izazovi ulaska u Europsku uniju. *Razvojna strategija malog nacionalnog gospodarstva u globaliziranom svijetu*. Zagreb: HAZU, 209-226.

emigrate. Also, the search for job applications in Croatia during 2020 in German (germ. "Bewerbung") was more common than the search for the equivalent in Croatian (Croat. "Zamolba za posao"). Finally, search queries in German from Croatia "nurse + application for job Germany + application for job Austria" have risen significantly during the pandemic in 2020, due to difficult working conditions of healthcare workers in Croatian hospitals.²¹

²¹ Jurić. Medical brain drain from Western Balkan and Croatia to Germany and Austria—an approach to the digital demography.

5 LABOUR MARKET SHORTAGES IN CROATIA DUE TO EMIGRATION

Human capital is one of the most valuable capitals of every country. Without a population, a country cannot exist while one of the most important structures of a population is the age structure as it affects the social and economic development of a country. For example, in the following Figure 8, we can find the age and sex structure of Croatia from 2011, while Figure 9 shows age and sex structure in 2021 based on census from 2021.

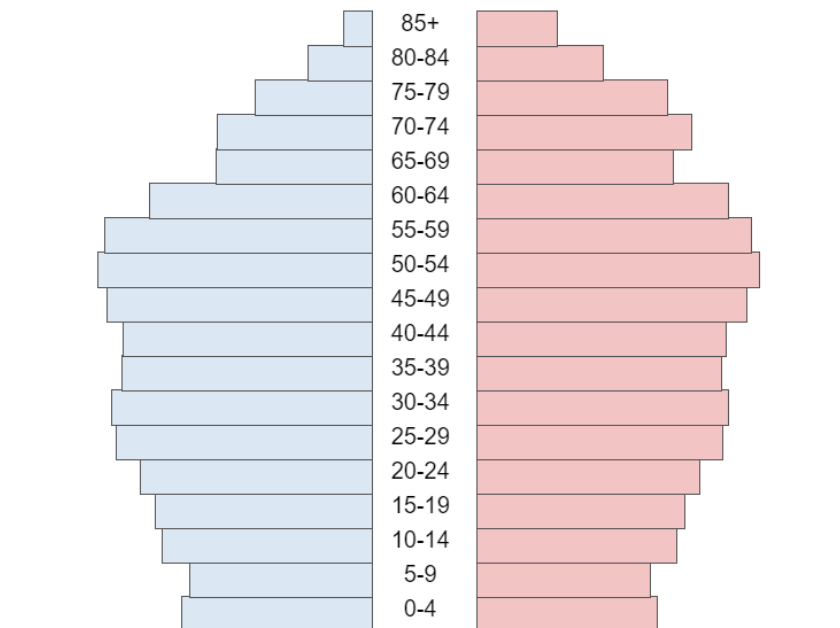


Figure 8 Population of the Republic of Croatia by age and sex (2011 census)

Source: Croatian Bureau of Statistics

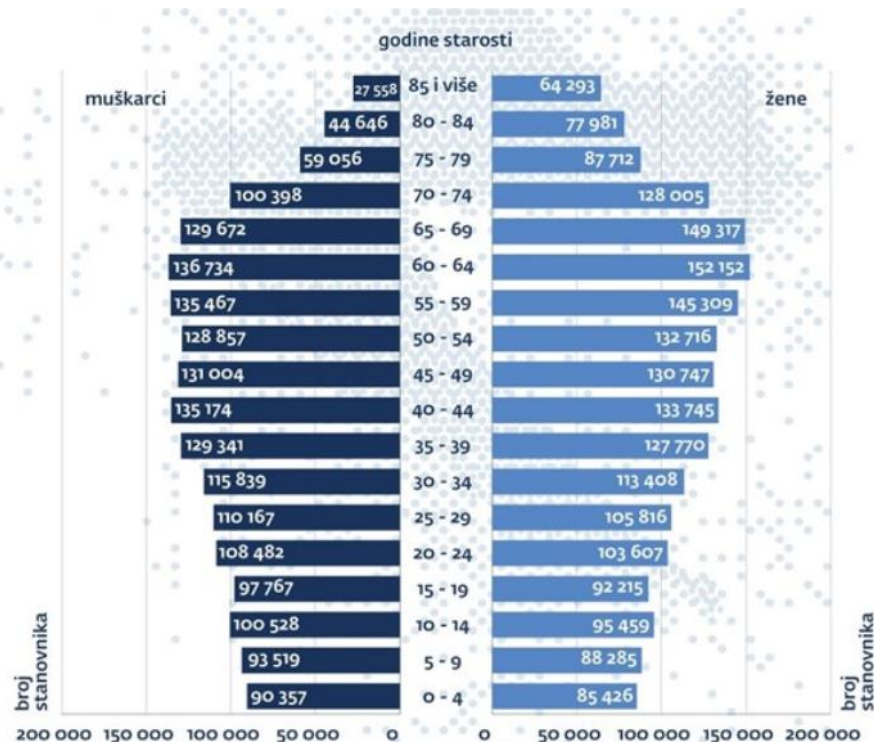


Figure 9 Population of the Republic of Croatia by age and sex (2021 census)

Source: Croatian Bureau of Statistics

With the comparison of young and older populations, it can be concluded that there is an increase in demographic ageing. There are many reasons why is that so.

First of all, there is a high mortality rate while fertility remains relatively low, as shown in Figure 10. Compared to 2019, there is a decrease of 0.8% in fertility, that is, 290 fewer children were born in 2020. Finally, the live birth rate was 8.9 (per 1 000 inhabitants) in 2020. Furthermore, the total death rate the same year was 14.1 (per 1 000 inhabitants) with an increase in deaths compared to the previous year, that is, 5 229 people or 10.1% of deaths more than in 2019. That brings us to the conclusion that Croatia had a negative rate of natural increase of -5.2%.

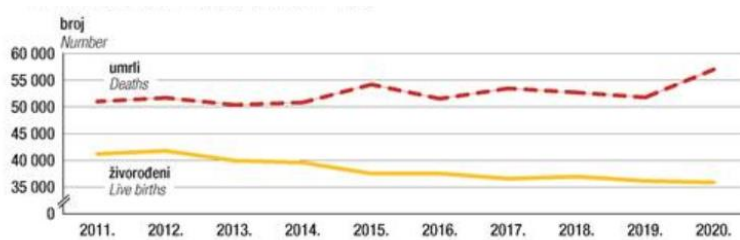


Figure 10 Natural change in population of Croatia from 2011 to 2020

Source: Croatian Bureau of Statistics

Furthermore, as already stated, there is a high rate of emigration of the young population from Croatia. The main questions arising from the previous statement are "Why are so many young people leaving Croatia?" and "What are the consequences of such a high rate of emigration?". The following subchapters address those questions.

5.1 Reasons for leaving Croatia

There are many social and economic reasons people decide to leave their home country. Considering Croatia, it is estimated that 230 000 people left the country for the 11 "core" EU countries of Western Europe just between 2013 and 2016, mostly thanks to Croatian accession to the European Union when all countries opened their labour market to Croatians. The causes of emigration can be expressed through two reasons: push factors causing individuals to leave the country, and pull factors due to which the individual chooses another country. Pull factors are most often connected to better economic circumstances in other countries, such as better living conditions, higher wages etc. The example of pull factors can also be found in the subchapter "Case study: Emigration of health workers from Croatia to Germany". In this subchapter, we are going to focus on push factors which are stated below.

The first reason why Croats are emigrating, is dissatisfaction and disappointment with their own country. There is a huge rate of injustice and a high level of corruption while people are also generally dissatisfied with Croatian political parties.

Secondly, people believe that they will have a better future in other countries considering the better structural organization and higher standard of living of other countries. Finally, people

start thinking about leaving Croatia due to the inability to find a job in one's own profession and the inability to progress in that profession.

In the following table, you can find various motives for emigration from Croatia according to the public opinion survey conducted from March to May 2021 on 6,406 respondents stating the most significant push factors are low wages, unemployment and poor working conditions.

Table 1 Motives for emigration from Croatia according to the public opinion survey

Source: Jurun, E., Curic, M., & Bekavac, L. (2021). A RESEARCH ON EMIGRATION AS THE FUNDAMENTAL OBSTACLE TO CROATIAN ECONOMIC AND SOCIAL DEVELOPMENT. Economic and Social Development: Book of Proceedings, 37-

46.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Debt/credit	16,3%	17,4%	18,5%	31,3%	16,6%
Individual problems	23,6%	22%	22,3%	22,6%	9,5%
A general feeling of pessimism, hopelessness and insecurity	10,6%	13,9%	16,6%	36,4%	22,6%
The belief that it will be better for children somewhere abroad	10,1%	12%	16%	29,1%	32,9%
Immorality of political elites	4,3%	10,9%	19%	32,6%	33,2%
Legal insecurity	1,4%	8,2%	14,7%	33,2%	42,7%
Impossibility to realize own trade	6,5%	14,7%	26,1%	30,4%	22,3%
Poor working conditions	3,5%	4,6%	14,7%	33,4%	43,8%
Inability to obtain permanent employment or advancement	3,5%	5,4%	10,9%	38,3%	41,8%
Low wages	1,9%	5,2%	9%	35,3%	48,6%
Unemployment	4,6%	7,1%	9,5%	30,7%	48,1%
Reuniting with a family member already living abroad	17,1%	12,5%	20,4%	28,8%	21,2%

5.2 Consequences of "Brain drain" and future of the Croatian labour market

Emigration of Croatian citizens, especially of the well-educated ones (that is known as "Brain drain"), is leaving a huge social and economic consequence at the local, regional and national level, which is implying on pessimistic situation in the long run that will not be able to be

controlled. Taking into consideration all available data, it can be assumed that the emigration of Croats outside the country's borders will not stop in the near future. As already mentioned, the emigration of young people from Croatia is causing depopulation and aging population. The decrease of human capital in whose education a country invested a lot of money makes the country less attractive to investors, which negatively impacts economic growth, making the country less competitive on the world market. The Croatian economy still does not understand the importance of education and competencies. According to the data from the Global Competitiveness Report (2015-2016), the most competitive countries are the ones that are ranked low in terms of brain drain, implying the fact that brain drain and competitiveness are strongly connected.²² Based on that statement, it can be concluded that Croatia is ranked relatively low on the scale of global competitiveness, while it has a high rate of brain drain, as shown in the Table 2.

Table 2 Global competitiveness and Brain drain of Croatia (2008-2015)

Source: Sundac, D., & Stumpf, G. (2016). The impact of brain drain on the competitiveness of the Croatian economy. *Economic and Social Development: Book of Proceedings*, 199.

Year	Ranking on the scale of global competitiveness	Brain drain ranking
2008	61st	60th
2009	72nd	36th
2010	77th	18th
2011	76.th	15th
2012	81st	19th
2013	75th	15th
2014	77th	8th
2015	77th	8th

Furthermore, emigration is leading to the disproportional balance between rural and urban environments, an increase in local and regional differences affecting their competitiveness and can cause a collapse of the economic, educational, health and pension systems. For example,

²² Sundac, D., & Stumpf, G. (2016). The impact of brain drain on the competitiveness of the Croatian economy. *Economic and Social Development: Book of Proceedings*, 199.

there will be fewer children, which means fewer people in schools and at faculties, resulting in a surplus of professors.²³ Figure 11 shows the ratio of children and teachers in primary schools from 2007 until 2018, comparing Croatia, Serbia and Bosnia and Herzegovina as non-EU member states. When focusing on the Croatian situation only, it can be concluded that at the beginning of the period, the ratio was 16.7. Then it decreased to 13.5 in 2016, which is a decrease of 3.2 children per teacher.

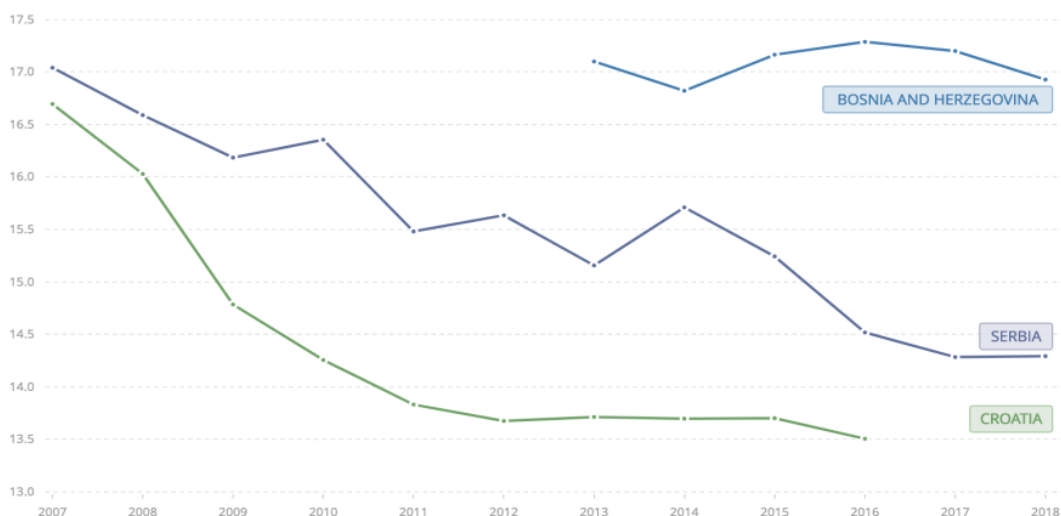


Figure 11 Ratio of number of children and teachers in primary schools by country (2007-2018)

Source: Jurić, T., & Hadžić, F. SOCIO-ECONOMIC CONSEQUENCES OF POPULATION EMIGRATION FROM CROATIA, BOSNIA AND HERZEGOVINA AND SERBIA-CURRENT SITUATION AND PERSPECTIVES.

Furthermore, it reduces the share of the working-age population and causes a loss of talent and skills, while the country cannot support a growing number of pensioners.²⁴

²³ Gostič, M., Kastelic, Š., Kožar Rosulnik, K., & Toplak, K. (2020) Challenges of Contemporary Migration: Emigration from the Republic of Croatia: present situation and consequences for Croatian society. *AEMI*. 17-18.

²⁴ Žabčić, R. M., & Kaselj, M. P. Emigration from the Republic of Croatia: present situation and consequences for Croatian society. *AEMI*, 29.

Finally, as visible in Figure 12, the result of the reduction in the labour force is a reduction of GDP per capita over the years. During the period, there was both growth and decline. However, it indicates a stagnant level of trends, and loss of residents can explain that.²⁵



Figure 12 GDP per capita in Croatia from 2007 until 2020 (in thousands)

Source: Jurić, T., & Hadžić, F. *SOCIO-ECONOMIC CONSEQUENCES OF POPULATION EMIGRATION FROM CROATIA, BOSNIA AND HERZEGOVINA AND SERBIA-CURRENT SITUATION AND PERSPECTIVES*.

GDP in Croatia is highly affected by tourism, as it is our main sector of the economy. On one side, tourism increases GDP and reduces emigration, while on the other side, it increases seasonal employment and short-term contracts, which creates insecurity and incentives for departure.²⁶

To keep people from leaving the country, some changes should be made. Labour unions could have an important role in improving the terms and conditions of work contracts. Furthermore, some changes have already been made. In December 2021, the government adopted the scheme "I chose Croatia" as an extension of the Croatian Employment Service's (HZZ) self-employment scheme. The scheme aims to motivate emigrants to return, with incentives to start a business and to encourage the population revival of areas with significant emigration. In more

²⁵ Jurić, T., & Hadžić, F. *SOCIO-ECONOMIC CONSEQUENCES OF POPULATION EMIGRATION FROM CROATIA, BOSNIA AND HERZEGOVINA AND SERBIA-CURRENT SITUATION AND PERSPECTIVES*.

²⁶ Becic, M., Sosic, M. M., & Jasprica, D. (2019). The Role of Precarious Employment in Emigration Flows from Croatia. *Montenegrin Journal of Economics*, 15(4), 173-182.

detail, those who returned to Croatia from the European Economic Area and Switzerland and decided to start a business would receive an additional HRK 50,000 with extra incentives for starting a business in rural areas. In addition, a person can receive up to HRK 200,000 for a business plan approved by the HZZ. HRK 1.02 billion was set aside in the 2022 state budget for this project.²⁷

Based on the already mentioned public opinion survey on 6,406 respondents using the Likert rating scale, Table 3 states some of the changes that would prevent the departure from Croatia.

Table 3 Changes that would prevent the departure from Croatia

Source: Jurun, E., Curic, M., & Bekavac, L. (2021). A RESEARCH ON EMIGRATION AS THE FUNDAMENTAL OBSTACLE TO CROATIAN ECONOMIC AND SOCIAL DEVELOPMENT. Economic and Social Development: Book of Proceedings, 37-

46.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Change of awareness and mentality of citizens	4,6%	9,8%	16,8%	39,4%	29,3%
Increase of security and stability	3%	6,3%	11,7%	42,9%	36,1%
Everything needs to change	4,3%	12,5%	16,3%	26,9%	39,9%
Greater concern for young people	3,5%	3,8%	9%	43,5%	40,2%
Reducing corruption and crime in all spheres of government	2,7%	1,9%	7,6%	28,3%	59,5%
Implementation of reforms in health, education and judiciary	2,4%	2,7%	8,2%	32,1%	54,6%
Change of government and governing political structures at all levels	3,8%	4,6%	11,4%	26,4%	53,8%
Better economic situation	2,7%	2,2%	7,6%	26,9%	60,9%

²⁷ Government of the Republic of Croatia

6 CONCLUSION

To conclude, emigration has been an omnipresent trend in Croatia, with accelerated growth after the country entered the European Union in 2013. Most Croatian citizens emigrate to Germany, Austria or Ireland for various reasons that are mainly connected with Croatian society, working conditions, government and its organization. Accordingly, push factors (such as low wages, low standard of living etc.) are greater than pull factors. The population emigration is directly connected with labour market shortages, representing one of the biggest problems in Croatia. As an additional issue, there is an ageing population that just worsens the situation and leaves many consequences (from lack of working population to inability to support pensioners etc.). The huge crisis occurred during the Coronavirus pandemic in 2020, when many health workers emigrated to Germany. Furthermore, this trend of emigration of young and well-educated people from Croatia to other countries (mainly to Germany) will last in the future which can be concluded based on the migration predictions by usage of different analytical tools. Therefore, the government needs to make significant changes to keep people from leaving the country.

REFERENCES

1. Barić, V., & Smolić, Š. (2012). Strategija ljudskih resursa u hrvatskom zdravstvu—izazovi ulaska u Europsku uniju. *Razvojna strategija malog nacionalnog gospodarstva u globaliziranom svijetu*. Zagreb: HAZU, 209-226.
2. Becic, M., Sosic, M. M., & Jasprica, D. (2019). The Role of Precarious Employment in Emigration Flows from Croatia. *Montenegrin Journal of Economics*, 15(4), 173-182.
3. Bejaković, P. & Klemenčić, I. (2021) Living and working in Croatia. *EUROFOUND*.
4. Brkić, M. (2015). Labor market duality and the impact of prolonged recession on employment in Croatia. *Croatian economic survey*, 17(1), 5-45.
5. Croatian Employment Service. <https://www.hzz.hr/en/> (6.7.2022.)
6. Draženović, I., Kunovac, M., & Pripužić, D. (2018). Dynamics and determinants of emigration: the case of Croatia and the experience of new EU member states. *Public Sector Economics*, 42(4), 415-447.
7. Eurofound. <https://www.eurofound.europa.eu/> (6.7.2022.)
8. from Croatia, E. (2015). Croatian Migration History and the Challenges of Migrations Today. *altreitalie*.
9. Gostič, M., Kastelic, Š., Kožar Rosulnik, K., & Toplak, K. (2020) Challenges of Contemporary Migration: Emigration from the Republic of Croatia: present situation and consequences for Croatian society. *AEMI*. 17-18.
10. Government of the Republic of Croatia
11. Hakansson, P. G., & Bejakovic, P. (2020). Labour market resilience, bottlenecks and spatial mobility in Croatia. *Eastern Journal of European Studies*, 11(2), 5.
12. Jurić, T. The contemporary migration of Croats to Germany.
13. Jurić, T. (2021). Medical brain drain from Western Balkan and Croatia to Germany and Austria—an approach to the digital demography. *medRxiv*.
14. Jurić, T., & Hadžić, F. SOCIO-ECONOMIC CONSEQUENCES OF POPULATION EMIGRATION FROM CROATIA, BOSNIA AND HERZEGOVINA AND SERBIA-CURRENT SITUATION AND PERSPECTIVES.

15. Kurecic, P., & Furdi, I. (2021). INTERNATIONAL TRADE OF THE REPUBLIC OF CROATIA WITH THE EUROPEAN UNION: TRENDS AND PERSPECTIVES. *Economic and Social Development: Book of Proceedings*, 509-520.
16. Nestić, D., Babić, Z., & Blažević Burić, S. (2018). Minimum wage in Croatia: sectoral and regional perspectives. *Economic research-Ekonomska istraživanja*, 31(1), 1981-2002.
17. OECD (2021) The Covid-19 Crisis in Croatia
18. Pasarić, S. (2020). Croatia, deserted island under the European sky: Migration flows from and within Croatia and their social impacts. *Project partners/4*, 40.
19. Prvonožec, S. (2020). The impact of wages on the labour market in the Republic of Croatia. *Oeconomica Jadertina*, 10(2), 115-126.
20. Sataic, I. (2021). Attitudes About the Economic Impact of the COVID-19 Lockdown in the Republic of Croatia on Micro, Small and Medium Enterprises. *European Journal of Economics*, 1(1), 22-33.
21. Sundac, D., & Stumpf, G. (2016). The impact of brain drain on the competitiveness of the Croatian economy. *Economic and Social Development: Book of Proceedings*, 199.
22. Tomić, I., Rubil, I., Stubbs, P., & Nestić, D. (2019). The employment and social situation in Croatia.
23. Topel, R. (1999). Labor markets and economic growth. *Handbook of labor economics*, 3, 2943-2984.
24. Zrinščak, S., Vehovec, M., & Čengiđ, D. (2020). Croatia. In *Extended Working Life Policies* (pp. 195-204). Springer, Cham.
25. Źabčić, R. M., & Kaselj, M. P. Emigration from the Republic of Croatia: present situation and consequences for Croatian society. *AEMI*, 29.
26. Źigman, A., Ridzak, T., & Dumičić Jemrić, M. (2021). Crisis management in public institutions-Croatian financial system and the Covid-19 pandemic. *Management: Journal of Contemporary Management Issues*, 26(Special Issue), 1-16.

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