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HARNESSING HUMAN CAPITAL FOR GROWTH IN CROATIA



**Unleashing
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List of acronyms

ALMMs	Active labor market measures
ALMP	Active labor market policies
CASP-19	The Quality of Life Scale assessing quality of life in individuals in early old age.
CEE	Central and Eastern Europe
CES	Croatian Employment Service
CROQF	Croatian Qualifications Framework
CSW	Case worker
CVT	Continuing vocational training
DESA	Department of Economic and Social Affairs (UN)
DESI	Digital Economy and Society Index
DIOC	Database on Immigrants in OECD and Non-OECD Countries
ECA	European and Central Asia
ECEC	Early childhood education and care
ER	Employment rate
ESI	European Skills Index
EU	European Union
EU-27	Group of 27 EU member states
GDP	Gross domestic product
GFC	Global financial crisis
GMB	Guaranteed minimum benefit
GTS	Graduate Tracking System
ICT	Information and communication technologies
LFP	Labor force participation
LFPR	Labor force participation rate
LFS	Labor force survey
LTC	Long-term care
NAV	Norwegian Labour and Welfare Administration
NEET	Not in education, employment, or training
NMS	New member states
NRRP	National Recovery and Resilience Plan
OECD	Organisation for Economic Co-operation and Development
PIAAC	International Assessment of Adult Competencies
PISA	Programme for International Student Assessment
PTR	Participation Tax Rate
SA	Social assistance
SHARE	Survey of Health, Aging, and Retirement in Europe
SILC	Survey on Income and Living Conditions
STEAM	Science, technology, engineering, arts, and mathematics
STEM	Science, technology, engineering, and mathematics
TALIS	Teaching and Learning International Survey
TFP	Total factor productivity
TIMSS	Trends in Mathematics and Science Study
TVET	Technical and Vocational Education and Training
UB	Unemployment benefit
VET	Vocational Education and Training
WBL	Work-based learning
YEI	Youth Employment Initiative

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Introduction

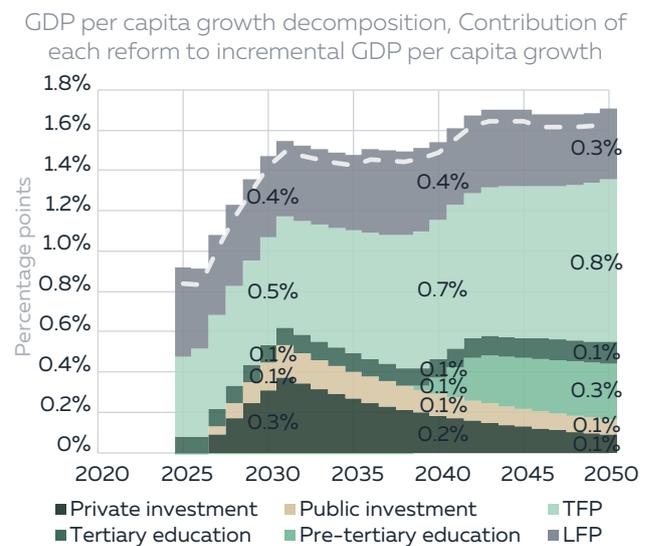
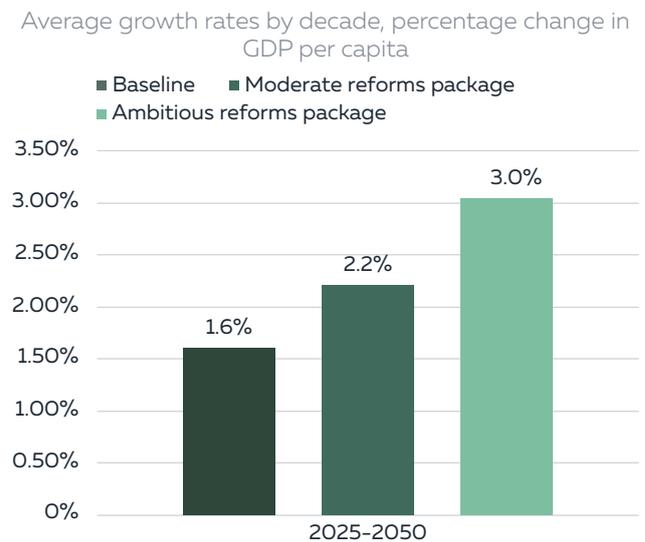
Croatia faces two major trends that will significantly affect its society and economy. The first trend is an aging and shrinking population, and the second is the impact of rapidly changing technology on the nature and organization of work. These trends present Croatia with both challenges and opportunities that will shape employment, wages, and economic development in the future.

Two main challenges are emerging as a result of these trends. The aging of the population associated with rising dependency rates could have a negative impact on Croatia’s economic performance as there will be fewer working-age individuals to support a growing elderly population. The share of people aged 65 and older in the total population rose from 8 percent in 1960 to 22 percent in 2021, and by 2050, one in every three Croatians will be aged over 65. Also, the accelerating growth of technology is presenting a challenge to low-skilled workers as employment is now increasingly consisting of knowledge-intensive occupations, with the associated risk of job losses and rising inequality as workers with low skills find it difficult to retrain and adapt.

On the other hand, the opportunities presented by these trends are also significant. Robots and algorithms will increasingly perform routine tasks within firms’ production processes, and as technology evolves, new occupations will emerge. The shift towards digitalization, automation, and green energy initiatives could change the processes of value creation and increase productivity. Aging also could create a thriving market for long-term and health care services and facilitate longer and healthier working lives, cohesive communities, and family-based support. To reap the benefits of technological advancements and to tackle economic hurdles brought about by an aging population, Croatia must focus on both increasing the quantity and improving the quality of its workforce. According to the World Bank’s economic projections (World Bank, 2022a), under the business-as-usual baseline scenario, Croatia’s productivity and per capita GDP are expected to grow at rates much lower than in previous decades, achieving only modest growth of 1.6 percent over the period from 2025 to 2050.

If Croatia implements measures to increase its population’s human capital and economic participation, it could greatly boost its long-term growth. If Croatia can achieve substantial increases in labor participation and human capital, it will greatly enhance its ability to seize the opportunities and mitigate the risks. As shown in Figure 1 (top), implementing

Figure 1: Croatia’s “business-as-usual” vs labor market and human capital reform scenarios. Potential GDP per capita growth and growth decomposition, 2020–2050



Source: World Bank (2022a).

reforms that improve the quality and increase the quantity of the workforce could double Croatia's projected average growth from 1.6 to 3 percent. **Figure 1 (bottom)** shows that ambitious efforts to enhance human capital and workforce participation could have as significant an impact as reforms aimed at increasing total factor productivity (TFP). This would accelerate Croatia's convergence with the average per capita income level for the EU by several decades. In simpler terms, Croatia must find a way to consistently increase productivity and economic participation if it is to achieve economic parity with wealthier European Union nations in the near future.

This Human Capital Review focuses on the barriers that are getting in the way of increasing the Croatian labor productivity rather than the problems restricting the number and quality of jobs.

Croatia's productivity is far lower than the regional frontier represented by Germany and is catching up only very slowly. The World Bank's recent Croatia Country Economic Memorandum (World Bank, 2022a) highlighted the importance of the country's low within-sector productivity. Even if Croatia had the same economic sector composition as the more productive Germany, it would still be 57 percent less productive. Croatian firms are less productive because of factors such as market inefficiencies and entry and exit barriers, but above all it will be essential to increase the size of the workforce and to equip it with the skills needed to support the development of higher productivity sectors.

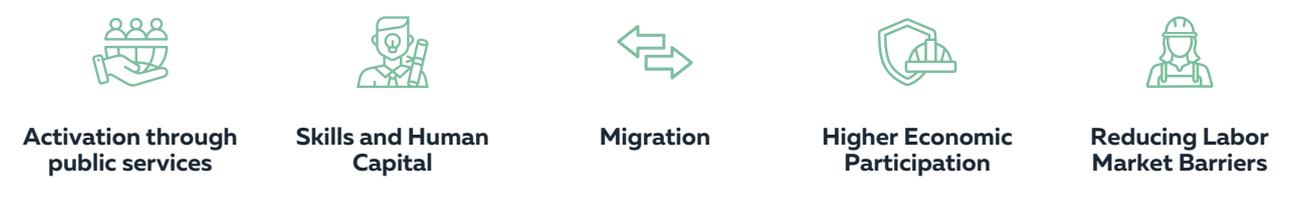
The specific policies for enhancing the workforce that are explored in the report were carefully chosen for their potential to generate and utilize human capital along the life-cycle and to make a significant contribution to enhancing individuals' labor market participation. Given that Croatia faces major labor supply obstacles, the report offers insights into the barriers to labor supply and old age employment, to skills acquisition, and to migration as a form of human capital reallocation. In addition, it discusses two key instruments – active labor market and social protection policies – that have the potential to shape economic participation. The report also discusses the country's unequal education and skills acquisition outcomes that nega-

tively impact some large demographic groups and disadvantaged groups. Reducing these disparities could have significant impact. For example, despite Croatia's shrinking working age population, women, young people, and older individuals work less than their European peers. When it comes to education and skills, primary and secondary school enrollment rates are high, but half of all underprivileged students are functionally illiterate. Also, while Croatia has one of the highest rates of participation in VET programs in the EU, VET graduates face the prospect of lower wages and high unemployment. Furthermore, the country's scores for knowledge application and advanced skills on international education assessments at the secondary and VET levels are below average. Both productivity levels and the size of the workforce are shrinking due to Croatia's high emigration rate, as many working-aged people are leaving the country to seek employment elsewhere in Europe. A sizable number of these emigrants are highly skilled, which means that not only does emigration shrink the available workforce, but it also contributes to skill shortages in the domestic labor market. On the other hand, migration can be a way to attract skilled labor to Croatia from overseas with the right policies in place. In the area of public employment services, there is scope to extend active labor market policies (ALMPs) such as job matching and retraining measures to upskill more of the labor force. **Figure 2** summarizes the reports policy focus areas for strengthening Croatian productivity and economic participation.

At the same time, in the current labor market, there is a high risk that this increased human capital will be underused. Therefore, it is crucial to enable people to remain economically active by enacting various accompanying measures such as increasing the availability of high-quality childcare, ensuring that pension and social assistance systems are free of disincentives to work, facilitating the transition from school to work, providing flexible work arrangements, and providing appealing opportunities for adult training and effective employment support services.

The Government of Croatia has established an ambitious plan of reforms to tap into the underused potential of the labor force. There are many rea-

Figure 2: Report's Main Policy Focus Areas for Enhancing Labor Productivity and Participation in Croatia



sons to feel positive about Croatia's economic accomplishments over the last few years. Croatia has overcome the economic turbulence stemming from the COVID-19 pandemic and the energy crisis precipitated by the war in Ukraine. The country also joined the Eurozone and the Schengen areas and has made considerable progress on income convergence with the EU. Looking forward, the government has produced a National Recovery and Resilience Plan (NRRP) that sets out an ambitious reform agenda for achieving higher economic growth and that contains many of the policies highlighted in this report. However, it is important to note that these plans have been created at a general level, which means that carrying out these reforms will need to be guided by detailed analysis and policy experimentation. This report aims to provide some of that detailed analysis by identifying the barriers that exist to expanding employment and skills acquisition.

The report is structured as follows. Chapter 1 discusses the labor market constraints facing different segments of the working-age population, which can inform how to make work attractive. Chapter 2 explores the factors that are discouraging older people from re-entering the labor market and the need to optimize pension design to promote healthier and longer working lives. Chapter 3 explores ways to enhance human capital formation through the lifecycle, starting with early childcare and education, followed by upper secondary school, secondary VET, tertiary education, TVET and adult training. Chapter 4 identifies the enabling conditions needed to ensure that net migration can have a positive impact on the growth of economic participation and productivity. Chapter 5 focuses on ways to leverage public-private partnerships to provide training and activation services and on how ALMPs could best be used to increase labor market participation. Finally, Chapter 6 explores the role that social protection can play in stimulating participation in the labor market.

Chapter 1: Croatian Labor Market: Trends, Features, and Challenges

Introduction

This chapter discusses the current state of the Croatian labor force and identifies the obstacles that working-age individuals often face when seeking employment. Table 1 shows some demographic characteristics in 2019 (actual) and estimated values for the next few decades. Like other EU member countries, Croatia is characterized by low fertility rates and increasing life expectancy. These factors, along with emigration flows that increased considerably following the country’s accession to the EU but have since moderated, resulted in a rapidly shrinking working-age population. The share of the working-age population is declining dramatically faster in Croatia than in its regional neighbors. The old-age dependency ratio is projected to rise sharply and steadily each decade, growing to 57 percent by 2050 and 65 percent by 2070. This situation calls for the optimal use of the country’s available human capital, to blunt the adverse effects of these demographic trends on its long-term productivity and growth.

The average duration of a working life in Croatia is less than 33 years compared with the EU average of 35.4 years and is significantly lower than that of many new member states. Croatia’s employment rate (ER) and labor force participation rate (LFPR) have both been increasing from the lows caused by

Table 1: Selected demographic characteristics for Croatia – actual (2019) and projected

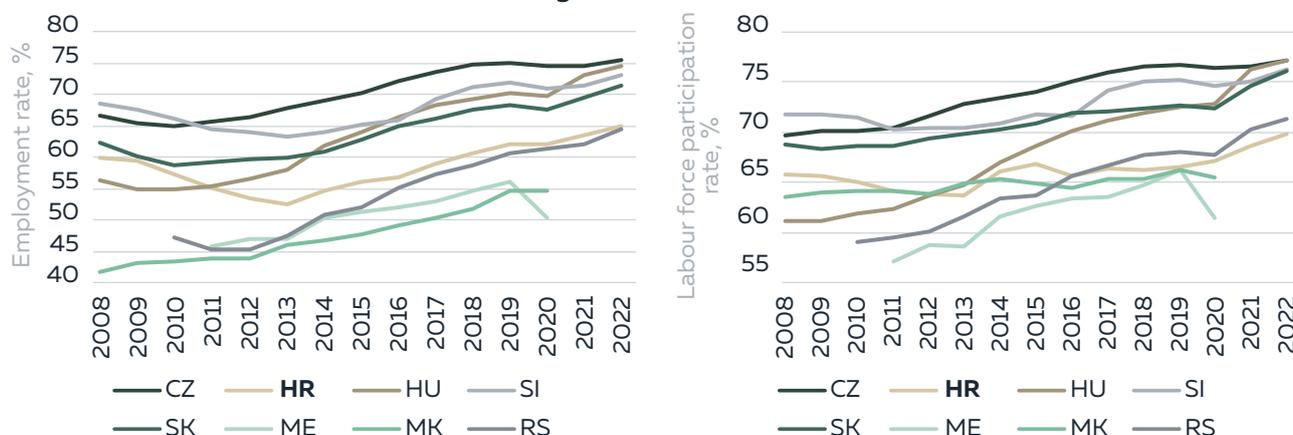
	2019	2030	2040	2050	2060	2070
Fertility rate (%)	1.43	1.48	1.51	1.54	1.56	1.59
Population growth, annual (%)	-1.0	-0.9	-0.9	-1.0	-0.8	-0.6
Life expectancy						
Males	75.3	77.3	79.3	81.1	82.7	84.3
Females	81.6	83.2	84.7	86.2	87.5	88.8
Net emigration as % of the population	-0.1	0.0	0.0	0.1	0.1	0.2
Working-age population (20-64) (in thousands)	2,433	2,165	1,986	1,788	1,643	1,533
Old-age dependency ratio 20-64	34.8	44.5	50.4	57.2	61.5	64.6

Source: The 2021 Ageing Report: Economic and Budgetary Projections for the EU Member States (2019-2070).

Note: Old-age dependency ratio = population aged 65+ as a % of the population aged 20-64.

the global financial crisis, but they remain among the lowest in the EU (Figure 3). While there appears to have been an increasing trend in both the ER and the LFPR in all countries in the region since 2010, this growth has been slowest in Croatia, resulting in the country falling behind over time (World Bank, 2019e). Given its rapidly aging population and shrinking workforce, the sustainability of the country’s social security system, which depends on a

Figure 3: Employment rates and Labor force participation rates of Croatia and other countries in the region (2010-2022)



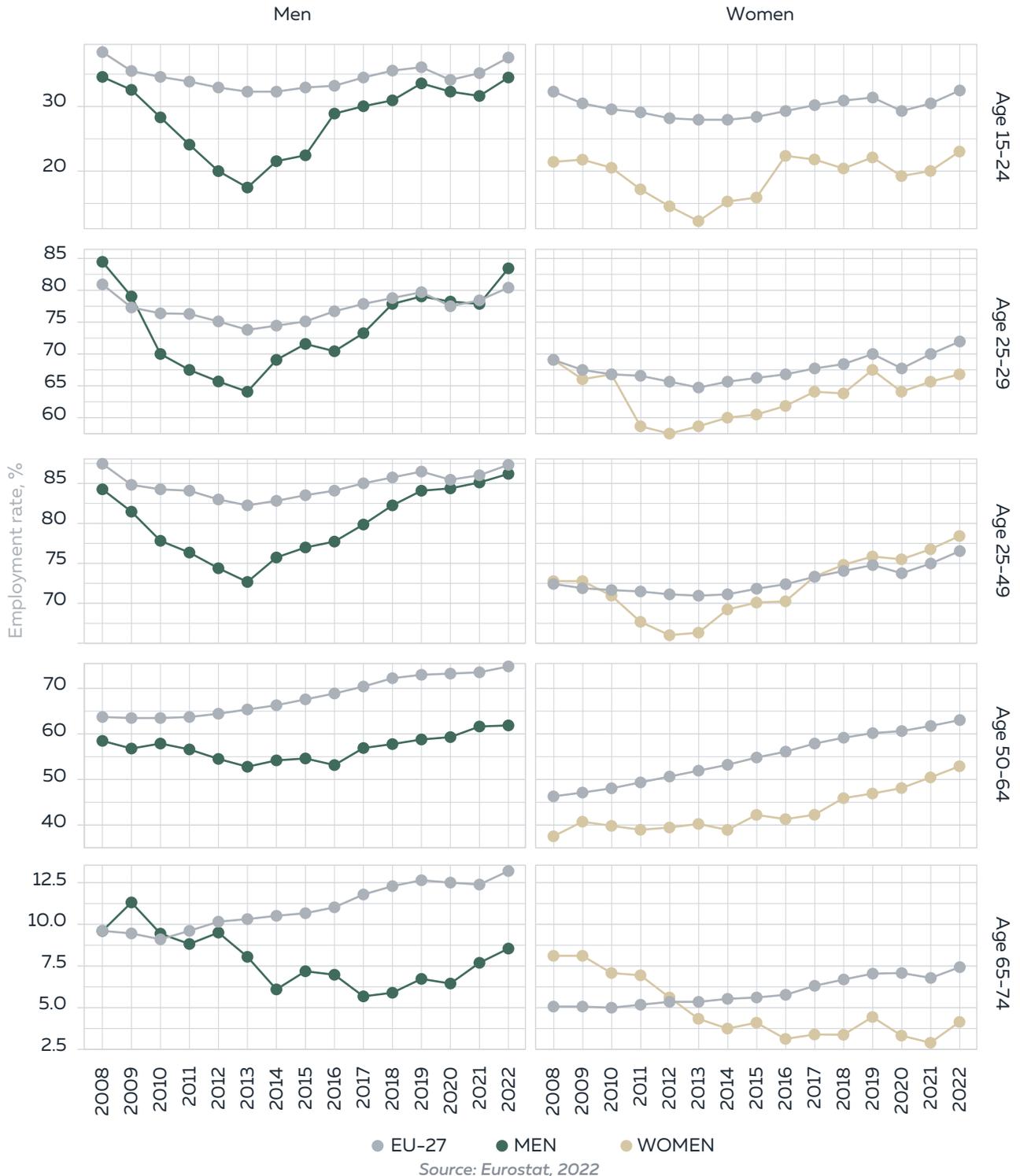
Note: CZ - Czech Republic, HR - Croatia, HU - Hungary, SI - Slovenia, SK- Slovakia, ME -Montenegro, MK - North Macedonia, RS - Republic of Serbia. Source: Eurostat.

pay-as-you-go arrangement, will become increasingly unviable.

Low employment rates are more prevalent among women, young people, and older cohorts. Following the economic recession that lasted from 2009 to 2013, employment rates have been increasing gradually for the prime-aged, especially for men

(Figure 4). The rates for men in the 25 to 29 age group and for women in the 30 to 49 age group have overtaken the corresponding EU-27 rates in recent years. For those in the older age group (65 to 74), employment rates in Croatia were above those of the EU-27 for both genders until 2012 before falling sharply below the EU rates. The low employment rates among young people are also notable.

Figure 4: Employment rates by age group, for men and women, Croatia and EU-27, 2008-2022



Source: Eurostat, 2022

Table 2: Educational attainment levels in Croatia by gender, 2022

Males	Age group		
	25-39	40-59	60-64
Less than primary, primary, lower secondary education (levels 0-2)	0.06	0.13	0.19
Upper secondary, post-secondary non-tertiary education (levels 3 and 4)	0.69	0.69	0.62
Tertiary education (levels 5-8)	0.25	0.19	0.19
Females			
Less than primary, primary, lower secondary education (levels 0-2)	0.04	0.15	0.26
Upper secondary, post-secondary non-tertiary education (levels 3 and 4)	0.53	0.60	0.59
Tertiary education (levels 5-8)	0.43	0.25	0.14

Source: Eurostat.

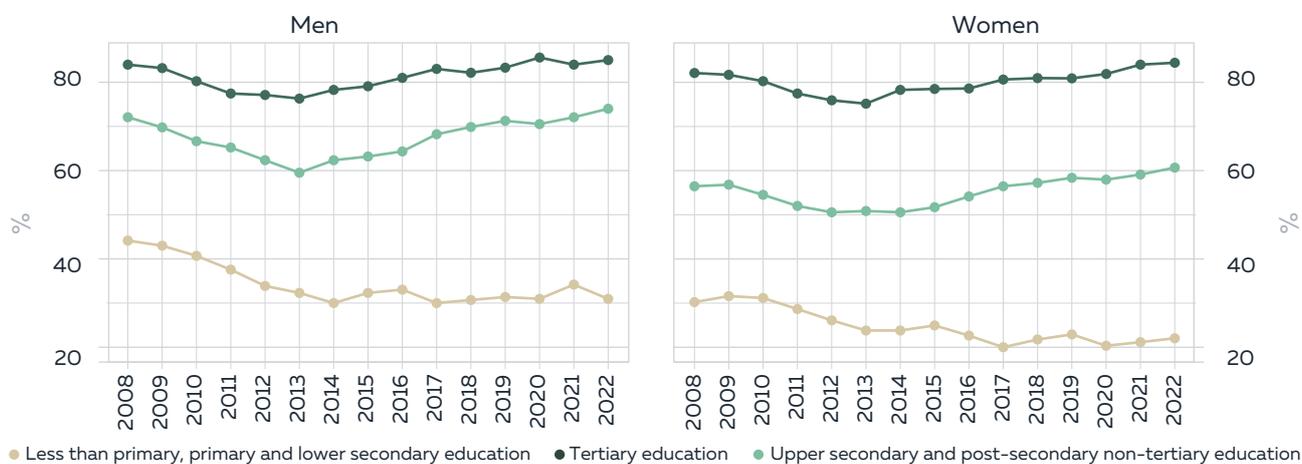
Women’s employment rates are below those of men at all ages, with no convergence over the lifecycle.

Croatian women have an average working life of just 30.7 years compared to 34.5 years for men, despite having made strong gains in educational attainment in recent years. Croatia’s gender parity index for educational enrollment is high, with women having higher enrollment rates at the primary, secondary, and tertiary levels.¹ The distribution of educational attainment by age in Table 2 reveals a significant gender gap among the younger cohort (25 to 39) in favor of women. A considerably higher share of women in this age group has a tertiary education, though men make up a notably higher share of those with a secondary education. However, women with less than a tertiary education have low LFPRs that are also significantly lower than the corresponding rates for men (Figure 5).

Early retirement is a salient feature of Croatia’s workforce. Using the 2021 national Labor Force

Survey (LFS), Figure 6 depicts the labor market status of Croatian men and women by age groups. A notable feature is the high rate of early retirement among middle-aged men, largely among war veterans (World Bank, 2022a). Low activity rates among the 55 to 64 age group is a consequence of discouraged workers leaving the labor force, with the share of discouraged workers in this age group having risen from 2.9 percent in 2007 to 5.9 percent in 2013 (Ostrovidov Jakšić & Jakšić, 2019). This is because incentives for early retirement that are embedded in the pension system and have enabled this trend. The World Bank has prepared a report on the adequacy of pensions (World Bank, 2023b) in support of the government’s implementation of the NRRP. The World Bank’s report proposes lengthening the duration of working lives as the main way to increase the labor supply in Croatia and thus increase the adequacy of pensions in the long run. The success of such efforts would also depend on labor demand increasing sufficiently to absorb older workers.

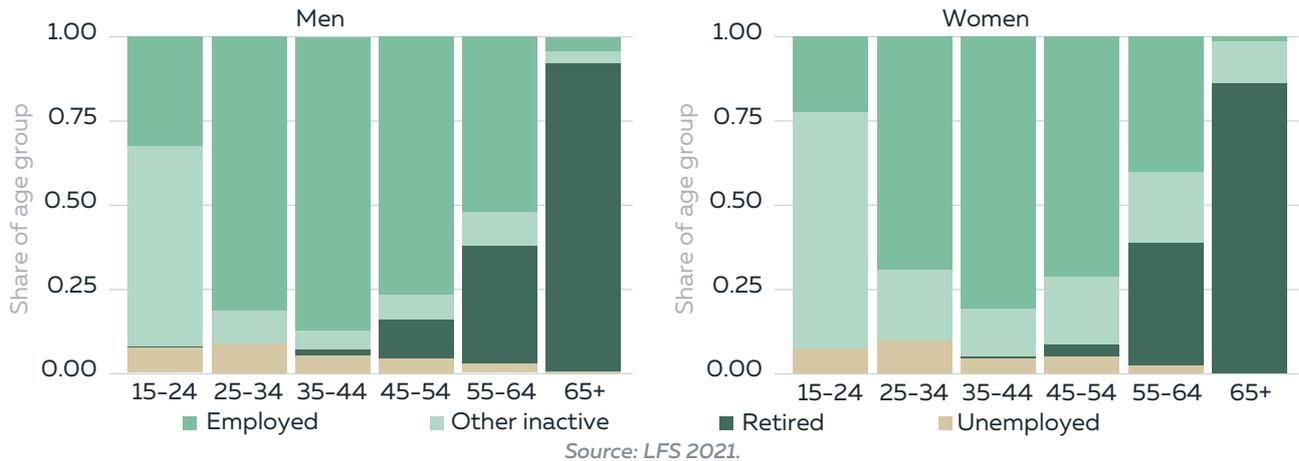
Figure 5: LFPR by educational attainment, men and women



Source: Eurostat.

¹ <https://www.ceicdata.com/en/croatia/social-education-statistics/hr-gender-parity-index-gpi-primary-and-secondary-school-enrollment-gross-> 6

Figure 6: Labor market status of Croatian men and women, 2022



Unemployment has come down sharply, spurred by the economy's recovery since 2014, and by emigration flows but youth unemployment remains high.

The economic recovery following the long recession of 2009 to 2013 increased aggregate demand and brought down unemployment markedly (Figure 7). A favorable external environment, along with the positive effects of EU accession in 2013, helped to reignite growth in the 2015 to 2019 period and to reduce unemployment. Another reason for the drop in unemployment was the increase in emigration following Croatia's accession to the EU in 2013. Youth unemployment is a common challenge in several EU member states and in other regions with young people being disproportionately represented among the unemployed. They are also more vulnerable to economic shocks and downturns. At the peak of the global financial crisis, the youth unemployment rate in the OECD countries was 16.8 percent on average, while it was only 7.1 percent among adults (Dayioglu et al, 2022). There is robust empirical evidence that frequent and repeated spells of

unemployment not only negatively affect the current livelihoods of young people but also lead to "scarring," whereby these individuals fare systematically worse in the labor markets as adults in terms of lower pay and higher probabilities of unemployment.

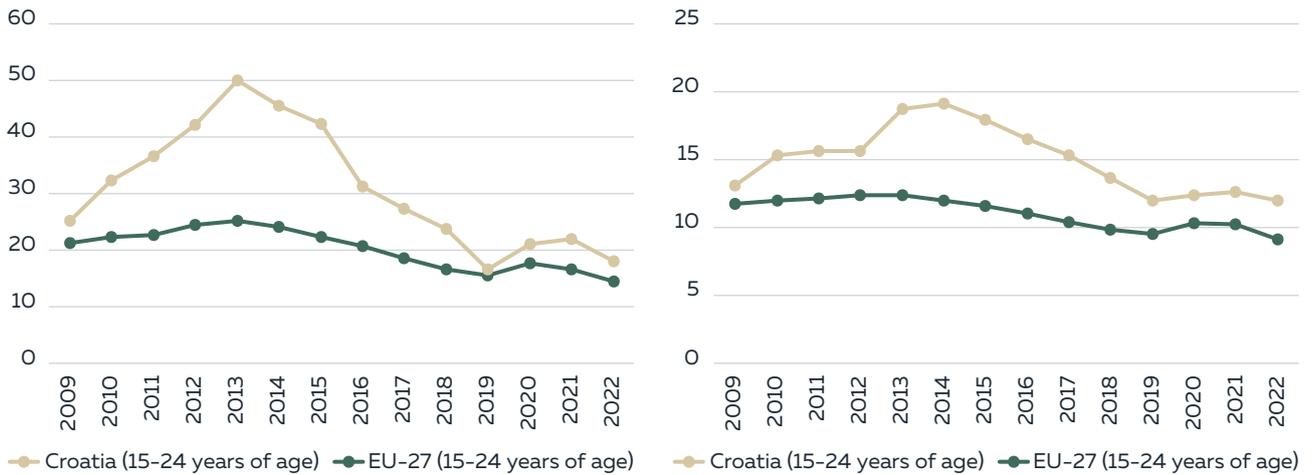
Croatia's NEET rates are high, indicating that jobs and opportunities are scarce for young people.

Figure 8 compares youth unemployment rates and the rates of young people who are not in education, employment, or training (NEET) in Croatia with the average for all EU member countries. NEET rates generally tend to increase with youth unemployment, and both have declined significantly in Croatia since 2014. The youth unemployment rate fell to the EU-27 average level in 2019 before diverging from the EU average again as a result of the economic impact of the COVID-19 pandemic. Both rates now remain above the respective EU averages. Figure 9 shows that, while Croatia's NEET status in 2021 had declined relative to 2010, it was still the fourth high-

Figure 7: Unemployment rates by age group, men and women

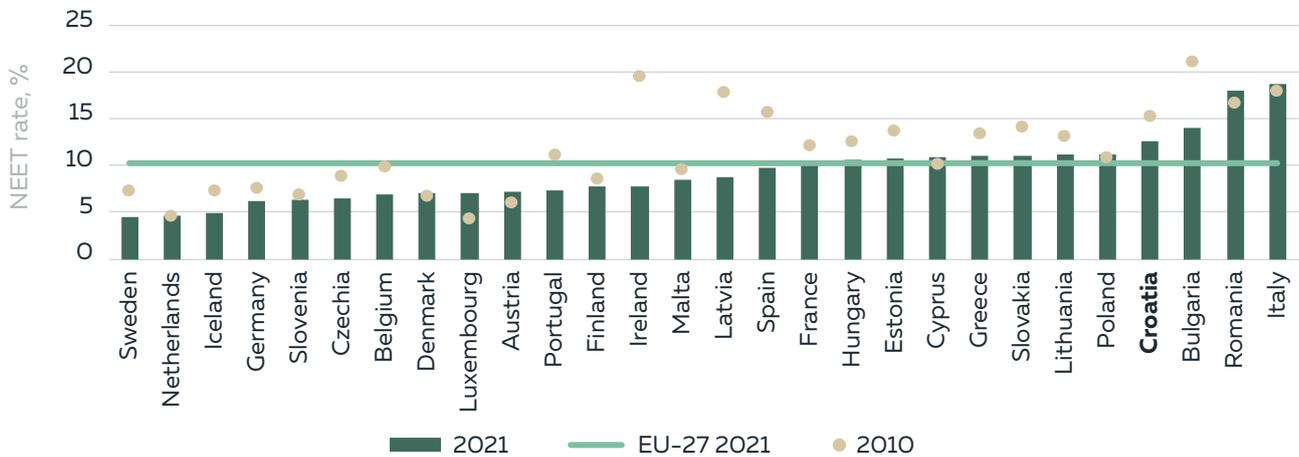


Figure 8: Youth unemployment rate (left) and NEET rate (right), % and by age



Source: Eurostat.

Figure 9: NEET rates among 15–24-year-olds



Source: Eurostat.

est in the EU as of 2021. High NEET rates for out-of-school youths means that they lose out on labor market experience and wages and have poorer job prospects, all of which are associated with antisocial behavior (Henderson et al, 2017).

Among all EU countries, Croatia has the highest share of young adults living with their parents, likely reflecting the skills mismatch and affordable housing for Croatian youth. Figure 10 ranks EU countries by their shares of young adults aged 25 to 34 living with their parents and reveals considerable heterogeneity across the continent. Given the expectation that most people in this age group would be working and getting established financially, this share is very high in several European countries and is highest in Croatia. Moreover, a large share of young people work on temporary contracts, and the lack of stable employment makes them ineligible for mortgage loans. This situation has worsened since the 2008 economic crisis, disproportionately affecting young people. Despite low mortgage interest rates,

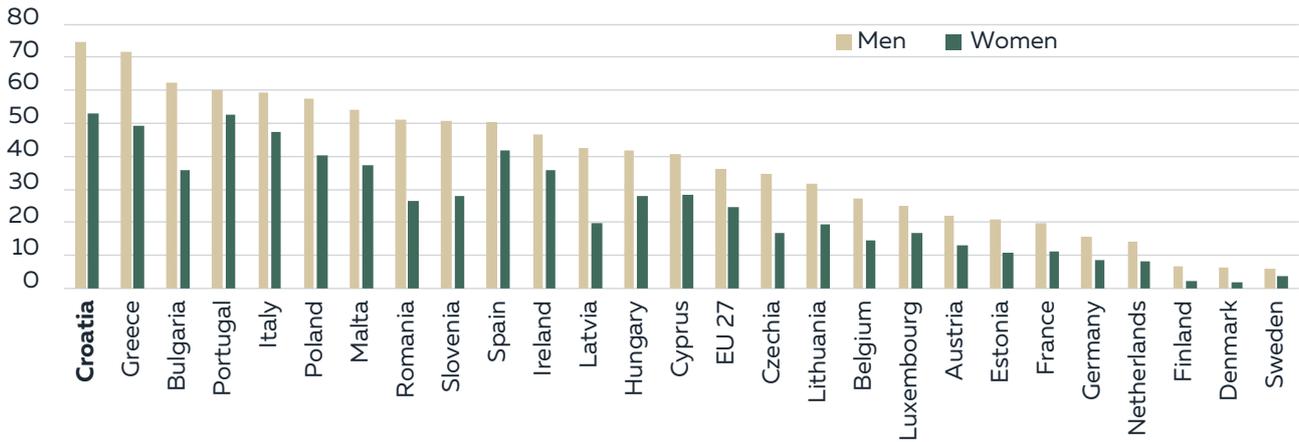
demand from foreigners for apartments in Croatia (particularly in Zagreb and the coast) has put upward pressure on prices, making them less affordable for Croatians (Bejaković and Mrnjavac, 2019). Figure 11, which plots the yearly trend in the estimated age at which young Croatian men and women leave their parents' households, reveals a gradually increasing trend, indicating that a skills mismatch and scarcity of affordable housing may be the primary reasons for this pattern. The gender gap, while notable, is not unique to Croatia – overall, EU men leave home later than women.²

In the following sections, this chapter will describe some of the frictions that hinder labor reallocation in Croatia and prevent the economy from making full use of the human capital potential of the workforce. The analysis will focus on the economic and social barriers for the groups with the lowest levels of labor market activity – young people and women.³ The analysis focuses mainly on the supply side of the market.

² <https://www.euronews.com/2017/05/04/long-goodbyes-how-men-in-croatia-are-the-eu-s-oldest-to-fly-the-nest>

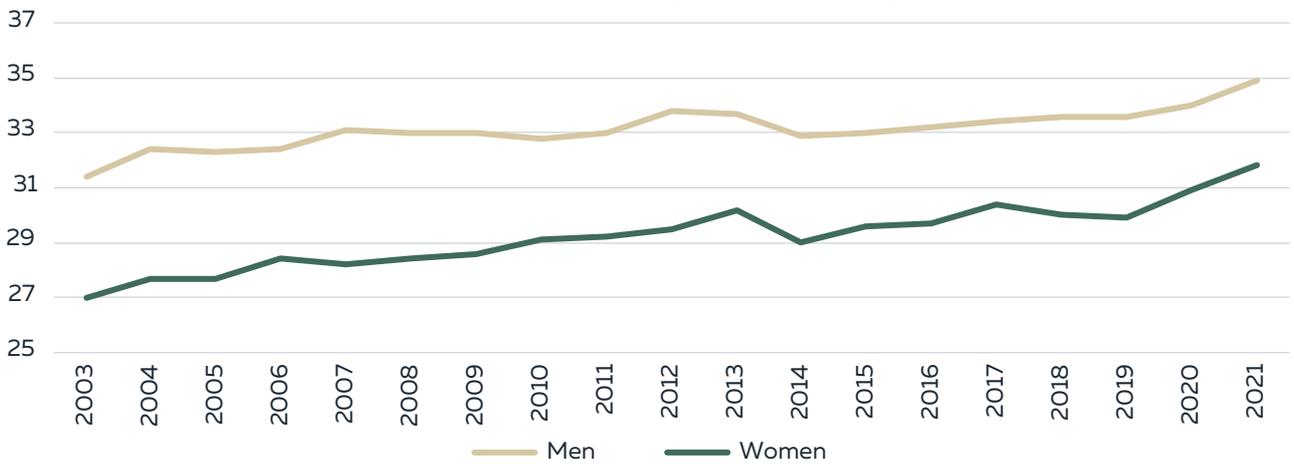
³ Chapter 2 analyzes the labor market for older Croatians in detail. Hence the analysis in this chapter focuses on the other two major groups that have high inactivity rates – young people and women.

Figure 10: Share of young adults aged 25-34 living with their parents, by sex (%) (EU-SILC)



Source: Eurostat, based on the EU-LFS "Educational attainment level and transition from education to work." https://ec.europa.eu/eurostat/databrowser/view/EDAT_LFSE_28/default/table?lang=en

Figure 11: Trends in the estimated average age of young Croatians leaving the parental household, by sex



Source: EU – SILC survey.

Skills and Spatial Gaps

Educational attainment has been increasing in Croatia over time,⁴ which is a promising trend for the future, but the changing educational composition is creating a mismatch in the short term due to high demand for lower skilled labor. Table 3 compares the educational attainment of the Croatian population by age group with the EU-27 average. Croatia has lower shares of the less educated (levels 0 to 2) and of those with a tertiary education than the EU-27 and a much higher share of those with a secondary education. Notably, the share of the low-educated is much higher among older cohorts in Croatia, highlighting the increase in educational attainment in the population over time.⁵ However, the Croatian economy is still heavily skewed toward low-skilled services, including tourism (World Bank, 2022a). This has created sizable gaps in activity rates between groups with different levels of educational attainment, which has contributed to

a growing skills divide among the country's workforce. Figure 12 depicts trends in LFPRs in Croatia by educational attainment alongside average rates for the EU-27. The LFPR of those with a tertiary education is consistently high in Croatia, at over 85 percent, which is very similar to the EU-27 average, but it is consistently below the EU average for those with upper secondary and primary levels of education. Together, the trends in educational attainment and activity rates imply that the low levels of activity among those with less than a secondary level of education is largely driven by older workers. As these workers age and retire, the composition of the workforce is likely to shift towards the more educated. This presents an opportunity to increase the productivity of the economy with an educated workforce, as long as there is a concomitant increase in demand for their skills. This will require the economy to shift away from low value-added services towards more skill-intensive, high value-added sectors such as manufacturing and ICT.

⁴ https://ec.europa.eu/eurostat/databrowser/view/LFSA_PGAED_custom_6135595/bookmark/table?lang=en&bookmarkId=f8b1d139-db50-42a7-914c-2633f402578a

⁵ The annual population with tertiary education peaked in 2018 at 567,000 and dropped to 545,000 in 2022. https://ec.europa.eu/eurostat/databrowser/view/LFSA_PGAED_custom_6135595/bookmark/table?lang=en&bookmarkId=f8b1d139-db50-42a7-914c-2633f402578a

Table 3: Educational composition of the population by age group, EU-27 (2020) and Croatia (2022)

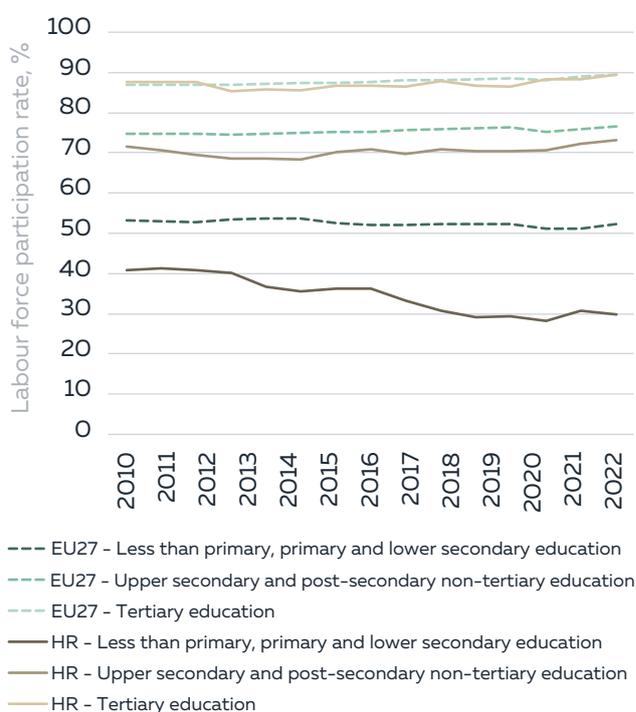
Educational attainment (ISCED levels)	Ages 25-39		Ages 40-59		Ages 60-64	
	EU-27	Croatia	EU-27	Croatia	EU-27	Croatia
Less than primary, primary and lower secondary education (levels 0-2)	0.15	0.05	0.22	0.14	0.29	0.23
Upper secondary and post-secondary non-tertiary education (levels 3 and 4)	0.43	0.61	0.46	0.64	0.48	0.61
Tertiary education (levels 5-8)	0.42	0.34	0.32	0.22	0.23	0.16

Source: https://ec.europa.eu/eurostat/databrowser/view/LFSA_PGAED_custom_6299650/default/table?lang=en&page=time:2022

Trends in job vacancies reflect a high demand for medium-level skills and a continuing and stable demand for low-skilled occupations, some of which is being met with migrant labor. The top panel of Figure 13 presents a seasonally adjusted online vacancy index (OVI), which is a monthly index of online job advertisements, posted on a major web portal, Mojposao.⁶ The annual trend line indicates a steady increase in vacancies from 2010 until mid-2018, followed by a gradual fall until early 2020 and a much sharper fall until early 2021, presumably induced by the COVID-19 pandemic. After that, the index displays a reasonably steady increase, indicating continuous growth in labor demand on an annual basis. The bottom panel of Figure 13 presents a decomposition of vacancies by the schooling levels mentioned in the advertisements. The demand for medium-level education/skills is considerably higher, though vacancies for low-skill jobs have been increasing since 2015. According to the website, demand for the five most sought-after occupations – salespersons, waiters, cooks, warehouse workers, and drivers – has remained stable, which reflects a continuing demand for low-skilled workers (bottom panel). The low and declining LFPR of low-skilled Croatians (Figure 12) has created chronic labor shortages in sectors such as tourism, catering, and construction. Croatian businesses in these sectors are addressing this issue by recruiting foreign workers. Immigration flows had increased considerably before the COVID-19 pandemic, in response to labor shortages.⁷ More recently, in 2021, in response to calls from employers’ associations, the Croatian government did away with quotas for foreign workers, allowing companies much greater flexibility to hire foreigners to fill vacancies.⁸

Among workers with a tertiary education, the perception of being over-qualified for their job (vertical mismatch) or working in a job outside their field of expertise (horizontal mismatch) is high.⁹ In 2018, the EUROGRADUATE pilot survey, sponsored by the European Commission, surveyed cit-

Figure 12: Trends in LFPRs in Croatia and EU-27 by educational attainment



Source: Eurostat.

izens with undergraduate or graduate degrees in eight member countries with the purpose of understanding barriers and constraints faced by those citizens in their respective labor markets (Rimac, 2020).¹⁰ The survey surveyed individuals from two cohorts – those who completed their studies in the academic year 2012/13 and those who completed their studies in the academic year 2016/17. The participants included those who were in the labor force as well as those who were inactive (Table 4). Among the participants in Croatia, about 35 percent stated that they were engaged in jobs that did not use all of the competences and abilities that they developed during their higher education. The majority of this group identified as vertically mismatched professionals, among whom 40 percent were also horizontally mismatched. These mismatched pro-

⁶ <https://www.eizg.hr/indices-351/ovi-index/356>. The index is calculated by an enumeration of single new job advertisements whose application deadlines end within the same month for which the index is being calculated.

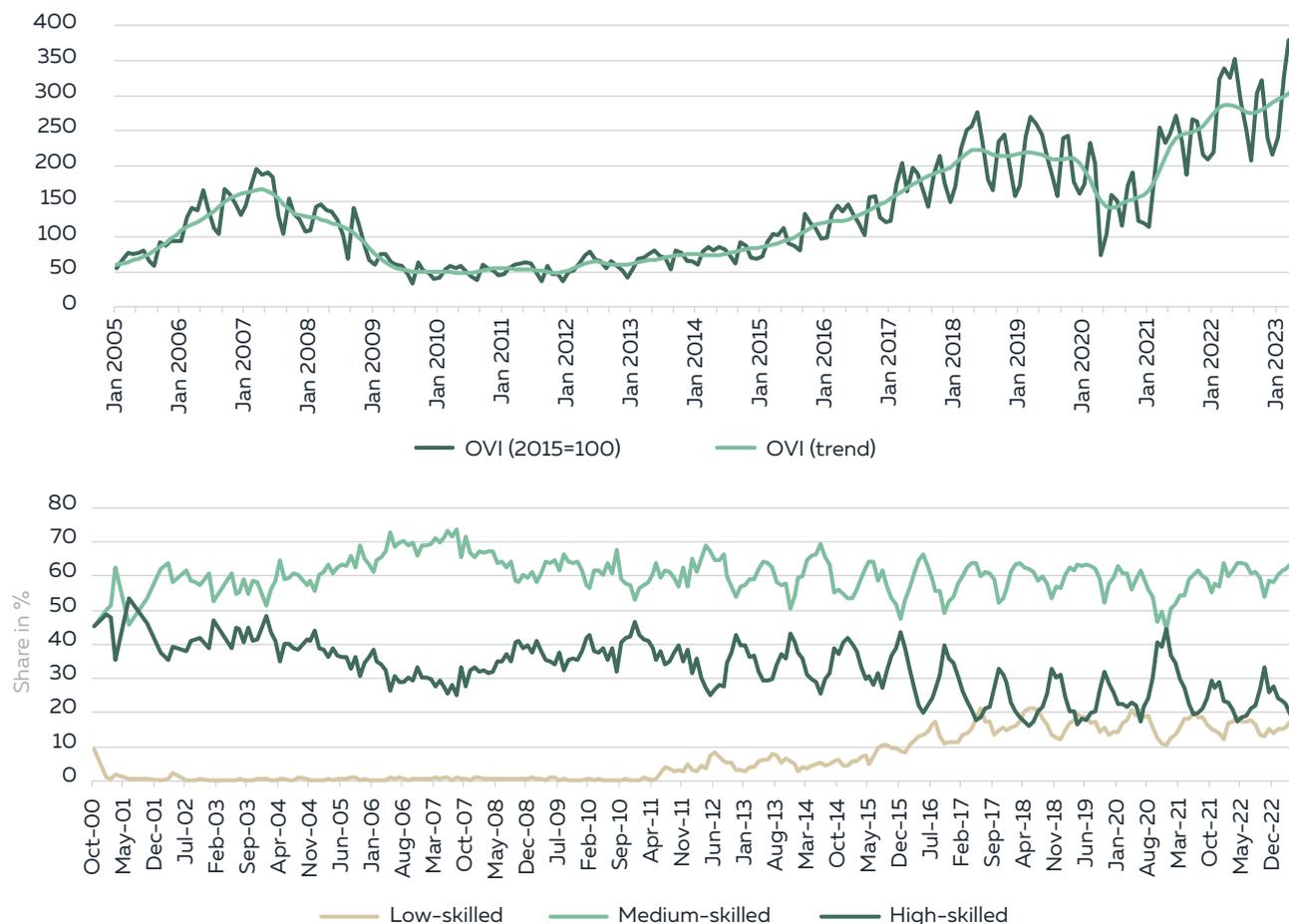
⁷ <https://www.euractiv.com/section/politics/news/croatian-companies-import-more-workers-to-tackle-shortages/>

⁸ While foreign workers are required to take a labor market test to work in certain sectors, in others there is no test requirement and employers have considerable flexibility in importing foreign workers. https://www.hzz.hr/app/uploads/2023/03/Lista-zanimanja-izuzetak-od-provedbe-testa-trzista-rada_2023.pdf

⁹ Vertical mismatches are mismatches between a person’s job and their level of education. In the Eurograduate survey, however, only overqualified cases were considered as a vertical mismatch, in other words, graduates who assume that a lower educational qualification would be sufficient to perform their current job. Horizontal mismatches are mismatches in content. Thus, the field of education does not match the job according to the self-assessment of the graduates.

¹⁰ The eight countries were Austria, Croatia, the Czech Republic, Germany, Greece, Lithuania, Malta, and Norway.

Figure 13: Online vacancy index, (top), Online vacancy index by skill-level (bottom), seasonally adjusted



Source: <https://www.eizg.hr/indices-351/ovi-index/356>

Note: A number of job vacancies do not have education requirements. The shares by skill levels in the bottom panel are based on vacancies that report specific education requirements.

professionals were likely to work part-time and in fixed contractual engagements. The fact that those with graduate degrees had higher unemployment rates than those with undergraduate degrees was a consequence of their unwillingness to accept vertically mismatched jobs, which is clear evidence of the skills mismatch that exists in the Croatian labor market (Rimac, 2020).

Most young Croatians enter the labor market with weak foundational skills, suggesting that there is a

Table 4: Labor force status in 2018 by cohort and highest degree, Croatia (%)

	Cohort 2012/13		Cohort 2016/17	
	B.A. level	M.A. level	B.A. level	M.A. level
Employed	86.3	85.4	36.6	74.8
Unemployed	7.2	10.4	6.8	17.8
Out of labor force	6.5	4.1	56.6	7.3
Total	100.0	100.0	100.0	100.0

Source: Rimac (2020).

need to improve the quality of training and education.¹¹ Croatia's share of early leavers from education and training is the lowest in the EU (2.2 percent versus 9.9 percent in EU-27) and well below the EU-level target of 9 percent by 2030, but even those who graduate have low levels of basic skills. Table 5 reveals that the percentage of low-achieving 15-year-olds in reading, math, and science is higher than the EU-level target of 15 percent. Moreover, the rates of low-achieving 15-year-olds in math (31.2 percent) and science (25.4 percent) are among the highest in the EU. Meanwhile, the percentage of students enrolled in general secondary schools in Croatia (31 percent) is among the lowest in the EU. In Croatia's vocational education and training (VET) schools, two-thirds of pupils attend four-year programs, which constitute an alternative route towards entering tertiary education. However, the educational experience and curricula are different in VET schools than in general secondary schools. Among all of the students who took the secondary school leaving examination in 2019-2020, 44 percent were from general secondary schools and 56 percent from VET schools, but the failure rates were

¹¹ See Chapter 3 for a detailed analysis of skills attainment over the lifecycle.

Table 5: Croatia’s key human capital indicators compared to EU-27, 2020

EU-level targets	2030 target	Croatia	EU-27
Participation in early childhood education (from age 3 to starting age of compulsory primary education)	>96%	79.4%	92.8%
Early leavers from education and training (age 18–24)	<9%	2.2%	9.9%
Low achieving 15-year-olds in:	Reading	< 15%	22.5%
	Maths	< 15%	22.9%
	Science	< 15%	22.3%
Pupils in general secondary schools		31%	52%
Tertiary educational attainment (age 25–34)	>45% (2025)	36.6%	40.5%

Source: <https://op.europa.eu/webpub/eac/education-and-training-monitor-2021/en/croatia.html>

3.9 percent and 37.8 percent respectively.¹² In 2020, the percentage of 25 to 34-year-olds with a tertiary education was 36.6 percent, which was below the EU average of 40.5 percent and also below the EU-level target for 2030 of 45 percent. The low percentage of students in general secondary education combined with the high failure rates among students completing the upper secondary VET, is likely to constitute a bottleneck for increasing the tertiary attainment rate in the country.¹³

The limited involvement of employers in VET curricula and planning has exacerbated the mismatch between the demand for and the supply of skills in the Croatian labor market. Croatia has a strong VET tradition. It has one of the highest numbers of students participating in these programs at the upper secondary level in the EU. These VET programs are school based but also include some practical training in the workplace, though this accounts for less than 10 percent of the practical training component on average (CEDEFOP, 2020a). Employers play only a limited role in the planning and funding of the VET sector, which is consistent with the labor shortages found in sectors such as tourism, catering, construction, and manufacturing as the VET schools are not producing graduates with the skills that the labor market needs.¹⁴ Another consequence of the VET curricula not being driven by demand is that almost half of VET graduates work in a field outside their specialization. For older workers, a lack of adult retraining is a factor in their low LFPRs. Only 3 percent of those in the 25 to 64 age group participate in some form of workforce education or training (CEDEFOP, 2020a).

There are discernible variations in labor market dynamics between regions due to spatial immobility, the seasonality of tourism, and migration patterns. Table 6 presents the registered rate of unemployment by county for the 2017–2021 period.

Significant heterogeneity exists in these rates, with the lowest rates registered in the city of Zagreb (6.7 percent in 2021), while some rural counties have rates close to 19 percent. While some degree of regional variation can be expected, the magnitude seen in Croatia is unusual for a small country.

Table 6: County-level registered unemployment rates

Country of	2017	2018	2019	2020	2021
Republic of Croatia	13.9	11.1	9.1	8.9	9.4
Zagreb	11.3	8.0	6.3	5.8	6.7
Krapina-Zagorje	10.5	8.1	6.4	6.1	6.6
Sisak-Moslavina	29.0	24.3	19.9	18.7	17.5
Karlovac	16.6	13.2	9.9	9.1	9.1
Varaždin	6.9	5.1	4.0	4.2	4.0
Koprivnica-Križevci	13.0	8.7	6.8	6.4	6.8
Bjelovar-Bilogora	22.7	18.3	13.7	12.4	11.8
Primorje-Gorski kotar	9.9	8.0	6.7	7.2	8.2
Lika-Senj	19.4	15.8	12.5	12.7	12.1
Virovitica-Podravina	28.8	23.2	19.6	18.8	18.5
Požega-Slavonia	19.0	16.5	12.7	12.9	12.9
Slavonski Brod-Posavina	22.4	19.9	15.7	14.6	16.2
Zadar	13.3	10.7	9.2	9.2	8.5
Osijek-Baranja	24.9	21.2	17.6	16.8	16.8
Šibenik-Knin	19.9	15.4	14.2	14.3	14.5
Vukovar-Sirmium	25.1	20.5	16.0	15.1	14.5
Split-Dalmatia	21.4	18.2	15.4	14.6	16.6
Istria	6.2	4.9	4.6	6.3	6.8
Dubrovnik-Neretva	16.5	13.0	12.7	13.1	14.0
Međimurje	9.7	6.5	5.4	5.5	5.6
City of Zagreb	6.4	4.7	3.7	3.7	4.3

Source: Croatian Bureau of Statistics.

¹² Passing the secondary school leaving examination, Matura, is obligatory for all those who wish to continue their education in one of the higher education institutions.

¹³ <https://op.europa.eu/webpub/eac/education-and-training-monitor-2021/en/croatia.html>

¹⁴ In response to requests from employers’ associations, the government has done away with quotas for foreign workers since 2021. While foreign workers are required to take a labor market test to work in certain sectors, in others there is no test requirement, and employers have considerable flexibility in importing foreign workers. https://www.hzz.hr/app/uploads/2023/03/Lista-zanimanja-izuzetak-od-provedbe-testa-trzista-rada_2023.pdf

This is compounded by the lack of internal migration. The predominance of the tourism industry in the country’s economic structure skews demand in local labor markets during the holiday season. Cities and towns along the coastline benefit from tourism, while old industrial and farming regions do not. Most seasonal workers do not consider it worthwhile to permanently relocate to the tourist areas given that there is little employment there in the off-season. Another factor that hampers internal mobility is that, in the absence of an adequate welfare state that takes care of older adults, children are expected to look after their elderly relatives (Håkansson and Bejakovic, 2020). While high levels of emigration have exacerbated some of these regional inequities, immigrant flows have alleviated labor shortages in Zagreb, and coastal regions that receive significant numbers of tourists. Thus, regional variation in the demand for specific skills, combined with property market distortions create labor market rigidities – spatial and skill mismatches – and prevent Croatia’s labor market from responding to economic conditions.

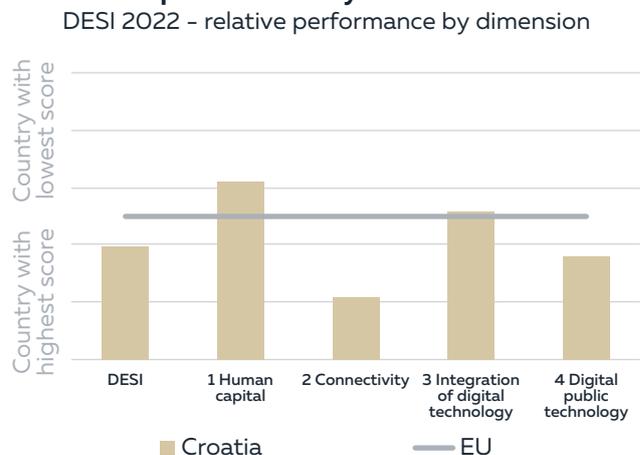
A well-functioning housing market would facilitate labor mobility within Croatia and enable the economy to adjust to adverse shocks. As noted above, the housing sector in Croatia has been a major source of labor market rigidity in Croatia (World Bank, 2021a). While the homeownership rate is very high, the distribution of housing is highly skewed, with an oversupply of housing units in economically depressed areas and a shortage in the booming urban areas. High transaction costs are a factor limiting internal mobility, as is the insufficient supply of services such as preschools, schools, and elderly care in many regions (Håkansson and Bejakovic, 2020). Computerizing the land registry and cadaster and moving to fully online registration of immovable property will increase efficiency, while making for more reliable records and a more efficient and transparent processes. Harmonization of land registry and cadaster data will further support more efficient land transactions. This in turn would encourage internal migration driven by labor demand, which would enable the economy to adjust to economic shocks more effectively. Croatia’s e-Citizens initiative, launched in 2014 in accordance with the European interoperability framework, is expected to foster this transition via the digitization of information and by increasing the transparency of the public sector in providing public services.¹⁵

Automation and digitalization offer an opportunity to create a more productive and competitive Croatian workforce. Croatia’s digital economy, which includes all digital activities in all economic

sectors, currently accounts for approximately 5 percent of GDP. Projections based on a detailed analysis – which took into account the composition of the workforce, the expected rate of adoption of automation based on available technologies and the economic feasibility of their implementation – indicated that the digital economy could be the country’s new growth driver and contribute up to 16 percent of GDP as early as 2025.¹⁶ While the impact of the COVID-19 pandemic may require this timeline to be adjusted, Croatia has the potential to reach this goal. This will require citizens to reskill and upskill to be able to take up the new jobs created by these modern technologies. Croatians are broadly well-placed to take on this challenge albeit from a low base. In 2022, Croatia was ranked 21st out of 27 EU member states in the annual Digital Economy and Society Index (DESI) rankings¹⁷ and was among the lowest-performing EU member states in terms of digitalization (CEDEFOP, 2020c). However, among the four dimensions that underlie the DESI score,¹⁸ Croatia ranks 9th among the 27 EU countries in terms of human capital, scoring higher than the EU-27 average (Figure 14). This means that the level of digital skills among the Croatian population is above the EU average in several key indicators, such as the share of the population with basic digital skills and basic digital content creation skills. If appropriate policies were put in place, Croatia could harness these advantages to create a digitally skilled workforce. A more digitalized economy will also increase labor market flexibility by enabling more employees to work remotely, thus boosting labor supply and increasing workers’ attachment to the labor market.¹⁹

The National Coalition for Digital Skills and Jobs in Croatia, established in December 2018, is focused

Figure 14: DESI index 2022 – Relative performance by dimension



Source : <https://ec.europa.eu/newsroom/dae/redirection/document/80477>

¹⁵ <https://gov.hr/en>
¹⁶ <https://www.total-croatia-news.com/business/57305-croatian-workers>
¹⁷ <https://digital-strategy.ec.europa.eu/en/policies/desi-croatia>
¹⁸ DESI includes four dimensions: (i) connectivity (fixed and mobile broadband, prices), (ii) human capital (Internet use, basic and advanced digital skills) and use of Internet services (citizens’ use of content, communication, online transactions), (iii) integration of digital technology (business digitalization, e-commerce), and (iv) digital public services.
¹⁹ Under the National Recovery and Resilience Plan (2021–2026), digital work platforms have been introduced as a new form of work, and the provisions related to digital work platforms will enter into force on January 1, 2024. See <https://assets.kpmg.com/content/dam/kpmg/hr/pdf/2023/02/Promjene-u-hrvatskom-radnom-zakonodavstvu-I-Changes-to-Croatian-Employment-Legislation.pdf>

on preparing the workforce for the future of work. While Croatia does not have a strategic framework focused on digitalization, the National Coalition for Digital Skills and Jobs in Croatia, which is coordinated by the Croatian Employers' Association, has a mission to increase the employment and retention of qualified professionals in Croatia. The Coalition's charter proposes to steer the unemployed toward ICT careers, increase the number of ICT specialists in the labor market, increase the digital competencies of professionals in non-ICT occupations, support digital leaders, and foster creative digital society (in science, technology, engineering, arts, and mathematics or STEAM). The Charter also advocates for the continuous professional development of digital specialists through lifelong and workplace learning and mentorship. It aims to promote digital skills and careers by focusing on primary and secondary schools and by targeting women to consider digital careers. These proposals, if successfully implemented, would propel Croatia towards a full-scale digital transformation that would drive innovation and growth. They would also prepare citizens for the future of work and increase the dynamism of the labor market (CEDEFOP, 2020c).

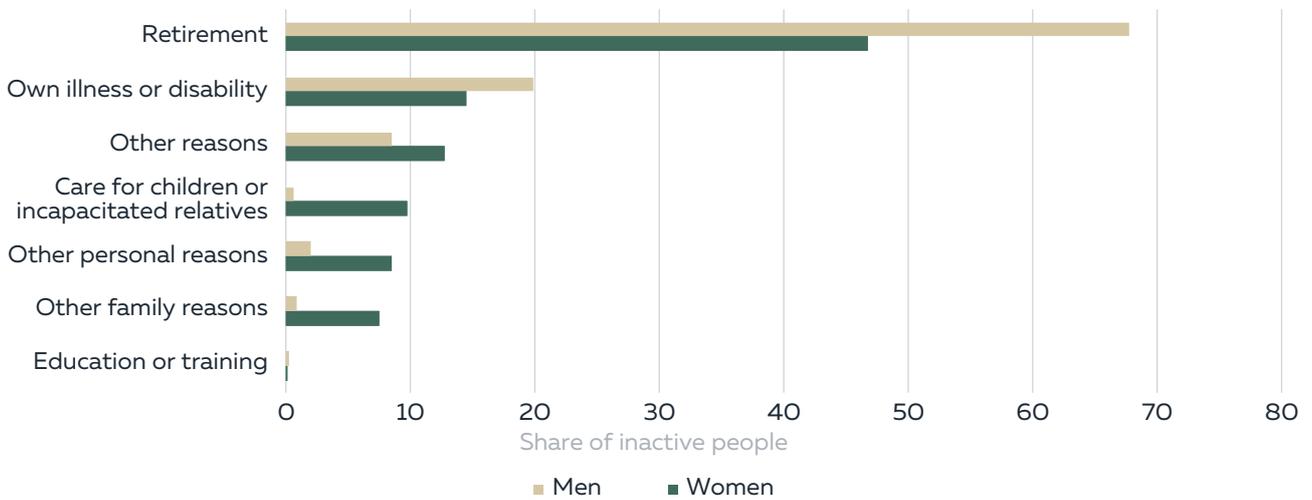
Balancing work with care responsibilities – A lack of flexible work options

Social norms place a disproportionate amount of informal caring duties on women, which contributes to their high economic inactivity rates. A lack of adequate formal and informal child and elder care in Croatia means that women are required to take on a disproportionate share of household chores and child and elder care in keeping with prevailing gender norms. According to the 2021 Labor Force

Survey (LFS), among the inactive population aged between 15 and 64, nearly 10 percent of women attributed their labor market inactivity to care duties. Among inactive men, this reason was given by fewer than 0.5 percent (Figure 15).

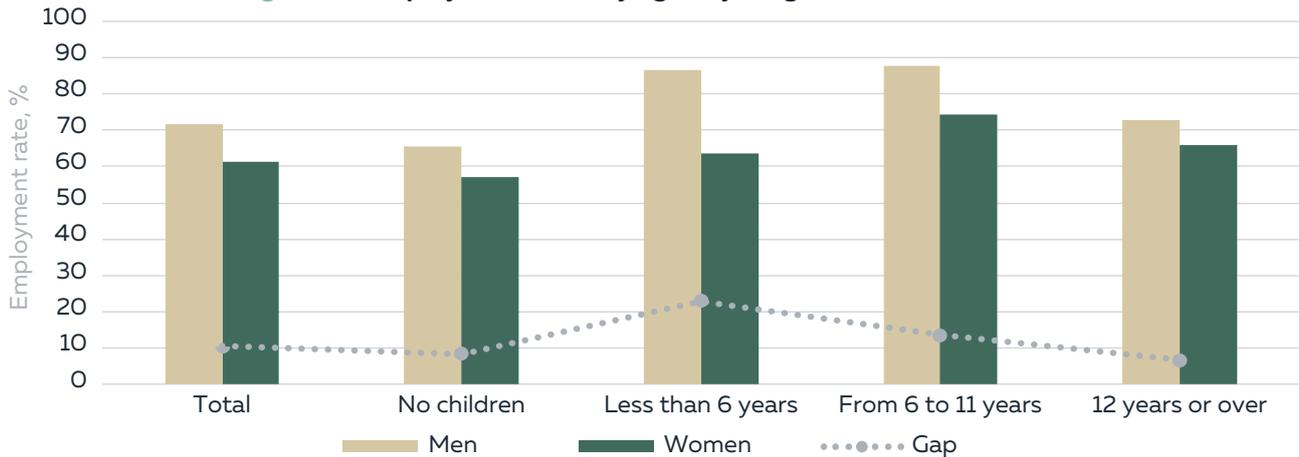
Women tend to drop out of the labor market once they have children and are more likely than men to be inactive or unemployed. Some of the gender gap in employment rates is driven by child-rearing responsibilities. Figure 16 presents the average employment rates of men and women according to the age of the youngest child residing in their household. Interestingly, for both men and women, employment rates are higher among households with children. However, the gender gap is highest when the youngest child is less than 6 years old and gets narrower as children grow older, which is an indication that women take on the predominant share of care responsibility by dropping out of the labor force. Croatia's parental leave policies, while generous in terms of duration, are not financially adequate. The policies offer up to six months of maternity leave with job protection, and additional six months of parental leave if taken up by both parents or six months of parental leave if used by one parent. However, the share of fathers taking parental leave is very low in Croatia compared to the shares in other EU countries (Robayo-Abril et al, 2020). These policies, while seeking to offer benefits for parents, may have further institutionalized the gendered division of care (Dobrotić, 2022). Women are likely to face wage penalties as a result of their extended absences from the labor market, with evidence suggesting a sizable negative association between men's participation in parental leave and the gender gap in labor force participation and employment (Thévenon and Solaz, 2013 and Grimshaw and Rubery, 2015). The expansion of kinder-

Figure 15: Principal reasons offered by respondents for inactivity (percentage)*



Source: Labor Force Survey 2021; * - excludes students.

Figure 16: Employment rates by age of youngest child in household



Source: LFS 2021.

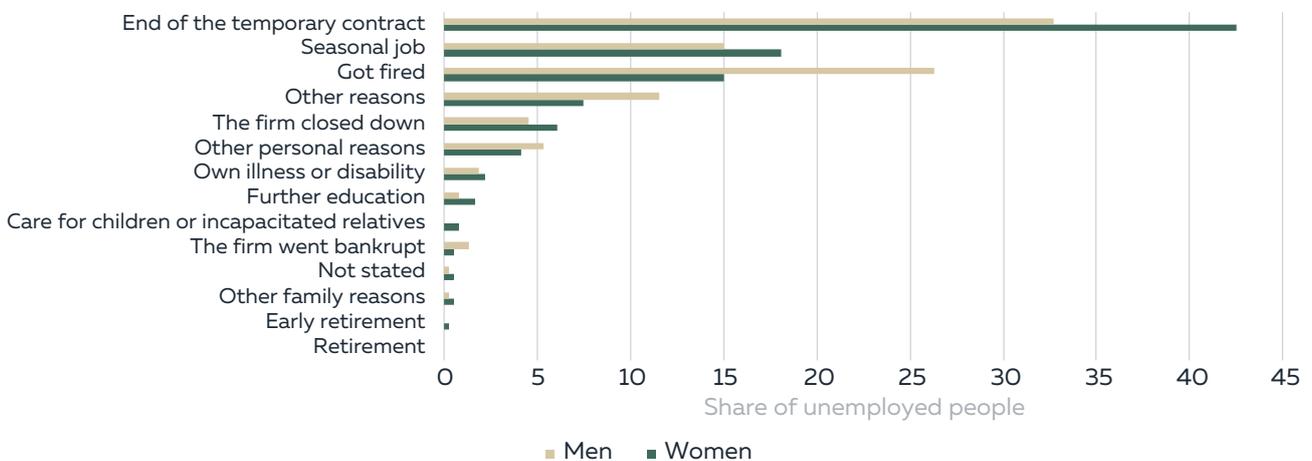
gartens and the recent increase in the number of instructional hours required in schools aimed at improving learning outcomes should also help to increase women’s labor participation rates.²⁰

The Croatian government’s recent changes to the pension system under the National Recovery and Resilience Plan (NRRP) are intended to redress some of the negative consequences of women’s tenuous attachment to the labor market. On average, working women are more likely to be marginally employed than their male counterparts, doing less stable jobs and experiencing more frequent unemployment spells. A higher share of working women is engaged in short-term, temporary contracts than men. As Figure 17 shows, among the unemployed in 2021, about 43 percent of women reported being unemployed due to the end of a fixed-term contract compared to the 33 percent share among men. Women are also more likely to work in temporary seasonal jobs, which are characterized by

irregular and uncertain earnings, contributing to women’s socioeconomic disadvantage. Women’s lower LFPRs and tenuous attachment to the labor force translate into a pension gap. Women in Croatia received, on average, pension or old-age safety net payments that were 28 percent lower than those received by men, marginally below the EU average gender pension gap of 29 percent. Given their longer life expectancy than men, these disparities render women more financially vulnerable as they age. Until recently, a widowed housewife inherited only 70 percent of her husband’s pension.

Recent reforms to the pension system under the National Recovery and Resilience Plan (NRRP) are aimed at increasing the minimum pension. They also make it possible to factor part of the survivor’s pension in addition to their personal pension into the calculation of their benefit level for lower-income pensioners. These changes are expected to be implemented from 2023.²¹

Figure 17: Reasons offered for current unemployment status, men and women



Source: LFS 2021.

²⁰See Chapter 3 for a more detailed description of this program.

²¹https://commission.europa.eu/system/files/2022-05/national_reform_programme_croatia_2022_en.pdf

Part-time employment rates are low relative to the EU-27 average. Only a meager share of the employed in Croatia work in part-time jobs, which is a common feature of post-socialist countries. Table 7 shows that, of the total female workforce, 6.1 percent are in part-time employment in Croatia, compared to 28 percent in the rest of the EU. For men, the rates are 3.6 percent and 8 percent respectively. Based on the 2021 LFS, among those in part-time employment, 34 percent of women and 33 percent of men attribute their part-time status to their inability to find full-time jobs, which again indicates the shortage of full-time jobs in the economy (Figure 18). For men -- especially young men -- the limited opportunities for part-time employment hinder their ability to gain valuable work skills that would enable their transition to full-time jobs. For women, the scarcity of part-time employment compounded by the limited availability of formal care centers for children and the elderly makes it particularly challenging to combine working and family obligations, which limits their labor market participation and employment potential.

There are few self-employment or entrepreneurship activities in Croatia, especially for women. Part-time work, self-employment, and entrepreneurial activities are characteristics of a flexible labor market. Croatia compares poorly with the EU in this respect, with self-employment rates below the EU averages for both men and women. The gender gap within Croatia is also notable, with the female self-employment rate being about half of the rate among men (Table 7). Figure 19 gives a cross-country comparison of the total early-stage entrepreneurial activity (TEA), a key measure of entrepreneurship.²² While Croatia performs well overall, ranking in the middle of the high-income group of EU countries on this measure, its gender gap in TEA is noticeably

Table 7: Part-time and self-employment rates (%), Croatia and EU-27, 2021

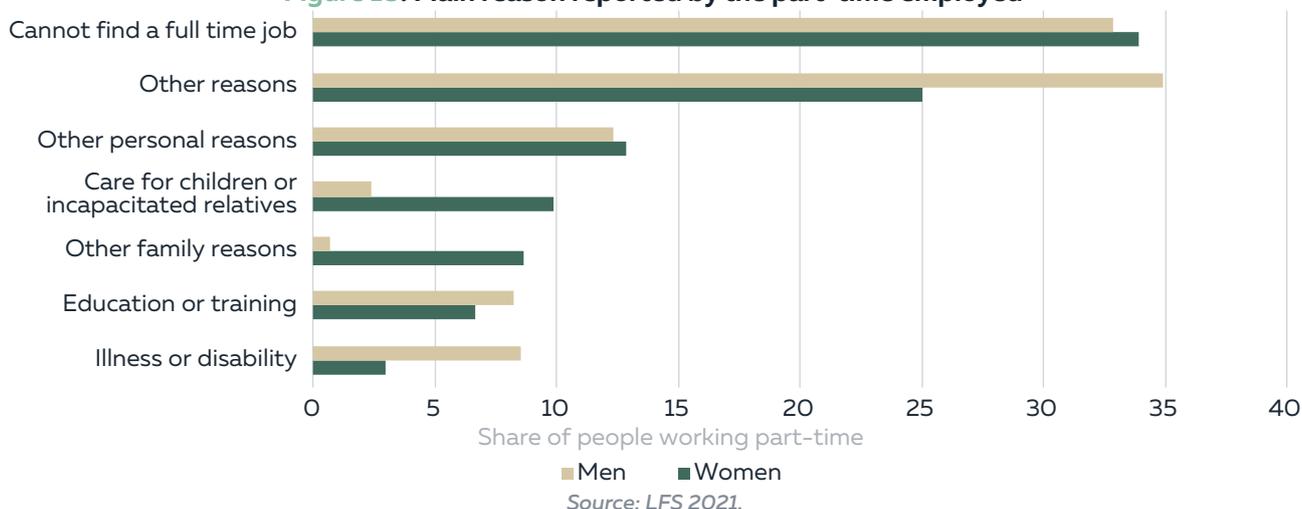
	Croatia		EU-28	
	Female	Male	Female	Male
Part-time employment rate (%)	6.1	3.6	28.3	8.2
Self-employment rate (%)	7.8	14.3	9.4	16.1

Source: Eurostat; * - Q3 data. Note: The rates for Croatia are from the LFS 2021 while the EU rates are from Eurostat for 2022.

higher than that of several other countries. To the extent that this is symptomatic of the challenges involved with setting up one’s own business, this is problematic, especially for more vulnerable groups such as those who are less mobile or less skilled.

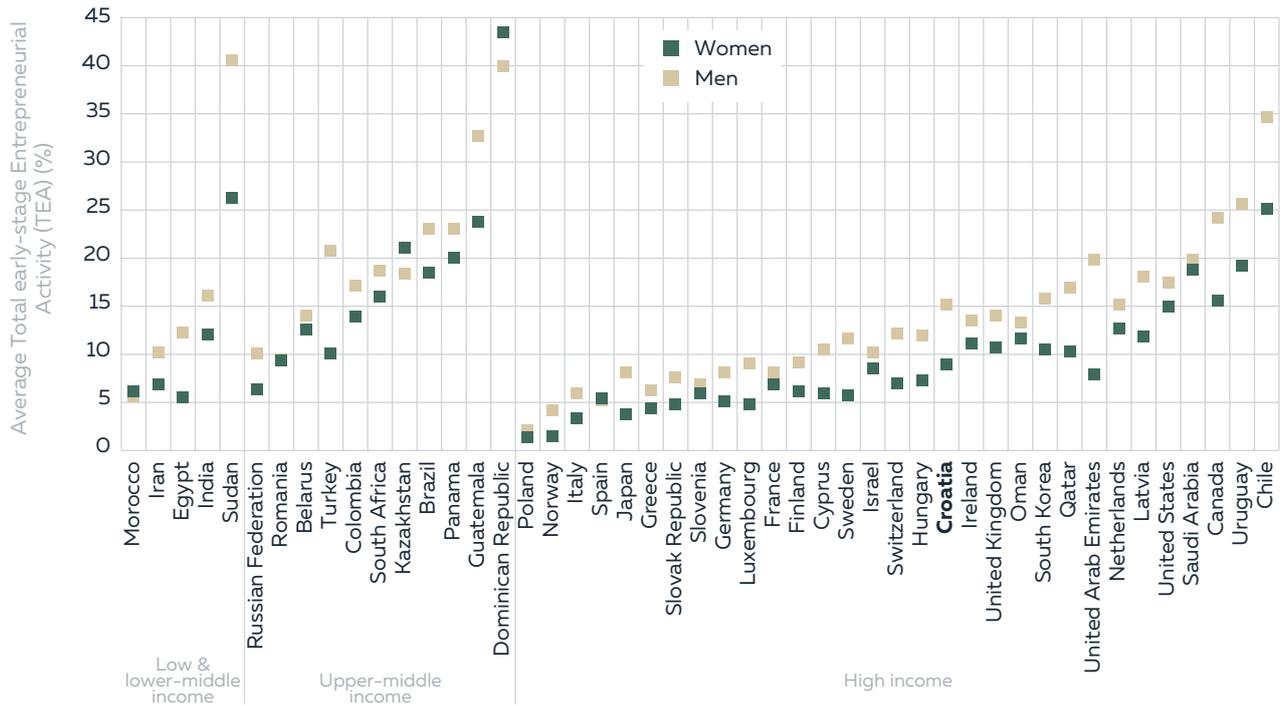
Flexible working arrangements are rare in paid employment. Inflexible work arrangements limit people’s ability to combine their work with their other obligations, a constraint that is likely to be more pressing for women. Using data from the 2021 LFS, Figure 20 indicates that over 80 percent of employed women have no control over their work hours, which are set by their employer. Among men, this share is 82 percent. Moreover, about 87 percent of women and 91 percent of men stated in the survey that they had no option to work from home (teleworking). These are very high shares, given that teleworking has become commonplace in many high-income countries following the disruption induced by the COVID-19 pandemic. In 2022, fewer than 5 percent of Croatian workers were working from home, compared to the EU-27 average of 10 percent (Figure 21). This is, to some extent, due to the tourism-centric nature of the economy, which limits the ability to telework.

Figure 18: Main reason reported by the part-time employed



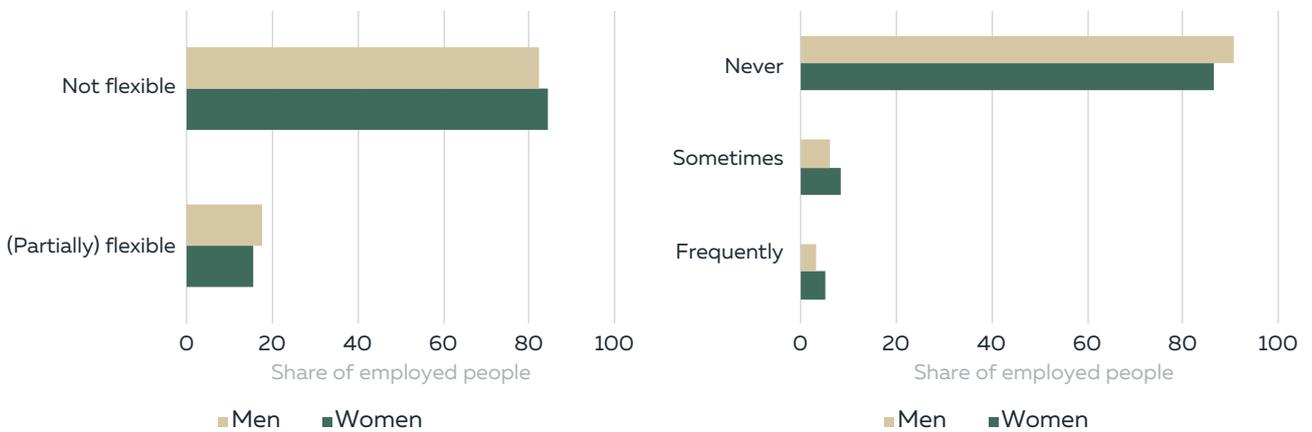
²²The TEA is measured as the percentage of the adult working-age population aged 18 to 64 who are either in the process of starting a new business but have not paid wages for more than three months (nascent entrepreneurship) or have businesses that are older than three months but younger than 42 months (early-stage business activity) (GEM, 2022).

Figure 19: Average Total Early-stage Entrepreneurial Activity (TEA) rates by gender, 2021



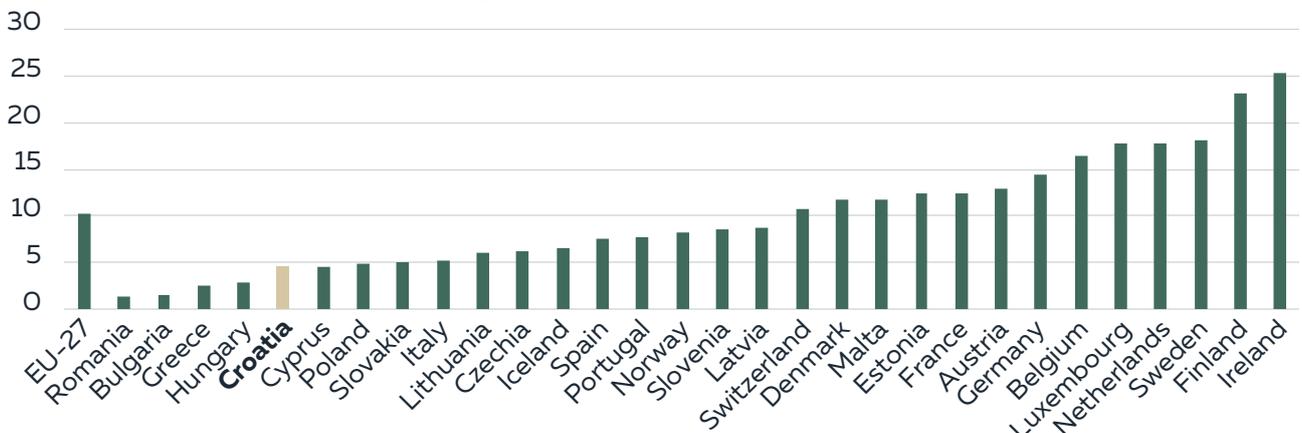
Source: GEM (2022); <https://www.gemconsortium.org/reports/womens-entrepreneurship>.

Figure 20: Prevalence of flexible work schedules (left) and work-from-home option (right)



Source: LFS 2021.

Figure 21: Employed persons working from home as a percentage of the total employment, 2022 (%)



Source: https://ec.europa.eu/eurostat/databrowser/view/LFSA_EHOMP/default/table?lang=en

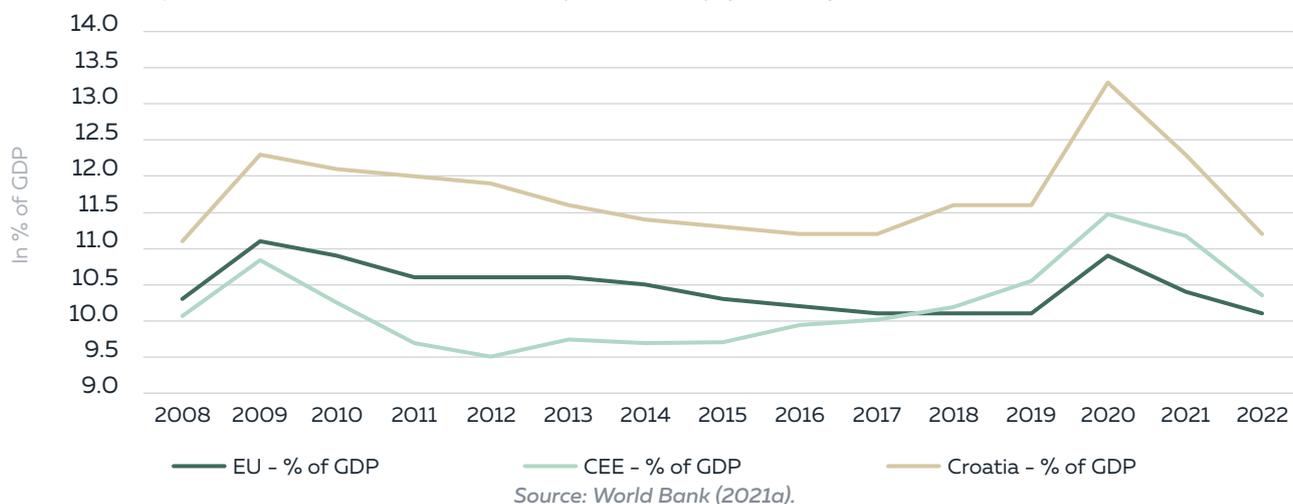
Barriers to Work: Institutional Features Dampening Labor Demand and Supply

Public sector wage policies have raised unit labor costs in both the public and private sectors, lowering Croatia’s productivity. While the government made efforts to reduce the public wage bill in the period following the global financial crisis, these cost containment measures were effective only during the 2009 to 2014 period (World Bank, 2021a). Since 2015, the public sector wage bill has been increasing due to wage raises and an increase in the number of public sector employees. In 2018, the share of compensation for general government employees in GDP surpassed the level before the global financial crisis (Figure 22). While the pro-cyclical nature of public sector wages was also evident in other countries, by 2019, the share of GDP accounted for by the public sector wage bill in EU-27 countries was lower than in pre-recessionary 2008. Furthermore, Croatia’s wage bill continued to increase significantly in 2020 and 2021 despite the deterioration in the country’s fiscal situation due to the economic downturn related to the COVID-19 pandemic. The wage increase in Croatia’s private sector has been even steeper over the last decade. The average wage in the private sector did not fall in any single year after the 2009 financial crisis. In 2010, it remained the same as in 2009, and in the next couple of years, it grew by up to 2 percent per year and then accelerated with the subsequent economic recovery. Between 2018 and 2019, total compensation (including non-taxable allowances) in the private sector increased by 6.6 percent in 2018 and 5.8 percent in 2019, which was much higher than the wage increases in the public sector. However, in 2020 and 2021, public sector wages contin-

ued to increase despite the reduction of non-taxable allowances, and in the private sector, there were significant reductions in non-taxable allowances, especially in activities related to tourism (Figure 23). Despite spending more than its peers in Central and Eastern Europe (CEE), Croatia ranks very low in several dimensions of public sector performance, implying that public spending is inefficient (World Bank, 2021).

High and sustained increases in public sector wages are affecting public sector efficiency and limiting the dynamism of the private sector (World Bank, 2021a). The share of public sector employment²³ was 23 percent in Croatia in 2020, well above the EU average of 16 percent.²⁴ In contrast with the public sector, private sector employment fell during the recession, with the number of private sector employees declining by almost 17 percent between 2008 and 2014. While employment increased moderately thereafter as the economy recovered, in 2019, it was still 6.8 percent lower than the 2008 level (World Bank, 2021). Private sector firms have to compete with the public sector for workers, including educated workers, because these workers are drawn to the high wages and benefits offered by the public sector. This is evident from the fact that core public sector employees have, on average, two more years of completed education than those employed in the private sector or those in the public companies.²⁵ Furthermore, the majority of full-time employees with a tertiary education are employed in either the core public sector or in public companies. This puts upward pressure on wages in the private sector. High wages that are not driven by productivity increases reduce the competitiveness of firms and inhibit the reallocation of labor to more productive activities. They also constrain the ability of firms to make optimal capital investments and

Figure 22: Compensation of employees paid by general government: Croatia and EU

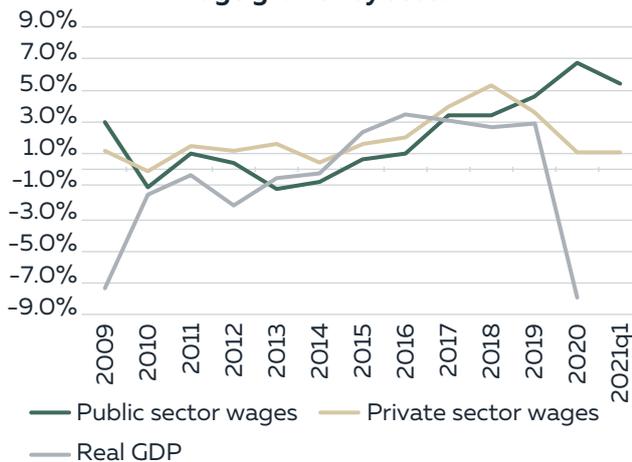


²³The scope of the government sector varies among EU member states. For example, in some countries, jobs in education or health are part of government employment but not in others.

²⁴https://ec.europa.eu/eurostat/cache/digpub/european_economy/bloc-4d.html?lang=en

²⁵'Core' public services refer to public administration, education, health and social care sectors, with 'public companies' constituting the rest of public sector.

Figure 23: Real GDP and nominal average gross wage growth by sector



Source: World Bank (2021a).

ultimately have a negative impact on their capacity to innovate and grow (World Bank, 2021a).

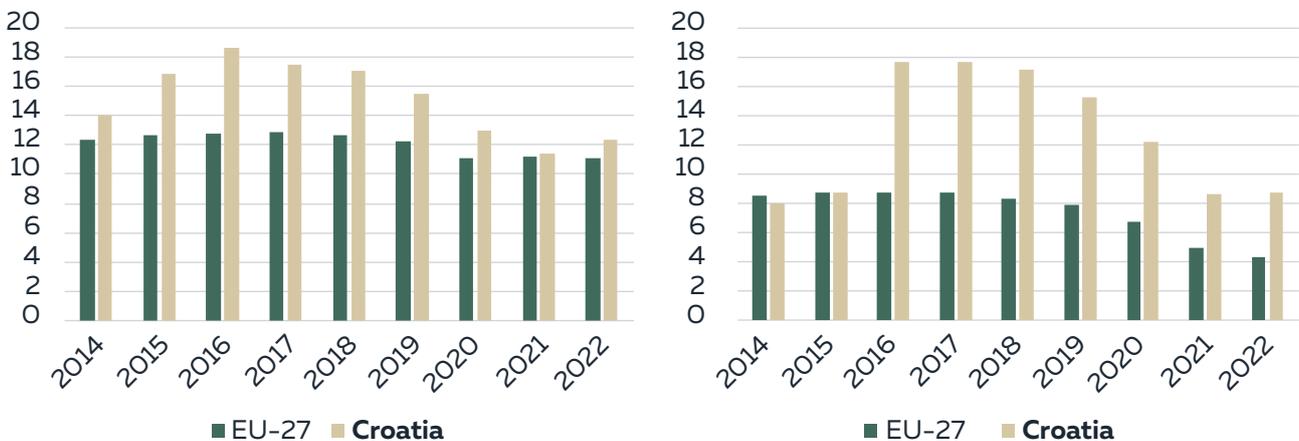
Croatia’s 2013–2014 labor market reforms resulted in the segmentation of the labor market, which new reforms under the NRRP are seeking to address.

The 2013–2014 labor market reforms liberalized employment protection provisions for both temporary (2013) and permanent (2014) jobs. Empirical analysis suggests that these reforms resulted in an increase in temporary employment (Figure 24). Moreover, specific groups of the population – such as females, young people, foreigners, and the low-skilled – had a higher probability of getting jobs with temporary contracts, suggesting that the labor market was becoming increasingly segmented (Tomić, 2020). Commentators have characterized this market as a dual labor market of “insiders” – those with stable, permanent jobs with benefits – and “outsiders” – those on temporary contracts with

uncertain income flows (World Bank, 2019e). The share of temporary employment declined steadily between 2016 and 2021, going up again to 12.4 percent in 2022 (compared with the EU-27 share of 11.1 percent). The share remains among the highest in the EU. While temporary employment may offer flexibility for some workers, Croatia has a high share of the involuntary temporarily employed – employees who could not find a permanent job or whose job is only available with a temporary contract – as a percentage of total employees. This indicates that most workers with this work status do not desire this type of employment. The Netherlands, in contrast, has a much smaller share of involuntary temporary employment, indicating that much of this type of employment is driven by workers’ preferences.²⁶ On January 1, 2023, the government amended the Labor Law as part of the NRRP in an effort to reduce labor market inequalities and increase worker protections. These reforms address several aspects of employment relations including the mandatory provisions of employment contracts, limits to the length and frequency of fixed-term contracts, regulations concerning remote work and work through digital platforms, changes to the structure of parental leave benefits, and measures to prevent and sanction undeclared work.²⁷

While the tax wedge in Croatia is slightly lower than the EU average, especially for lower-income earners, single households with children face disincentives in transitioning from inactivity to employment. Since the global financial crisis, the government’s tax strategy has been to support employment by shifting the tax burden away from labor and towards consumption. Several changes to the personal income tax (PIT) system over the last

Figure 24: Share of temporary to total employment (left, 20–64) and share of involuntary temporary employment to total employment (right, 15–64), %



Source: https://ec.europa.eu/eurostat/databrowser/view/TESEM110_custom_6428992/default/table?lang=en; https://ec.europa.eu/eurostat/databrowser/view/TESEM190_custom_6429184/default/table?lang=en

²⁶The online vacancy index shows that the share of advertisements offering permanent employment increased significantly from 40.6 percent of all job advertisements in April 2022 to 45.2 percent in April 2023, while there was a notable decrease in the shares of fixed-term employment contracts and seasonal employment advertisements. Whether this represents a change in trend remains to be seen. <https://www.eizg.hr/indices-351/ovi-index/356>

²⁷<https://assets.kpmg.com/content/dam/kpmg/hr/pdf/2023/02/Promjene-u-hrvatskom-radnom-zakonodavstvu-I-Changes-to-Croatian-Employment-Legislation.pdf>

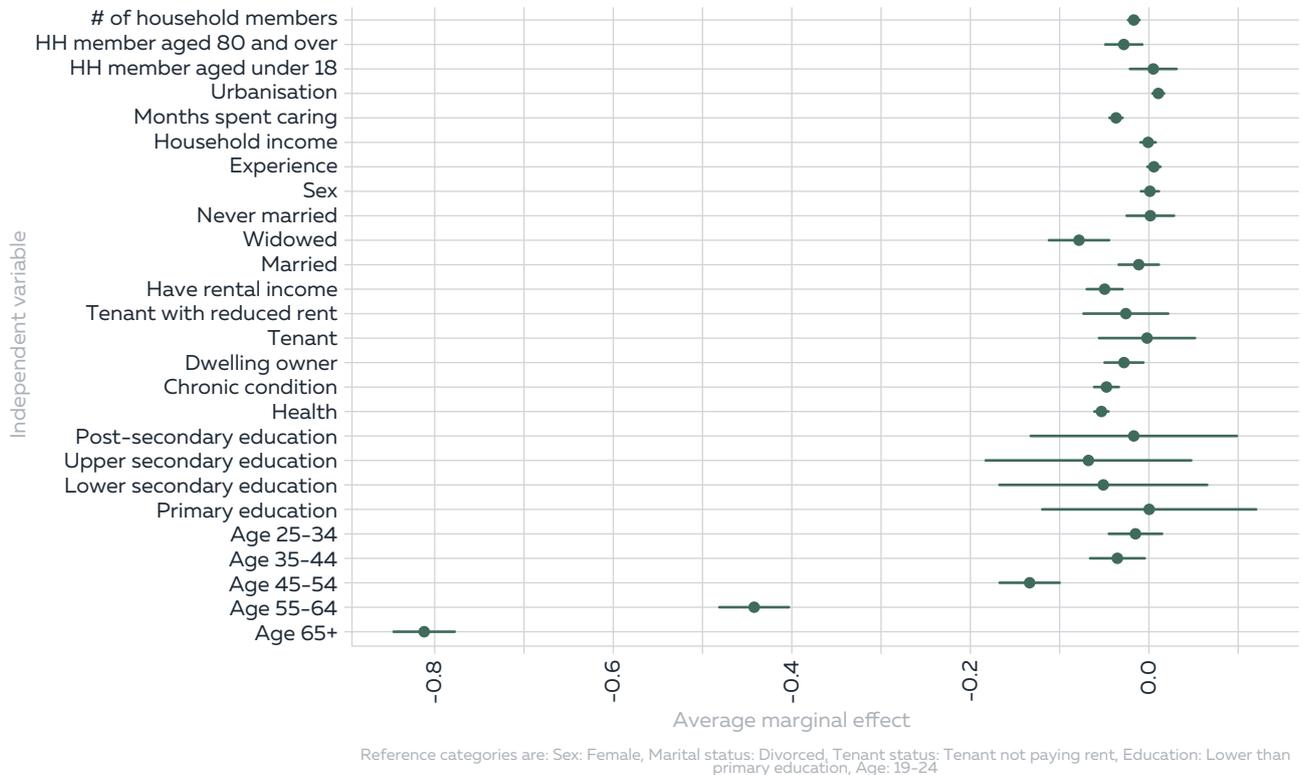
decade have resulted in lowering the tax wedge in Croatia, relative to other EU member states, especially among for those with low earnings (World Bank, 2021a).²⁸ The extent of the “inactivity trap,” in which individuals would lose their social assistance benefits and potentially become liable for more taxation if they were to transition into employment, is largely the same as the EU average (see Chapter 6). Furthermore, since 2016, regular increases in the statutory minimum wage have increased incentives to work (Christiaensen et al, 2019). There is, however, a clear inactivity trap for single parent households with two children whose earnings are at 67 percent of the average wage. For this group, the inactivity trap was as high as 63 percent in 2022, about 10 percentage points above the EU average, although it has been on a declining trend.²⁹ This is largely a consequence of the reduction in the guaranteed minimum benefit (GMB), the housing benefit, the 20 percent deduction for pension social security contributions, and, to a lesser extent, the child allowance. Payments of the GMB and the housing benefit are phased out over time, but the child allowance benefit is means-tested, with no special provisions as employment income is included in the means test. The abrupt withdrawal of the child allowance benefit combined with the mandatory social security contributions creates a significant disincentive

for women to participate in the labor force (Robayo-Abril et al, 2020). Phasing out of the child allowance benefit more gradually by having an explicit income disregard could encourage women to re-enter the labor force after taking time away to have and raise children.

The Impact of Non-Labor Income: The “Airbnb” Effect and Remittances

Croatia has a very high rate of homeownership. In 2021, 90.5 percent of people were owners of the dwelling where they lived, giving Croatia the fourth highest homeownership rate in the EU.³⁰ A principal reason for this is that Croatia does not levy property taxes on owner-occupied dwellings. Given that tourism is the most important economic sector in the country, income from renting property is a significant source of income for many households. While holiday homeowners pay property tax, the amounts are very low, incentivizing rental activities in the country. In the 2018 Survey on Income and Living Conditions (SILC), 6.4 percent of households in Croatia reported receiving income from renting out their property. This is likely a gross underestimate. In the 2021 LFS, for example, among house-

Figure 25: Average marginal effects of various control variables on labor force participation



Source: EU-SILC 2018. This table reports the average marginal effects of each of the listed independent variable on the probability of being in the labor force, estimated using a Probit regression model. Note: Months spent caring=number of months spent fulfilling domestic tasks and care responsibilities (in the income reference period).

²⁸The tax wedge measures the tax burden on labor income. It is the difference between the total labor cost of employing a worker and their net earnings and is defined as the sum of personal income taxes and employee and employer social security contributions net of family allowances, expressed as a percentage of total labor costs for the employer.

²⁹https://europa.eu/economy_finance/db_indicators/tab/

³⁰<https://www.statista.com/statistics/246355/home-ownership-rate-in-europe/>. See Bejaković & Mrnjavac (2019) for a comprehensive analysis of changes in housing policy in Croatia since the end of World War II, and the impact of recent changes on internal migration and labor market dynamics.

holds that reported having positive capital income, 15.3 percent reported receiving rental income. Based on estimates from a probit regression using SILC data (Figure 25), the average marginal effect (AME) of the household having positive rental income is associated with a 4.8 percent decrease in the probability of a working-age adult in the household participating in the labor force. This is consistent with the analysis presented in the public finance review, which states, “Tax rates on income earned from labor and capital are much higher than income from immovable property, fostering rental activities and providing disincentives to work” (PFR, 2021).

Emigration may be impacting the labor market activity of non-migrants in Croatia via its income effect coming from remittances.

High emigration rates invariably have significant effects on the labor market of the sender country. In addition to the direct loss of workers, emigrants may repress the labor market activity of non-migrants by sending them remittances that reduce their incentive to seek work. There is robust empirical evidence for this in various countries around the world (Chami et al, 2018). While there is no direct evidence of such a causal relationship in Croatia, the large outflow of labor in recent years combined with an inflow of remittances suggests that such a relationship might exist. As Figure 26 reveals, there has been a marked increase in remittances since Croatia’s accession to the EU, which is likely to have had a negative effect on the labor market activity of non-migrants from sending households. However, this outcome needs to be balanced against the potential benefits of emigration, such as a reduction in the unemployment rate, a rebalancing of the demand for and supply of skills in the labor market, and the positive impact of remittances on households’ human capital acquisition and entrepreneurship. While a sharp decline in the unemployment rate has been associated with increased emigration flows in Croatia, there is less direct evidence of the receipt of remittances having any positive impact on the incidence of self-employment. Chapter 4 undertakes a more detailed analysis of the likely impact of Croatia’s emigration flows on human capital acquisition at home.

In summary, the challenges facing the Croatian labor market require integrated solutions.

Enhancing human capital skills will be a critical component of this policy package. The nature of the future of work will require two types of changes from the workforce: (i) upskilling, in which workers gain additional skills to help them to carry out their current roles and (ii) reskilling, in which they develop new capabilities to take on different or entirely new roles.³¹ Achieving these two goals will require

Figure 26: Personal remittances received (1993–2021) wage growth by sector



Source: World Bank staff estimates based on IMF balance of payments data.

well-designed ALMPs and lifelong learning programs, designed in collaboration with employers to ensure that these programs teach the skills that are relevant to the market and to ensure that workers are given practical work experience. The demand for skills also needs to increase to absorb Croatia’s increasingly well-educated workforce. Investing in the digital economy will be a crucial component of the policy package to move Croatia up along the value chain, from a low value-added services economy dominated by the tourism sector to a more diversified and productive economy. Studies have found that the main factors supporting the efficient adoption of digital technologies are: (i) increasing access to high-speed internet; (ii) upgrading technical and managerial skills; and (iii) implementing product and labor market reforms to facilitate the reallocation of resources in the economy (Sorbe et al, 2019). Increasing the supply of affordable child and elderly care arrangements is a complementary policy that would allow workers, especially women, to take advantage of flexible work options and increase their LFP. The current NRRP reforms of pension and tax policies to eliminate disincentives to work and of labor laws and regulations to facilitate remote work will help to build a more resilient and adaptable economy better prepared to navigate future crises. And crucially, Croatia’s current social protection system, which has been predicated on the standard formal employment relationship, will need to be modified to address the challenges associated with automation and digitalization and to foster an inclusive labor market for the future.

³¹ <https://www.mckinsey.com/capabilities/operations/our-insights/building-the-vital-skills-for-the-future-of-work-in-operations>

Chapter 2:

Aging and Croatia's Large Employment Gap for Older Workers

Introduction

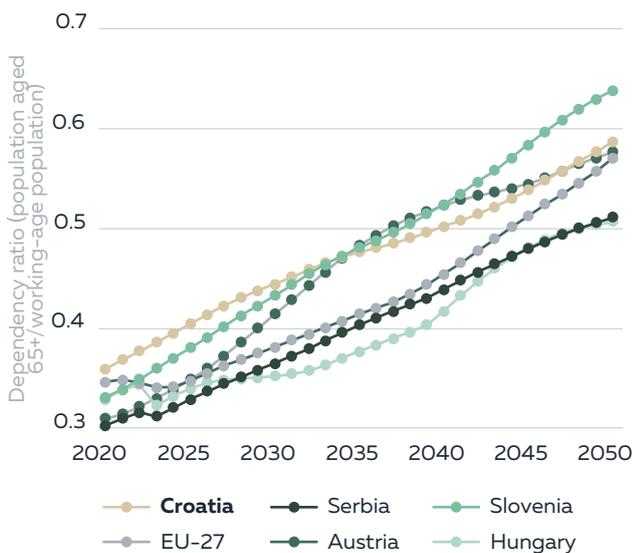
The aging of Croatia's population has the potential to hamper the country's economic growth as there will be fewer working-age individuals to support the increasing number of elderly citizens. Two critical trends are underway. First, over the next 30 years, the Croatian population is expected to decrease from 4 to 3.3 million. Second, by 2050, every third Croatian will be aged over 65, up from 8 percent in 1960 and from 22 percent in 2021. The elderly dependency ratio, which compares the size of the population aged 65 and over with the size of the working age population (those aged between 16 and 64), is nearly 10 percentage points higher in Croatia than the EU-27 average in 2023. That gap is projected to remain roughly constant over the next 30 years (Figure 27). Therefore, fewer working-age Croatians will have to finance the costs of a growing elderly population.

The impact of aging is made worse by the fact that Croatians work less than their European counterparts (Figure 28) and are less productive. While not all working-age individuals work for pay, unpaid employment rates increase the effective depend-

ency ratio, which is the ratio of working individuals who can finance the consumption of the non-working population. Croatia's employment rate was around 5 percentage points lower than the EU-27 average in 2020 and about 10 percentage points lower than the rate in neighboring Austria. Therefore, it will be crucial to increase employment rates to mitigate Croatia's soaring dependency ratio. Increases in the number of adults in jobs need to be supplemented by productivity increases and a willingness on the part of older adults to extend their working lives. Failing to achieve these outcomes would significantly diminish Croatia's economic potential. Not only would this limit economic growth, but it is also a significant financial risk as the social security obligations on employers and employees, and savings in general would have to increase to ensure adequate retirement income.

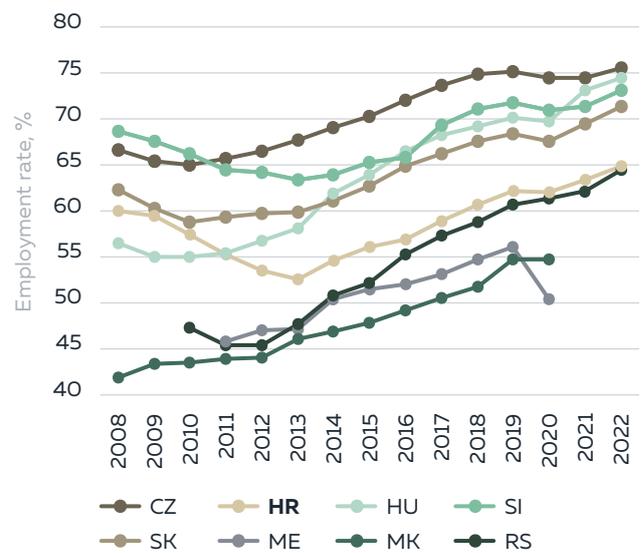
This chapter is based on the proposition that much of Croatia's relative employment gap and potential "unused productive capacity" (Gruber and Wise, 1998) happens after the age of 50. While participation rates among working-age women and young

Figure 27: Projected elderly dependency ratio 2020-2050, selected European countries



Source: UN population projections.

Figure 28: Croatia's employment gap 2010-2022



Source: Eurostat LFS.

people in Croatia may also need to be boosted (see Chapter 1), the labor participation rates of older Croatians lag well behind those found elsewhere in Europe and therefore they may be easier to activate. The chapter examines empirical evidence on retirement behavior in Croatia and analyzes the role of pension incentives, care obligations, and labor demand for older workers with the aim of proposing policies that promote longer work lives in the context of the factors that are pushing older Croatians out of the labor force. The chapter is organized as follows. The first section shows that Croatia's employment rate gap is largest and most persistent for older Croatians at rates that are greater than in its peer countries in Europe. It then explores which subgroups of older workers have the lowest employment rates and provides a broad description of the employment characteristics of Croatians who are over 50. The second section analyzes possible causes of the employment rate gap, and it introduces a framework to analyze the determinants of older workers' decisions to retire. Data from the Survey of Health, Aging, and Retirement in Europe (SHARE) are used to estimate which individual characteristics are associated with a greater likelihood of working after the age of 50. These results are compared with equivalent results obtained for Croatia's European peers to gain insights into the specific determinants of retirement decisions in Croatia. It then discusses the institutional incentives to retire

that are embedded in Croatia's pension system and the extent to which they can account for the over-50 employment gap. Lastly, drawing from descriptive evidence from the SHARE survey and the existing literature, it examines how Croatia fares on other determinants of early retirement, including deteriorating health, care obligations, and the lack of jobs for older workers.

Examining Croatia's Employment Gap for Older Workers

Workers over the age of 50 account for the bulk of Croatia's low overall employment rates, making this an important group for counteracting rising dependency ratios (Figure 29). In 2021, the employment rate of older workers (aged 50 to 64) in Croatia was 54 percent, 12 percent lower than the EU-27 average of 66 percent. Since older workers represent a third of Europe's working-age population, that age group accounts for roughly three-quarters of Croatia's overall employment gap of 5 percentage points. The rest of the gap comes from young people, who have an employment rate that is 6 percentage points less than the EU-27 average. In contrast, the employment rates of Croatians between the ages of 25 and 49 are comparable to the EU-27 average.

Figure 29: The employment gap vs. the EU-27 average and selected European countries, 2010–2021, by age groups

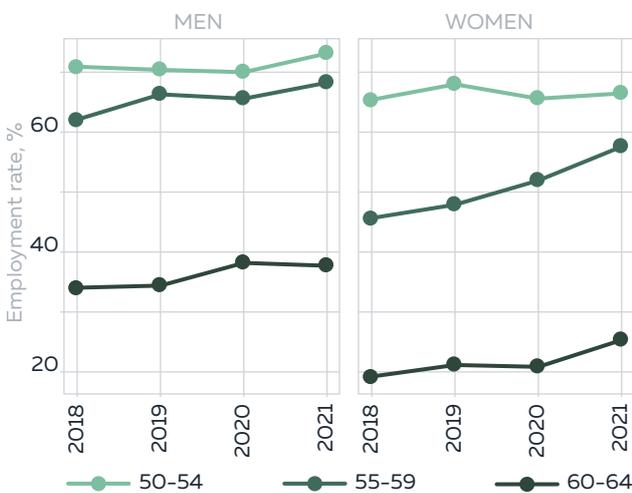


Source: Eurostat LFS.

If the employment rate of older workers could be raised, this would effectively decrease Croatia's dependency ratios by increasing the income-generating fraction of the population and decreasing the fraction of the population that is dependent. While old-age dependency ratios are computed purely based on the relative size of different age groups, an effective dependency ratio would count a retired 55-year-old as a dependent rather than being part of the working-age population. As a rule of thumb, increasing old-age employment rates by 1 percentage point reduces the effective dependency ratio by around 0.5 percentage point. Bridging Croatia's 12 percent point old age employment gap with respect to the EU-27 average could reduce its effective dependency ratio by 6 percentage points to 17 percent. Bringing Croatia's old-age employment rate up to Hungary's level would reduce it by 9 percentage points to 25 percent.

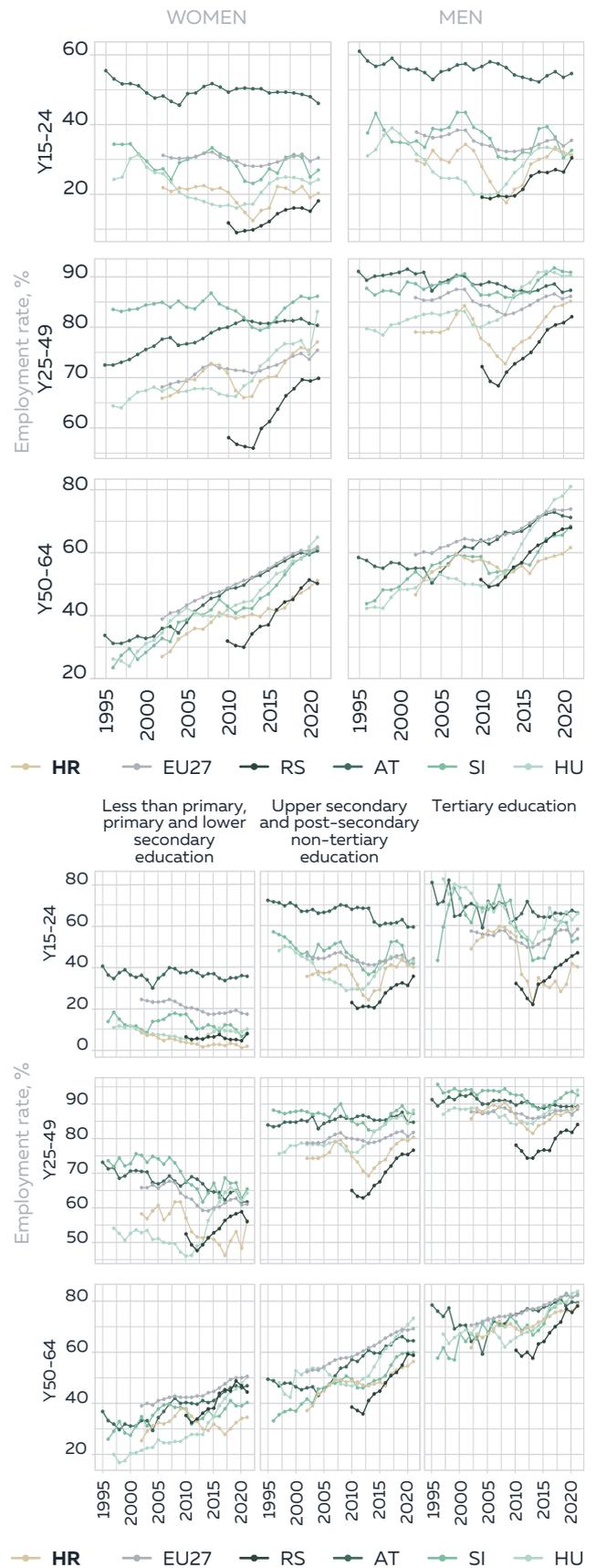
Croatia's employment rate for individuals over 50 has increased in the past decade, but the deficit relative to the average for other European countries has also grown from 7 percentage points to 11.5 percentage points. Employment rates for those aged 50 to 64 increased by 6 percent between 2010 and 2021 (Figure 29). In recent years, the largest increase in employment rates in Croatia has been for those in the 55 to 59 age group, particularly women, a 10 percent increase between 2018 and 2021 (Figure 30). This corresponds to the ages at which workers become eligible for early retirement. In contrast, employment rates for those aged 50 to 54 and 60 to 64 remained relatively stable over the same period. Rising employment rates among older workers are not specific to Croatia but rather have been part of a universal trend among developed

Figure 30: Employment rates of older workers by age groups (2018-2021)



Source: LFS 2018-2021.

Figure 31: Employment rates by gender and age groups (1995-2021)



Source: Eurostat LFS.

countries that began in the 1980s for women and in the mid-1990s for men (Blundell et al, 2016). As a result, Croatia's deficit relative to other European countries for that age group has also grown by 4.5 percent since 2010. While the employment gaps for young and prime-age workers were comparable to or higher than the gap for older workers in 2010, they have since been cut significantly or have disappeared. Therefore, country-wide macroeconomic factors are unlikely to explain Croatia's overall employment deficit. Instead, either labor demand for older workers has contracted or there are now fewer incentives to remain in the labor force in Croatia compared to other European countries.

The increased employment gap for older workers in Croatia affects men and women equally and decreases as educational attainment rises. For both genders, the gap widened during the first half of the decade (2010 to 2015) in the aftermath of the financial crisis (Figure 31, top). The gap stabilized after 2015, with employment rates for men and women growing in parallel with the EU-27 average. Patterns differ by education (Figure 31, bottom). The gap is around 12 to 13 percentage points for workers with less than a tertiary education. In contrast, tertiary-educated Croatians over the age of 50 have employment rates close to 80 percent, which is comparable to its European peers. These patterns by education also reflect the influence of the 2008 financial crisis. Employment among low-educated older workers in Croatia declined substantially more than in its European peers in the years following the recession and, contrary to what happened with younger or more educated workers, recovered only slowly and partially after 2015.

The employment rate in Croatia starts declining slowly at age 50 and then sharply around age 55 for women and 60 for men (Figure 32). At age 50, employment rates are just under 70 percent for women and 75 percent for men, which are both relatively low by international standards. Blundell et al (2016) reported employment rates at age 50 as being between 80 and 90 percent for men and women in France, the UK, and the US in 2012. The inflexion points for women and men are ages 55 and 60 respectively, which were the ages at which early retirement was allowed for women and men respectively until 2010. Since that date, women's early retirement age has been gradually increased with the aim of converging it with men's by 2030.

Figure 33: Weekly hours worked (top) and part-time employment rates (bottom) by age group

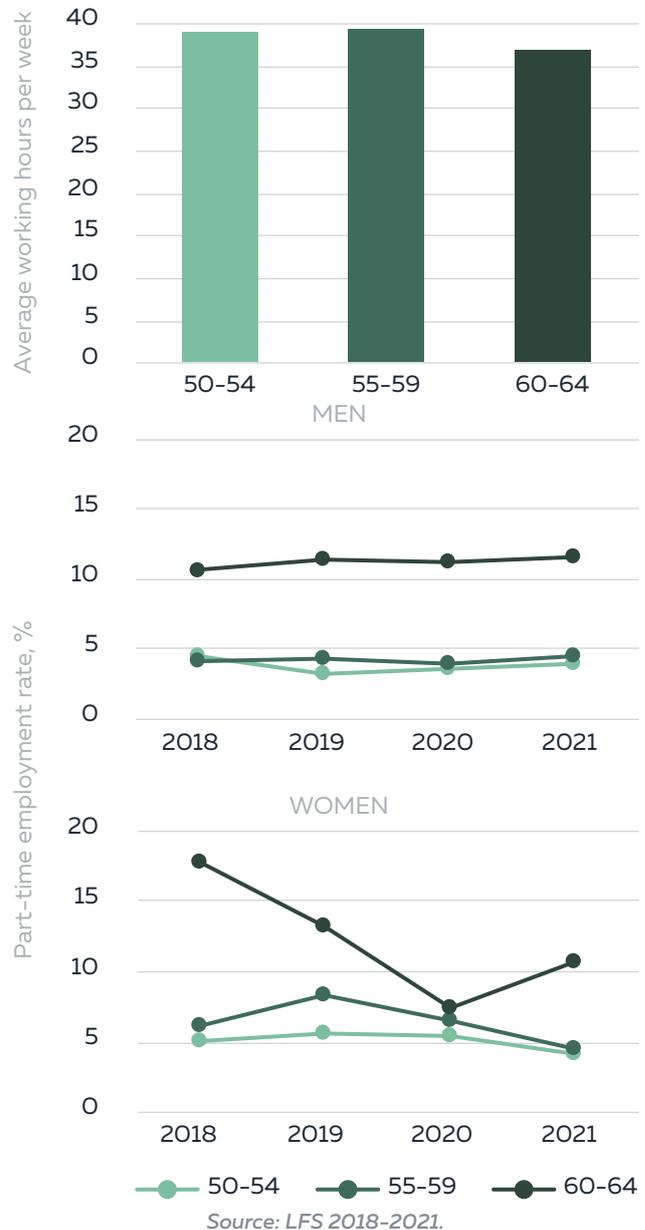
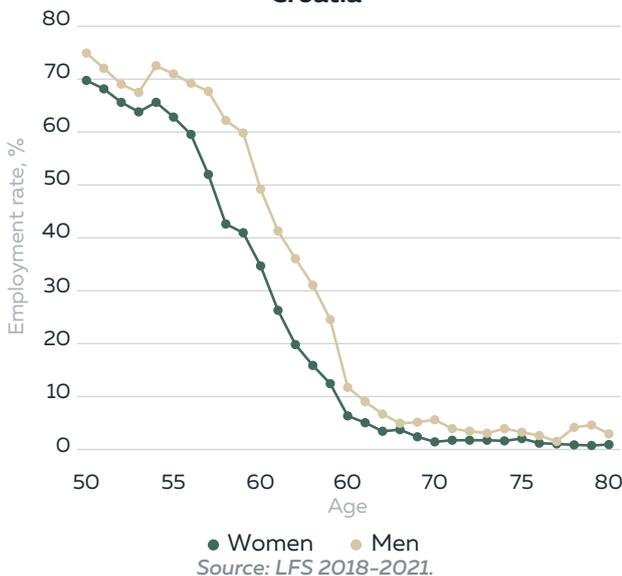


Figure 32: Employment rates by age (50-80) in Croatia



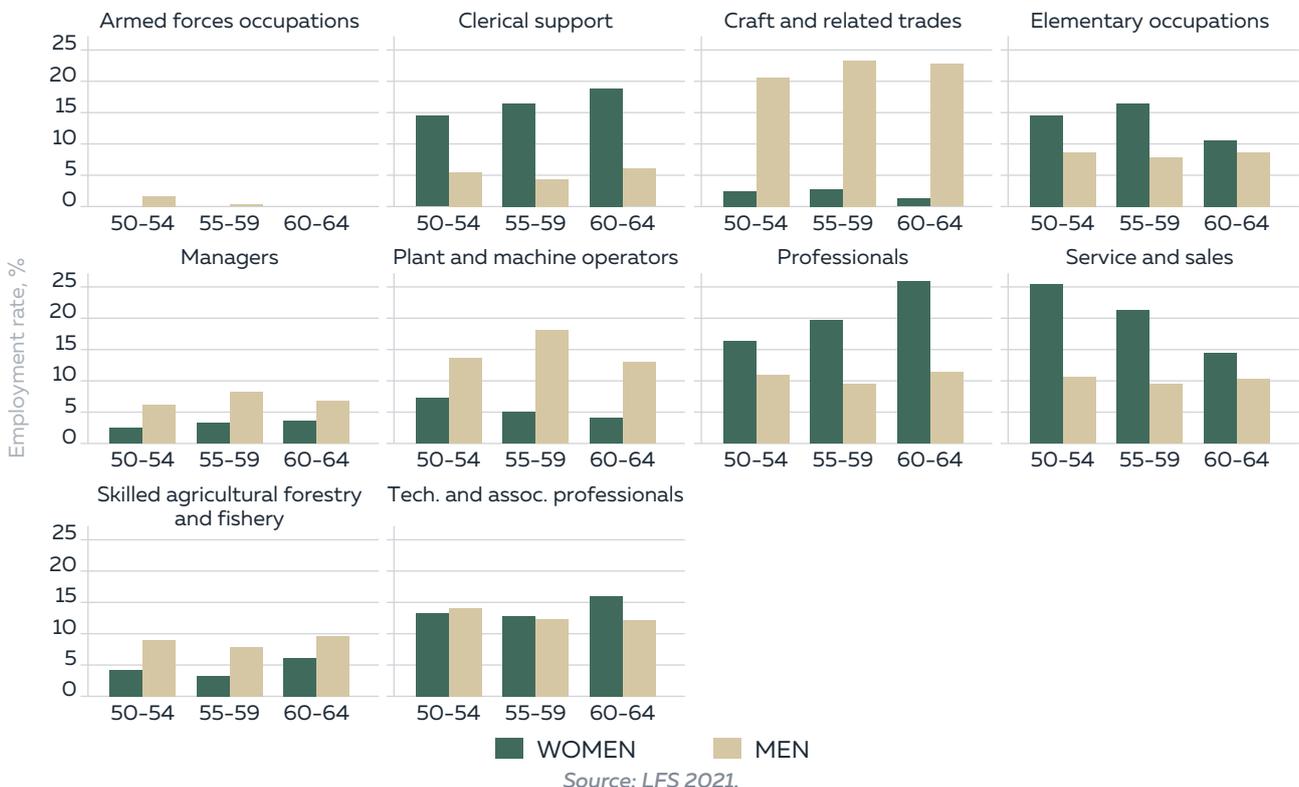
Fewer than 15 percent of men and 10 percent of women in the workforce are employed past the age of 65. Blundell et al (2016) found similar rates for France in contrast with rates of around 40 percent in the US and the UK.

Croatians tend to exit the labor force abruptly rather than gradually. The availability of attractive early retirement conditions, as well the possibility of working informally, may explain the prevalence of abrupt retirement patterns in Croatia. Alternatively, perhaps Croatian employers are unwilling or unable to accommodate part-time work, thus pushing workers to go “cold turkey” in retiring early. This explanation is consistent with the fact that self-employment rates increase as retirement age nears. In 2019, older workers were twice as likely to be self-employed than prime-age workers (20.4 percent versus 9.8 percent). Note though that a similar increase was observed for the EU-27 group in general (21.3 percent versus 13.3 percent).³² The number of hours worked declines only slightly after age 60 (Figure 33, top). Consistent with this, part-time working is rare before the age of 60 and is still unusual at age 60 to 65, with the share of part-time workers increasing to 12 percent for that age group (Figure 33, bottom). By way of comparison, part-time working at age 65 in France, the UK, and the US was around 40 percent for males and 60 percent for females in 2012 (Blundell et al, 2016).

Among older female workers, the most common occupations are white-collar and pink-collar jobs, whereas blue-collar occupations predominate among older male workers (Figure 34). Higher-skill white-collar occupations such as managers, professionals, and technicians together account for around 37 percent of older female workers and 30 percent of older male workers. Lower-skilled pink-collar occupations in services and sales or in clerical support together account for 37 percent of older female workers and 15 percent of older male workers. Older men are also heavily represented in blue-collar occupations such as crafts and related trades (37 percent).

Women in high-skilled occupations are much less likely to exit the labor force early than those in pink-collar occupations. The share of older women in professional occupations increases sharply with age (17 percent among those aged 50 to 55 versus 26 percent among those aged 60 to 65), while the share of lower-skilled, pink-collar occupations declines from 25 percent among those aged 50 to 55 to 14 percent among those aged 60 to 65. In contrast, the occupational composition of older male workers remains stable between the ages of 50 and 65. This indicates that higher levels of human capital, and possibly higher associated earnings, reduce early retirement among women but not among men.

Figure 34: Shares of male and female older workers employed in different occupations, by age group



³² Eurostat

Are Retirement Patterns Different in Croatia?

What drives older Croatian workers to exit the labor force earlier than their European peers? We draw on data from two waves of the Survey of Health, Aging, and Retirement in Europe (SHARE) to identify the factors associated with being employed at older ages in Croatia compared to other European countries. We estimated the descriptive regression model described in [Box 1](#) using data from wave 7 of SHARE for Croatia, Poland, the Czech Republic, Slovenia, and Austria for men and women together and for each gender separately. We interacted the variables with a Croatia dummy to detect effects that could explain the lower employment rates in Croatia as opposed to its neighbors. Our results are presented in [Table 8](#).

Box 1: Employment at older ages, a framework

As a simple conceptual framework for the analysis presented in this section, consider older worker i deciding whether to work for one more year t . This worker compares the best wage offer available to them w_{it} and a "reservation wage", or wage threshold w_{it}^R , which captures the relative utility obtained by not working/retiring.

$$Work_{it} = 1 \leftrightarrow w_{it} > w_{it}^R$$

Workers with higher earnings opportunities on the labor market can be expected to retire later. Earning opportunities may decline with age due to skill obsolescence, prejudices against older workers, or institutional incentives to let them go. We assume wage offers w_{it} reflect a worker's human capital and current labor market conditions in a classic linear Mincerian specification, denoting as x_{it} and ε_{it} observable and unobservable characteristics capturing a worker's skills and local labor market conditions.

$$w_{it} = X_{it}'\beta_t + \varepsilon_{it}$$

The variables in our data that capture skills and labor demand include age, gender, urban/rural location, college, medium and high computer literacy, work experience, fraction of years employed since age 25, and previous employment sector (self-employed, civil sector, or private sector).

On the other side of the equation, a worker's reservation wage or pickiness will be affected by the availability of other sources of income (primarily pension benefits but also rental income, for example) or the ability to spend time caring for family members. Workers may also care about the option value of not retiring if institutional or economic factors make it difficult to return to the labor force after an interruption. For example, Croatia only recently allowed workers to combine labor income and pension benefits and only if they work less than four hours daily.

Denoting as Z_{it} and ε_{it}^R observed and unobserved determinants of the reservation wage, we can express it as:

$$w_{it}^R = Z_{it}'\beta_t^R + \varepsilon_{it}^R$$

Variables that could affect the reservation wage include eligibility for early retirement, being a homeowner, owning financial assets, having a retired or working spouse, and living near one's children. Factors related to health may affect both earning opportunities (through reduced productivity) and disutility of work and would therefore be included in both equations. We measure chronic diseases, limitations in activities of daily living, and life satisfaction (CASP-19 index).

Combining equations (1), (2) and (3) and assuming normal errors in the earnings and reservation wage equations yields the following probit model of whether individual i at time t with characteristics X_{it} and Z_{it} is observed to work:

$$p(Work_{it} = 1) = p(u_{it} > [X_{it} \mid Z_{it}]' \gamma_t) = \Phi([X_{it} \mid Z_{it}]' \gamma_t / \sigma_u)$$

where $\gamma_t = [-\beta_t, \beta_t^R]$, $u_{it} = \varepsilon_{it} - \varepsilon_{it}^R$ with variance σ_u^2 and Φ is the cdf of a standardized normal distribution.

Croatia is detectably different from its neighbors in three determinants of whether older workers are employed. First, public sector workers in Croatia are less likely to work at older ages than in other countries. Second, life satisfaction as measured by the CASP-19 index has a stronger positive association with work in Croatia than elsewhere (in other words, employed older workers in Croatia report having greater life satisfaction than their counterparts in the other countries). One interpretation is that the availability of early retirement in Croatia means that only those who have fulfilling jobs stay in the labor market longer. A second interpretation is that replacement rates in Croatia are low, which could result in relatively low levels of life satisfaction among Croatian retirees as opposed to those who continue to work. Lastly, homeowners and individuals with financial assets are more likely to retire in Croatia than elsewhere. This could again reflect the fact that complementary resources are needed to retire comfortably given the low overall level of Croatian pensions. Owning property may also generate significant income in regions with tourism activity, allowing some older individuals to supplement their modest pensions.

In most other dimensions, the results were consistent with theoretical predictions and were comparable in Croatia and in the other countries. Higher human capital tends to be associated with a higher probability of employment in old age, specifically having a college degree, good computer skills, and good health. Retirement is associated with having chronic diseases and with low quality of life. Limitations of daily activities are not significant predictors of employment, but they are still rare among those aged 50 to 65. Note that the variable “experience,” which measures an individual’s lifetime number of years of employment, has a negative correlation with employment. Experience is traditionally interpreted as human capital, which would normally command a positive coefficient, but here it also captures how early an individual started working, which could increase their pension rights or their disutility of work. Workers with stronger previous attachment to the labor force also have higher employment rates after age 50. This is captured in the variable “percentage employed since 25,” which computes the fraction of years since the age of 25 in which the individual was employed. It measures a person’s attachment to the labor force throughout their lifecycle, which can indicate both more skills and greater employability as well as a relatively low disutility of work. Furthermore, the data suggest that couples like to retire together with having a retired spouse reducing a person’s probability of being employed, while having a working spouse has

the opposite effect. The effect of care obligations (as measured by the presence or geographical proximity of children in the household on employment at old age, was not detected in the survey data. Interestingly, homeownership and ownership of financial assets are positively associated with employment. This could be because more productive individuals will tend to accumulate more assets, which would offset the classic negative effect of wealth on labor supply.

The standalone dummy variable for Croatia also has a significantly negative coefficient, indicating that other unmeasured factors explain why Croatia’s employment rates are lower at older ages. For instance, participation conditional on health or education may be the same in Croatia and its neighbors, but the stocks of health and education in their respective populations could be different. Our model also does not capture differences in incentives for early retirement or in labor demand for older workers. We discuss these factors in the following sections.

The Role of the Pension System

A large number of studies has documented ways in which pension rules affect work and saving decisions (Blundell et al, 2016). This is not surprising considering that the rules of a pension system regulate a person’s access to much of their lifetime resources. Most studies confirm the hypothesis that the availability of pensions are the primary determinants of the likelihood of retirement and the quantity of work of those who continue to work (Coile and Gruber, 2001). This section discusses whether the rules of Croatia’s pension system could explain the low labor force participation of older workers.

Basic Features of the Croatian Pension System

Until the early 2000s, Croatia had a pay-as-you-go pension system offering defined benefits. However, as contributions collected through a 20 percent payroll tax failed to cover pension outlays, the system became a major source of deficits for the central government. The system has been reformed several times over the years to improve its financial outlook and introduce an element of capitalization (both mandatory and voluntary). Some features of past reforms are still being gradually phased in so their effects on employment at older ages are only partially reflected in the data.

Table 8: Probit model of employment among 50–65 in Croatia vs. select neighbouring countries (Poland, the Czech Republic, Slovenia and Austria)

VARIABLES	(1) Overall		(2) Male		(3) Female	
Age	-0.137***	(0.0143)	-0.113***	(0.0241)	-0.146***	(0.0179)
Female	-0.306***	(0.0520)				
Marital status						
1. Employed spouse	0.055	(0.0725)	0.069	(0.1180)	0.004	(0.0960)
2. Not employed spouse	-0.124**	(0.0612)	-0.110	(0.1080)	-0.174**	(0.0764)
Child(ren) living nearby (1km)	-0.056	(0.0681)	-0.185*	(0.1080)	0.045	(0.0897)
Urban	0.183***	(0.0625)	0.221**	(0.1020)	0.157*	(0.0808)
College degree	0.144*	(0.0872)	0.162	(0.1390)	0.113	(0.1140)
Highschool education	0.050	(0.0636)	0.204*	(0.1050)	-0.028	(0.0824)
Computer skill	0.116***	(0.0205)	0.088***	(0.0315)	0.148***	(0.0278)
Experience	-0.052***	(0.0085)	-0.059***	(0.0137)	-0.050***	(0.0110)
% of time employed since 25	3.887***	(0.3190)	5.193***	(0.5470)	3.421***	(0.4050)
Working sector						
1. Self-employed	0.140*	(0.0786)	0.195*	(0.1170)	-0.050	(0.1080)
2. Civil sector	-0.030	(0.0565)	-0.100	(0.0901)	0.141*	(0.0746)
Age greater than 60	-0.238***	(0.0881)	-0.282*	(0.1480)	-0.271**	(0.1120)
Number of limitations with ADL	-0.023	(0.0561)	-0.066	(0.0912)	0.013	(0.0741)
Number of chronic diseases	-0.082***	(0.0205)	-0.086***	(0.0330)	-0.069***	(0.0266)
CASP-19 index	0.009*	(0.0052)	0.005	(0.0083)	0.011	(0.0069)
Self-reported health status	0.096***	(0.0303)	0.101**	(0.0481)	0.104***	(0.0398)
Homeowner	0.128**	(0.0603)	0.160	(0.0973)	0.120	(0.0786)
Own financial assets	0.240***	(0.0508)	0.230***	(0.0806)	0.269***	(0.0669)
Croatia	-3.548*	(1.8750)	-7.306**	(3.2840)	-1.073	(2.4560)
Slovenia	-0.361***	(0.0797)	-0.168	(0.1230)	-0.513***	(0.1080)
Poland	0.077	(0.0959)	0.326**	(0.1530)	-0.122	(0.1270)
Czech Republic	0.431***	(0.0803)	0.770***	(0.1310)	0.216**	(0.1050)
Croatia*Age	0.036	(0.0341)	0.067	(0.0581)	0.010	(0.0450)
Croatia*Female	0.200	(0.1280)				
Croatia*Marital status						
1. Croatia*Employed spouse	0.183	(0.2150)	0.251	(0.3670)	0.142	(0.2900)
2. Croatia*Not employed spouse	0.171	(0.1970)	0.266	(0.3500)	-0.002	(0.2580)
Croatia*Child(ren) living nearby (1km)	0.109	(0.1530)	0.277	(0.2300)	-0.087	(0.2300)
Croatia*Urban	-0.135	(0.1510)	0.158	(0.2320)	-0.397*	(0.2160)
Croatia*College degree	0.183	(0.2400)	-0.103	(0.4080)	0.472	(0.3190)
Croatia*Highschool education	-0.040	(0.1730)	-0.245	(0.2890)	0.054	(0.2430)
Croatia*Computer skill	-0.050	(0.0459)	-0.035	(0.0701)	-0.011	(0.0674)
Croatia*Experience	-0.004	(0.0235)	0.039	(0.0383)	-0.039	(0.0333)
Croatia*% of time employed since 25	0.887	(0.8650)	0.276	(1.4190)	1.715	(1.2370)
Croatia*Sector						
1. Croatia*Self-employed	-0.222	(0.2330)	-0.273	(0.3710)	-0.513	(0.3390)
2. Croatia*Civil sector	-0.277**	(0.1350)	-0.143	(0.2040)	-0.375*	(0.1980)
Croatia*Age greater than 60	0.214	(0.2240)	-0.400	(0.3650)	0.592*	(0.3130)
Croatia*Number of limitations with ADL	0.071	(0.1200)	0.165	(0.1720)	-0.023	(0.1970)
Croatia*Number of chronic diseases	-0.062	(0.0598)	-0.0383	(0.0926)	-0.091	(0.0868)
Croatia*CASP-19 index	0.027**	(0.0126)	0.059***	(0.0198)	-0.000	(0.0183)
Croatia*Self-reported health status	-0.085	(0.0686)	-0.039	(0.1040)	-0.083	(0.0989)
Croatia*Homeowner	-0.333*	(0.1920)	-0.447	(0.2860)	-0.178	(0.2770)
Croatia*Own financial assets	-0.277*	(0.1670)	-0.395	(0.2700)	-0.250	(0.2300)
Constant	5.950***	(0.8420)	3.629**	(1.4130)	6.789***	(1.0710)
χ²	2554.86		1055.47		1584.57	
LL	-2094.20		-852.29		-1185.84	
Observations	4,896		1,991		2,905	

Probit model estimated on all age 50–65 SHARE respondents in Croatia, Poland, Czech Republic, Slovenia, and Austria. Dependent variable is whether the individual is currently employed. Austria is used as a referent country. The referent categories for “Marital status” is “Not married”, and for “Working sector” is “Private sector”. “CASP-19 index” measures the quality of life in older age. Higher values of “Computer skill” and “Self-reported health status” represent better skill/health. (Standard errors in parentheses); *** p<0.01, ** p<0.05, * p<0.1

In 1998, the government introduced parametric reforms to the pay-as-you-go system in the so-called “small pension reform” to reduce outlays. This reform raised the legal retirement age to 60 and 65 years for women and men respectively over the following 10 years. The early claiming age was also raised to 55 for women and 60 for men respectively, with an actuarial reduction factor of 0.34 percent per month. The formula for calculating pension benefits was revised to take an individual's entire work history into account, instead of the ten years with the highest earnings. Pensions were no longer indexed solely on wage growth but also on a weighted average of wage growth and inflation (“Swiss formula”). Lastly, the eligibility criteria for disability pensions became more stringent.

Simultaneously, a mandatory and a voluntary pillar, both based on privately managed individual capitalization, were added to the system through the 1998 Pension Insurance Act. For pension contributors under the age of 40 at the time of the reform, a quarter of the 20 percent payroll tax (5 percent) was diverted to the mandatory capitalization scheme. The switch was optional for those aged 40 to 50, while those older than 50 remained in the old system.

The Law on Homeland War Veterans and their Family Members (Official Gazette no. 121/2017 and its amendments) provides specific disability and survivor pensions for some groups, mostly veterans of the 1990–1996 war. Croatian Homeland War veterans are entitled to a pension of a minimum 45 percent of the average net wage, provided that they served in military units for at least 100 days, with this percentage increasing with the length of their service (World Bank, 2019). These groups accounted for around 14 percent of all Croatian pensioners in 2019. These provisions could explain some of Croatia's old age employment gap and are likely to continue to result in early exits from the labor markets by direct beneficiaries and their dependents for some time.

The government has made smaller parametric amendments to the pension system since 1998 to increase the adequacy of pension benefits. In 2007, a pension supplement of up to 27 percent was introduced to offset some of the reductions in pension benefits associated with the 1998 parametric reform. In 2010, the Constitutional Court introduced a transitional period until 2030 for equalizing the retirement age for women and men. In 2014, several further changes were introduced, the most significant being: (i) to allow individuals to retire at the age of 60 with a full pension if they have contributed

to the system for 41 years; (ii) to gradually raise the legal retirement age to 67 years by 2038; and (iii) to allow old-age pension beneficiaries to work part-time without losing their pension rights. In September 2019, facing opposition from trade unions, the Croatian government annulled the increase in the statutory retirement age to 67 and reduced the early retirement penalty.

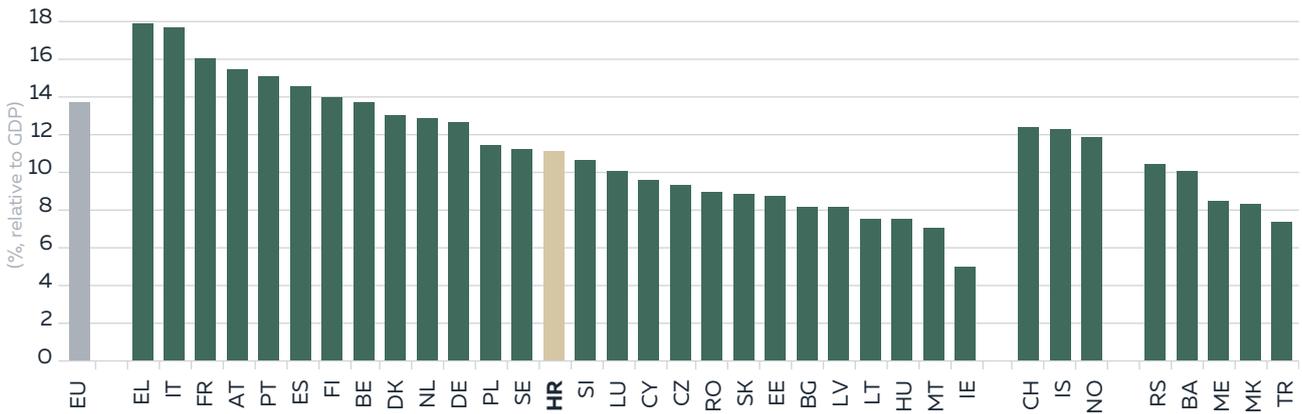
According to the current Pension Insurance Act, a statutory early retirement pension is available up to five years prior to reaching the standard retirement age. However, early retirees receive a pension that is permanently lower by 0.2 percent per month (or 2.4 percent per year) than the pensions of those who work until their full retirement age. To be eligible for early retirement, men must have worked for a minimum of 35 years, while women must have worked for 33 years, with this being gradually increased to 35 years by 2030. These requirements are relatively generous by international standards. If their employer goes bankrupt, an affiliate can fulfill the statutory early retirement conditions when they have been unemployed for at least two years continuously prior to retirement with no reduction of pension benefits. The old-age pension is also available to those who reach 60 years of age (61 years from 2027) and 41 years of service without any reduction in benefits. Other than Croatia, this option is offered by another six EU countries, but their retirement age and years-of-service requirements are much more stringent (World Bank, 2019).

Despite a low average replacement rate, the pension system remains relatively costly with outlays just under 12 percent of GDP. While Croatia's public expenditure on pensions is in line with the EU-27 average (World Bank, 2021a), the net replacement rate for men (the average pension as a percentage of pre-retirement earnings) is 53 percent, noticeably lower than the EU-27 average of 68 percent as of 2018.³³ High early retirement rates and the long duration retirement explain Croatia's relatively high outlays on the pension system compared to it's the EU-27 average. Public pension spending is expected to fall by at least 2 percentage points of GDP over the next 50 years, and the European Commission has classified Croatia as low fiscal risk for pension spending in both the medium and long terms (European Commission, 2019). However, this is because the real value of pension benefits are on a path to decrease over time, raising questions about the adequacy of pension payments in the future (World Bank, 2019)

Already, elderly Croatians are much more vulnerable to poverty than the rest of the population,

³³ <https://data.oecd.org/pension/net-pension-replacement-rates.html>

Figure 35: Expenditures on pensions, by country 2020



Source: Eurostat (online data code: spr_exp_pens).

unlike in most other European countries. While the fraction of people at risk of poverty or social exclusion in 2022 was similar to the EU-27 average for all individuals over 18 years of age (21.6 percent), the indicator for Croatians aged 65 and over was much higher at 32.1 percent. This contrasts with the EU-27 where the elderly are no more at risk than the rest of the population. The economic vulnerability of the elderly and the adequacy of their pensions remain major challenges for policymakers. As the aging of the population continues to tighten Croatia’s fiscal space, extending the duration of Croatians’ working lives appears to be one of the few remaining strategies for addressing these issues.

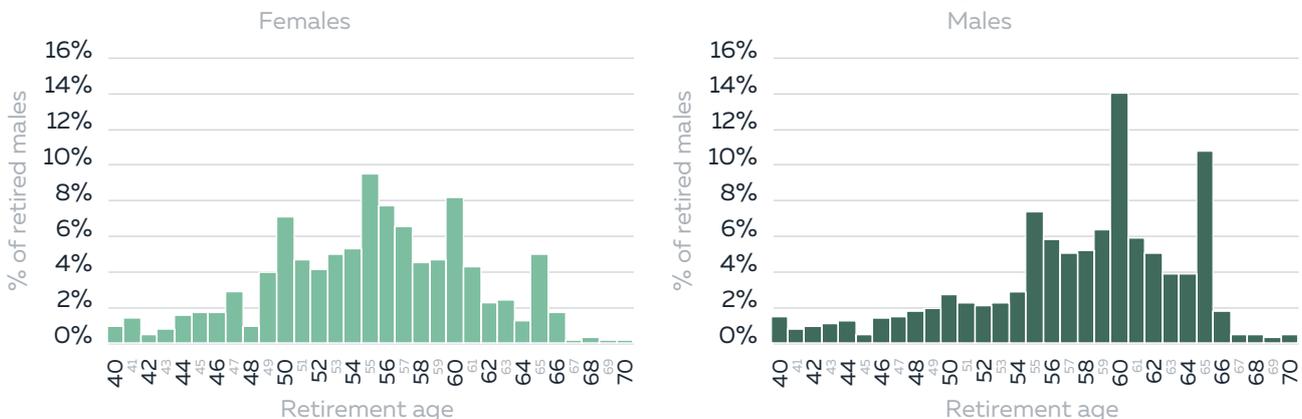
How strong are the incentives to retire early?

The rules of the pension system regarding the legal retirement ages as well as disability pension eligibility strongly shape the timing of Croatians’ decisions about when to retire. Croatians tend to retire when they reach either the early or statutory

retirement ages. The distribution of retirement ages among current retirees shows a mass of points at the earliest ages at which early and regular retirement are now or were previously allowed (Figure 36). For men, the mass points occur at 55, 60, and 65, corresponding to the early and standard retirement ages that current pensioners faced when they approached retirement. For the same reason, the distribution of women’s retirement ages shows a mass of points at ages 50, 55, 60, and 65, reflecting previous and current legal requirements. Individuals can retire prior to those ages by qualifying for a disability pension. The fact that many workers exit the labor force as soon as they are allowed to do so is not specific to Croatia. Statutory retirement ages have been shown have this “binding” effect in many contexts (Rust and Phelan, 1997), reflecting less-than-fair actuarial adjustment factors, liquidity constraints, or present bias on the part of retirees.

Disability pensions used to be a pathway into early retirement for many people in Croatia, but reforms over the last decade have reduced this number

Figure 36: Distribution of retirement ages in Croatia, by gender



Source: SHARE Wave 6, Börsch-Supan (2022). Survey of Health, Ageing and Retirement in Europe (SHARE) Wave 6. Release version: 8.0.0. SHARE-ERIC. Data set. DOI: 10.6103/SHARE.w6.800.

Table 9: Example of present value of retirement benefits for early and full age pension

Type of pension	Monthly pension	Annual pension	Years receiving a pension	Sum of benefits received	PVof benefits (discounted at 3%) ³⁴
Early retirement	HRK 2,712 (EUR 360)	HRK 32,548 (EUR 4,322)	26	HRK 846,251 (EUR 112,370)	HRK 581,855 (EUR 77,263)
Normal retirement	HRK 3,082 (EUR 409)	HRK 36,987 (EUR 4,912)	21	HRK 776,717 (EUR 103,143)	HRK 491,821 (EUR 65,308)

Source: the author's calculation according to the data by the Croatian Pension Insurance Institute.

closer to EU-27 averages. In 2011, disability pensions accounted for 25 percent of total pension outlays in Croatia, compared to only 15 percent in the rest of Europe. Homeland war veterans on disability pensions accounted for some but not most of the gap (Badjun, 2017). The disability claim system has been reformed over the last decade, with the medical screening procedure being improved, the introduction of a stricter assessment of disability, and more frequent reassessments. The government established the Single Body of Expertise in 2015 to unify disability assessments and to reduce fraud. The Independent Review Sector, a special unit within the Ministry of Labor and the Pension System, then reviews positive assessments passed on by the Single Body of Expertise (Badjun, 2017). As a result of these reforms, Croatia's disability pensions as a percentage of all pensions had nearly converged with the EU-27 average of 18 percent in 2020 according to Eurostat data.

At 0.2 percent per month (or 2.4 percent per year), the permanent reduction of Croatia's pension for early retirees is much less than is actuarially fair and therefore implicitly taxes workers who continue to work beyond the early retirement age. The maximum early retirement penalty is 12 percent over five years, which is very low by international standards. Many other countries deduct around 0.5 percent per month (or 6 percent per year) from the early retirement pension, which experts consider to be closer to being actuarially fair (Börsh-Supan et al, 2016). Thus, the pension benefit increase for a Croatian who delays retirement and contributes for one more year is relatively small, given that they will contribute for longer, draw their pension later, and for a shorter period on average than the early retirees. For instance, in Table 9, we consider an individual deciding whether to retire early. We assume that, if he retired at the statutory retirement age, he would benefit from the average net pension for new beneficiaries in 2019, which amounted to HRK 3,082 (EUR 409). If claimed he were to retire five years earlier, his pension benefit level would be 12 percent lower, or HRK 2,712 (EUR 360). However, he would receive that pension for five more years so that his total payments would amount to HRK 69,535 or EUR 9,234 more than if he had waited

until the statutory age to retire. Furthermore, the present value of the early retirement pension benefits, at the time when the early decision is made, is 18 percent higher than that of the statutory retirement pension benefits.

Econometric estimates available in the literature suggest that making adjustment factors "actuarially fair" can have a large behavioral and financial impact (Gruber and Wise, 2003). For example, in Germany, introducing (almost) actuarially fair adjustments (6 percent for each year of delaying retirement) would increase the average retirement age of German men by about three years and two months, with effects of about half that size for women (Gruber and Wise, 2003). Estimates show that savings of approximately 1.2 percent of GDP would be achieved in Germany (Gruber and Wise, 2010). Cross-country evidence also exists that shows implicit pension taxes increasing employment rates in old age. In France, the Netherlands, Belgium, and Italy, the high level of unused production capacity of the elderly population (between 60 and 70 percent for people aged 55 to 65) can be linked to high implicit taxes from the pension system in these countries. Conversely, countries with relatively low implicit taxes such as Japan, the USA, Sweden, Canada, and Spain also have significantly lower levels of unused productive capacity of

Table 10: Average effective retirement age of new old-age retirees, Croatia

Year	Male	Female	Total
2006	63 02	59 00	61 04
2007	63 01	58 01	61 02
2008	64 01	60 05	62 03
2009	64 01	60 03	62 01
2010	63 02	59 06	61 02
2018	63 05	61 04	62 06
2020	63 07	62 00	62 11
2022 August	63 08	62 06	63 02

Source: Hrvatski zavod za mirovinsko osiguranje: Statističke informacije Hrvatskog zavoda za mirovinsko osiguranje, various years, for 2018, Table 19d, page 41, for 2020, No. 8, Table 19d, page 98, Available on <https://www.mirovinsko.hr/UserDocImages/statistika/statisticke-informacije/2020/12/Statisticke-informacije-HZMO-a-12-2020-sijećanj-2021.pdf> for 2022. No. 8, Table 19d, page 104. https://www.mirovinsko.hr/UserDocImages/listalice/mediji/statistika_kolovoz/index.html

³⁴PV(receiving 32,548 from t=1 to t=26)=32,548*((a-a^27)/(1-a)), where a=1/1.03

the elderly population (just over 20 percent in Japan to below 50 percent in Spain).

With adjustment factors favoring retiring as early as allowed, the average effective retirement of women over the past decades reflects the impact of successive increases in their early and statutory retirement ages (Table 10). Until 2010, the average effective retirement ages of new male and female old-age retirees were similarly stable, except for a temporary increase around 2008. Since 2010, when retirement eligibility conditions for women began to be gradually aligned with those of men, women's retirement ages have increased steadily whereas men's have remained largely constant. As another piece of evidence of later retirement of women, whereas the employment rates of women born before 1963 declined steeply at the age of 55, they remained stable past that age for younger cohorts who are subject to an older early retirement age (Figure 37). In contrast, the age profile of employment rates for men did not change between successive cohorts.

Reducing the availability of and incentives for early retirement is a powerful way to extend working lives, mitigating the negative impact of population aging on growth and pension finances without further endangering pension adequacy. One option for doing this might be to shorten the gap between the early and statutory retirement ages to three years instead of five. A second possibility might be to increase the early retirement adjustment factor to an actuarially fair level. To avoid further eroding low pension levels, this should be accompanied by an increase in pension benefits for lower earners. A third possibility might be to increase the number of contribution years needed to retire early without incurring a pension benefit adjustment. The current requirement is 41 years, which is low compared to

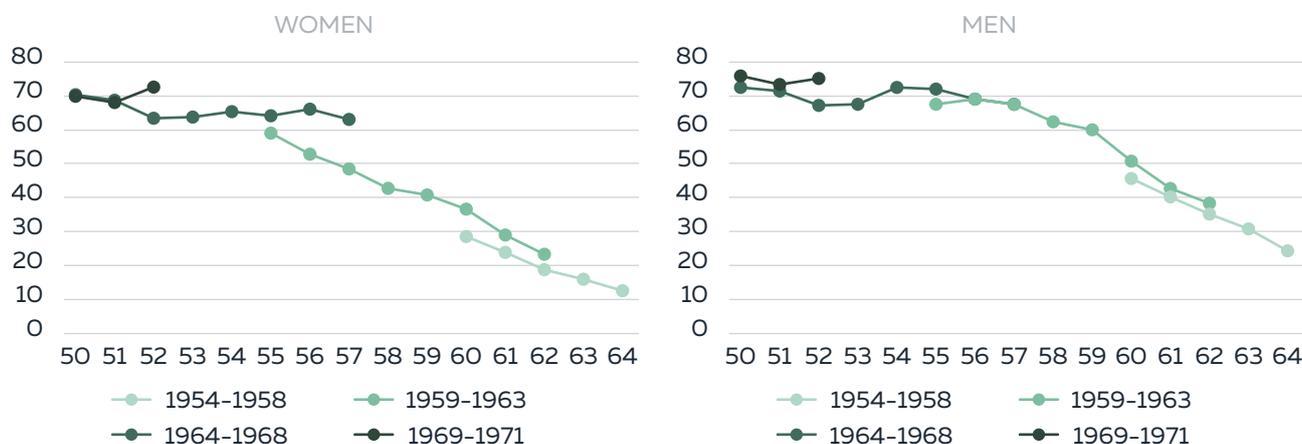
the requirements in other European countries that offer such an option. This option is designed to benefit individuals who started working early, often in physically demanding occupations that are associated with lower longevity at retirement. Therefore, it should be recalibrated carefully so that the option remains available to more disadvantaged groups but not to others.

What are the incentives to delay retirement past the age of 65?

Due to differences in longevity and the low and declining level of pension replacement rates, focusing only on penalizing early retirements could be inequitable and face political opposition. Early retirement is more common among those with lower education levels. Low education is typically associated with shorter life expectancy, more strenuous lifetime employment, and worse labor market opportunities in old age. After studying data on 23 OECD countries, Fabrice Murin et al (2017) found a gap in life expectancy between highly educated and poorly educated people of 3.5 years for men and 2.5 years for women at the age of 65. Longevity inequality can even offset the redistribution to lower earners embedded in pension benefit formulas. When considering the present value of future pension benefits, and after accounting for differences in life expectancy, low earners may be at a disadvantage despite higher replacement rates. Such considerations may provoke strong political resistance to uniformly extending working lives.

Allowing and encouraging people to delay retirement past the age of 65 for those willing and able to do so might be a more equitable option. Employment rates after age 65 for both men and women are currently very low in Croatia. People who are over the eligibility age for an old-age pension are

Figure 37: Age profiles of employment rate (%) of men and women, by birth cohort



Source: LFS 2018-2021.

allowed to defer retirement as long as they have at least 35 years of contributions. Croatia has a pension benefit bonus for deferred retirement, and as of January 2023, this increased from 0.34 percent to 0.45 percent for every month of deferment, up to a maximum of 27 percent over five years. This puts Croatia in the middle of the range of OECD countries but remains less than is actuarially fair, meaning that it penalizes delaying retirement.

The age of 65 has long constituted the expected age for retiring and has enshrined in legislation and has been reinforced by disincentives and legal restrictions on working longer that have been partially rescinded in recent years. For example, staying employed after 65 used to be disincentivized because the responsibility for paying sick leave to workers over 65 was entirely borne by the employer instead of being taken over by the Health Insurance Institute after 42 days as for workers under 65. However, the latest amendments to the Law on Compulsory Health Insurance raised that age threshold to 70. Croatian law also explicitly restricts the employment of older workers in the public sector. Article 137 of the Act on Civil Servants and Employees³⁵ explicitly stipulates that a civil servant must terminate his or her civil service when he or she reaches 65 years old and has contributed for at least 15 years, unless otherwise agreed by the service. A similar regulation is in the Act on Civil Servants and Employees in local and regional self-government.³⁶ Due to a serious shortage of medical staff, Article 67 of the Health Care Act states that health workers in the public health service network have the legal right to perform private practice until they reach 65 years old. This is slightly mitigated by paragraph 3, according to which "if the provision of health care is endangered, the Minister may approve an extension to the right of health workers to work in private practice until they reach 70 years old."

Allowing individuals to continue in wage work while drawing a pension might enable skilled and productive workers to stay in employment for longer without causing harm to those with less favorable employment and longevity prospects. A promising development is that, since the latest changes to the Pension Insurance Act,³⁷ full-time pensioners can now work up to four hours per day without losing their pension rights. Whether this provision will increase the number of older people who continue to work is not yet clear. It could incentivize workers who have retired to continue working part-time, but conversely it might cause workers who would have stayed in the labor force full time to partially retire. However, this second negative effect is probably small given the low employment rates among

Croatians past the age of 65. This provision could help employers to retain workers with crucial skills on a part-time basis while the workers themselves can supplement their pension income and exit the labor force gradually. According to data from the Croatia Pension Institute,³⁸ as of the end of June 2022, there were 19,767 retired people (of whom 11,903 or 60.2 percent were male and 7,864 or 39.8 percent were female) who worked up to four hours per day without losing their pension rights. Most of them (3,562 or 18.0 percent) worked in wholesale and retail trade or the repair of motor vehicles and motorcycles, followed by those in professional, scientific, and technical activities (2,930 or 14.8 percent) and the manufacturing sector (2,586 or 13.1 percent). These three sectors tend to experience recurring labor force shortages, as identified by the Employers' Survey conducted in 2020 by the Croatian Employment Services³⁹ and employ almost half (45.6 percent) of all retired people.⁴⁰ However, the same reasons that make part-time work rare in Croatia could limit the overall effect of this reform. Therefore, an alternative might be to allow workers past retirement age to combine full-time work with the receipt of partial pension benefits.

Understanding Other Causes of the Old Age Employment Gap

Declining Health

Bad health is one of the main causes of early exits from the labor force around the world, either through early retirement or by claiming disability insurance (Blundell et al, 2016). Declining health may directly reduce a worker's inclination to continue to work, for example, because of fatigue or painful movements. It can also make workers less productive, resulting in lower productivity and earnings. Also, if health conditions reduce a worker's expected longevity then this may also reduce the probability of them outliving their savings, thus making it optimal to retire earlier. Lastly, disability insurance programs often preclude beneficiaries from working while receiving benefits.

However, individuals with health issues are not significantly more likely to exit the labor force in Croatia than in other countries. The regression results presented earlier in this chapter confirmed that health is a significant determinant of employment in old age. For example, suffering from a chronic illness has the same effect on employment rates as being eight months older. However, the effects of health-related variables are not significantly stronger in Croatia than in the other countries that

³⁵ Zakon o državnim službenicima i namještenicima, OG 27/01..61/17.

³⁶ Zakon o službenicima i namještenicima u lokalnoj i područnoj (regionalnoj) samoupravi - OG 86/08..04/18.

³⁷ Zakona o mirovinskom osiguranju, OG 157/13.. 102/19, 84/21, 119/22.

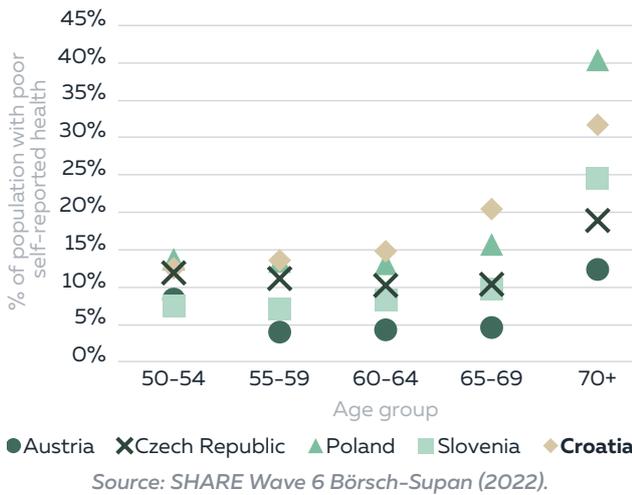
³⁸ Hrvatski zavod za mirovinsko osiguranje (2022). Statističke informacije 6, Table 7b, page 21, Hrvatski zavod za mirovinsko osiguranje, Zagreb, available on <https://www.mirovinsko.hr/UserDocImages/statistika/>

statisticke-informacije/2022/6/Statisticke-informacije-HZMO-a-6-2022-srpanj-2022.pdf?vel=15099745

³⁹ Hrvatski zavod za zapošljavanje, 2021.

⁴⁰ Hrvatski zavod za zapošljavanje (2021). Anketa poslodavaca 2020., Hrvatski zavod za zapošljavanje, Zagreb available (in Croatian), on <https://publikacije.hzz.hr/media/7902/hzz-anketa-poslodavaca-2020-020321.pdf>.

Figure 38: Share of individuals with self-reported poor health, by age group and country



we considered. Therefore, this does not explain why Croatia's employment rate for older ages is lower than elsewhere.

Croatians aged between 50 and 65 tend to self-report being in worse health than their European neighbors, but objective health measures show them at about the average. For example, 14 percent of Croatians aged between 55 and 59 self-reported being in poor health, which is 7 percentage points higher than in Slovenia and 10 percentage points higher than in Austria (Figure 38). However, the incidence of limitations to daily activities for all age groups in Croatia is about average (7 percent at ages 55 to 59, Figure 39, right). The fraction of Croatian individuals with at least one chronic ailment is also at the mid-range among the group of countries for all ages (66 percent at ages 55 to 59, Figure 39, left). Self-evaluations of health or of quality of life can often reflect cultural norms or involve

ex-post justifications. Therefore, cross-countries comparisons may not reflect objective differences in health conditions. Nevertheless, Croatians' subjective perceptions of their bad health should be taken into account because they may be as important as actual health status in driving individuals' decisions about working.

In addition to perceiving themselves to be in bad health, older Croatians self-report having a lower quality of life compared to the responses given by their peers in other countries. The CASP-19 index is a quality-of-life measure comprising four domains: control, autonomy, pleasure, and self-realization (Sims et al, 2011). Croatia's ranking on the CASP-19 index is relatively low and drops noticeably with the age of the respondents (Figure 40). In addition, positive perceptions about quality of life, as measured by the CASP-19 index, are strongly correlated with being employed in all countries considered but significantly more so in Croatia. These observations are consistent with the fact that pensions in Croatia are low and older workers face high risks of poverty and social exclusion. These correlations also appear to rule out the idea that the employment rate of older people in Croatia is low because work conditions are poor or because work is not fulfilling and reduces life satisfaction. It is also possible that those who chose to retire early were faced with only substandard employment opportunities that would have reduced their life satisfaction even more.

Health status and life satisfaction are not sufficient to explain the low employment rate for Croatia's older workers. It is notable that the large employment gap persists for healthy older workers in Croatia when compared to its European peers (Figure 41).⁴¹ If health were a key dimension in which Croatia

Figure 39: Share of individuals with at least 1 chronic disease (left) and share of individuals having difficulties with at least 1 activity of daily living (right), by age group and country



⁴¹ Defined as healthy if their self-reported health status is "Good" or higher.

Figure 40: Quality of life in older age, by age group and country

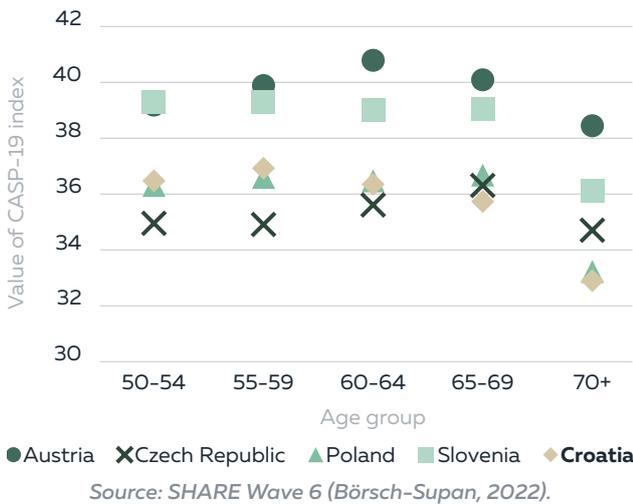
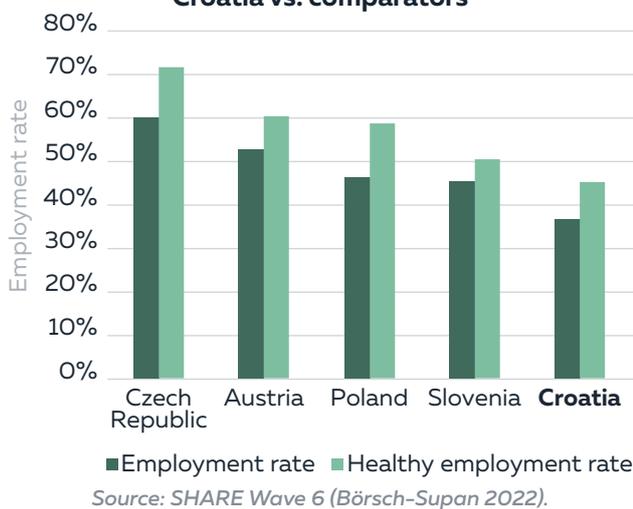


Figure 41: Fraction of 50–65 y.o. not working and fraction of healthy 50–65 y.o. not working in Croatia vs. comparators



lags behind its peer countries, the employment gap would be much narrower if we considered only 50 to 64-year-olds in good health. Instead, employment rates exhibited almost identical patterns in all the countries in the analysis, whether conditioned on good health or not.

Care Obligations

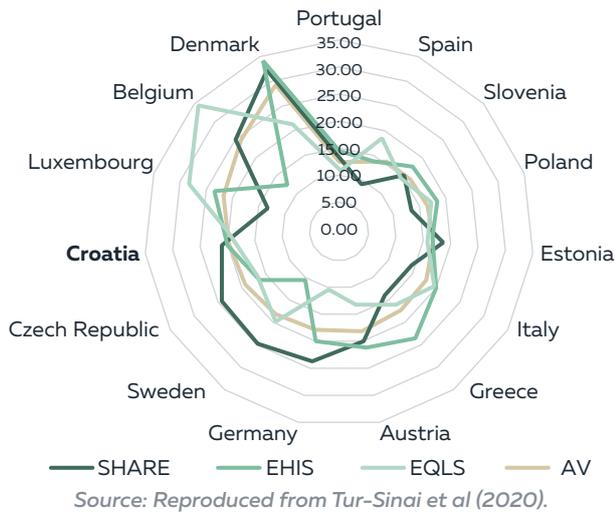
Countries with aging populations such as Croatia are simultaneously facing an increase in the demand for elderly care and a decline in the supply of traditional informal care. Increases in life expectancy are increasing the number of elderly individuals that live with chronic illnesses and require varying levels of assistance in their daily lives. Lower fertility rates lead to increases in female labor participation which implies that fewer family members are available to provide help to their elderly parents on a daily basis.

Childcare obligations can compound the burden of elderly care, particularly on women near retirement age, who may be expected to care for both young grandchildren and elderly parents. Conversely, when family members do exit the labor force or reduce the quantity or quality of the labor that they supply, this leads to underusing and underinvesting in human capital, which can hamper economic growth. For example, a caregiver may refuse a promotion or switch to an occupation that offers more time flexibility but for which they are over-qualified, thus receiving lower wages (Carmichael and Charles, 2003; Heitmueller and Inglis, 2007; and Parker, 1990).

Formal care options have emerged to compensate for the shrinking supply of informal care, but there is a lack of capacity in both public and private child and elderly care in Croatia. In 2019, just 18 percent of people older than 65 in need of LTC used formal home care, and less than 3 percent were cared for outside the family in organized forms of residential care. The number of requests for nursing homes placements was four times greater than the number of places available in all of Croatia's nursing homes (Badun, 2017). Therefore, a natural question to ask is whether the lack of public or market-provided formal care options is pushing older Croatians out of the labor force. Studies have found that providing informal elderly care is associated with a 4 to 6 percent decrease in labor supply but attempts to make causal estimates have suggested that this effect could be much greater (Norton, 2016; Crespo, 2006; and Heitmueller, 2007). Few papers have examined the effects of introducing or expanding subsidized childcare programs on family members' labor supply. Attanasio et al (2022) found a large impact (in the region of 20 percentage points) on the labor force participation rates of grandparents, though this evidence from a middle-income country may not be directly comparable to the situation in Croatia.

Only a small minority of Croatians aged between 50 and 65 provide informal care so frequently that it would be incompatible with participating in the labor force. The extent to which Croatians over the age of 50 provide informal care is comparable to other European countries (Figure 42). Around 20 percent of individuals aged over 50 provide unpaid care at least weekly in Croatia (Tur-Sinai et al, 2020). Figure 43 shows the potential effects of providing informal care specifically on the employment of working age individuals aged 50 to 65 who provide care every day. According to this definition, 11 percent of employed Croatians of this age provide daily care while 14 percent of the unemployed provide

Figure 42: Fraction of individuals over age 50 providing informal care, by country



such care, and these percentages are comparable to the shares in Croatia's neighboring countries.

While the frequency with which individuals aged 50 to 65 provide care is comparable between those who are employed and unemployed, the type and recipients of care differ. Employed individuals are less likely to provide personal care and are more likely to help with paperwork. Employed individuals are also less likely to provide daily help to a partner. These results indicate that many forms of care, even when provided daily, are compatible with employment. Therefore, employment is most likely to be hindered by more intensive forms of personal care that cannot easily be shared with other relatives. Only 7 percent of unemployed individuals in our sample provided daily personal care, which suggests that the impact of care obligations on Croatia's employment gap is modest.

Figure 43: Providing daily help by individuals 50-65, by country and employment status

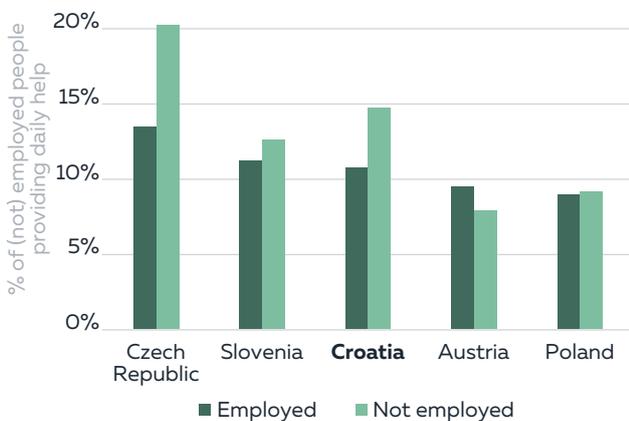
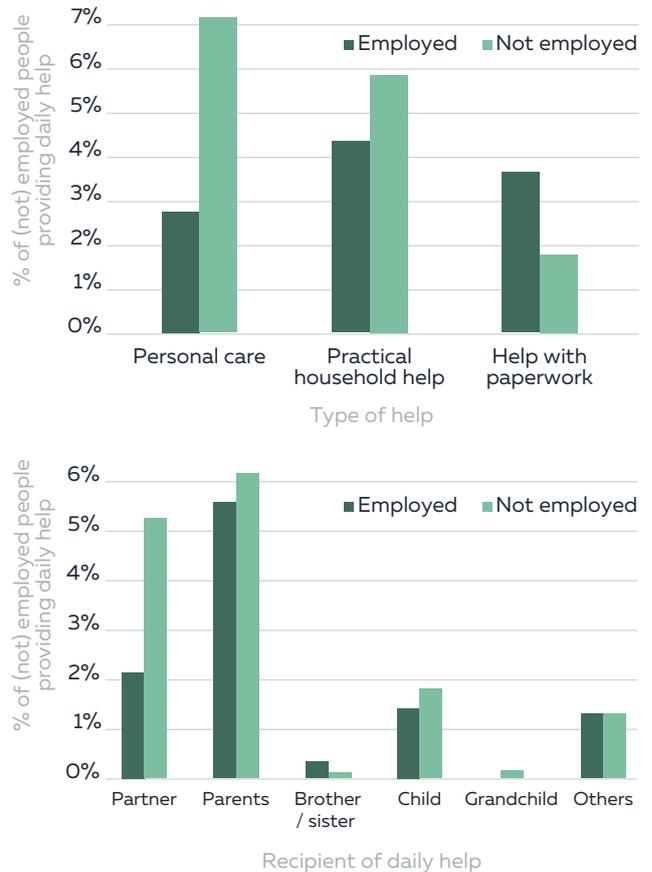


Figure 44: Providing daily help in Croatia by employed and not employed individuals aged 50-65, by type of help (1) and recipient of help (2)



Even in the absence of strong effects on employment rates, care obligations can have a negative impact on the productivity and human capital use or investment of older workers. A caregiver may have an incentive to remain employed either to mitigate the psychological toll of providing care, a phenomenon known as the "respite effect" (Carmichael and Charles, 2003) or to reduce the share of the burden that will fall on them as opposed to other relatives. However, their care obligations could affect their ability or desire to invest in advancing their career or could lead them to switch to a more flexible occupation. Therefore, increasing access to and the availability of formal childcare and elderly care should be an important part of any drive to increase labor force participation in Croatia in response to the population aging. To the extent that informal care provision does not appear to be a major reason for the low labor force participation rates of older workers, it would be useful to explore innovative solutions to increasing the compatibility of working while also providing informal care at home. One example of such a solution is a "cash and counseling" program, in which informal caregivers receive

cash transfers and counseling on how to make use of available care resources in the community.

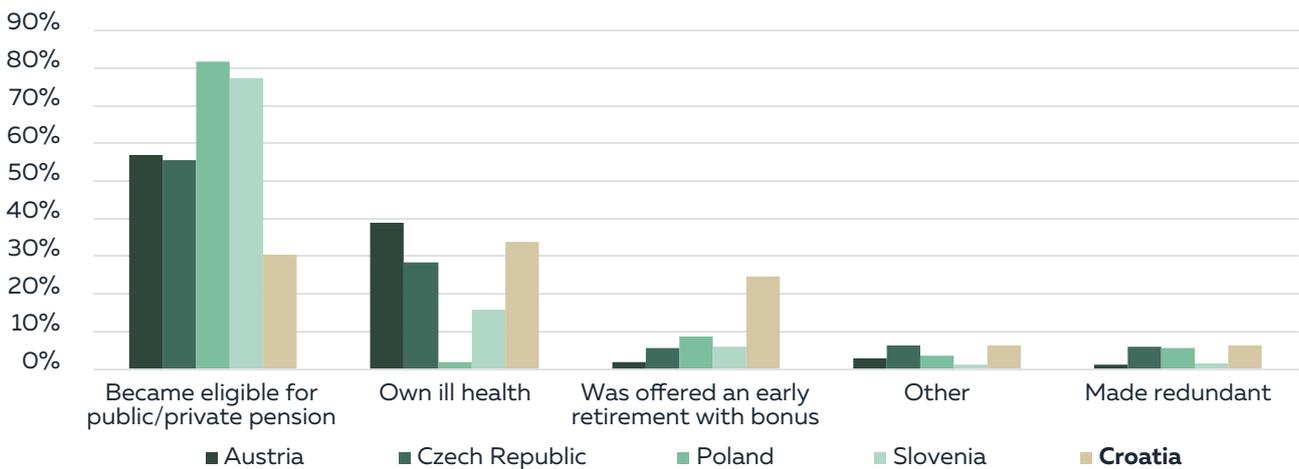
Lack of Demand for Older Workers

Even if disincentives to work related to health status or pension benefits could be removed, the question remains whether there is enough labor demand in Croatia to absorb any additional older workers who would wish to delay retirement. In the short run, older workers will benefit from the demand created by the economic conditions and the exit from the labor market of large cohorts of baby boomers. More broadly, the literature considers that labor supply and, particularly, pension regulation are the two most important factors that explain why old age employment rates differ between countries (Blundell et al, 2016). This is because, even with different labor market institutions, many countries are still have experiencing the same long-term trends, such as the near-universal increase in old age employment rates in recent decades. However,

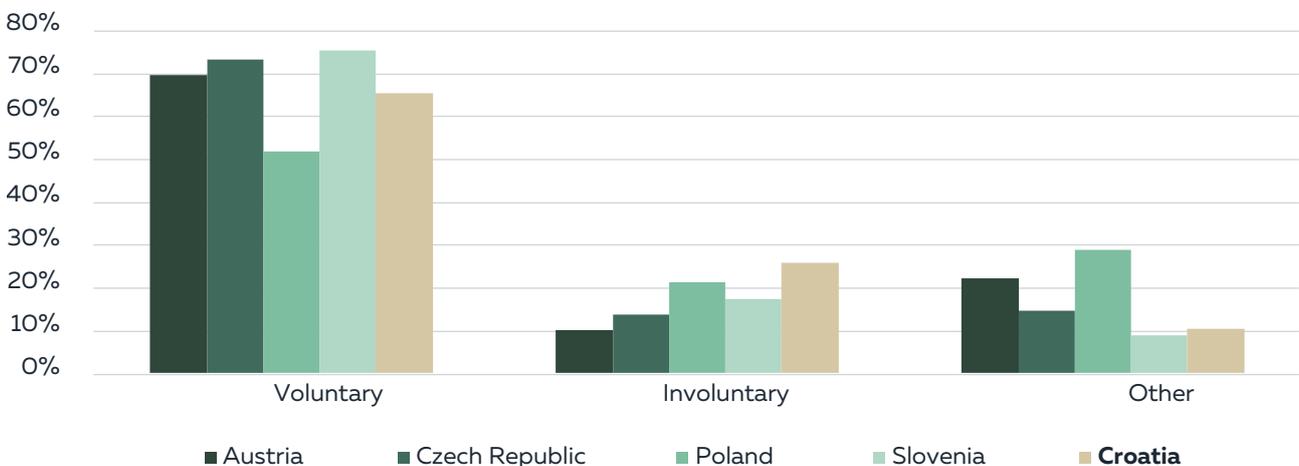
the effects of macroeconomic shocks such as the 2008 financial crisis and its ramifications were also apparent in the time-series data presented earlier in this chapter, suggesting that fluctuations in labor demand can often prevent workers from continuing in employment in old age, at least in the short run.

The existence of barriers to the employment of workers past the age of 50 have been well documented around the world. Reports from older workers of age discrimination on the job have been supported by objective evidence of older workers having higher separation rates and longer spells of unemployment. In addition, audit studies have shown that older jobseekers with otherwise comparable resumes receive much lower call-back rates than younger applicants (Neumark et al, 2019). The skills of some older workers can become obsolete in a changing technological environment, but the literature is divided with regard to the extent of this issue (Crépon et al, 2003 and Friedberg, 2003). An alternative perspective is that older workers, being

Figure 45: Reasons for retiring (top) and reasons for leaving the last job (bottom), by country



Source: SHARE Wave 6 (Börsch-Supan 2022).



Source: SHARE Wave 7 (Job Episodes Panel), weighted; SHARE Job Episodes Panel. Release version: 8.0.0. SHARE-ERIC. Data set. DOI:10.6103/SHARE.jep.800.

more experienced and skilled, can benefit most from innovation, but empirically, the evidence on this is also mixed (Hairault et al, 2010, p. 2).

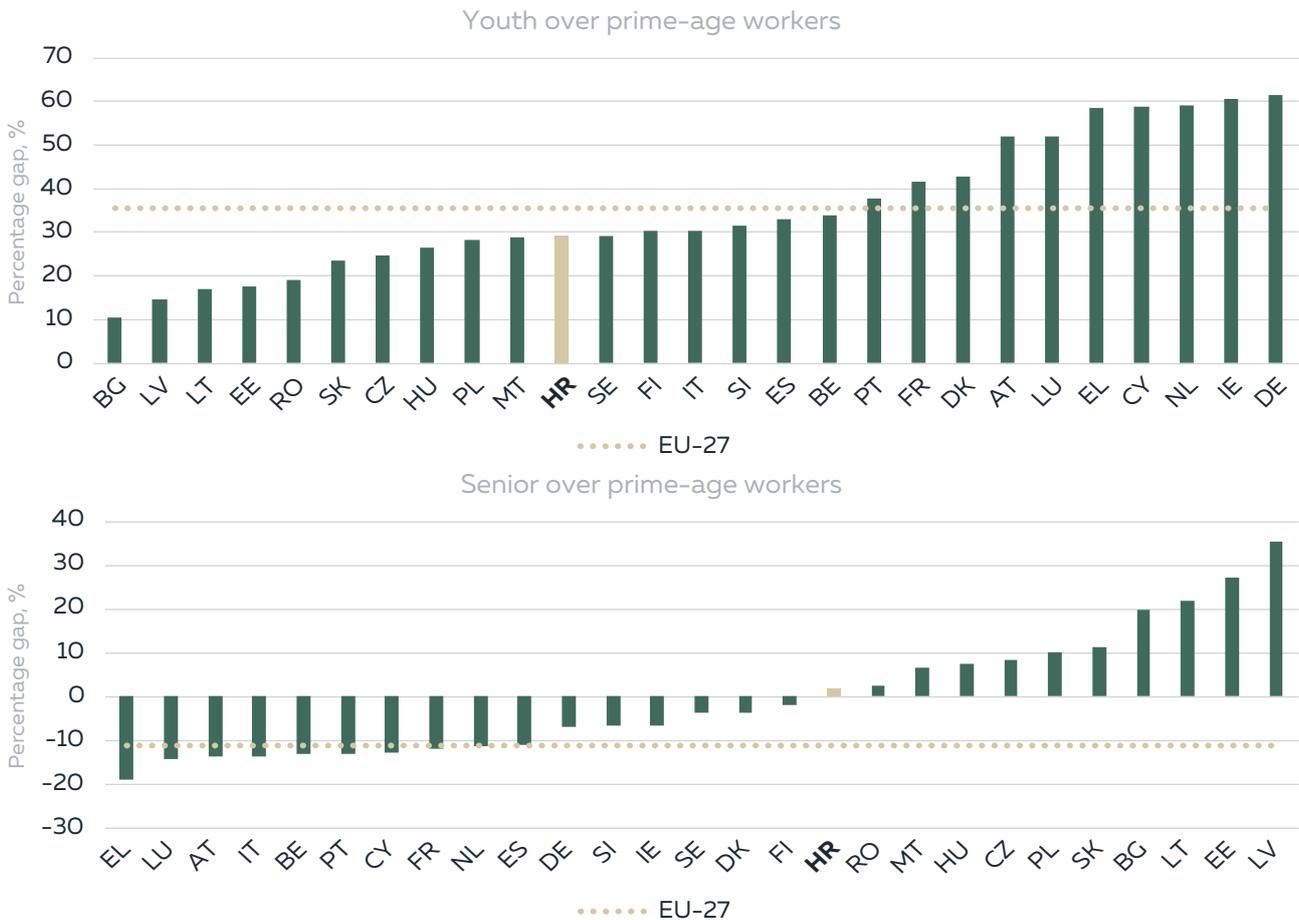
The reasons given by workers for retiring are unusual in Croatia compared to other countries because of the widespread practice of agreed layoffs in Croatia (Figure 45). Twenty-five percent of Croatian retirees report having been offered a bonus by their employer to agree to retire early, a much higher proportion than found in other Eastern European countries. The fact that severance payments to older workers are exempt from taxation has encouraged employers to push older workers toward early retirement in exchange for a one-time bonus. This practice was particularly common in large state-owned companies and in a significant number of privatized companies in the telecommunication and financial sectors. Older people have accepted this model of dismissal because they often continued to work in another company or moved in the informal economy instead. Older workers in Croatia are also more likely than workers in other countries to report having left their last job involuntarily (by being laid

off or because their plant or office closed).

A related question is whether older workers are too expensive, prompting firms to substitute them with prime-age or younger workers. Specifically, the wages of older workers may not be aligned with their productivity due to efficiency wages or incentive structures based on seniority. Estimating the productivity of older workers is challenging, but the literature suggests that productivity tends to follow wages closely until the age of 55 but is inconclusive about older ages (Aubert and Crepon, 2003).

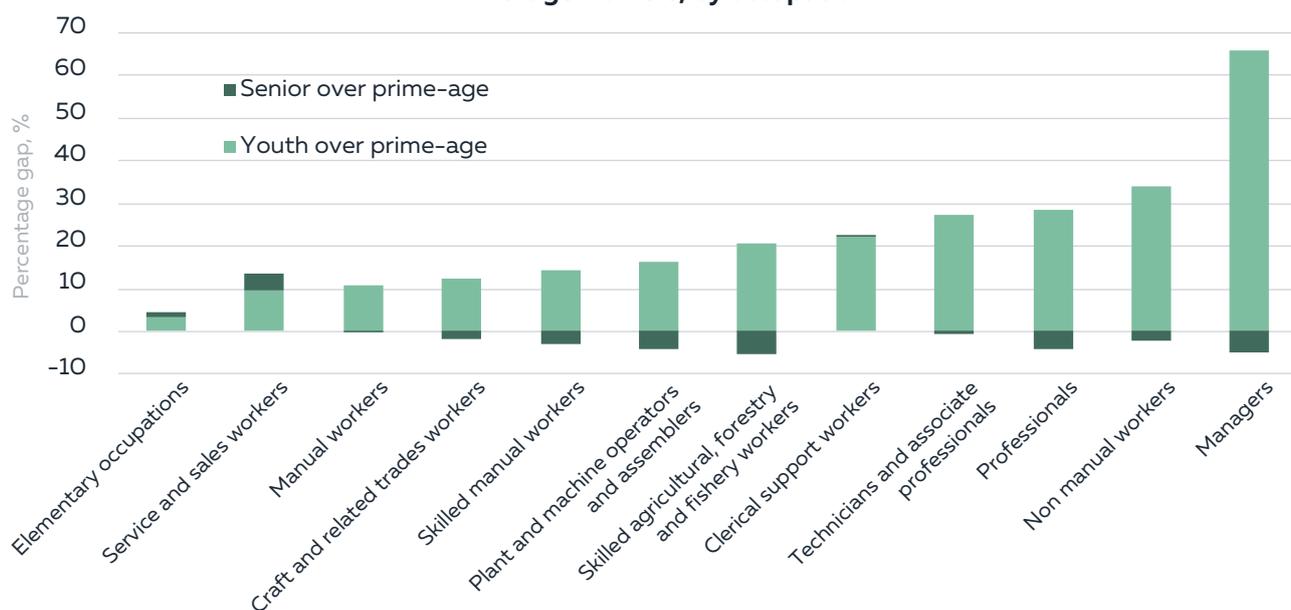
The age wage gaps, which compare the wages of older workers with those of either prime-age or younger workers, are not particularly large in Croatia. Older-aged workers earn roughly the same as prime-age workers, which puts Croatia close to the EU-27 median (Figure 46, bottom). Western and southern European countries tend to have age gaps of 10 to 20 percent in favor of older workers compared with prime-age workers, whereas eastern European countries tend to have negative age wage gaps for older workers. Younger workers in Croatia

Figure 46: Percentage wage gap between young and prime-age workers (top) and between senior and prime-age workers (bottom), by country



Source: Calculations based on Structure of earnings survey 2018, Eurostat.

Figure 47: Percentage wage gap between Youth and Prime-age workers and between Senior and Prime-age workers, by occupation



Source: Calculations based on the Structure of earnings survey 2018, Eurostat.

earn around 30 percent less than the two other age groups on average, but this is again in line with EU-27 averages. In other words, older workers are not particularly expensive in Croatia relative to elsewhere.

Occupations with high education requirements have larger wage gaps between older and younger workers. However, as discussed earlier in this chapter, the employment rates of tertiary-educated older workers in Croatia are high and in line with EU-27 averages. The old-age employment rate gap concerns mostly low-educated workers in Croatia, but the age wage gap is small in low-skill occupations such as services, sales, and manual jobs. Therefore, the substitution of younger for older workers solely to minimize the wage bill is unlikely to explain Croatia's employment gap.

Although older Croatians may face non-wage barriers to continuing to work, increases in the early retirement age around the world have typically increased the employment rates of older workers. For example, Staubli and Zweimuller (2013) found that a two-year increase in Austria's early retirement age raised the employment rate of those who had lost eligibility by around 10 percentage points, mostly among healthy individuals and those with higher levels of education. However, the employment rates of low-educated or unhealthy individuals declined instead. This suggests that increasing the early retirement age creates at least some extra demand for older workers.

Policy Implications

An effective strategy for extending work lives and increasing pension finances is to reduce the incentives for early retirement while maintaining the adequacy of pension benefits. To ensure fairness, it is advisable that the early retirement adjustment factor be increased from 0.2 percent per month (which is lower than international standards) at least to a more reasonable and actuarially fair level around 0.3 percent end up to 0.5 percent. To avoid further eroding the already low pension levels, this should be compensated for by increasing pension benefits for lower earners. An actuarial adjustment of 0.5 percent per month implies that a worker working until age 65 would be 30 percent higher than if he had retired at 60, instead of 12 percent higher as is currently the case. This adjustment compensates for the fact that early retirees contribute for fewer years but receive their benefits earlier and for a longer time than those retiring at the statutory age.

A more direct way of achieving longer work lives is to shorten the gap between the early and statutory retirement ages to three years instead of five. Assuming the statutory retirement age remained 65, men would then be able to retire early after turning 62 instead of 60. Besides sizeable fiscal benefits, this would lead to higher pensions benefits, though as discussed in this chapter, Croatia's system does not currently rewards delaying retirement enough.

It is important to acknowledge that pushing back the early retirement age impacts low earners much more

than high earners and that it is likely to be perceived as a welfare cost. This is because more educated workers already tend to work until the age of 65 and have a higher longevity so that they enjoy their pension benefits for longer. Academic research also suggests that some of those forced to delay retirement through this proposed measure would switch from early retirement to unemployment or disability insurance because they are unable or unwilling to continue working. Therefore, part of the fiscal benefits of delaying retirement should be invested into dispositions improving the employment prospects and conditions for those who remain longer in the labor force. This includes allowing more flexibility to adjust hours worked, improving the safety, ergonomics and comfort in the workplace for older individuals with milder disabilities, combatting ageist discrimination, and providing specific training focused on allowing older workers to keep contributing their accumulated skills in salaried work or in flexible self-employment.

It is also possible to increase the number of contribution years required to retire early without incurring a pension benefit adjustment. The current requirement is 41 years, which is low compared to the requirements in other European countries. This option is designed to benefit individuals who started working early, often in physically demanding occupations associated with lower longevity at retirement. For example, someone who started working at the age of 19 could claim full benefits when they reach 60 or less if they qualify for extended service period (hazardous and arduous occupations). Maintaining the possibility of qualifying for a full pension based on many years contributed appears economically fair and can help to soften some of the equity concerns related to the two previous reform options. Therefore, this measure should be adopted only after a careful examination of the types of occupations where workers who started working in their teens are found. The number of such workers should be evaluated to determine whether the employment gains achieved by this option are sizeable enough.

Enabling workers to work for wages while also receiving pension benefits can enable skilled and productive individuals who wish to continue working for longer to do so without negatively affecting those with less favorable employment and longevity prospects. Workers past the retirement age could be allowed to continue working full-time while collecting a percentage of their pension benefits. This happens in Slovenia, for example, where such workers receive 40 percent of their pension benefits while still in employment. A promising development in Croatia is that according to the latest changes in the Pension Insurance Act,⁴² full-time pensioners may now

work for up to four hours per day without losing their pension rights. Whether this provision will increase the number of older people who continue to work is not yet clear. It could incentivize workers who have retired to continue working part-time, but conversely it might cause workers who would have stayed in the labor force full time to partially retire. However, this second negative effect is probably small given the low employment rates among Croatians past the age of 65. This provision could help employers to retain workers with crucial skills on a part-time basis while the workers themselves are able to supplement their pension income and exit the labor force gradually. However, the unusually low rates of part-time work in Croatia could limit the overall effect of this measure. The barriers that explain this phenomenon should be investigated to enable workers to exit the labor market more gradually. In addition, the legal provisions that prevent people from working past the age of 65 or making retirement at 65 a default should be removed. The adjustment in the pension level received by those retirees who delay claiming their retirement benefits was recently increased but is still less than is actuarially fair and should therefore be revised upwards significantly. Choosing a level that is more than actuarially fair could be justified because of the country's demographic challenges and the low levels of benefits offered by the Croatian pension system.

Besides strengthening institutional incentives to persuade workers to extend their working lives, a broader set of complementary measures is needed to adapt the work environment to the needs of an older workforce and to shift social and cultural norms. By putting in place an older early retirement age and less rigid retirement requirements, firms should find it economically more worthwhile to invest in older workers' human capital. However, these reforms need to be accompanied by more age-appropriate training opportunities, employment services adapted to the specific needs of older people, and improved working conditions driven by higher health and safety standards. While employers' attitudes and practices may adapt endogenously to rising labor market participation by older workers, legislation and public action can help by using public information campaigns and guidelines and the implementation and enforcement of legislation preventing age discrimination in employment (Švaljek, 2008). Beyond the direct impact of each measure, a coherent, salient, and well-coordinated strategy to promote the participation of older workers would help to shift social norms and perceptions of older people in the workplace.

⁴²Zakona o mirovinskom osiguranju, OG 157/13.. 102/19, 84/21, 119/22,

Chapter 3:

Education and Skills Needed to Prepare for the Future Job Market

Introduction

Croatia must prepare for the fast-paced technological and business organizational changes that come with the changing nature of work. Governments worldwide are trying to modify their education systems to align with the major shifts that will shape the future of work. As technology evolves, new occupations appear, and the skill mix required of workers constantly changes. Digitalization, automation, and the green transition mean a steady evolution in how value is added. Employment is skewing toward knowledge-intensive occupations that present countries with new challenges for enabling their workers to acquire the required skills. Demand for skills is changing rapidly as some jobs are disappearing, such as middle-skilled occupations that can be automated. This means that increasingly workers will need not just the skills needed to perform routine cognitive tasks – which are likely to be displaced by computers (Acemoglu and Autor, 2011) – but also the higher-order skills (such as problem-solving and teamwork) necessary to perform work in flexible forms of organizations and to adequately react to skill-biased organizational change (Caroli and Van Reenen, 2001). In the future, education systems will need to be designed to nurture a virtuous feedback loop by increasing skills for new job opportunities, which in turn will enhance the business environment for more knowledge-based job opportunities. In its World Development Report 2018, the World Bank proposed a set of cognitive, socio-emotional, and technical skills that education systems should aim to develop in their students to prepare them for the future of work, including lifelong learning (World Bank, 2018b and Shmis et al, 2021).

Many countries have recognized the importance of this 21st-century skills approach and have incorporated it into their curricula for preschool, school, vocational, and tertiary education. Today's changing nature of work demands that the educational systems develop in their students the skills needed for the 21st century (Box 2). While Croatia has initiated important policy initiatives, especially in early childhood development and general schooling, more must be done in the fields of adult training,

VET, and higher education. This is essential to maximize Croatian competitiveness in the global race between technology and the education system. This is especially important for the fast-aging Croatian economy, which needs to increase and improve its workforce in the face of its shrinking working-age population. Therefore, it will be vital to help people to strengthen their human capital over their lifecycles. This chapter outlines the specific skills challenges faced by Croatia by assessing how human capital is built, protected, and used throughout the lifecycle, starting with early childhood development, then childhood and youth, and finally adulthood.

Box 2: 21st-century skills

Foundational skills: Basic literacy, numeracy, and transferable skills, which are the building blocks for a life of learning.

Cognitive skills: Logical, intuitive, and creative thinking, such as verbal ability, numeracy, problem-solving, memory, and mental speed.

Socio-emotional skills: Beliefs, personality traits, and behavioral skills.

Technical skills: Manual dexterity and use of methods, materials, tools, and instruments, including those related to specific occupations or trades.

Chile is a great example of a country that prioritizes 21st-century skills in its education system. These skills are seen as crucial for the comprehensive education of students and are integrated into all subjects, along with knowledge and crosscutting attitudes. The National Curriculum in Chile provides equal opportunities for students to pursue their life goals and interests.

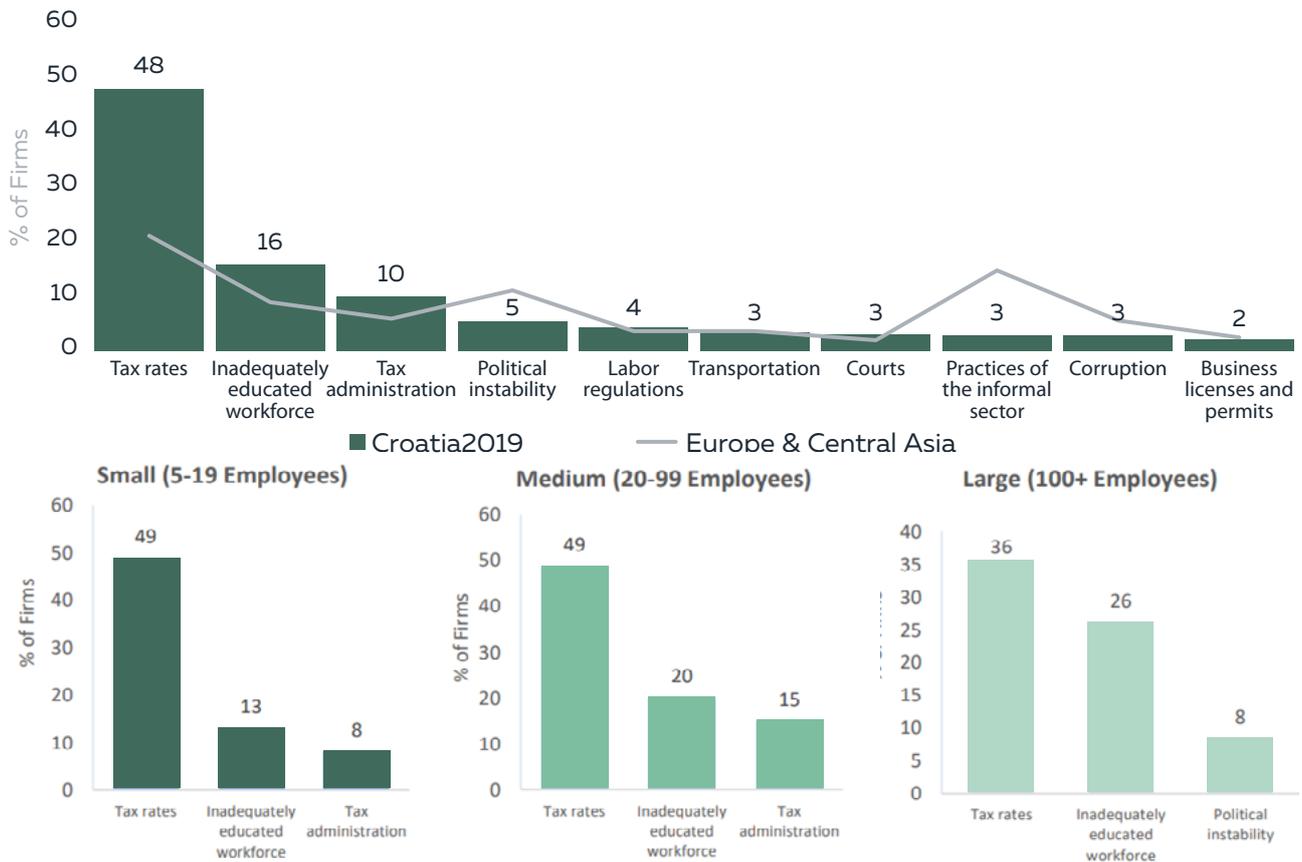
Another notable model for 21st-century skills education comes from Portugal. Their curriculum emphasizes developing a sense of personal and social identity, valuing diverse forms of communication and expression, and nurturing intellectual curiosity and a work ethic, among other dimensions.

Improving the skills base in Croatia is important as the country is currently ranked as "middle achieving" in the European skills index. Croatia is ranked 12th (out of 31) on the European Skills Index (ESI), which has three pillars: (i) skills development; (ii) skills activation; and (iii) skills matching (CEDEFOP, 2022). Croatia ranks highly in some sub-areas, such as VET participation (3rd) and "early leavers from training and education" (1st), and its ranking in "computer skills" has improved significantly from 27th position in 2020 to 15th in 2022. However, the country still performs poorly in "recent graduates in employment" (with a score of 26 out of 100), labor market participation of the existing workforce aged 25 to 54 (with a score of 26 out of 100), and "labor market participation of the existing youth workforce aged 22 to 24" (with a score of 29 out of 100). Croatia's performance in skills activation (in which it is ranked 22nd) is average, which shows that there is scope to improve the transition from education to work. One area that needs urgent attention is the "qualification mismatch," in which Croatia ranks 29th, which indicates that Croatian workers' education attainment

is not high enough to meet the required achievement level for each occupation in each industry.

The next issue is the mismatch between the skills that are needed and those that are available, which is a major obstacle for business development. According to the World Bank's 2019 Enterprise Business Survey for Croatia skills deficit is the second most crucial business development challenge facing employers after taxation (Figure 48). A common complaint made by employers in the survey was that their employees were insufficiently trained or lacked practical experience. Larger businesses were especially affected by this with 26 percent of large Croatian enterprises and 20 percent of medium enterprises declaring that having an inadequately educated workforce was a critical obstacle in the business environment (Figure 48) (World Bank, 2019b). Furthermore, Croatian employers considered a lack of practical experience to be the second most important reason for labor shortages, after the lack of suitable education or specialization (World Bank, 2019b).

Figure 48: Key business environments constraints in Croatia, overall and by firm size



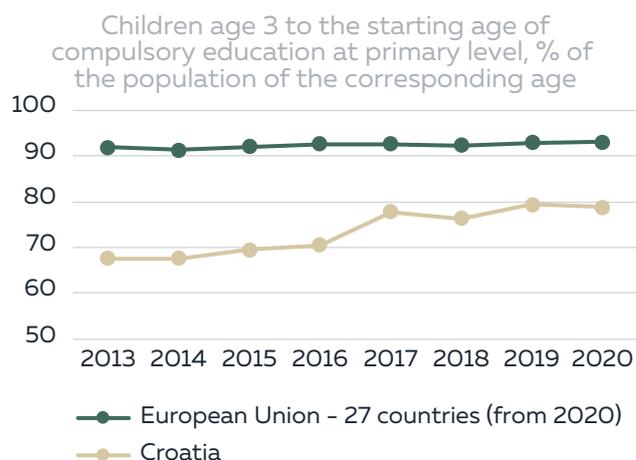
Source: 2019 Enterprises Survey, World Bank, 2019. URL: <https://www.enterprisesurveys.org/content/dam/enterprisesurveys/documents/country/Croatia-2019.pdf>

Foundational Skills in Early Childhood: Access and Importance

Developing foundational skills during the early years of life is crucial for facilitating effective life-long learning and developing higher-order skills.

Early childhood education and care (ECEC) services, such as kindergarten and pre-primary education, provide the basic knowledge and skills that help children to learn later in life. Each layer of the knowledge supplied in primary and then in secondary schooling is amplified by the quality of a student's foundational skills. This creates a basis for further skills development – “as skills beget skills” over a life-time. Conversely, economic returns to human capital investment diminish as children age (Heckman, 2006). In other words, early investments can matter more than late investments, and it is not always possible to remediate early skill deficits thoroughly. More broadly, early childhood investments raise the level of a child's human capital in such a way as to increase the productivity of later childhood investments. This kind of self-productivity is crucial for cumulative learning processes such as science, mathematics, and language, where concepts build upon one another. Those who receive high-quality ECEC are also more likely to develop higher-order reasoning, teamwork, and problem-solving skills that are increasingly economically valuable (OECD, 2001). Substantial evidence supports the value of skill investments in early childhood, and research on the effects of programs for young children suggests an extremely high return on investment. According to Lynch and Vaghul (2015), every US\$1 spent on ECEC can deliver an eightfold return on the investment in the long term, which is likely to be much higher for disadvantaged children. Other studies such as Hendren and Sprung-Keyser (2020) have shown that, based on the “marginal value of public goods,” ECEC “pays for itself” since it improves outcomes for recipients when they become adults.

Figure 49: Participation in ECEC over time – Croatia and EU



Source: Eurostat (EDUC_UOE_ENRA21).

Although enrollment rates in ECEC in Croatia have increased recently, they still need to be much higher compared to the EU. In 2020, around 79 percent of Croatian children aged 4 to 6 attended ECEC programs. This is lower than the current 93 percent average enrollment rate for the EU-27 (Figure 49). It is also lower than the EU's goal to have 96 percent of 3 to 6-year-olds enrolled in ECEC by 2030⁴³ as well as the revised Barcelona targets for childcare.⁴⁴ In 2020, participation in ECEC by Croatian children aged between 6 months and 3 years old was also significantly lower than in the EU-27, only 65 percent of 3-year-olds as opposed to an average of 88 percent in the EU. Croatian 2-year-olds were an exception, as their 47.2 percent enrollment rate was higher than the EU average of 35.2 percent. Also, encouragingly, the enrollment rate of Croatian children under the age of 2 has been steadily increasing and, in 2021, was 16.2 percent, higher than the EU average of 9.4 percent.⁴⁵

To its credit, the government is trying to expand ECEC access, and this is yielding results. Croatian students who benefited from ECEC are achieving

Table 11: TIMSS 4th 2019: Students Attended Pre-primary Education, Croatia

Subject	Attended Three years or more		Attended Two years		Attended One year		Did not attend	
	Percentage of students	Average achievements	Percentage of students	Average achievements	Percentage of students	Average achievements	Percentage of students	Average achievements
Math	60	520	9	500	14	498	16	494
Science	60	533	9	515	14	509	16	515

Source: Mullis et al (2020).

⁴³<https://education.ec.europa.eu/es/education-levels/early-childhood-education-and-care/about-early-childhood-education-and-care>

⁴⁴The European Council adopted the Barcelona objectives in 2002, which included targets for ECEC enrollment of 90% of children from age 3 up to mandatory school age, and an enrollment rate of 33% of children under 3 years old. On average, these have been reached in the EU, and the targets are currently being revised to 96% and 45% respectively. The European Council set two targets, i.e., <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=COM:2022:442:FIN>

⁴⁵https://ec.europa.eu/eurostat/databrowser/view/EDUC_UOE_ENRP07_custom_6215829/bookmark/table?lang=en&bookmarkId=1018c285-fa2f-458d-ac97-2413c4159d3d

more robust academic results in international educational assessments. For example, the 2019 analysis of data by Matković et al collected for Croatia over several cycles of PISA and TIMSS between 2009 and 2015 showed that longer-term ECEC attendance contributed to students' cognitive achievements in TIMSS and PISA tests, which could not be explained by the education or occupation of their parents, their migration origin, their household composition, or the characteristics of the local environment. For example, Croatian students who attended pre-primary education recorded better results in the mathematics and science assessments of TIMSS (Trends in Mathematics and Science Study) 2019 than 4th-grade students who did not receive any ECEC (Table 11).

around a 21-percentage point difference in attendance at a pre-primary level between advantaged and disadvantaged Croatian students. This is one of the largest gaps among 15-year-old students in the OECD (OECD, 2018d). There is clearly a need and an opportunity for policy interventions aimed at closing this gap.

Children in Croatia who attended ECEC have had better learning outcomes in high school education ranking competitions. According to the latest PIRLS 2021 assessment of reading comprehension, Croatian 4th graders who had attended ECEC programs when they were younger produced better learning outcomes than those who did not. The share of students who scored below minimum proficiency was only 1.6 percent, compared with 4.3 percent for students who did not attend such programs. In the most recent PISA in 2018, 15-year-old students who had attended ECEC outperformed those who did not. The PISA 2018 data also show that the more years spent in early childhood education, the lower the chances a student had of being among low performers in PISA in all three subjects: reading, mathematics, and science. However, participation in ECEC in Croatia is closely associated with higher household socioeconomic status (PISA, 2018). According to the PISA data analysis, there is

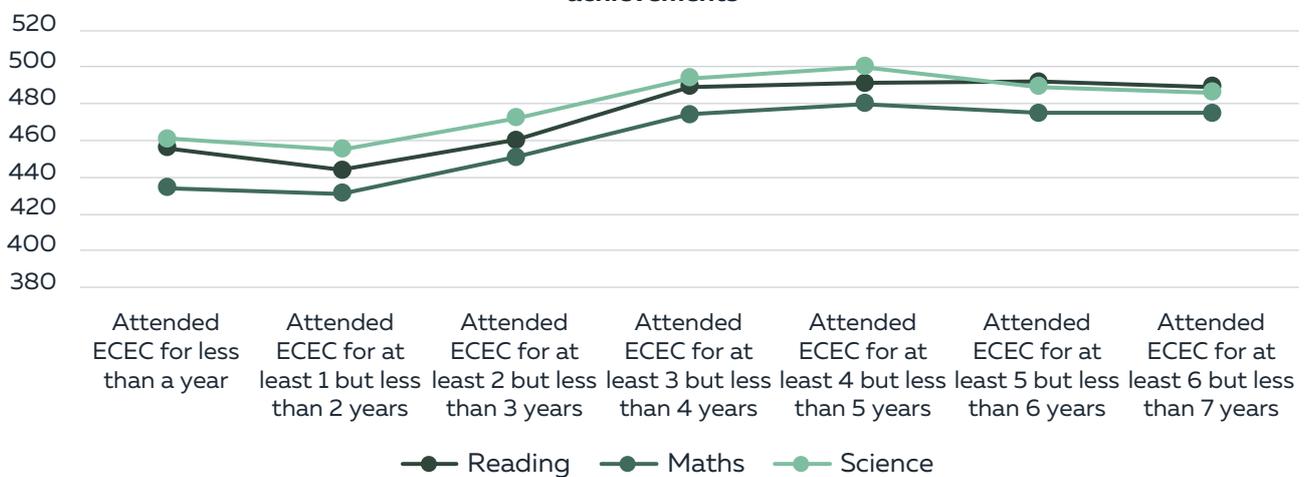
The government has begun to increase the availability of ECEC services. By taking a pro-active approach to early childhood development, it aims to reduce disparities in coverage and improve learning outcomes. Its initiatives consist of a mixture of regulatory changes, infrastructure improvements, inclusion efforts, and incentives for private sector involvement:

Amending the law to improve the quality of ECEC provision. In 2022, the government approved amendments to the Preschool Education Act to increase access to ECEC for 6-month-old children. (European Commission, 2022).

Improving ECEC infrastructure. Croatia's National Recovery and Resilience Plan (NRRP) aims to increase the supply of ECEC through large-scale infrastructure investments funded by the EU. This is expected to create 22,500 additional ECEC places and increase participation to 90 percent of children eligible for ECEC, thus helping close most of the gap between advantaged and disadvantaged children by 2026.

Increasing inclusion through financing initiatives. These initiatives include providing subsidies to socially disadvantaged families and national minorities, providing transport to ECEC facilities

Figure 50: Duration in early childhood education and care for Croatia PISA-2022 takers and their achievements



Source: Author's calculation based on PISA 2022 data.

for children from remote areas, and prioritizing infrastructure financing to areas with no ECEC facilities.

Notwithstanding these initiatives, the lack of access to ECEC for disadvantaged children requires a more robust policy response. As the ECEC expansion policy progresses, it will be crucial to prioritize children from underdeveloped regions and rural areas (Dobrotić and Matković, 2023), low-income families, and minorities since these groups have the greatest difficulty in accessing ECEC (Matković et al, 2019). A large variation in ECEC access between different counties in Croatia highlights the extent of the inequality of opportunity around the country. In 2016, the ECEC participation rates for children aged 0 to 3 years old ranged from 6 to 40 percent depending on where they were located, while for children aged between 4 and 6 years old, the range was even wider at 24 to 83 percent (World Bank, 2019d). This is a significant concern, as the gap between children at risk of poverty and social exclusion and more advantaged children is equal to 36 percentage points. This gap is higher in Croatia than in any other EU countries (Education and Training Monitor, 2022). Among children from national minorities, only children from Roma backgrounds receive fully funded ECEC support (a parental fee subsidy and a free preschool program for children two years before primary education who did not participate in ECEC).⁴⁶ However, despite this support, only 24 percent of Roma children attend ECEC, and the extent to which they participate varies in every municipality (Education and Training Monitor, 2022). The inequality in access magnifies the risk that children who live in low-income families will be trapped in life-long poverty themselves. This is why the returns to investing in ECEC are particularly high for these groups.

Further efforts to rapidly increase the supply of ECEC teachers are essential to increase access to and improve the quality of ECEC. While Croatia has the capacity needed to train high-quality ECEC educators, the current system is not yet producing enough of them to meet the growing need. According to the government, about 5,660 new ECEC educators will be required by 2030 (European Commission, 2022). While the current education system produces around 500 ECEC teachers annually, the number of new entrants will still need to be increased to cover the demand (Education and Training Monitor, 2019). The government is taking steps to alleviate the shortage of educational professionals in the country through the Act on Preschool Educa-

tion, which allows for primary education teachers to step in if enough ECEC-qualified teachers are not available. However, these primary education teachers will have to pass any requisite exams within two years to qualify as ECEC teachers. This measure has the potential to increase the number of future ECEC teachers, but the teaching profession in Croatia still needs to become more attractive, according to the OECD's Teaching and Learning International Survey (TALIS) (OECD, 2018b).⁴⁷ Therefore, it will be necessary to implement additional support, such as wage subsidies and grants for teachers from lagging regions.

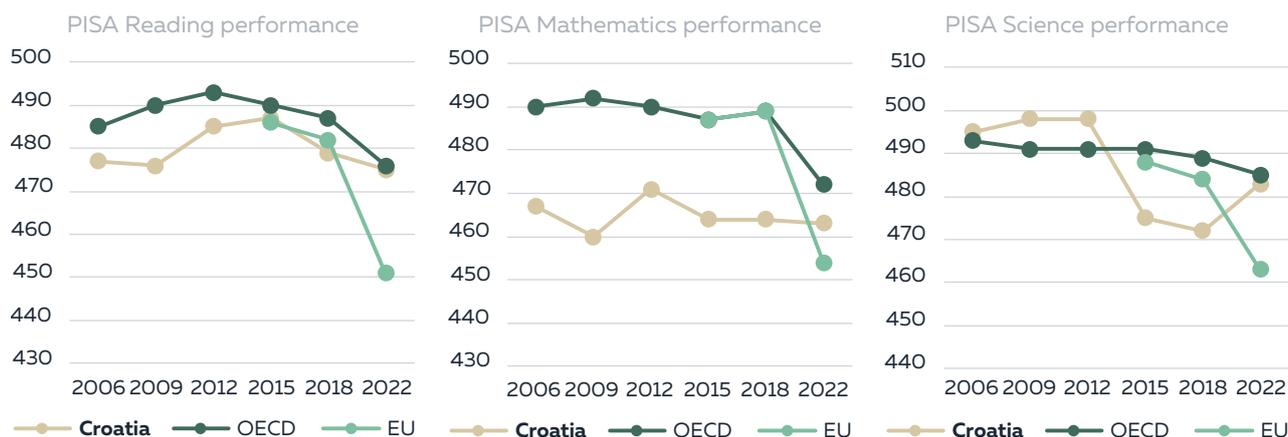
Elementary and Secondary Schools: Uneven Skill Development

Croatia's elementary education students rank among Europe's best in reading and math, and secondary school students excel in skills needed for a harmonious life, and have some of the highest school completion rates. According to the results of the 2021 Progress in Reading Literacy Study (Mullis et al., 2023), Croatian fourth graders' reading skills are among the best in the ECA region (557 points, compared to a mean score for ECA of 460 points). The share of these children who scored below the minimum proficiency level was only 2 percent, while those scoring at or above the advanced proficiency level was 59 percent. According to TIMSS 2019, Croatian 4th-grade students are performing at a level that is either equal to or higher than their peers in other EU countries in both mathematics and science. In fact, Croatia's students increased their average score from 490 in 2011 to 509 in 2019. However, while there was an improvement in their science scores from 516 in 2011 to 533 in 2015, there was a slight decrease to 524 in 2019. Furthermore, according to the PISA 2018 global competence assessment, Croatian secondary school students are highly skilled in intercultural issues that promote a harmonious life. They achieved impressive scores on par with students from Canada, Hong Kong (China), Israel, Korea, Latvia, Scotland (UK), Singapore, the Slovak Republic, and Spain. Moreover, they performed exceptionally well on the cognitive test that gauged their ability to comprehend and respect the viewpoints of others. This feat was shared by students from Canada, Hong Kong (China), Korea, Scotland, and Spain. Furthermore, Croatia also has low number of early school leavers, which is a positive indication of social inclusion. As of 2019, it scored high in school completion rates, its dropout and repetition rates are negligible, and 97 percent of Croatia's 20 to 24-year-olds reported

⁴⁶<https://eurydice.eacea.ec.europa.eu/national-education-systems/croatia/access>

⁴⁷The OECD's Teaching and Learning International Survey (TALIS) is a large international survey that asks teachers and school managers about their working conditions and learning environments every five years.

Figure 51: Croatia's PISA scores by subject (2006-2022)



Source: Author's calculations based on PISA database for 2015, 2018, and 2022: Europe and Central Asia. © World Bank, Washington, DC. <https://openknowledge.worldbank.org/entities/publication/2d6e2858-07f7-51cc-a2b1-02afec3af085>

having completed at least upper-secondary education, which is higher than the EU-27 average of 78 percent.⁴⁸

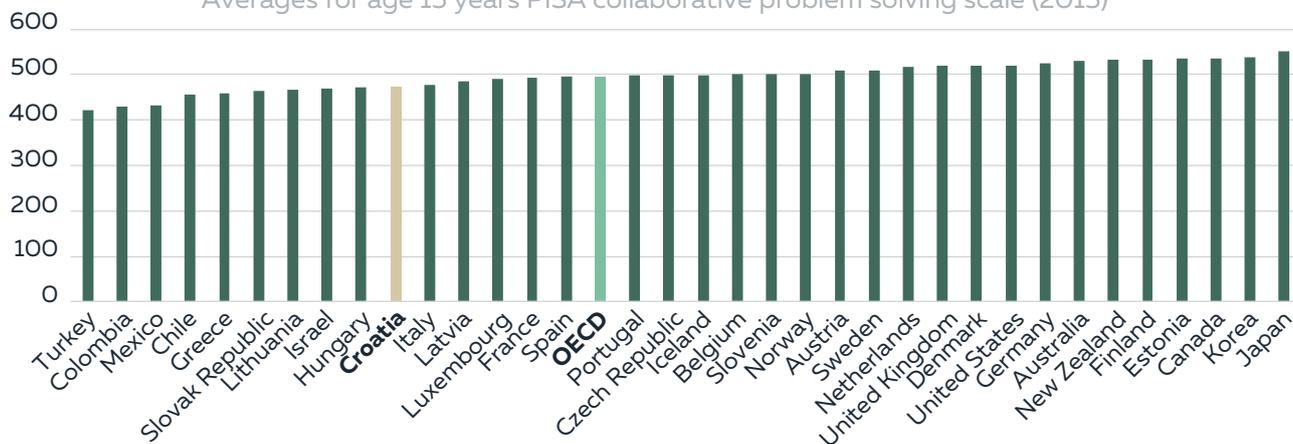
Despite these achievements on standardized assessments, significant deficits persist in terms of students' comprehension of mathematics and science. Only 28 percent of Croatian 4th grade students have a conceptual understanding of mathematics, and only 34 percent can apply a conceptual understanding of science to solving problems. Just 4 percent of 4th graders can apply their understanding and knowledge of mathematics and science to various complex situations and explain their reasoning (Mullis et al, 2020). Furthermore, the test results of older students suggest this deficit continues into later grades.

Before disruptions from the COVID-19 pandemic, Croatian secondary school pupils scored below the OECD and EU averages on international PISA test-

ing (see Figure 51). Between 2012 and 2015, Croatia saw a sharp decline in science skills, losing its lead in what was previously a high-performing subject for the country. For the other major subjects of reading and math, Croatia had largely maintained its underperformance gap since 2006. However, the most recent results from 2022 indicate that Croatian children coped with learning disruptions better than those in other countries. EU scores declined sharply in the aftermath of COVID-induced lockdowns, whereas Croatian students managed either to maintain or improve in absolute terms and now outperform the EU in each of the three major subjects tested. Aside from the averages, Croatia's PISA scores also indicate challenges at the lower bounds. Gaps in student scores associated with family socioeconomic status are sizeable and in line with the EU average. Most of the worst-performing pupils come from the lowest socio-economic quintile, a significant risk for the lifetime human capital "scarring" effect among disadvantaged groups. Critical

Figure 52: Collaborative problem solving, PISA 2015

Averages for age 15 years PISA collaborative problem solving scale (2015)



Author's calculations based on PISA database, 2015.

⁴⁸Source Eurostat, indicator: TPS00186.

reforms to improve general primary and secondary education include substantially raising the total hours of instruction in line with high-income country standards (for some subjects, almost doubling the time) as well as expanding the focus of curricula to cover not only knowledge but critical thinking and problem-solving skills.

Navigating Skill Acquisition in Secondary Schools: Current Challenges and Policies

While schools in Croatia have a successful track record of teaching children mathematics, reading, and writing, the teaching of higher-order skills needs to be improved. Good educational outcomes rely on more learning than is predicted by PISA reading, mathematics, and science achievement gains alone. A growing body of work emphasizes the importance of “non-cognitive” or “soft” skills like patience, self-control, conscientiousness, teamwork, and critical thinking. The PISA 2015 Collaborative Problem-Solving assessment measures a person’s ability to solve a problem with two or more other people. It reflects how skilled students are in sharing their understanding with others in search of a solution and at pooling their knowledge, effort, and skills to solve a problem successfully. In this respect, the 15-year-olds in Croatia score low (Figure 52) and lag behind many OECD and EU countries such as Korea, Estonia, and the Netherlands by 45 to 65 points, which is the equivalent of almost 1.5 to 2 years of study.⁴⁹ According to the TALIS study, Croatian teachers do not use instructional methods that require students to evaluate, integrate, and apply knowledge within the context of problem-solving in order to stimulate higher levels of cognition. For example, only 27 percent of teachers in VET schools and 24 percent in non-VET schools reported frequently asking students to decide on their own approaches to solving complex tasks (OECD, 2018b). Therefore, it is vital for education policymakers to develop and support pedagogical practices that could help students to acquire higher-level foundational, cognitive, and socio-emotional skills.

One of the critical risks to educational achievement is the geographical disparity in educational outcomes. According to spatial analysis (Ramljak et al, 2022), Croatia suffers from substantial regional inequality in learning outcomes. For example, the performance of students from Slavonia on national and international standardized tests such as the State Matura and the PISA test is significantly below the national average. School students from this lagging

Table 12: Regional differences in learning outcomes, PISA 2015–2018

	PISA 2015		PISA 2018	
	Slavonia	Croatia	Slavonia	Croatia
Reading	465	487	468	479
Math	442	464	451	464
Science	451	457	459	472

Source: Ramljak D. et al.

region achieved lower results in all three PISA test subjects than the Croatian national average (Table 12). The average result for students from Slavonia on the State Matura exam in 2019 was 46, compared to the Croatian average of 58. Students from Eastern Croatia have consistently achieved worse results than those from other Croatian regions. Academic research attributes this to socioeconomic factors such as lower parental education and the dearth of places in general gymnasium programs in the region (Matković and Šabić, 2022). Most of the counties in Croatia that have achieved better outcomes, such as the cities of Zagreb, Varaždin, Istria, and Dubrovnik-Neretva, are also those with the lowest at-risk-of-poverty rates. The problem with sub-regional inequalities in education is that they usually lead to a widening gap in socioeconomic status between different areas. Areas with better quality schools and higher educational attainment will also have better job prospects, higher incomes, and a better quality of life overall. This can create a cycle of disadvantages for those living in the lagging areas, as they may struggle to access high-quality education and be unable to improve their socioeconomic status. Furthermore, if specific areas are consistently disadvantaged in education, students from those areas may feel marginalized and excluded from the benefits of society.

Despite Croatia having had the EU’s shortest school closures during the pandemic, the negative impact on student learning was especially severe for those from lower-income households, resulting in significant loss of human capital. In the World Bank’s global analysis of COVID-19’s impact on human capital, it estimated that the pandemic has caused alarming declines in the cognitive and social-emotional development of young children. It found that 1 billion children in low- and middle-income countries missed at least one year of in-person schooling, which could translate into a 25 percent reduction in their earnings as adults (World Bank, 2023). Croatia took an approach that minimized school closures by continuously assessing the epidemiological level of risk in each school locality. This helped to minimize the need for remote learning and resulted in 98 per-

⁴⁹A difference of 30 points in the international PISA scale is equivalent to one year of study.

cent of primary school teaching being delivered in person, while the shares for lower and upper secondary school were 85 percent and 71 percent. Furthermore, 90 percent of students in the final grades of secondary education attended in-person classes in their schools. However, despite Croatia’s relatively short school closures, the COVID-19 pandemic did have a negative impact on the learning process. According to a study conducted by the Institute of Social Research, teachers confirmed that the academic results of around 60 percent of their students deteriorated and that the students were less efficient in preparing individual assignments than in the pre-pandemic period (ReferNet Croatia, 2021). In addition, about 37 percent of students indicated in the survey that they felt less prepared to enter the labor market than they would hope to be (ReferNet Croatia, 2021).

The number of instructional hours in Croatian schools is the lowest in Europe, which is a major barrier to skills development. Croatia has just 13.3 mandatory hours of instruction per week in grades 1 to 4 and 18.7 hours per week in grades 5 to 8 (Figure 53). Croatia’s eight-year basic education system prescribes 525 instruction hours per annum in reading, writing, and literature. However, this is substantially below the 949 hours specified by EU school standards on average. Similarly, in mathematics, the number of instruction hours in Croatia amounts to only 420, much lower than the European average of 628 hours. Not only is this underusing teachers’ human capital but it is also depriving current and future generations of children of better educational opportunities. Increased instructional time and support can be particularly effective for students from disadvantaged backgrounds, vulnerable groups, and students with developmental disabilities.

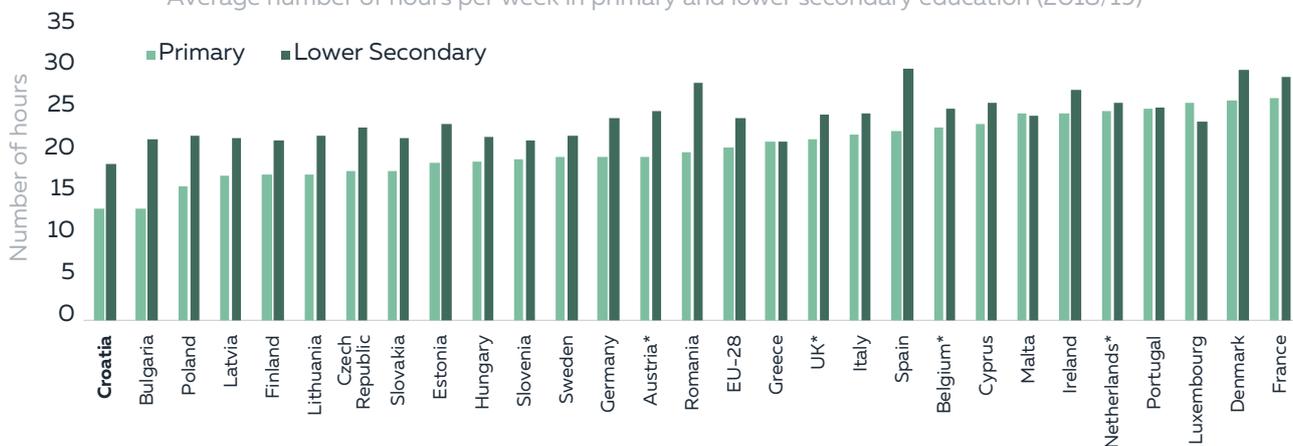
With the support of the World Bank, Croatia is currently introducing the “Whole Day School” (WDS) model to increase instruction time and support working parents. This fundamental reform, which has started as a pilot supported by the World Bank in 2023 with the expectation of a national roll-out in 2028, will introduce the Whole Day School model for all children in grades 1 to 8. The reform will significantly increase instruction time by extending the school day, thus allowing teachers to implement teaching methods emphasized in the new curriculum that is being introduced in a parallel reform. Among the many benefits of WDS, it is also expected to increase equity in the system as the benefits of increasing instructional time are often greatest for students from disadvantaged backgrounds. Significant infrastructure investment is part of this comprehensive reform and is complementary for implementing WDS.

Once implemented, the WDS model could result in more equal and better opportunities for students and more efficient use of resources. However, for this reform to succeed, other measures will be needed such as: (i) optimization of the school network; (ii) producing more and better data on what students know and can do at critical stages of the basic education cycle and using these data to make improvements to the system; (iii) strengthening of education system’s accountability to increase equity and reduce inefficiencies; (iv) refurbishing schools to provide more supportive learning environments for students and teachers; and (v) providing more support for teachers.

The Government of Croatia has also launched an ambitious curriculum reform with the aim of making the education system more relevant and skills-oriented. The new curriculum represents the most

Figure 53: Croatian students spend the fewest hours in school in the EU.

Average number of hours per week in primary and lower secondary education (2018/19)



Source: European Commission/EACEA/Eurydice, 2019.

ambitious reform of the Croatian school system in the past decades. It aims to: (i) develop students' basic competencies for lifelong learning; (ii) define learning outcomes that include, other than knowledge, the development of skills, attitudes, innovation, creativity, critical thinking, entrepreneurship, and problem-solving skills; (iii) stimulate and develop the autonomy of education workers; and (iv) define criteria for the development and achievement of educational outcomes. In addition, there is renewed focus on increasing student satisfaction and teacher motivation.

The government has also made significant investments in digital tools for increasing efficiency and improving learning outcomes in schools. These investments have mainly been financed with EU funds. For instance, the e-Schools project invested EUR 41.4 million in 151 pilot schools in its first phase, which was spent on equipping classrooms and teachers with digital infrastructure, developing teaching and administration applications, providing teachers with digital training, and creating digital learning materials.

Adolescence and Youth: Challenges and Opportunities for Vocational Education and Training

The share of students enrolled in Croatia's VET programs is the highest among PISA participating countries (OECD, 2018). Vocational education and training (VET) in Croatia is critical for preparing students for employment and for closing the country's skills gap. The Croatian VET system enrolls approximately 70 percent of secondary school students. It offers programs at various levels, including secondary and tertiary education, vocational education, adult education, and training for reskilling to meet private sector needs. TVET (technical and vocational education and training) is provided in the upper secondary and post-secondary levels, with students having to complete compulsory education at the age of 14 or 15 to be accepted. Roughly two-thirds of VET students are in four-year school-based programs, with fewer than one-third in three-year programs (Matković and Šabić, 2022). Only one program, an upper secondary program for nurses, lasts five years and leads to a general nursing qualification.

There is still a discrepancy between the education profiles of VET graduates and their skills. VET programs still focus too much on theoretical knowledge and not enough on practical skills training

(CEDEFOP, 2020). Only three-year dual programs and craft "unified" programs are run as apprenticeship schemes in which about half of schooling happens in the workplace, but these programs are a minority. Sixty percent of four-year VET students enroll in a university or in vocational studies immediately upon completing their studies, most of whom continue in the same field that they studied in high school (CEDEFOP, 2020a). For example, according to a 2016 study by CEDEFOP (the European Center for the Development of Vocational Training), Croatia has a shortage of staff in occupations such as ICT, mechanical engineering, medicine, nursing, and teaching because students rarely choose to enter these education fields. One way to make the education system more relevant is to enhance its partnership with industry and employers to ensure that the skills taught in the classroom align with the needs of the labor market. This would help to ensure that graduates of VET programs are well-prepared to meet the demands of employers and contribute to the growth of the Croatian economy.

Improving the quality of VET in Croatia is critical for transforming the lifetime potential of students from disadvantaged backgrounds. While wealthier students attend general education schools (gymnasiums), students from vulnerable families are significantly more likely to continue their education in vocational schools. However, according to PISA 2015's economic, social, and cultural status (ESCS) index, more than 87 percent of Croatian students from the lowest socioeconomic quintile were enrolled in VET programs (53 percent in four-year VET programs and 35 percent in three-year VET programs), while only 13 percent attended general upper-secondary education (World Bank, 2019d).

Croatia's VET students perform worse than general education students on the PISA tests for 15-year-olds. The scores of three-year VET students being even worse than those of four-year VET students. This raises the possibility that the whole VET edu-

Table 13: Averages for age 15 years PISA results: General and Vocational in Croatia

	PISA 2018 General	PISA 2018 Vocational
Reading	479	448
Mathematics	464	436
Science	472	443
	PISA 2015	PISA 2015
Collaborative Problem Solving*	473	448

Source: PISA 2018 database, * PISA 2015.

education system might be holding back the performance of the overall education system (see Table 13). In addition, VET students generally have lower scores in reading, mathematics, science, and collaborative problem-solving than the average score for Croatian students.

Many VET graduates limit their job search to the specific occupations in which they have experience or training instead of exploring alternative job opportunities that could benefit from their skill-set.⁵⁰ According to research conducted on Croatian students (Rafajac, 2019), a large number of young individuals require the assistance of professional skills-matching services to expand their range of potential job opportunities. The most important factors that motivate young people in Croatia to choose a specific career are interest in that profession, the opportunity to have fun, their personal talent, and an opportunity to meet new people. These factors may not be easily identifiable in a typical vacancy advertisement. As a result, 41.7 percent of graduates estimate that they will have a low to medium chance to find jobs in their chosen occupations (Rafajac, 2019). International assessments also suggest that specific occupations need a higher supply of new specialists in select fields. Even though there are great opportunities for engineers or science professionals in the labor market, PISA 2018 reveals that only 20 percent of high-performing male students in Croatia plan on following those careers, while only 16 percent of high-performing female students have the same expectation. Similarly, only about one in three high-performing girls intends to work in health-related professions, while only one in eight high-performing boys expects to do so. Also, only 11 percent of boys and only 1 percent of girls in Croatia expect to work in ICT-related professions (OECD, 2018d). Given the shortage of workers in these occupations, the government might consider measures such as career counselling to promote students' interest in these subjects.

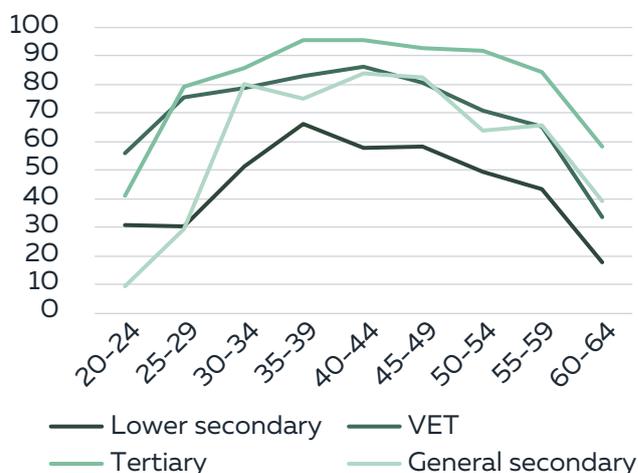
The TVET system produces large number of graduates, but the employment rate of these graduates remains low within Croatia. The Croatian Employment Service (CES) has reported that during the period from 2010 to 2015, a high percentage of unemployed Croatians completed TVET programs. Nearly 60 percent of those registered as unemployed had a TVET degree. Yet recent data show that the employment rate of VET graduates is below the EU average, only 69.9 percent compared to the EU average of 76.4 percent (Education and Training Monitor, 2022). The situation is even more challenging for graduates with lower skill levels. In 2021, only 42.1 percent of low-skilled workers

were employed, which is significantly lower than the employment rates of medium-skilled (67.1 percent) and high-skilled workers (84.1 percent). This suggests the existence of skill mismatches, which points to a need for better coordination between industry and VET sector in balancing the supply and demand for the workforce.

Another reason for the low employment of VET graduates in Croatia might be the limited amount of work-based learning in the VET curricula. International studies suggest that the divergence of trends between overall employment and VET graduates is smaller in countries where learning in VET systems is mostly workplace-based (World Bank, 2023). However, the trend difference appears larger in countries where the average VET student has a low share of work-based learning (WBL). In Croatia, the amount of WBL varies between different types of VET programs. For example, the WBL share is around 10 percent in four-year school-based VET programs. In comparison, in three-year VET programs, the share of WBL ranges from around 5 percent in those with a school-based modality to 60 percent in apprenticeships (CEDEFOP, 2020). In general, VET graduates have an advantage over general education graduates in securing employment at the beginning of their professional lives, but this advantage disappears quickly (see Figure 54).

Survey findings from the EU indicate that traineeships or internships are an important way for young people to transition into employment, which suggests that Croatian policymakers should be more proactive in helping young people to acquire skills in this way. According to a recent EU-wide survey on traineeships and internships among the 18 to 35 age group, 44 percent of Croatians who had never been a

Figure 54: Croatia age profile employment rate, 2021



Source: Author's compilation based on Eurostat, LFSA_ ERGAED, 2021.

⁵⁰https://blogs.worldbank.org/impac evaluations/are-jobseekers-looking-too-narrowly-jobs?CID=WBW_AL_BlogNotification_EN_EXT

trainee attributed their lack of traineeship to a shortage of suitable opportunities and their lack of awareness of such opportunities. This was higher than the EU average of 38 percent. Among those who had been trainees, 39 percent reported that the experience had lasted less than three months. Despite this, about 82 percent stated that the traineeship had taught them skills that were useful professionally. Moreover, Croatia had the highest share (78 percent) of paid traineeships of all EU member states. In the case of most paid traineeships (71 percent), trainees had access to social protection. These results suggest that the lack of adequate training opportunities stems from employers' unwillingness to bear the costs of training. A clear implication is that the government could facilitate skill acquisition among Croatian young people and attenuate the skill mismatches in the labor market by subsidizing the costs of training – either by paying the trainees directly or compensating the employers for their costs.

The Ministry of Science and Education has initiated reforms dealing with curricula, skills mismatches, the quality of work-based learning and apprenticeships, and the public image of TVET. Its current priorities for TVET development focus on increasing its labor market relevance, quality, appeal, and internationalization. As the flagship initiative of the ministry, the TVET curriculum is being comprehensively redesigned in line with labor market needs to focus on learning outcomes, WBL, and quality of teaching. The new TVET curriculum has been implemented nationwide since 2023.

To strengthen TVET education, the Croatian government has adopted a dual technical and vocational training model, making it one of its key priorities in education reform. The model aims (i) to improve the quality and increase the relevance of vocational education and training; (ii) to promote the quality, appeal, and inclusiveness of vocational education and training; and (iii) to increase the internationalization of vocational education and training by encouraging the international mobility of students and teachers. As a result, four dual education international VET experimental programs were adopted by 14 schools in 2020/2021 after they had been evaluated and revised (Education and Training Monitor, 2022).

Delaying the entry of students into vocational programs can lead to improved learning outcomes in basic skills in math, reading, and science, which are increasingly sought after by the labor market. In Croatia, students enter vocational programs at the age of 14 or 15, which is younger than in many other EU and developed countries. Given the poor per-

formance of students in the VET system in Croatia and the relatively low number of instructional hours in general education, extending the general curriculum to cover students of older ages could yield positive results. For example, providing more hours of math instruction has been shown to be an essential factor in improving PISA scores in other countries.

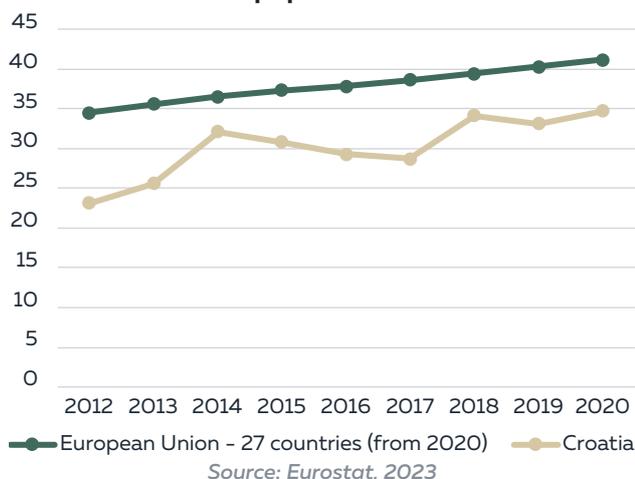
In 2022, Croatia adopted amendments to the VET Act (ZID ZSO, 2022) to regulate work-based learning. These amendments regulate cooperation between technical and vocational schools and employers. Additionally, in 2022, the European Social Fund (ESF) and the European Social Fund Plus (ESF+) provided funding for new vocational curricula based on occupational and qualification standards set out in the Croatian Qualifications Framework (CROQF) to make the skills acquired in TVET schools more aligned with the labor market needs. In addition, VET teacher training is being reinforced with regional centers of competencies created in Croatia that focus on infrastructural investments, program development, and the strengthening of human resources.

Higher Education: The Problem of Skill Mismatches Continues

The higher education sector is struggling with significant challenges, including a misalignment with the needs of the labor market and relatively poor outcomes in terms of human capital use. The first problem relates to the mismatch between the labor market needs and which fields of study are chosen by students in higher education. The second issue is related to the low higher educational attainment of Croatian students. For example, in 2021, higher education attainment in Croatia was 35.7 percent, below the EU average of 41.2 percent and below the EU-level target of a 45 percent share of 25 to 34-year-olds having a tertiary education (Education and Training Monitor 2022). Finally, the employment rate of tertiary graduates was 80.9 percent in 2021, which is the lowest rate in the EU (the EU average is 84.9 percent). Also, there is a difference between the genders in terms of their employment rates after the graduation.⁵¹ According to the Education and Training Monitor (2022), although Croatian women tend to achieve higher grades than Croatian men in tertiary education (4.06 versus 3.83), they face greater challenges in securing employment (58.8 percent find jobs compared with 62.5 percent of men). Moreover, they earn less income and report lower levels of job satisfaction. It is important to narrow the gender gap and encourage young people to make smarter choices regarding their education to improve the country's use of human capital.

⁵¹ See Chapter 2 for a detailed analysis of gender gaps in employment.

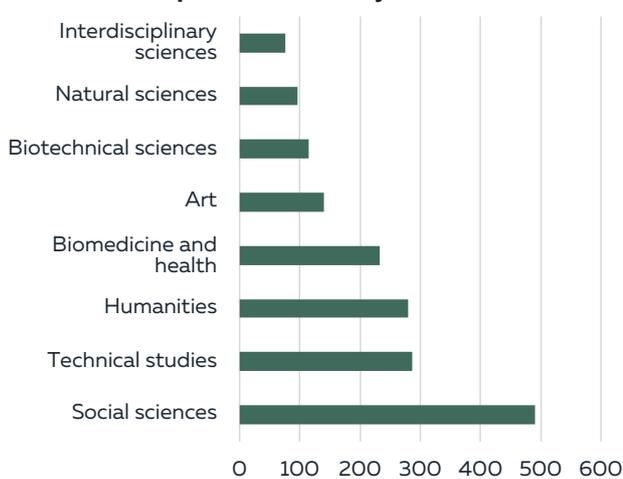
Figure 55: Educational attainment in tertiary education among people aged 30-34, % of the population



While the share of STEM graduates is growing, other tertiary-level skills in Croatia are in surplus.

On the one hand, Croatia has a relatively high and increasing share of STEM graduates – 28.5 percent versus an EU average of 24.9 percent in 2020, which was up by 4.6 percentage points from 2015. The share of ICT graduates in Croatia is also above the EU average – 4.7 percent versus EU 3.9 percent in 2020 (Education and Training Monitor, 2022). Interestingly, women are more likely than men to choose to study STEM subjects, with 18.1 percent (versus the EU average of 14.1 percent) of all female graduates having STEM degrees. Women comprised 38.6 percent of all STEM graduates in 2022 compared with the EU average of 32.5 percent (Eurostat, 2020). The share of female STEM graduates has increased by 2.6 percentage points since 2015 to 11 percent (versus the EU average of 8.1 percent), representing the highest increase in the EU, and making Croatia one of the best perform-

Figure 56: Number of tertiary programs in Croatia per field of study, 2022



ers in 2020 in this respect (Education and Training Monitor, 2022). However, there is a surplus of graduates in certain fields like political scientists, journalists, and philosophers in relation to demand for their skills, meaning that employment opportunities for graduates in these fields are scarce (CEDEFOP, 2016). Most unemployed respondents in 2021 graduated from biotechnical sciences (24 percent) or humanities (24 percent) (Education and Training Monitor, 2022). Graduates in humanities and interdisciplinary studies are most likely to get the lowest wage offers, unlike technology graduates, who tend to receive the highest incomes. According to the EU's 2018 Eurograduate survey, Croatia has the lowest employment rate for university graduates among all European Union countries. One year after graduating, 9 percent of bachelor's degree holders and 18 percent of master's degree holders are still seeking employment, while five years after graduating, 7 percent of bachelor's degree holders and 10 percent of master's degree holders are still unemployed. Moreover, the job search period after graduation tends to be very lengthy (Rimac, 2020). Policymakers need to devise a systemic labor market information mechanism that would allow students to make their decisions about which fields of higher education to follow in full awareness of what skills are in highest demand in the labor market. This is particularly needed as Figure 56 shows that the composition of higher education has a strong bias towards the social sciences.

Croatian higher education graduates are concerned about their employability, skills acquisition, and successful transition from university to work.

For example, the results of the 2021 Croatian national graduates' survey suggested that, even one year after graduating, graduates in all subjects needed more critical thinking skills. Furthermore, graduates in the biomedical and health sciences had the largest deficits in practical knowledge and its application, adaptability, entrepreneurial spirit, and leadership (Pažur Aničić et al., 2022). Therefore, it is important to strengthen the quality assurance of higher education programs and make them more relevant to the needs of the labor market.

The government has undertaken several initiatives to remedy this situation, including:

Significant improvements to the higher education funding model that make financing conditional on performance. These changes include provisions to internationalize higher education, harmonize the content of study programs with the needs of the labor market, and reduce administrative barriers to hiring and advancing teachers. In addition, the Act on Quality Assur-

ance in Higher Education and Science has introduced procedures for the accreditation of educational programs. These procedures involve the Croatian Employment Service reviewing the relevance of each new study program to assess its alignment with labor market needs and with the standards set by the Croatian Registry of Qualifications.⁵²

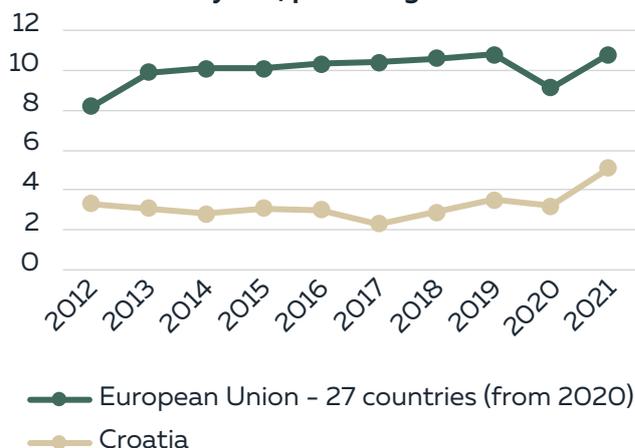
The digital transformation of higher education (the e-University project) developed under the National Recovery and Resilience Plan (NRRP). This initiative will equip public higher education institutions with the capacity to enhance the digital competencies of higher education staff. The goal is to strengthen the capacity of Croatian higher education institutions, which will enable them to launch higher-quality study programs with a strong digital component and support teachers and students in online teaching and distance learning.

The introduction of tuition fee subsidies for students from lower socioeconomic groups, which has already yielded positive effects. Recent Eurostudent data have shown that current students have higher educational attainment than their parents. The data show an increase in the share of students whose parents did not complete higher education from 50 percent in 2010 to 58 percent in 2016 (Education and Training Monitor, 2019).

Adult Training: Skills Development Throughout a Working Life

Those individuals who are most likely to benefit from training are the least likely to participate according to OECD and EU data. These groups include the lower-skilled, older adults, displaced workers, those whose jobs are most at risk of automation, and non-standard workers such as part-time and on-call workers. On average, in the OECD, participation by low-skilled adults is 40 percent below that of highly skilled adults, while older adults are 25 percent less likely to train than 25- to 34-year-olds and workers with jobs at high risk of automation are 30 percent less likely to engage in adult learning than their peers who are less exposed to automation (OECD, 2021). Moreover, Eurostat data reveal that it is mostly individuals with higher levels of education who attend adult training.⁵³ Among highly educated individuals, 7.5 percent had participated in adult education within the previous four weeks. Unfortunately, those who participate the least are

Figure 57: Participation rate in education and training (last four weeks), people from 25 to 64 years, percentage



Source: Eurostat, 2021.

those who lack a primary education, and therefore would benefit from it the most. The Eurostat data show that only 0.5 percent of this group had participated in adult education. For most individuals, proficiency in certain skills decreases with age so they may need additional training to keep up with the latest technology, particularly in problem-solving, as was highlighted in a 2018 OECD report (OECD, 2018c).

Croatia has one of the lowest participation rates in adult learning in the EU, especially by individuals who are low-skilled, older, living in rural areas, or have been unemployed for a long period. According to Eurostat data, the share of adults aged 25 to 64 who participated in an adult education program in the previous four weeks had increased from 3.3 percent in 2012 to 5.1 percent in 2021. However, it remained significantly lower than the EU average throughout the decade (see Figure 57). The groups who rarely participate in training include people over 55, the unemployed and inactive, people with only basic education, and those employed in low-skilled occupations. At the same time, participation is significantly higher among the urban population, the young, the highly educated, and the employed, especially managers, and production workers (Matković and Jaklin, 2021). The Croatians who participate the most in lifelong learning are those in managerial positions with successful careers. Sixty-two percent in this group participated in some form of learning the previous year compared with only 20 percent of manual workers. The low levels of participation by the unemployed and low-skilled are particularly concerning given that they have the most to gain from re-skilling and up-skilling (employment rates for low-qualified workers are significantly below the EU average) and given the need for

⁵² <https://eurydice.eacea.ec.europa.eu/news/croatia-new-act-quality-assurance-higher-education-and-science>

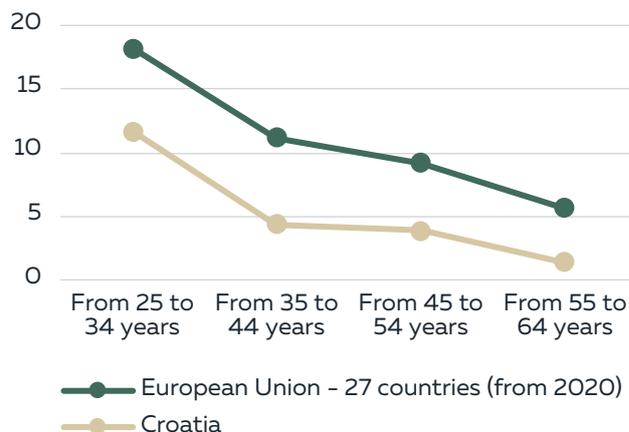
⁵³ <https://eurydice.eacea.ec.europa.eu/national-education-systems/croatia/adult-education-and-training>

increased productivity at the national level because of demographic changes.

While younger people participate in training more often than older workers, their share is still well below the EU average. In 2021, a mere 11.7 percent of 25 to 34-year-olds had received some training during the previous four weeks (including in formal education) as opposed to an EU average of 18.2 percent. Only 1.4 percent of people aged 55 to 64 have received training in Croatia, which is lower than the average of 5.7 percent for the same age group across the EU (see Figure 58).

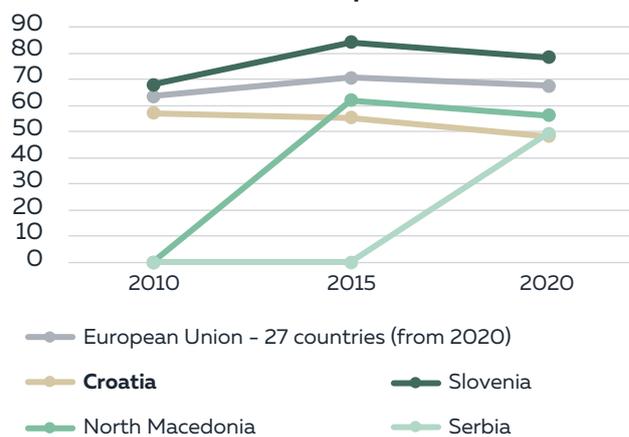
The high cost of training is one of the biggest obstacles to participating in adult education. A survey conducted in 2017 by the Agency for Vocational Education and Training and Adult Education found that 30 percent of respondents gave the price of training as the reason why they were not participating in adult education.⁵⁴ While many adult educational programs are funded by employers and/or the state and local governments, only a small share of companies offers continuing vocational training (CVT). CVT is education and training that takes place during paid working hours or is partially paid for by employers if training is conducted outside of working hours. In 2020, 48.2 percent of Croatian firms provided their employees with CVT, compared to an EU-wide average of 67.4 percent. Croatia's share was lower than the share in most of its peer countries and had declined since 2010. The size of the enterprise is an important factor in whether or not it provides training. Data from the 2020 Continuous Vocational Education Survey show that 84.6 percent of large enterprises in Croatia provided some form of education for their employees, whereas only 43.2 percent of small enterprises did the same.

Figure 58: Participation rate in education and training (previous four weeks) in 2021 by age, percentage



Source: Eurostat, 2021.

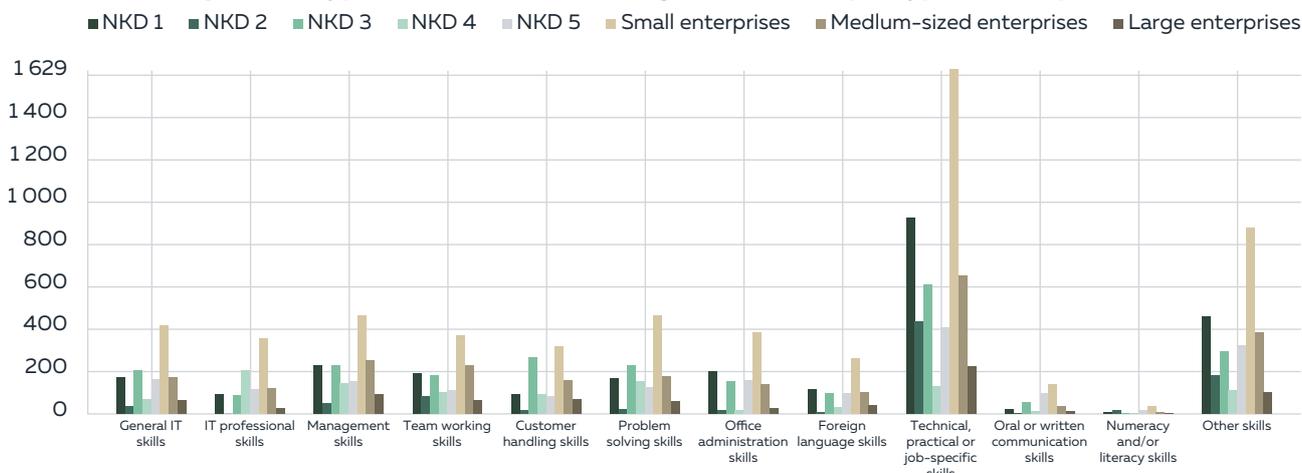
Figure 59: Enterprises providing CVT training - % of all enterprises



Source: Eurostat, 2023.

Note: Data on Serbia is available only for 2020, and data on North Macedonia only for 2015-2020.

Figure 60: Types of skills studies through CVT course, per type of enterprises



Source: Croatian Bureau of Statistics 2020. URL: <https://podaci.dzs.hr/2023/en/60850>

Note: NKD is a classification of all economic activities of the Republic of Croatia. It was designed at the end of 1994 on the basis of statistical classification of economic activities of European Union – NACE.

⁵⁴<https://eurydice.eacea.ec.europa.eu/national-education-systems/croatia/adult-education-and-training>

Most of the vocational training (74.7 percent) was conducted for staff in information and communication or financial and insurance positions.

Men are more likely than women to join CVT courses, especially in small enterprises. On average, 24.2 percent of employees of Croatia’s businesses participated in CVT courses in 2020. The most significant difference between the sexes occurred among those employed by small enterprises. The share of men was 55 percent, while that of women was 45 percent. Men and women working in large enterprises participated in CVT to an almost equal extent (Croatian Bureau of Statistics, 2020).

Challenges related to the quality of and access to adult education still need to be addressed. Since there is still no monitoring of the outcomes of adult learning programs, their effectiveness and impact on the employability of their students remains unknown. In 2021 the Croatian Parliament adopted a new Adult Education Act (ZOO, 2021) aimed at improving the quality of the programs offered and recognizing knowledge and skills that were acquired outside the education system. A quality assurance system for adult education is also being developed in Croatia based on the OECD’s Program for the International Assessment of Adult Competencies (PIAAC) along with quality assurance models and self-evaluations and external evaluations of adult education institutions. The new quality assurance system will ensure that Croatia’s adult education institutions will meet the standards set by the CROQF for matching the skills developed by the workforce with the needs of the labor market. Additionally, in 2021, the government organized multiple events to promote lifelong learning to various groups of stakeholders. Croatia has also set an ambitious target of doubling the rate of adults in training from 26.9 percent by 2030 (Education and Training Monitor, 2022).

The government introduced learning vouchers in 2022, with an emphasis on green and digital skills development in ALMPs. These vouchers can be used by both employed and unemployed people for reskilling and upskilling programs and are aimed at reducing the considerable skills gaps in the Croatian labor market. The program’s goal is for 30,000 people to benefit from the scheme over four years. Additionally, the program aims to target vulnerable groups in the labor market. Its effectiveness will be externally assessed after a certain implementation period. Based on those results, the government plans to broaden the offer of vouchers and introduce the building blocks needed to implement Individual Learning Accounts using funds from the

ESF+ program. Furthermore, foreign workers could fill certain labor vacancies and skills shortages, which will require the introduction of efficient procedures for recognizing foreign qualifications.

Policy Implications

It would be beneficial to increase investments and develop targeted interventions to support the development of foundational and high-order skills among children and youth from disadvantaged groups. The annual results of the national Matura exam show large inequalities within the country at the upper secondary education level. The high share of low-performing students from lower socioeconomic backgrounds suggests that they enter VET systems with a lack of foundational and higher-order skills, which reduces their ability to learn and apply new knowledge, take informed decisions about their next educational and professional pathways, conduct relevant job searches, and interact with prospective employers. Specific measures to counter this might include programs specifically aimed at teaching foundational, cognitive, socio-emotional, technical, and life skills, tutoring, special support services like providing books and learning materials, subsidies for transportation and health care, and career counseling.

It is recommended to incorporate modern pedagogical practices that support students’ learning and skills development (such as group work, team teaching, or co-teaching) into teachers’ daily practice. Teaching styles represent an important component of schooling that greatly affects learning outcomes and the development of specific skills. For example, arranging students into small groups for discussions and joint work could stimulate communicative and problem-solving skills, while putting a team of teachers together to work with a large group of students could enhance critical thinking and collaboration, as well as serving as a continuous learning activity for the teachers themselves. However, in order to introduce these methods successfully, it will be necessary to upgrade the teacher training curriculum. The use of modern teaching practices would be enhanced by expanding the availability and use of technology in learning and by improving the quality of the furniture used in classrooms. International studies have shown that technology and comfortable furniture both play a significant role in enabling modern teaching practices such as group work and team teaching and enhance both students’ performance and their well-being. To enhance teachers’ ICT and digital skills, creating and implementing specialized modules in teacher train-

ing courses is recommended. According to the 2018 TALIS, only 45 percent of teachers in upper secondary education use ICT for teaching, and a mere 38 percent feel adequately prepared to teach using digital aids. To eliminate this gap, existing teacher training programs should be upgraded to equip teachers with the skills needed to use technology in teaching as well as to provide them with ongoing support in their daily work.

Continue investments and specific policy interventions to reduce teacher shortages at different levels of the education system. Possible measures to achieve this might include raising teacher's salaries, offering help with transportation, accommodation, and relocation to those willing to fill vacancies in remote/lagging regions, promoting employment opportunities for young graduates of teacher training programs, upgrading of teacher preparation and training programs, providing continuous learning opportunities to teachers, and creating regional or local partnerships with local authorities, the private sector, and school communities to regularly monitor and understand the local needs of the teachers and provide them with the required support.

Creating a Graduate Tracking System (GTS) would bring many benefits. This system would provide valuable data on the employment outcomes of graduates, guide students in choosing fields of study that align with labor market demand, help colleges and universities to redefine their course offerings, and offer yield insights into salary levels of graduates by sector and discipline.

Enhance the career guidance given to students before they enroll in higher education degrees and after they graduate from VET and tertiary education. To identify ways to improve career guidance services, the government might consider mapping and assessing the impact of existing career guidance practices and initiatives in VET and higher education institutions and developing a set of recommendations and policy measures based on the findings.

Increase the quantity and improve the quality of work-based learning, such as apprenticeships and internships. This would enhance the learning opportunities available to VET students and ensure their smooth transition into the labor market. In addition, WBL requires stronger cooperation between education institutions and employers and the creation of conditions that will give employers and young employees an equal incentive to provide or participate in WBL. The government could increase the scope of apprenticeships, provide financial incen-

tives to encourage take-up, and raise awareness about apprenticeships, informing firms about the advantages and benefits to them as well as informing workers about the high future return to these kinds of WBL.

Increase the motivation of older and low-skilled adults to remain in the labor market and reduce barriers to learning and reskilling. This could be done by conducting studies to identify and minimize barriers to the participation of older or low-skilled workers in adult learning. One way for the government to encourage employers to offer more training opportunities to their employees is by providing financial support for small and medium-sized enterprises (SMEs) and offering tax incentives.

Chapter 4: Migration and Human Capital

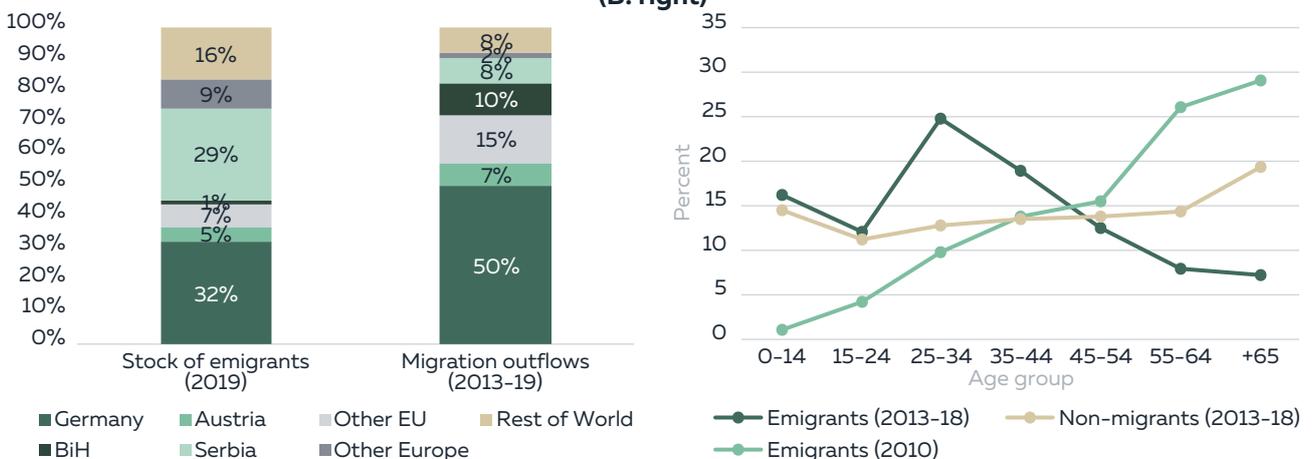
Introduction

Migration has the potential to create an upward economic spiral in Croatia by amplifying positive trends in the human capital environment and in economic opportunity. One of the channels of this positive feedback loop involves both the sending and receiving countries exchanging knowledge and skills via “brain circulation” (Boeri et al, 2012 and Mayr and Peri, 2008). Another key channel is the labor reallocation effect from low-productivity to high-productivity countries and sectors (Clemens et al, 2008 and Clemens, 2011). These benefits become available when labor markets are flexible and when education can expand in response to higher returns to education, allowing the upward occupational mobility of native workers (Bossavie et al, 2022). However, when labor markets are rigid, migration might not result in benefits such as reduced unemployment and greater economic efficiency (D’Amuri and Peri, 2014). This can force a negative growth feedback loop, as it stimulates even more emigration, and these emigrants are less likely to return and invest in their country of origin. In other words, the structural drivers that increase economic growth, such as flexible labor markets and human capital investments, also produce desirable effects with regard to migration flows and outcomes. How-

ever, to maximize these benefits, the host country needs to have policies in place for managing the skills of the migrant workforce. In sum, this means that strengthening Croatia’s human capital and labor market while also implementing sound migration policies could yield cumulative and sustained economic benefits.

According to UN DESA, Croatia has one of the highest shares of emigrants in the EU, as 23 percent of the Croatian-born population lives abroad. Emigration from Croatia has been a common phenomenon since the 1990s as 820,000 Croatian-born citizens out of a total of 4.2 million were living abroad by 2000, many of whom were fleeing the conflict. Since then, a dearth of economic opportunities drove more Croatians to emigrate to Western European countries. This process got a further boost when Croatia joined the EU in 2013, as 230,000 Croatian emigrants took advantage of the free mobility in the following four years (Draženić et al, 2018). Around 86 percent of Croatian emigrants settled in Europe. Over the last decade, attracted by the freedom of movement within the EU and higher wages, migration outflows (Figure 61A) have been concentrated in the EU (72 percent and 50 percent in Germany

Figure 61: Destination countries for Croatian migrants (A: left) and Emigration by age group and by time (B: right)



Source: Emigration (database), Eurostat, European Commission, reference years 2013/18 [migr_emi4ctb]; Demographic profile of emigrants in 2010: DIOC (Database on Immigrants in OECD and Non-OECD Countries), reference years 2010/11, OECD; Demographic profile of nonmigrants: Population (database), Eurostat, European Commission, reference years 2013/18; Stock of emigrants (2019): International Migration (database), Population Division, Department of Economic and Social Affairs, United Nations; Emigration flows 2013-19: Immigrant and emigrant population to/from Croatia, Croatian Bureau of Statistics.

alone). While before Croatia's EU accession, Croatian emigrants tended to be older, with over half being aged 55 or older, those migrating during the last decade were more likely to be of prime age (25 to 44) and more motivated by income disparities and the ability to move for work freely (Figure 61B). The Baltic countries have demonstrated that reducing income gaps can decrease emigration rates and even result in a net influx of people. Other than economic reasons, emigration has been stimulated by other factors, such as the high occurrence of corruption and the challenging job market in Croatia (Jurić, 2017 and Draženović et al, 2018).

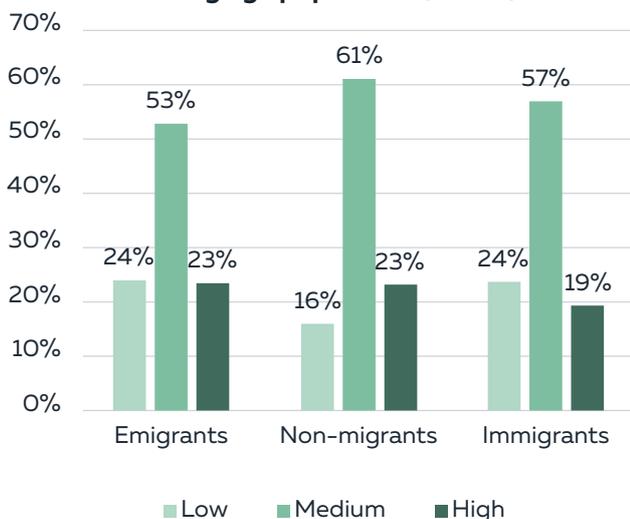
Migration Effects in Croatia

Migration has costs and benefits for Croatian human capital. The costs and benefits vary in the short and long terms due to the changing composition of migration and return flows and the indirect effects of migration on households' human capital investment decisions. Typically, in the short term, emigration reduces the stock of human capital as educated individuals leave the country. The intensity of this "brain drain" depends on what skills are held by the emigrating population. According to OECD-DIOC data, while Croatian emigrants have similar education levels to those who remained in the country (Figure 62), not enough recent data are available to allow for a more up-to-date analysis of emigrants' skill profiles. However, some studies have shown that, after Croatia's EU accession, emigrants have tended to have slightly lower education levels, with a larger increase in outflows of less educated workers (Župarić-Ilić, 2016).

In the short term, these outflows of migrants represent a loss of about 18 percent of the tertiary-educated population. Since these emigrants are of working age, the loss of human capital directly reduces the availability of skills in the Croatian labor market. This is partially compensated for by the arrival of immigrants from other countries, although there are fewer of them than Croatian emigrants (half a million versus 1 million), and they are slightly less educated.

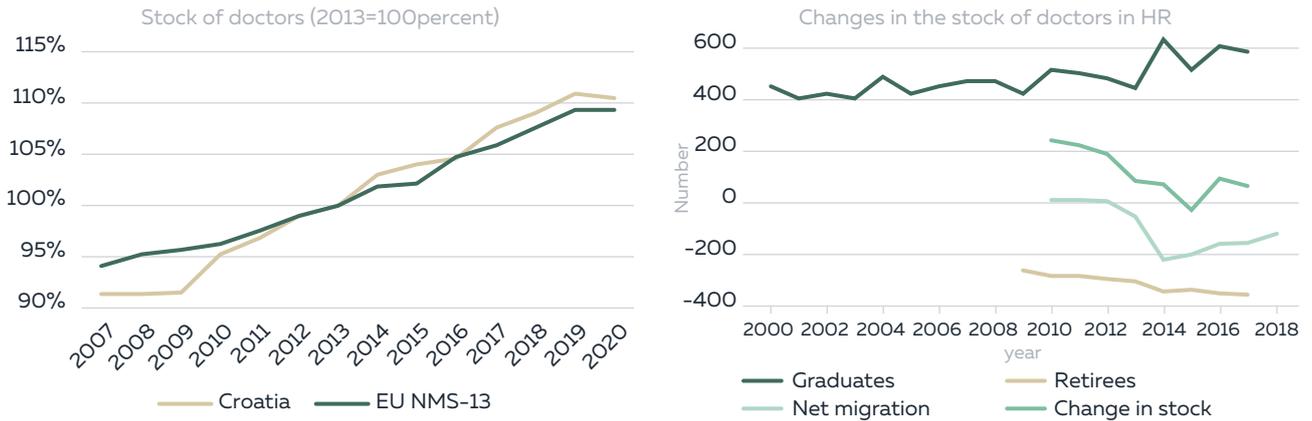
Migration is expected to have a positive effect on Croatian human capital in the long run as it incentivizes workers to invest in high-demand skills. Take the case of the emigration of qualified professionals, such as health workers, which is a major concern in Croatia (Gruber et al, 2020). Since Croatia joined the EU in 2013, about 0.8 percent of its doctors have emigrated each year, which is lower than the average rate of 1.1 percent for all EU's new member states (NMS) during the same period. Despite this continuous outflow, the number of doctors in Croatia has steadily increased, surpassing the average rate for the NMS. This growth can be attributed to the rise in medical graduates, who were encouraged to go to medical school by the prospect of the high wages paid overseas (Figure 63). These higher wages paid for specific occupations overseas in raise the returns to education in those fields. This, in turn, has increased the number of Croatians investing in their own skills, thus helping significantly to offset the impact of emigration in specific sectors. This phenomenon is quite widespread; there is no correlation across all of the NMS between migration outflows and changes in the number of doctors as a higher number of graduates compensates for the skills lost to emigration. However, this requires that countries scale up the supply of their education services. Romania has successfully met the growing demand for medical education, which has not been the case in other countries where inflexible training systems may have impeded growth in education services. However, despite the replacement effect, the emigration of highly skilled workers has a cost to their country of origin, which loses the investment it made in their expensive education and ends up subsidizing the richer migrant-receiving countries (Glinos, 2015). Furthermore, more medical professionals are becoming available at the national level in Croatia, there is evidence of understaffing in some primary care practices in rural areas (World Bank, 2020a). While working in certain occupations abroad may provide higher returns for emigrants, this tends to reduce the availability of skilled workers in their home country. As a result, students may choose to specialize in high-return fields, which may not be beneficial overall for the country. For exam-

Figure 62: Education and migration status among working age population (25-64)



Source: DIOC (Database on Immigrants in OECD and Non-OECD Countries), reference years 2015, OECD.

Figure 63: Trend in the stock of doctors in Croatia



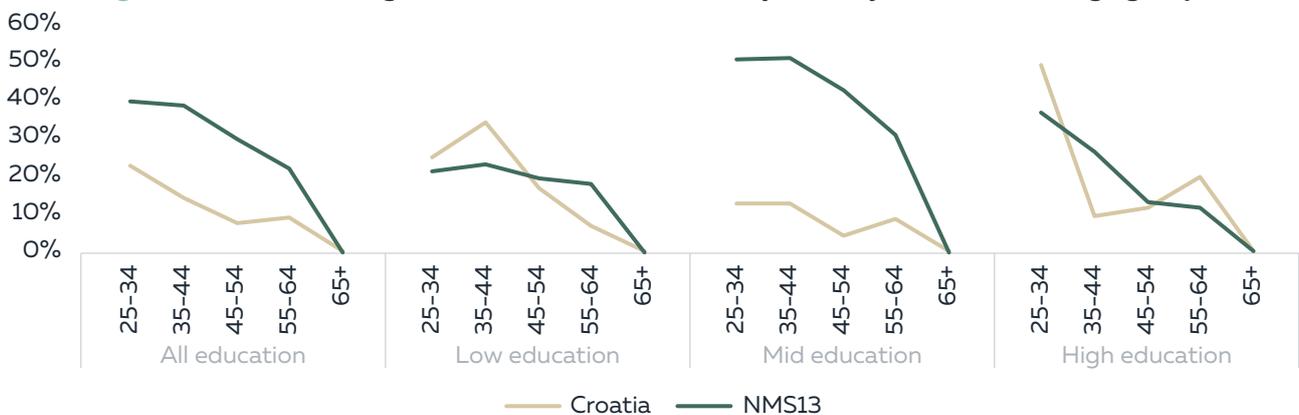
Source: Eurostat and Regulated Professions Database, European Commission.

ple, a study conducted in the Philippines found that the sudden emigration of nurses resulted in a rise in student enrollment in nursing. However, this increase was due to existing students changing their choice of degree, which led to a rise in the number of college graduates overall but a decline in some fields (Abarcar and Theoharides, 2021).

Large flows of remittances can positively affect human capital. Croatia has the largest share of remittance inflows of all EU countries. Over the last decade, the value of remittances received by Croatian households has doubled and now represents 7 percent of GDP. Remittances are one way in which education is financed. Experience from other countries tends to suggest that the receipt of remittances has a positive effect on household educational attainment (Amuedo-Dorantes and Pozo 2010; Bansak and Chezum, 2009; Dustmann and Glitz, 2011; and Yang, 2008). However, emigration can also negatively affect school attendance and attainment given the family disruptions resulting from the absence of one or both parents (McKenzie and Rapoport, 2011).

However, several factors limit the potential gains to Croatia from migration. First, the return migration rate is exceptionally low in Croatia. When migrants return to their home country, they bring new working knowledge and practices with them that enrich the country’s stock of human capital (Bahar and Rapoport 2018) and increase the value of foreign direct investment (Kugler and Rapoport, 2007) and trade (Orefice et al, 2022 and Peri and Requena-Silvente, 2010). These advantages translate into the availability of more and better employment opportunities in the country. However, only about 8 percent of all emigrants from Croatia in 2010 had returned home by 2014, a ratio significantly lower than the rate of 27 percent for other EU new member states. The disinclination to return among Croatian migrants may be partly due to their profile, as they tend to be older on average and more likely to have spent many years abroad and thus been deeply integrated into their host countries. This is likely to be especially true of older emigrants who fled the country during the Balkan War. However, even younger Croatian emigrants are less likely to return than their peers from other NMS countries (Figure 64). While two

Figure 64: Share of emigrants in 2010 who returned by 2014 by education and age groups



Source: DIOC (Database on Immigrants in OECD and Non-OECD Countries), reference years 2010/11, OECD, and EU-LFS ad-hoc module of 2014.

in five young NMS migrants (ages 25 to 44) return to their home countries within four years, the ratio for Croatians is only one in five. The gap in rates of return is especially wide in the case of emigrants with high school diplomas, whereas higher-skilled Croatians are as likely to return home as those in other peer countries. As more Croatians who migrated to the EU return home than do those who migrate to other OECD or neighboring countries, the concentration of migration flows to EU countries since Croatia accession is likely to increase the number of returnees. Second, emigrants returning to other Eastern European countries face positive wage premia (Co et al, 2000 and Martin and Radu, 2010) and are more likely than non-migrants to become self-employed or entrepreneurs and create jobs for non-migrants (Hausmann and Nedelkoska, 2018), but that is not the case for Croatian returnees. The lack of economic returns to returning to Croatia might deter more Croatian emigrants from returning home. However, there is a need for more analysis of the reasons behind the low return rates in Croatia vis-à-vis other countries.

Policy Implications

To strengthen the benefits of migration for Croatia, policymakers should focus on facilitating “brain circulation” by improving the business environment. While returnees to the EU’s NMS tend to have positive “returns to returning,” Croatian returnees do not have the same positive labor market outcomes. Therefore, their choice not to return can be explained by barriers to reintegration, such as loss of networks or a lack of knowledge of how to navigate Croatia’s bureaucracy. In particular, the employment gap between returnees and stayers tends to be narrower for lower-skilled workers and wider for higher-skilled workers, suggesting that the latter group experience more obstacles to returning.

Find a more effective way to track the demand for and supply of skills. If data could be collected on the migration flows of workers from different occupations, this would enable the education system to become more responsive to changes in labor demand. Furthermore, more efforts could be made to attract talent from abroad, either foreigners or Croatian emigrants, to fill critical occupations. Malaysia is a good example of a migrant-sending and receiving country that has linked its migration management and workforce planning systems to the benefit of the domestic labor market (Box 3). Interventions that could attract more Croatian emigrants to return home might include introducing fiscal incentives and providing prospective returnees with online information on job opportunities

and assistance with planning their return. Reintegration programs for returning migrants could also help to smooth their transition into the domestic labor market by, for example, supporting self-employment and startups.

Strengthen programs to help the Croatian diaspora contribute to the country’s development. For example, the Pilot Registry of Croatians Abroad is a digital database using social media platforms that connects local Croatian firms and individuals abroad (OECD, 2022). In 2007, the Croatian government also set up the Unity through Knowledge Fund (UKF), a dedicated grant facility for joint research projects between the Croatian diaspora and institutions in Croatia that benefit the Croatian economy or contribute to the development of the country’s infrastructure. Since 2007, 91 projects have been implemented at the cost of EUR 5.1 million. This collaboration has strengthened the chances of Croatian researchers in science and technology being awarded EU funds (for example, their acceptance rates to the 7th Framework Program funds have doubled). However, further efforts are needed to engage the Croatian diaspora in efforts to benefit their home country. Ireland is a good example of how to take a holistic approach to this. It has developed a diaspora ministry and a Diaspora Strategy for 2020–2025, which involves: (i) supporting Irish people living abroad (including by expanding the network of honorary consuls to engage with the diaspora and to work with organizations to assist any Irish in distress abroad); (ii) developing business networks of Irish emigrants (particularly in priority trade and investment sectors as well as research and innovation); and (iii) facilitating their return to Ireland by providing them with information on employment opportunities in Ireland, negotiating reciprocal agreements with countries with large Irish immigrant populations on the transferability of social security, the mutual recognition of academic or professional qualifications, and the avoidance of double taxation, and monitoring other barriers to returning.

Keep strengthening Croatia’s immigration management programs to promote the inflow of the skills demanded in the domestic economy. Immigration flows into Croatia have increased recently. In 2020, there were more than half a million foreign-born individuals in Croatia. However, since the 2013 accession of Croatia into the EU, there has been a renewed upward trend in the arrival of foreign-born individuals attracted by Croatia’s substantial economic progress. The main countries of origin of these immigrants are neighboring Bosnia-Herzegovina and Serbia (accounting for nearly

half of the total inflows) and Germany (mostly German-born individuals of Croatian descent). Also, immigrants from Asia are a small but fastest-growing group, with almost 10,000 having arrived between 2019 and 2021. These trends highlight the complex nature of migration in Croatia, which has sizable emigration outflows and is also increasingly becoming a migrant-receiving country, reflecting

its growing attraction as a destination. On a tactical level, inflows of migrants can fill certain gaps in the labor market, but the government needs to keep strengthening its skills management programs to ensure the inflow of the skills needed by the domestic economy. [Box 3](#) gives examples from Malaysia of relevant policies that could be adapted to the Croatian context.

Box 3: Migration policies in Malaysia designed to enhance domestic human capital

Malaysia is a country that has a large outflow of emigrants (6 percent of the population born in Malaysia) as well as a large and fast-growing number of immigrants (who constituted 12 percent of the population as of 2020). The emigration of high-skilled professionals mostly to Singapore, Australia, and the United States has raised concerns about a brain drain and a skills gap in Malaysia, especially in the most complex occupations, which can limit technological progress. The Government of Malaysia established the TalentCorp initiative in 2011 to attract, nurture, and retain the highly skilled workforce that is needed for the growing knowledge-based economy. This initiative focuses on three segments of the workforce: (i) Malaysians in Malaysia (by improving the quality of education); (ii) Malaysians abroad (by encouraging the return migration of highly skilled professionals); and (iii) foreign talent (by instigating a dual work migration system that aims to attract high-skilled migrants) (World Bank, 2022).

The TalentCorp’s Critical Skills Monitoring Committee (CSC) assesses skills imbalances in Malaysia and maintains a Critical Occupation List (COL), which has been updated annually since 2016. The list identifies those critical occupations for which there is a mismatch between the skills demanded by employers and the supply of skills available on the market with a particular focus on shortages of mid-to-high skills. The COL’s top-down approach collects quantitative data on the current labor market that is comparable over time and across occupations and relies on several indicators to determine shortages. These indicators include three-year employment growth, three-year median wage growth, and the vacancy rate, all of which are associated with rising labor demand. The CSC also uses a bottom-up approach to complement its top-down approach by consulting with key stakeholders (such as employers and industry associations) on their perspectives of supply and demand. Good practice suggests that the lists should be updated regularly, be based on sound labor market evidence, be transparent, be produced by a specialized agency, and involve private and public sector stakeholders (World Bank, 2019). This is the case in Malaysia.

The occupations categorized as critical can then be filled by foreign immigrants, returned emigrants, or by investing in training programs to upgrade the skills of the domestic workforce. Malaysia has a dual work permit system in place to manage foreign labor flows in a way to better respond to labor market needs (World Bank, 2020b). It distinguishes foreign workers by skill level and provides an Employment Pass for the highly skilled and a Visit Pass (Temporary Employment) for the low-skilled. The Employment Pass has three categories that are distinguishable by the minimum salary of migrants and employment duration requirement, and their holders can take up jobs for up to five years and have a pathway to become permanent residents. The Government of Malaysia also introduced the Returning Expert Program (REP) to incentivize the return of highly skilled Malaysians from abroad. Given that jobs abroad pay higher wages than those in Malaysia, one of the key incentives offered by the program is a 15 percent flat income tax rate for five years instead of the standard progressive tax schedule, which increases the net salaries of skilled returnees. Eligible returnees also enjoy a tax exemption on the import or purchase of two vehicles and on all personal effects brought back to Malaysia, while their foreign spouses and children automatically receive permanent residency status (World Bank, 2022). Eligibility for the REP is based on a system that allocates scores according to the level of education of the returning emigrant and the work experience that they gained abroad. Evidence has shown that the program increased the probability of emigrants with a preexisting job offer returning to Malaysia by 40 percent (Del Carpio et al, 2016).

Chapter 5: Labor Activation Policies Can Strengthen Participation and Human Capital

Introduction

Active labor market programs can improve how human capital is deployed in the labor market in Croatia. Human capital consists of the skills and expertise that allow individuals to work productively and that help them to do their jobs effectively and efficiently. Active labor market programs (ALMPs) can improve the way in which human capital is used in the labor market by providing services such as job matching and measures to help workers to upskill and reskill. However, the efficacy of ALMPs is affected by their capacity to provide effective types of support services, their organizational setup, the availability of funding, the existence or lack of incentives for private sector participation, and the availability of jobs. The primary role of ALMPs is to bring the users of public employment closer to the labor market. ALMPs have a social objective as well – to increase inclusion and participation in economic and social life. They incorporate active labor market measures (ALMMs) which include employment services and the administration of benefits which aim to reduce imbalances between labor supply and demand, assisting unemployed people to find work, and by decreasing professional and geographical mismatches. ALMPs improve labor market outcomes by building the skills and enhancing the employability of the people whom they help, especially the disadvantaged. This reduces inequality and boosts productivity, while mobilizing human capital that previously been “wasted” because workers have lost skills while not working, staying inactive, or working on a job that does not allow them to use their available skills.

The Croatia’s Active Labor Market Measures

Croatia provides various ALMM programs and services for job seekers and employers. For example, since 2020, ALMMs have been promoting the acquisition of skills for digital and green industries through self-employment, employment subsidies, and internships. They have also been helping jobseekers to relocate both within Croatia and in returning to Croatia as well as reducing labor supply

shortages in critical professions in education, pre-school education, healthcare, social welfare, and culture. After having to adjust to the challenges of the coronavirus pandemic, Croatia’s ALMMs are now having to respond to the economic fallout and migration flows provoked by Russia’s war in Ukraine, including refugees and forcibly displaced people. The Croatian Employment Service (CES) is the public institution responsible for the design and delivery of ALMMs as a part of its overarching mandate to implement the government’s strategic plans and programs for employment promotion. Figure 65 summarizes the portfolio of ALMMs currently being implemented.

Figure 65: Categories of ALMMs being implemented in the Republic of Croatia, 2023

Subsidies for self-employment and business expansion	Self-employment subsidies
	Self-employment subsidies for green and digital industries
	Business expansion schemes (till end-2022)
	Choose Croatia - labor mobility
Support for employment	Employment subsidies
	Employment subsidies for green and digital industries
	Support for employment in Sisak-Moslavina county
	Traineeship / Apprenticeships / Internship subsidies
	Traineeships in green and digital industries
Training	Traineeship subsidies in the public services
	Training of the unemployed and other jobseekers
	On-the-job / workplace training
	Upskilling subsidies
	Training in institutions for adult education
Direct job creation	Activation program
	Public works
Job retention subsidies / out-of-work income maintenance and support	Public works for natural disaster relief in Sisak-Moslavina county
	Permanent seasonal worker
	Job retention subsidies – short-time work schemes
	Job retention subsidies – textile, clothing, footwear, leather and wood sectors (till end-2022)

Source: Croatian Employment Services (2022 and 2023), <https://mjere.hr/katalog-mjera/mjere-aktivnog-zaposljavanja/>.

The overarching strategic direction for active labor market policies is provided by the National Development Strategy of the Republic of Croatia 2018-2030 and the National Recovery and Resilience Plan (NRRP) 2021-2026. The NRRP reinforces economic and social resilience by spending EUR 277 million to support employment and social inclusion. For employment promotion, the funding envelope amounts to EUR 179 million, with most allocations focusing on employment and self-employment, as well as the creation of an adult education voucher system for training programs in new skills related to the green and digital transitions. Furthermore, to tackle low labor activity, the country's active labor market policies will focus on increasing the competitiveness and employability of vulnerable groups, the long-term unemployed, the inactive, and young people who are neither employed nor in education or training (NEET). The planned interventions also include improving the business processes of the CES for monitoring labor market outcomes. In addition, the most recent guidelines focus on building a competent and adaptable workforce that will be able to meet the requirements of the labor market and on creating comprehensive social and employment services.

The fraction of unemployed workers who benefit from ALMMs has been increasing since 2017 but remains low in comparison to the EU. Although the introduction in 2017 of new laws on job intermediation and employment promotion has led to a gradual increase in the coverage of ALMMs, it remains limited (Figure 66). As of 2022, participants in ALMMs have increased to 26.7 percent of the registered unemployed, which is slightly below the peak level of 2019 (Figure 67). However, even in 2019, participation in ALMMs "per 100 persons wanting to work" was low compared to the average for the EU (OECD, 2022b). Being able to reach only a fraction of those who need ALMMs and employment services bears risk of losing human capital because, without receiving assistance, many job-seekers could become long-term unemployed, making it even harder to help them to (re)integrate into the labor market. Also, scarce outreach and lack of services mean that potential participants are less likely to register with the CES.

Croatia's expenditures on ALMMs as a percentage of GDP are below the average for the EU-27.⁵⁵ Spending on ALMMs comprised 20.44 percent of the CES's expenditures on active employment policies in 2021 and 17 percent of its total budget (CES, 2021). This was mostly due to the scaling up of two more complex categories of ALMMs with higher costs per beneficiary, namely: (i) subsidies

Figure 66: Registered unemployed, ALMM users and new entrants, 2017-2022

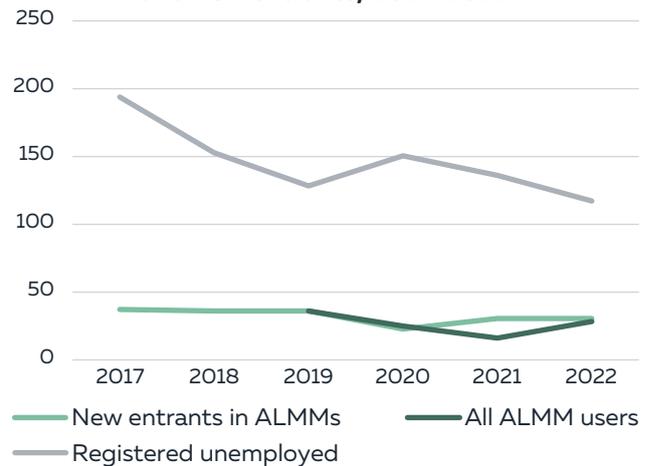
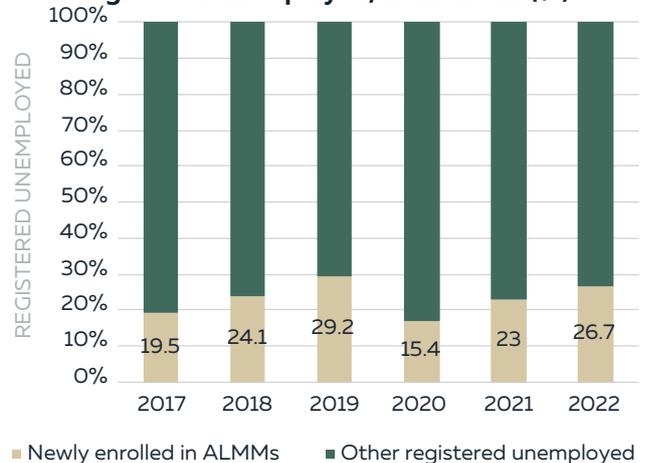
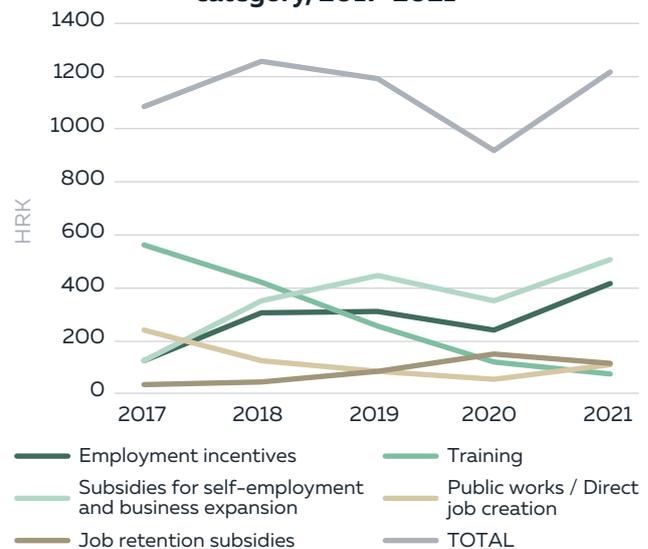


Figure 67: New entrants in ALMMs as share of registered unemployed, 2017-2022 (%)



Source: Ministry of Labor, Pension System, Family and Social Policy and CES (2022).

Figure 68: Spending on ALMMs, total and by category, 2017-2021



Source: Ministry of Labor, Pension System, Family, and Social Policy.

⁵⁵These estimates are based on statistical data held by the Croatian Bureau of Statistics and data provided by the Ministry of Labor, Pension System, Family, and Social Policy. Only the spending on ALMMs is included, while expenditures on CES employment services and administration are excluded. For the calculation, GDP in current prices (in HRK) is taken from: <https://podaci.dzs.hr/media/l2wkiv1a/croinfig2022.pdf>. According to Eurostat data, in 2020 (the most recent available comparative data), the EU-27 countries and the 19 countries from the Eurozone spent 0.6 percent of GDP on ALMMs (categories 2-7). According to the same statistics, Croatia spent 0.332 percent - https://webgate.ec.europa.eu/empl/redisstat/databrowser/view/LMP_EXPSUMM/default/bar?lang=en&category=Imp_expend.

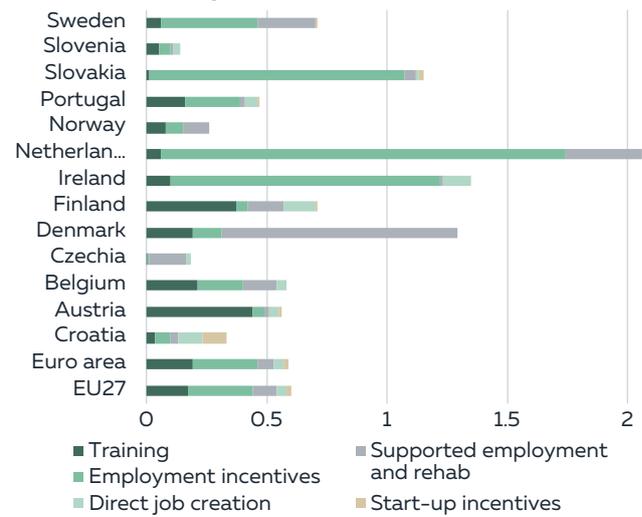
for self-employment and business expansion and (ii) employment incentives that include the costly internship subsidies and wage subsidies. This explains why spending on ALMMs had increased by the end of 2021, whereas their coverage was still lagging.

The CES's spending on "active" interventions such as training, job rotation, employment incentives, direct job creation, and entrepreneurship incentives was considerably lower than the European average – 0.33 percent of GDP in Croatia compared with 0.6 percent in –the EU-27 and in the Euro area (Figure 69). Spending on labor market services was also lower in comparative terms – 0.07 percent of GDP in Croatia versus 0.2 percent in EU-27. Spending higher amounts does not itself guarantee successful labor market(re) integration. Compared to some other countries, Croatia spends more on business start-up incentives and direct job creation and less on training and employment incentives. In 2020, as a share of GDP, Croatia's spending on start-up incentives was around five times higher than in the EU-27 and the Eurozone countries, while its spending on direct job creation was 2.5 times higher. At the same time, Croatia spent two to three times less than the EU average in terms of shares of GDP on training, employment incentives, and employment support and rehabilitation.

Characteristics of and Challenges for the Current System

While ALMMs on the labor demand side are expanding over time, they are crowding out supply-side ALMMs, which aim to increase clients' employability and competitiveness in the labor market. Wage subsidies and subsidies for self-employment were allocated as much as 76 percent of the ALMM budget in 2021 compared with 23 percent in 2017. In contrast, the share of the ALMM budget spent on training and upskilling subsidies dropped sharply between 2017 and 2021 to just 6 percent (Figure 70). Similarly, over half of all new ALMMs were for employers as employment incentives and subsidies for self-employment. Participation in training had significantly decreased even before the pandemic due to the phasing out of the program for workplace training for those without an employment contract and picked up again only in 2022 (Figure 71). The recipients of self-employment subsidies comprised one quarter of all ALMM beneficiaries in 2021 and 2022, while the allocated budget for these subsidies was as high as 42 percent of Croatia's total spending on ALMMs in 2021 and even higher at 45 percent in 2022.⁵⁶ This is con-

Figure 69: Spending on ALMMs by type of program, selected European countries, 2020 (% of GDP)



Source: Eurostat. https://webgate.ec.europa.eu/empl/redisstat/databrowser/view/LMP_EXPSUMM/default/bar?lang=en&category=

Figure 70: Distribution of spending on ALMMs, 2021 (%)

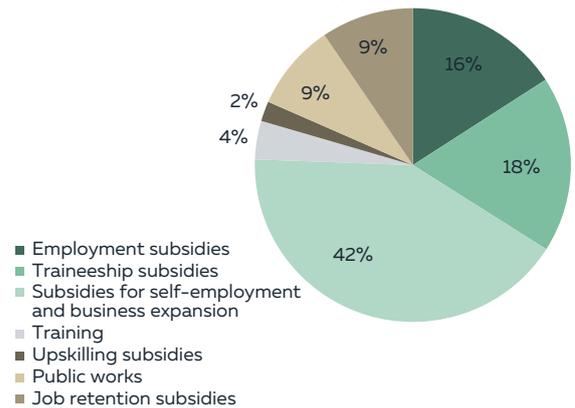
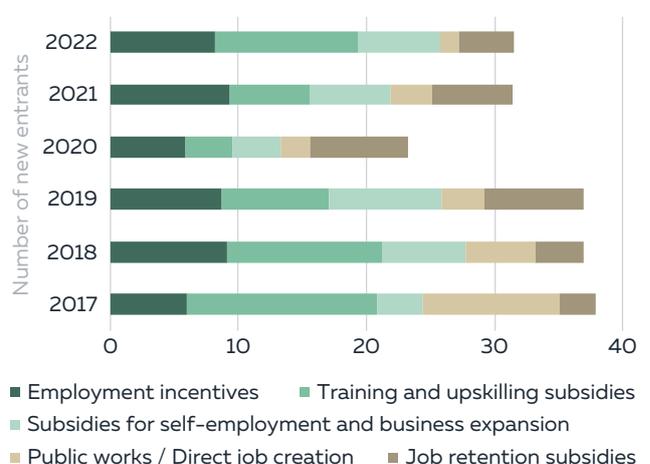


Figure 71: New entrants by category of ALMMs, 2017-2022



Source: Data from the Ministry of Labor, Pension System, Family and Social Policy, 2022. And Croatian Employment Services, 2023.

⁵⁶Data for 2022 are for the months January through August.

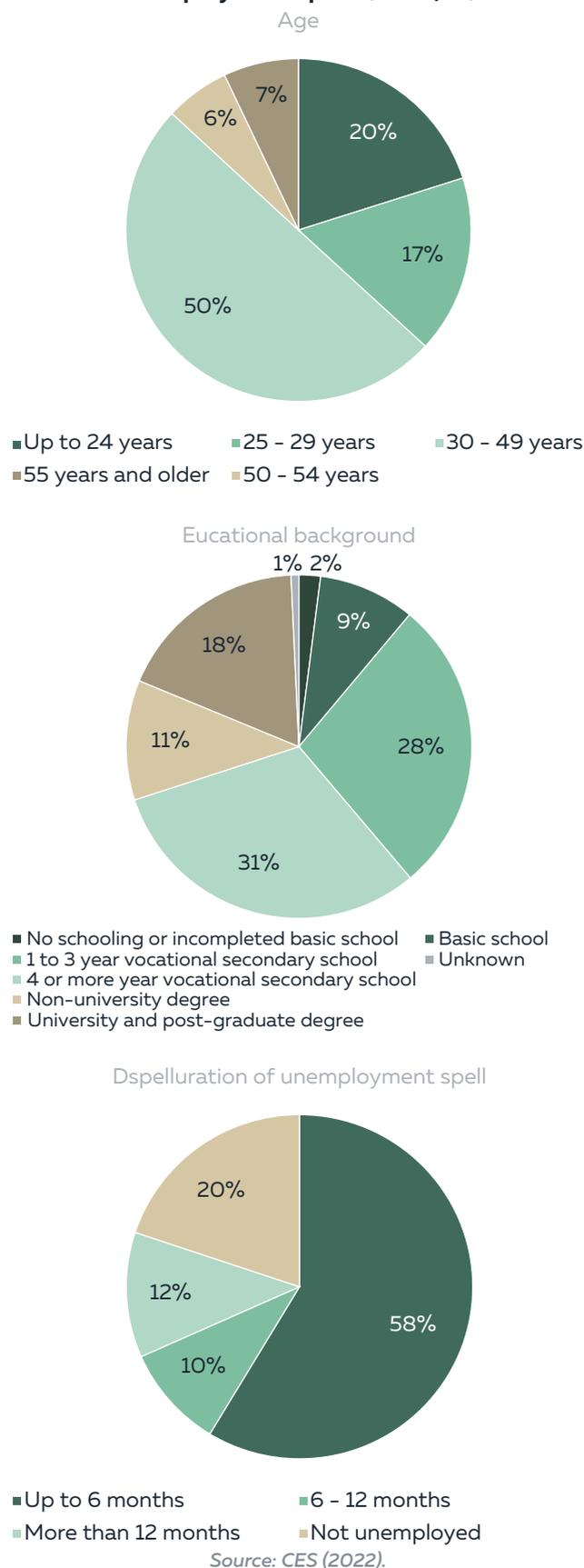
siderably higher than in previous years (for example, the 12 percent that was allocated in 2017) and also quite high by international standards. As of 2019, the average spending on ALMMs in the EU countries was 6 percent.⁵⁷ While expanding demand-side ALMMs is one approach to increasing Croatia's productivity,⁵⁸ it will also be necessary to expand ALMMs aimed at building new skills and reducing skill mismatches.⁵⁹

While all registered unemployed workers have equal legal access to ALMMs, they are disproportionately used by those who are relatively advantaged being more attached to the labor market.

This group is characterized by people of prime age, with higher levels of education and a history of shorter unemployment spells. They tend to be more self-motivated to participate, more active in interacting with employment counselors, and more able to meet the requirements for participation in a wider range of ALMMs. The key characteristics of workers who used ALMMs in 2022 are displayed in Figure 72. Young people (those up to 29 years old) and prime-age people (aged 30 to 49) together comprise 87 percent of all ALMM participants, which is disproportionately higher than their share of registered unemployed, which is around 63 percent. Conversely, people aged 50 and older comprise 37 percent of the registered unemployed but only 13 percent of those who use ALMMs. Only 12 percent of users of ALMMs are the long-term unemployed (those who have been out of work for 12 months or longer) who are as a rule in a greater need of support, while 58 percent of ALMM users started participating after short spell of unemployment (up to six months) and another 20 percent have never been unemployed. As many as 70 percent of ALMM participants have completed secondary vocational education or other non-university post-basic school, which is similar to the educational profile of all registered unemployed. However, apparently their vocational skills are obsolete and/or insufficient for staying employed in the present labor market.

Croatia's ALMMs fall short of ensuring equity of access to excluded or strongly disadvantaged groups in the labor market. These include the long-term unemployed, older workers, young people (particularly those who are NEET), people with disabilities, and women. This is the result of the limited scope ALMMs and the fact that they are used mostly by those with fewer employment barriers in terms of age, skills, or length of unemployment spells. Only 12 percent of ALMM users have been unemployed for 12 months or longer, only 7 percent are 55 years old or older, and only 3 percent have no schooling or have an incomplete basic educa-

Figure 72: Distribution of entrants in ALMMs by age, educational background and duration of unemployment spells (2022, %)



⁵⁷ OECD Strictness of Activation Requirements Database. <https://stats.oecd.org/Index.aspx?DataSetCode=LMPEXP>

⁵⁸ The OECD recommends that, as countries recover from the COVID-19 crisis, they should increase their overall expenditure on ALMPs, and particularly support job creation by scaling up existing programs and introducing new programs and measures, which should increase demand for labor (OECD, 2021).

⁵⁹ In 60 percent of OECD countries, the budgets for ALMMs expanded in 2020 and then again in 2021, most notably for employment incentives but also for training (OECD, 2022a).

tion. The percentage of new entrants to ALMMs who belong to these disadvantaged groups is lower than their percentage in unemployment. Their profile characteristics frequently go hand-in-hand with low or obsolete skills. Often their labor supply-side constraints are multiple and simultaneous and are combined with household-level constraints, especially in the absence of adequate social services. Acknowledging these constraints, Croatia's National Recovery and Resilience Plan (NRRP) proposes to develop social mentoring and job search services for hard-to-reach groups of beneficiaries such as persons with disabilities, victims of violence, homeless people, migrants, Roma, and young people leaving the social welfare system. The NRRP aims for these services to be covering a total of 26,400 people by the end of 2025, helping them to find employment, internships, or self-employment (especially for green and digital transition of the economy), with a focus on young people and the long-term unemployed.

The country's ALMMs have not yet adapted to the need to extend Croatians' working lives and to make better use of the working capacity and skills of older workers. It will be vital for ALMMs to find ways to respond to the decline of working-age population due to the emigration of many of the working-age population and the early retirement of those who remain. The average duration of a Croatian's working life increased from 31.2 to 33.5 years between 2012 and 2021, but this is still shorter than the average for EU-27 (by some 7 percent in 2021). The widest divergence between labor force participation rates in Croatia and those in the EU-27 is for the over-60 age group. There are also very few older people who are self-employed or who work part-time in Croatia. At the same time, Croatia has a high share of young pensioners as people in Croatia tend to retire early, which is a major motivating factor for exiting the labor market. The CES rarely makes any effort to encourage older people to remain in the labor market, and workers aged 65 and over are automatically removed from unemployment records. At the same time, Chapter 2 of this report argued that there is untapped potential to enable these workers to participate in the labor market for longer, especially for workers with a higher education. However, there are significant disadvantages to continuing to work for those with lower education, poor socioeconomic status, and health problems, even when they are willing to work. Prolonging the working lives of older workers will require public policies that encourage them to extend their labor force participation, that reduce the barriers to their employment, and that change the CES's modus operandi. Initial steps are being made in 2023 with the launch of a CES web portal that will be aimed at

providing pensioners with information on available job offers, how to look for a job, and motivational messages and providing employers with information on the kind of support for which they would become eligible if they were to hire a retiree.⁶⁰

ALMMs are not yet targeted to young people who are not in employment, education, or training (NEET). In all [youth?] age sub-groups, the share of NEETs is higher in Croatia than the average in the EU-27 countries. Among the NEET population in Croatia are those who are either actively seeking employment or would like to do so. Around three-quarters of NEETs are registered with the CES.

Compared to the EU-27 countries, Croatia has a high percentage of unemployed young people with an upper secondary education and university graduates, which indicates skill mismatches. Although Croatia is making some progress in fostering employment opportunities and social inclusion for NEETs, challenges remain, specifically with respect to the need to fine-tune ALMMs to the specific needs of young people, to improve outreach strategies and targeting, and to reduce regional disparities in the availability and design of ALMMs (European Commission, 2020). The limited capacity of local CES offices is a barrier to providing all NEETs with effective personalized guidance and activation and to monitoring and evaluating the performance of different measures and the efficient use of available funds (Tomić, 2015). The existing partnerships between the CES and education and training institutions are designed primarily to target active NEETs (in other words, those who are registered as unemployed). The CES has taken steps to identify inactive NEETs by rolling out a NEET tracking system that provide the basis for the development of measures for cohorts of NEETs who have not been supported before. However, a peer review of Croatia NEET policies (Tomić, 2015) revealed that current policies and measures aimed at identifying and supporting potential NEETs are limited in scope, and are weakened by a lack of reliable basic administrative data, weak collaboration between institutions, weak administrative capacity in those institutions, and the heavy caseloads of CES counselors.

Persons with disabilities are a distinct marginalized group in the labor market that is not adequately targeted by ALMMs. In 2022, persons with disabilities represented only 4.3 percent of the new entrants to ALMPs, which was an increase over the 2.3 percent in 2019 but was still very low. The only activation measure that is explicitly targeted to this group is hiring subsidies to employers. In contrast

⁶⁰See <https://umirovjenici.hzz.hr/>.

to the OECD’s and EU’s best practices, there are no specific ALMMs that address the specific skills needs of people with disabilities or manage their up-skilling or re-skilling. Within the current ALMM mix in Croatia, there are also no measures for adapting workplaces or sheltered workshops for people with severe disabilities. There are also no self-employment or entrepreneurship measures tailored to persons with disabilities or legal guarantees and mechanisms to help them to claim disability and other benefits if they are not successful. The Recovery and Resilience Plan addresses these challenges by proposing several measures aimed at increasing the employment of persons with disabilities, such as ensuring the physical accessibility of buildings and the housing environment, providing adequate mobility services, promoting hybrid access to workplaces, and ensuring access to digital public services. In most EU countries, the labor (re)integration of persons with disabilities is a key mandate of the employment services, which co-operate with other institutions who work with people with disabilities to provide them with vocational rehabilitation and other measures.

It is less likely for women to be referred to an ALMM than men, and over time their participation has been declining. Currently, the share of women share in ALMM users is 6.5 percentage points lower than the share of women among the registered unemployed. Female participation in ALMMs was slightly higher in 2019 before the pandemic, and the gap with women’s share of the registered unemployed

was smaller (2.8 percentage points), meaning that the prospect of women being referred to an ALMM has decreased. Some recent changes to the ALMM portfolio⁶¹ that focus on female-dominated professions have the potential to increase female participation in ALMMs, but more needs to be done given that around one-third of Croatian women aged between 25 and 64 are inactive because of their care responsibilities. A recent study identified care responsibilities and the related likelihood of having little or no recent work experience as substantial barriers to employment for women across different age groups, education and qualifications, and marital status (World Bank, 2018a).

The cost-effectiveness of some ALMMs should be reassessed. It is important to monitor the effectiveness of demand-side ALMMs using program-level data and evaluations of their performance and impact.⁶² The costs per beneficiary vary widely among ALMMs and are highest by a significant amount in the case of programs for self-employment and for internships (Table 14). In general, higher unit costs tend to reflect a more intensive investment in building sophisticated skills or, alternatively, in removing more and multiple barriers to (re)entering the labor market. While higher unit costs for individual programs can be justified, this is only the case if these programs can also demonstrate proportionally higher effectiveness, for example, in terms of job placements (World Bank, 2022c). This is why it is important to carefully monitor which ALMMs provide the best value for money.

Table 14: Cost per beneficiary of ALMMs, 2021

Category or sub-category of ALMM	Expenditures, HRK	Beneficiaries	Average cost, HRK	Average cost, EUR
Employment subsidies	192 970 130.69	5 698	33866.3	4495.1
Internship / traineeship subsidies	221 010 245.13	3 636	60783.9	8067.4
Subsidies for upskilling/training	25 091 775.39	2 058	12192.3	1618.3
Subsidies for self-employment and business expansion	505 919 100.60	6 332	79898.8	10605.0
Training for unemployed and other jobseekers	28 956 169.74	3 599	8045.6	1067.9
On-the-job training	14 523 880.41	564	25751.6	3418.0
Public works / Direct job creation	108 832 005.46	3 184	34180.9	4536.8
Permanent seasonal worker	57 975 406.78	4 366	13278.8	1762.5
Subsidies for preservation of jobs and/or shortened work hours	57 116 422.43	1 955	29215.6	3877.8

Source: Ministry of Labor, Pension System, Family and Social Policy, 2022. Note: the average cost includes only the direct costs of the respective ALMMs and no additional (administrative and other) costs of CES. Beneficiaries are the new ALMM entrants throughout the respective year. Conversion to euro is at the exchange rate of EUR 1 = HRK 7.5345.

⁶¹ Like launching traineeship subsidies in the public sectors in female-dominated professions, launching training vouchers, and increasing in job retention subsidies for seasonal workers and for workers in female-dominated industries like textile and clothing.

⁶² Program evaluations should be mandatory and implemented on a regular basis (Bejakovic, 2016). The most recent publicly available evaluation commissioned by the CES covers ALMMs from 2010 to 2013 (CES and Ipsos Puls, 2016).

Lessons From Current and Past ALMM Programs

Subsidies for self-employment and business expansion dominate the ALMM mix, but these measures are expensive and are usually not adequate for those with a weak labor market attachment. The

subsidies for self-employment are designed to provide start-up capital to those individuals or groups among the registered unemployed who decide to start or expand their own business. The amount of the subsidy depends on what industry is involved and is higher for start-ups in green or digital industries.⁶³ The subsidy has two components: (i) a fixed amount to cover part of the initial costs of business registration, the cost of one full-time employee, and recurrent costs for the first few months, and (ii) a variable amount to fund the purchase of equipment, vehicles, raw materials, and consumables, to purchase or lease IT programs, or to buy a franchise. The subsidy for business expansion is granted to a business that has already received self-employment support when it plans to expand by opening a new unit or facility with new hires from among the registered unemployed. Qualitative and quantitative evaluations have found that self-employment subsidies have a strong positive net effect on employment, the high survival rate of the subsidized business initiatives, and the high level of satisfaction of subsidy users due to their improved financial status.⁶⁴ These measures have proved to be most successful when those who receive the start-up funds are attached to the labor market, can invest their own funds, including after the subsidy is over, and have specific skills, mindset, and motivation.⁶⁵ However, such characteristics are not typical of those who have a weak attachment to the labor market. Therefore, it is important to design these subsidies in such a way that they foster successful outcomes for the vulnerable groups. For example, it is important for the CES to build its capacity and instruments for assessing proposed business ideas, to identify which prospective recipients of the subsidy are most likely to succeed,⁶⁶ and to reach out to groups that are under-represented in the labor market. This particularly applies to unemployed women who are less active on the labor market than men and much less involved in entrepreneurial activities. For example, the current temporary financial support programs could be supplemented by advisory services on sustainable business development and by training in entrepreneurship and financial literacy. International evidence suggests that the key factors for success are access to finance beyond the direct start-up subsidy, institutional support for access to markets, land, and other physical assets or inputs, advisory services related to the effective use

of the subsidy, and post-business creation services (World Bank, 2022c and Ribe et al, 2010). If Croatia's self-employment subsidy were to be redesigned to be "integrated" or "multi-component" in this way, it would be more effective in terms of using the human capital of people with a weaker attachment to the labor market.

Wage subsidies are useful to support the employment of people who are in an unfavorable position in the labor market by financing the costs of their labor, thus providing employers with an opportunity to "test" prospective employees at lower than full wage costs. These subsidies should result in a net increase in the number of employees in any given year. Currently, hiring subsidies in Croatia are available for two well defined target groups: (i) registered unemployed who have been identified as disadvantaged due to facing multiple barriers to employment and (ii) persons with disabilities. These are target groups for whom other measures have proved ineffective and who are left with no alternatives to access jobs or build their skills. These hiring subsidies are time-limited and differentiated depending on the reason for the person's labor market disadvantage and completed level of education and are higher for persons with disabilities. The employer is obliged to keep the co-financed employee on an employment contract and to pay their salary and benefits after the subsidy is over for a period equal to the duration of the subsidy. From 2022, employment subsidies are explicitly targeting employment in green and digital industries.

When time-limited, well-designed, and tailored to needs, wage subsidies can be a cost-effective way to reduce unemployment, strengthen the employability of workers, and support the most vulnerable (OECD, 2021). In Croatia, a quarter of all ALMM users are employed through hiring subsidies, which account for 16 percent of all budgetary allocations for ALMMs. In the past, an evaluation assessed the net effect of the subsidy on employment as being positive for both the employers and the subsidized employees. The highest positive effect was observed for young people with no work experience (CES and Ipsos Puls, 2016).⁶⁷ However, these positive effects were often limited to the period when the subsidies were paid and declined thereafter. Based on the findings of that evaluation, the CES redesigned the subsidy amount to cover the worker's full gross salary instead of only 50 percent as in the past. This makes it more attractive for employers and should increase coverage of people who face multiple critical barriers to employment. Wage subsidies also enable these subsidized workers to "learn by doing," which builds their human capital. It also ensures that

⁶³ The criteria for green and digital activities and workplaces are defined by the CES (see: <https://mjere.hr/katalog-mjera/kriteriji-zelene-digitalne-djelatnosti-radna-mjesta/>).

⁶⁴ An evaluation of the previous version of this subsidy (Start-up Incentives for Unemployed Individuals) revealed a strong positive effect on employment. The subsidy also resulted in a high survival rate of subsidized entrepreneurial activities (CES and Ipsos Puls, 2016).

⁶⁵ According to the CES and Ipsos Puls evaluation, the majority of self-employment subsidy recipients were people who used to be registered as unemployed for only a short term (less than three months). One quarter of them had taken the subsidy in order to "legalize" the work that they already performed. Many "successful" users of the subsidy were convinced that it was inappropriate for the "average" unemployed, in other words, that a successful outcome depended on specific personal qualities such as "responsibility," "organization," "diligence," and "market experience," or "market or line of work familiarity."

⁶⁶ A step in this direction is the workshops for self-employment organized by the CES.

⁶⁷ The evaluation of hiring subsidies from 2010 to 2013 revealed that the likelihood of being employed six months after receiving the subsidy was twice as high for young participants with no work experience than for non-participants (CES and Ipsos Puls, 2016).

their existing skills do not depreciate over time as tends to happen during long unemployment spells (Almeida et al, 2014).

Subsidies for traineeships, internships, and apprenticeships are effective in giving young jobseekers first-job experience and improving their prospects for subsequent employment. This kind of subsidy program was launched in Croatia in 2018 aimed at giving the registered unemployed with no work experience the opportunity to work in the profession for which they were educated and to learn how to work independently. Private sector employers are given a monthly lump-sum per intern regardless of how much they actually spend on their intern's wage, which varies according to their level of education and the possibility of tax relief. For green and digital industries, the amount of the subsidy is higher. In the case of public services, the subsidies cover the intern's full wage and transportation expenses when the internship is in healthcare, education, preschool education, social welfare, and culture. Those who are eligible to be subsidized are the registered unemployed with less than six months of registered insurance-paying work experience at their educational level in their public service field. The internship subsidies were scaled up significantly in 2021, with both the number of beneficiaries and the level spending almost doubling. Internships in the green and digital sectors and in the public services commenced in 2022, albeit on a small scale. In 2021, interns accounted for 11.6 percent of all ALMM entrants, and internships accounted for 18 percent of the total ALMM budget. These subsidies are the second most expensive (in terms of cost per beneficiary) after the subsidy for self-employment and business expansion.

Global empirical evidence shows that internships are associated with better post-internship employment outcomes for interns, and this has also been the case in Croatia. They are instrumental in providing the registered unemployed with work experience which – according to mounting evidence – is one of the most important factors that influences employers' recruitment decisions. Since the cost per beneficiary is one of the highest for all ALMMs, it is important to prioritize these internship subsidies, for example, by focusing on public sectors that are experiencing or will experience labor shortages and on regions that are lagging behind in economic development. Also, in line with international experience, internship subsidies could also be provided to young people with disabilities to enable them to use their human capital. This would require combining the internship subsidy with broader training, counseling, and even social services.

With an increase in funding and a stronger focus on upskilling and reskilling, training subsidies have the potential to build skills and tackle skill mismatches and labor shortages. Experience suggests that training programs improve skill matching, while vocational training programs facilitate the transition from education to work. An evaluation of Croatian programs providing for labor market-oriented training between 2010 and 2013 found that close to a quarter of the participants started a job requiring the qualifications that they achieved as a result of their training. However, for around 40 percent of trainees, the probability of finding a job did not increase significantly. Moreover, more than half of the trainees did not work in any job that required the qualifications for which they were trained. Also, over 40 percent were unemployed for two years after participating in the training program. The evaluation also highlighted the difficulties involved in forecasting labor market demand for the purpose of designing training content. The responsibility for designing training programs is delegated to staff at the CES regional offices to ensure that the programs are compatible with local labor market needs, but these staff need more information and assessment tools. To a significant extent, training was "supply-driven," and CES counselors were promoting enrollment to keep the training programs going despite low demand.

Job retention subsidies or short-time work schemes are beneficial for retaining qualified seasonal workers. Currently, Croatia's income maintenance and support for unemployed workers consists of the Permanent Seasonal Worker measure and two smaller-scale job preservation subsidies, one for job retention when employers are in temporary difficulties and, two, short-time subsidies for employers who are forced to reduce their employees' workload. The Permanent Seasonal Worker measure is a financial incentive given to employers to retain key staff at times of reduced or absent workload due to seasonal nature of their business, which covers the pension insurance of seasonal workers for six months. It also provides seasonal workers with monthly financial assistance for up to six months as an incentive to stay with the same employer. An evaluation of the Permanent Seasonal Worker measure revealed that take-up from employers was variable and, in some years, low, even though they could benefit from lower expenses as a result of the CES co-financing. To some extent, the reason for this is the scheme's administrative complexity, as a result of which the measure is most often used by larger companies with greater operational capacity. Another reason is the existence of a limit on the number of eligible seasonal workers as a percent-

age of regular employees, which might discourage smaller businesses from participating. According to international evidence, job retention schemes should be temporary and should be designed carefully to avoid supporting unviable jobs in companies with structural difficulties. Also, job retention subsidies are increasingly being combined with training that is provided when the trainee is not working or is working reduced hours, with the CES reimbursing employers for the costs of training.

Public works that target groups facing significant employability and participation constraints have not been able to significantly increase their probability of employment. In Croatia, these programs are defined as providing socially beneficial work that takes place over a limited period to the registered unemployed from specific target groups that are far distant from the labor market. These public works are initiated by local communities or civil society organizations in cooperation with local governments with the aim of increasing social inclusion. They involve projects in the fields of social welfare, education, environmental protection and preservation, and maintenance and communal works. They provide participants with earnings from work but also build their “soft skills” and self-confidence and encourage them in further efforts to (re)join the labor force. Their target groups are: (i) people in a disadvantaged position on the labor market regardless of the length of their registration as unemployed (including parents with four or more children, parents of children with developmental disabilities or suffering from malignant diseases, persons with disabilities, victims of human trafficking or domestic violence, Roma people, and homeless people); (ii) beneficiaries of the guaranteed minimum benefit; and (iii) the very long-term registered unemployed (for over 24 months). Public works are used to test the ability to work of potential recipients of the guaranteed minimum income benefit.

Participation in and spending on public works are decreasing in Croatia as of 2022, and longer-term trends are not clear. Several developed countries have downsized or even phased out such programs,⁶⁸ mostly because their effectiveness in terms of enabling participants to find jobs on the open market is questionable. These programs are also unlikely to address existing skills shortages. A meta-analysis of evaluations of ALMMs concluded that they are generally ineffective in the short, medium, and longer term (Card et al, 2018). In the case of Croatia, several evaluations have concluded that participating in public works did not directly increase the probability that a participant will find employment, though at least it did not reduce it, and that it only margin-

ally enhanced their employability in the long term. For the majority of users, participating in public works was most beneficial as a temporary way to overcome their financial difficulties. Roma who have frequently participated in public works (mostly in municipal public works and in works organized by non-profit Roma associations) also acknowledged that their self-confidence had increased when looking for another job as well as appreciating the access to health care that comes with participation in public works (CES and Ipsos Puls, 2016).

Policy Implications

In the coming years, policymakers should focus on experimentation, analysis, and evaluation. It will be important to understand the reasons for low coverage rates and take-up of ALMMs and for their existing targeting bias towards workers with fewer barriers to being employable. In this section, we discuss some specific lessons from experience that could serve as the basis for experimentation and for improving the design and delivery of ALMMs.

Further integration of ALMMs with social services will be essential as well as strengthening cooperation and service-delivery partnerships with the private sector and at the local level. This should involve creating a network of trusted institutions and public services to reduce barriers to employment and difficult life situations such as ill health and disability or family issues that prevent people from participating in the labor market. Policymakers should also explore competitive ways to outsource different labor market services to private providers.

The support for disadvantaged groups in the labor market needs to be reinforced. International experience suggests the need to use ALMMs and measures that are sensitive to the needs of target groups, especially those who are most distant from the labor market. In Croatia, these groups include older employees and jobseekers, the long-term unemployed, minority groups, people with disabilities, young people especially NEETS, and women.

In the Croatian context, this means that following efforts need to be made to adapt the business processes, governance, and management of the Croatian Employment Service (CES):

One direction would be to use modern technology to profile clients and to conduct an in-depth assessment of barriers preventing people in these groups from working such a limited literacy, educational and vocational skills barriers, and spatial obstacles.

⁶⁸For example, Denmark, Estonia, Israel, Norway, and Switzerland do not use these programs anymore. Other countries have shifted their spending from public works towards ALMMs such as training and employment incentives, which they deem to be more effective (OECD, 2021). experience,” or “market or line of work familiarity.”

Integrate ALMMs with other social services to provide interventions to increase labor market inclusion. This might involve targeted counseling for the resolution of debt issues, intensified counseling to foster the motivation to work, medical counseling, and social counseling (for example, on housing or the management of household finances).

The existing training programs need to be adapted to provide upskilling and reskilling training to older workers and the lower-skilled unemployed who have been unemployed for a long time.

NEETs and Young People

Supporting young people's employment prospects requires a recognition that they face different and age-specific barriers in the labor market, such as a lack of work experience and limited professional networks. These realities need to be considered in the design and implementation of ALMMs. Some ideas for how to design and implement policies specific to NEETs and young people are as follows:

- *One-stop shops for the delivery of ALMMs, education, social services, and benefits for NEETs.* CES regional offices should strengthen their cooperation with educational institutions with a special focus on hard-to-employ groups as well as their cooperation with the Centers for Social Work beyond data exchange and towards providing more integrated package of services to NEETs and young people (Tomic, 2015).
- *Strengthen the current outreach service to NEETs.*⁶⁹ NAV runs such a service, which is implemented by the municipalities. The service cooperates with youth clubs and schools, child welfare services, school health services, health centers for young people and their families, and the police to seek out young people who need employment assistance but are not inadequately supported by other institutions.
- *Monitor young people who are on the verge of dropping out of upper secondary school.* An early intervention service would consist of individual tracking and follow-up of potential upper secondary school dropouts. The objective would be to increase the number of learners who complete upper secondary education and engage in the labor market. While NAV through the municipalities closely monitors low-performing students in upper secondary education to prevent dropout, this could be strengthened by supple-

menting the existing career guidance in Croatian schools with additional CES staff and additional financing.

- *Strengthen Youth Guarantee and the YEI (Youth Employment Initiative) to support young people with physical and especially mental health challenges.* This would be a way to increase the coverage of those with NEET status, to target NEET subgroups more effectively, and to ensure that they are offered real job opportunities rather than poor quality traineeships.⁷⁰
- *Foster the development of socio-emotional skills,* which can be offered as a separate service (for example, as part of job counselling) and/or as part of different ALMMs (such as vocational training).

Older Workers

Tailoring training methods and time horizons to the learning needs and abilities of older workers.⁷¹

Short-term training programs are usually more effective for older workers as assigning older individuals to long-term training and subsidized employment is unlikely to be efficient. The training content must be designed to meet the special needs of older workers. Research has shown that older workers, including those with cognitive decline, can learn new skills if the training is adapted to their learning needs and abilities. For example, older learners should be given ample time to process new knowledge. International experience has shown that fostering the employment of older workers requires programs that take the following actions:

- *Increase incentives for employers and job-seekers.* Financial grants or vouchers could be given to employers to encourage them to provide training geared to older workers. This is likely to be more effective than tax incentives in increasing the provision of training and improving employment outcomes. Another approach is to provide jobseekers with individual learning accounts (ILAs), which are bank accounts managed by the workers themselves to fund continuous learning (Vodopivec et al, 2018).
- *Adapt labor market job matching methods for older workers.* Job search assistance and placement services should be redesigned to be more targeted towards older individuals. Job search assistance may be more effective for older than for younger workers, especially when older workers possess sufficient skills and previous labor market experience but are lacking job search skills.

⁶⁹ See: <https://www.cedefop.europa.eu/en/country-reports/inventory-lifelong-guidance-systems-and-practices-norway#guidance-for-neet>

⁷⁰ European Parliament resolution of February 17, 2022 on empowering European youth: post-pandemic employment and social recovery (2021/2952(RSP)).

⁷¹ The characteristics and recommendations are summarized from Vodopivec et al (2018) and European Commission (2019a).

- *Promote flexible work arrangements*, including part-time jobs, whereby workers can gradually reduce their working hours while remaining in the workforce but with a greater sense of well-being.
- *Challenge and change employers' negative perceptions about older workers*. A large number of countries have introduced awareness-raising campaigns to tackle negative social perceptions about older workers by highlighting the strengths, benefits, and opportunities of having an age-diverse workplace.

Long-Term Unemployed and Minority Groups

A mix of ALMMs, services, and interventions is typically necessary to bring the long-term unemployed closer to the labor market.⁷² According to international experience, this mix could include:

- *Personalized and intensive counselling* by trained counsellors supported by psychologists, to build skills such as self-confidence and to overcome challenges related to motivation as well as to support an enabling environment within the family.
- *Social support services to alleviate difficult life circumstances of the long-term unemployed*. These services might include guidance on administrative procedures and about how to access healthcare, education, or training services, mental health counselling, debt-counselling, marriage counselling, and housing support.
- *High-tech job search assistance and placement*. AI-based technology can enhance skills profiling and career assistance services. For example, it can make it easier for CES counselors to profile individuals' skill sets and match them with career and learning pathways. It can also help CES case workers to operate more efficiently, to improve their chances of placing clients, and to focus their attention and efforts on more vulnerable candidates.
- *Support to employers for providing internships and on-the-job training and subsequent employment for this target group*. This involves identifying suitable companies in the local area, assessing which positions are open and what skills are required and informing them about the benefits available to them, such as subsidies for hiring the long-term unemployed.
- *Post-placement support (drop-out prevention)*. The transition period between being unem-

ployed and moving into training and education, temporary work placements, or employment is often very fragile. It is important to keep providing individuals with post-placement support for at least three months to minimize the chances of them dropping out.

Women

Women face more constraints to participating in ALMMs and accessing employment (World Bank, 2022c). The most common barriers that they face include time constraints related to their higher burden of family and care responsibilities than men, their more limited mobility, their lack of professional experience, smaller social and professional networks, limited agency, restricted access to productive inputs (such as finance and land), and social norms that define their domestic responsibilities and limit their occupational choices. Therefore, ALMMs and employment services should adopt the following measures that have been shown to facilitate female enrollment and employment:

- *Affordable childcare and transportation support and/or stipends* to cover the expenses associated with participating in the program. Also, training, and other services should be provided in locations that are safe and easily accessible to women.
- *Job counselling and training activities* to enhance women's decision-making capacity and self-esteem through, for example, soft skills training and/or coaching support.
- *Orientation and intermediation services* to provide women with information (for example, on the wages paid for different occupations) and proper career guidance to foster women's aspirations and decisions about training and career choices. These activities should be designed to deconstruct gender-specific stereotypes and address occupational segregation, for example, by highlighting successful women and former female participants as role models.
- *Expanded and strengthened training for women* in the skills required for non-traditional and male-dominated occupations (which provide greater employment opportunities for quality jobs and decent earnings) as well as soft-skills training. For instance, topics such as self-confidence or negotiation skills may be especially helpful for women as social norms have meant that they are less likely than men to have developed these skills earlier.

⁷²The recommendations are summarized from World Bank (2022c).

Chapter 6: Social Protection and Human Capital

Introduction

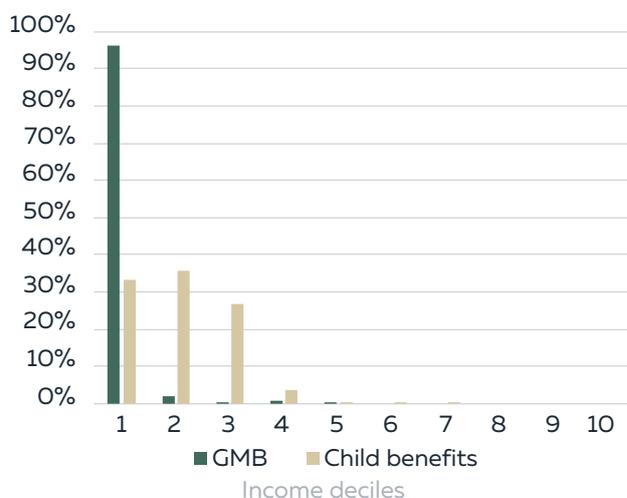
The goal of social protection is not just to prevent poverty but also to protect and improve the skills and abilities of these individuals. Well-designed social protection systems and tools can be transformative. They help to reduce economic and individual shocks that may push a household into poverty. This way, families can maintain their human capital potential instead of being trapped in poverty. Financial assistance and efficient social and employment services are at the heart of boosting human capital and can empower people to pursue health, education, and employment. Cash transfers help prevent poverty traps by providing financial stability and preventing old-age poverty. Social care services stimulate the use of health and education services which is especially critical for children. Employment services and unemployment benefits increase participation in skills development programs that equip job seekers with higher-quality skills for more productive and better-paid jobs. When these are integrated, they could effectively help those who, for various reasons, have diminished earning opportunities because of a disability, care duties, or insufficient skills.

Although Croatia has a comprehensive social protection system, poverty remains a significant threat to human capital. Around 100 centrally executed social assistance programs aim to address risks such as poverty, unemployment, disability, health, old age, and survivorship needs. In addition, around 50 to 60 social assistance programs are managed at the local government level (Pezer and Urban, 2017). Yet, the national poverty rate remains high at about 18 percent, and the at-risk-of-poverty was at about 20 percent in 2022. Poor households in Croatia cannot devote sufficient resources to education, health, and mental well-being, especially for their children. According to a World Bank survey, 38 percent reported difficulties making ends meet in 2021 (World Bank, 2021b). Single-member households are a group with a substantial risk of poverty and households with three or more children. While the risk of poverty among all households without children was 22 percent in 2017, it increased to 44 percent (almost twice as much as within the EU28) and

48 percent among people above 65 living alone.

The safety net programs primarily target specific groups of people. Improving and expanding the safety net through income testing is crucial to lessen poverty and promote human development. Poverty reduction via social assistance programs depends on coverage, targeting, and adequacy of support to the intended population (Box 4). The analysis of the targeting the low-income families (Figure 73) is especially useful to assess whether the safety net aimed at addressing poverty alleviation targets poor and low-income households and, thus, whether it is cost-effective. According to the World Bank analysis of the Croatian safety net, there is a significant under-coverage of the poor and those at risk of poverty. There are two key anti-poverty programs in the country. First, the Guaranteed Minimum Benefit, and second, the child benefit; both the programs are income and asset test conditions. However, taken together, the child and GMB (Guaranteed Minimum Benefit) benefits only cover around half the poorest 25 percent of the population. The child benefit provides the most coverage (50 percent of the poorest decile). The GMB pro-

Figure 73: Targeting performance: share of total beneficiaries across income deciles



Source: World Bank calculations. Note: GMB coverage for 2022 is estimated using 2018 incidence data.

Box 4: Key indicators for assessing social assistance performance

Coverage

Coverage measures the direct and indirect beneficiaries receiving social assistance in a target group identifiable in the nationally representative household survey data. A target group might be the total population, first income quintiles, or total population in urban and rural areas. Conceptually, program coverage is a necessary but insufficient condition for a program to be effective for its target group: only if the program reaches its intended beneficiaries (targeting) and provides adequate benefits will it have a chance to ameliorate the condition for which it was initially designed.

Targeting

Targeting assessment is based on benefit incidence, which measures how much of the program’s benefits reach the poorest or desired characteristics. Benefit incidence is the transfer amount received by a group as a percentage of the total transfers received by the population. For example, a group could be the poorest decile or the lowest three deciles. In other words, benefit incidence is calculated for the total population, quintiles, or deciles.

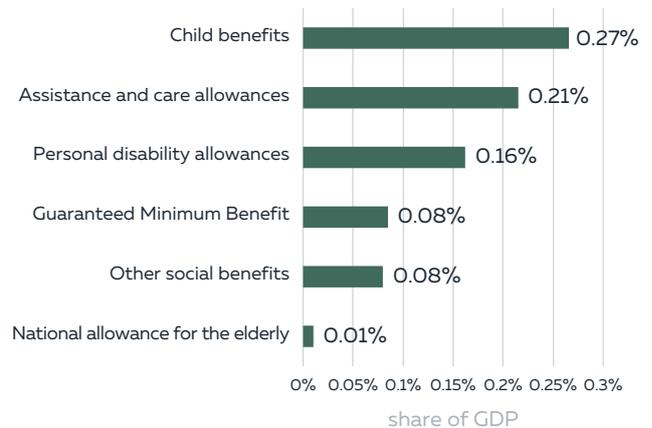
Adequacy

The adequacy of a program is calculated as the value of the transfers received by a group divided by the total consumption or income of the beneficiaries in that group. Adequacy, therefore, measures the share of the welfare of recipients represented by each transfer.

gram only covers around 20 percent of the poorest decile or 2 percent of the population.

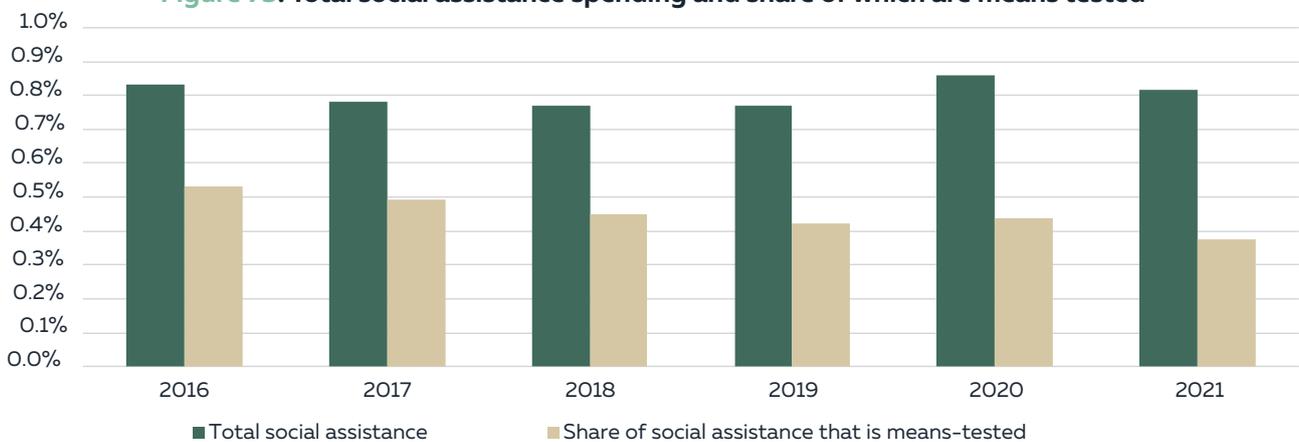
Compared to other EU countries, social assistance expenditure is relatively low. Central non-contributory social assistance programs account for only about 1 percent of GDP, and around 0.4 percent is targeted to low-income households (World Bank, 2019a and 2022b). The composition of non-contributory social assistance spending in 2021 shown in Figure 74 demonstrates that the safety net system prioritizes children and caregivers. The share of means-tested social assistance which targets low-income status includes the Guaranteed Minimum Benefit (GMB) and child However, the expenditure levels are small relative to poverty.

Figure 74: Spending on SA by type of program as a share of GDP in 2021



Source: MoLPFSP, WB staff calculations.

Figure 75: Total social assistance spending and share of which are means tested



Source: MoLPFSP, WB staff calculations.

Enhancing the Effectiveness of Social Assistance in Reducing Poverty

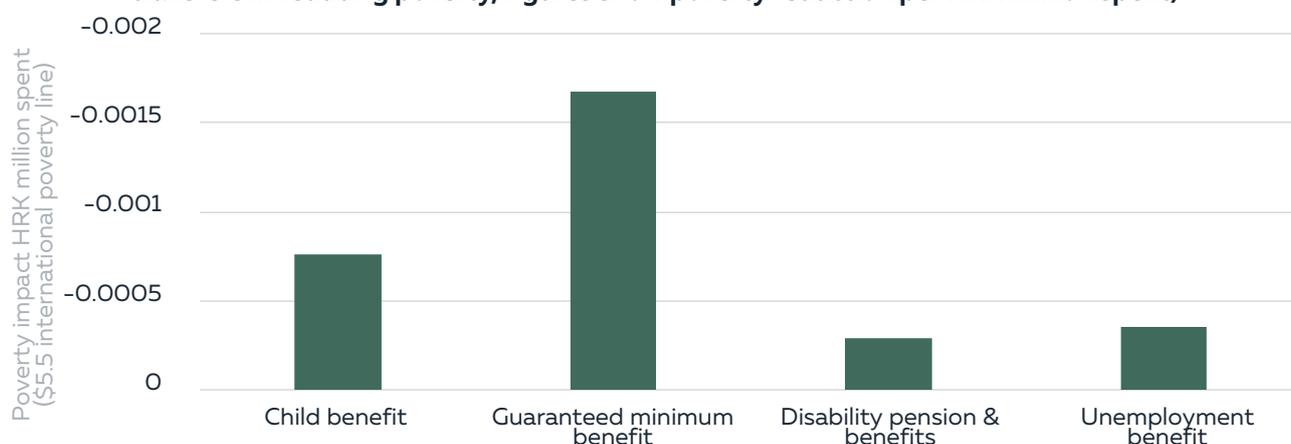
Raising the percentage of means-tested aid to decrease poverty cost-efficiently through social assistance is recommended. This would result in an efficient reduction of poverty compared to other programs. For comparison, Figure 76 shows that GMB and child benefits decreased poverty per expenditure unit more than other transfers. Using these estimations, the World Bank compared how much poverty could be reduced if social assistance coverage among the poorest 20 percent of the population is increased through the GMB, which comprised 0.03 percent of GDP in 2018. The model shows that if the GMB expenditure were scaled to 0.5 percent of GDP, the program would cover approximately 90 percent of the poorest 10 percent, resulting in a poverty reduction impact of roughly 3.3 percentage points. As such, the GMB could be developed to become the flagship anti-poverty program in consolidation or coordination with the means-tested child allowances. The increase in access can be implemented by simplifying the GMB administrative procedures since some requirements for GMB applications are more restrictive than other countries and may discourage access. Specifically, one is the requirement for a property lien in case incorrectly provided benefits need to be “clawed back.” To increase access, consideration could be given to eliminating the condition. Another possible factor contributing to low coverage is stigma, with visibility within the community due to the need to apply for the benefit in a social welfare center and the required home visit.

It is necessary to review the process of mandatory home visits for GMB applicants. Using administra-

tive data, an analysis of the difference between the number of applications and approvals for the GMB for recent years, both overall and by locality, could provide information that would help to understand whether a home visit has any effect. The procedure may be unnecessary as only a small fraction of households typically misrepresent their welfare status. Household visits are expensive in terms of administrative and staff time costs which in some localities could lead to delays in processing because of staff time and transportation constraints. If this is the case, the total cost of visiting all the households exceeds the potential savings from prevented cases of ineligible benefit recipients. It is also a possible source of low GMB coverage and administrative inefficiency and not a requirement for the means-tested child benefit. Since each case worker (CSW) carries out household visits and incorporates the findings into the application assessment process, it is also possible that staff in the offices may use different standards. For example, this could lead to geographic inequity; in other words, higher or lower standards may be applied depending on whether the CSW is in a richer or poorer region. It is also possible that the staff responsible for home visits may be expected to identify evidence of extreme poverty, with severe conditions such as lack of heating, water, electricity, or food for children. This could lead to eligible but less extreme cases needing approval as GMB recipients.

Implementing a risk-based approach to encourage participation by using algorithms that suggest home visits selectively can reduce the likelihood of ineligible individuals and fraudulent activities. The basic idea of a risk-oriented approach is to select households for inspection visits based on risk profiling. This can be automated using statistical methods for identifying a high probability of inconsistency between reported and actual income and wealth.

Figure 76: GMB has the most poverty reduction per budget spent. (Cost-effectiveness of major direct transfers in reducing poverty, figures show poverty reduction per HRK million spent)



The technique relies on identifying predictors of household characteristics correlated with poverty status or fraud. There are several advantages of this more selective approach to home visits: introduction of more objectiveness, administrative savings, simplification of the enrollment process, avoidance of inconvenience for many eligible households, and more cost-effective administration of the program. There are good examples of this approach used in welfare systems in Europe. This change would also be relevant to make the program more crisis-adaptive; for example, any potential scale-up of the program in its current form may be impeded by the speed at which staff can implement household visits.

Ensuring Proper Design of Activation and Graduation Components in Safety Nets

Croatian policymakers are worried that welfare payments may discourage work and hinder the utilization of human capital. There is concern among many in Croatia that the government may offer insufficient social support to impoverished individuals to prevent reliance on welfare. High PTR (Participation Tax Rate) rates could in theory create an "inactivity trap" for those unemployed and receiving benefits with low earning potential. This situation occurs when employment results in little or no increase in disposable income. This would occur when the combined effects of benefit withdrawal and higher tax burdens erode in-work income. According to a 2013 study, the transition from inactivity to single-earner minimum wage resulted in a PTR above 100 percent for individuals from jobless households with dependent children and single-parent families (Bejaković et al, 2014). For a single-person or two-person household, PTR for such a transition is still substantial but lower (63 percent and 72 percent), primarily due to GMB being far lower than the minimum wage. Similarly, in the case of a dual-earner couple where the primary earner earns 100 percent of the average wage, the potential for an inactivity trap in Croatia is generally higher than the EU average, and for single individuals with two children with earnings below 67 percent of the average wage where the inactivity trap can be as high as 127 percent, more than twice the EU average, indicating strong financial disincentives to work. In other words, there is a possibility that for such households' work does not pay off.

One of the instruments to fix this issue is implementing earnings disregard. This means that a portion of the income from GMB is not considered

when calculating social assistance benefits. While the benefit formulas should be strengthened by allowing a higher proportion of disregarded earnings, whether this inactivity trap is as pervasive as perceived is another question. Academic research has shown that high PTR is not the leading cause of unemployment. Lack of employment-related capabilities seems to be a more significant barrier to employment that hinders access to the labor market. According to Bejaković et al (2014), the high-level PTR in Croatia is not associated with labor market participation, and Croatian GMB recipients with vocational education transition into employment about twice as often as others, suggesting the key role of education over financial disincentives.

Another factor that can discourage work is the high level of benefit generosity when people receive multiple transfers. The GMB is not very generous on its own. It is calculated based on HRK 800 (€106) and has not been revised since October 8th, 2014. According to the rules, the benefit amount shall not exceed the gross minimum wage (in 2022, HRK 4,687.50 (€623)). However, the generosity is higher because GMB recipients are automatically eligible for several other cash and in-kind benefits, which could end up as a generous "package" that includes housing allowance (cost of rent, electricity, gas, heating, water, water drainage, other); energy subsidy for vulnerable energy consumers; a heating allowance for recipients of GMB who use wood for heating; supplementary health insurance; a 50 percent subsidy for school textbooks for primary and secondary school pupils from GMB families; coverage of transportation expenses for secondary education; and additional cash and in-kind benefits extended by local government administrations.

Although a high participation tax rate can discourage work, activation tools and "in-work" requirements can help reduce this effect. Activation refers to policies to support access to employment, education, and training for all those facing barriers to entering the labor market and who are receiving social welfare payments, including unemployment benefits, income support for people experiencing poverty, benefits for single parents, people with disabilities, immigrants, and older people. Such conditions and assistance are aimed at overcoming dependency and graduating from social assistance. There are two approaches to activation methods: "work-first" and "human capital." The "work-for-welfare" approach comprises labor force attachment schemes that compel individuals to take formal employment as soon as possible.

However, stricter employment conditions may

have limited benefits and focus on short-term solutions. The “work-for-welfare” approach aims to minimize welfare dependence by enforcing mandatory job search requirements and imposing penalties for non-compliance. However, stricter criteria for low-income support benefits may only lead to an increase in low-paid employment. The “human capital” approach focuses on long-term activation policies that offer comprehensive services and prioritize training and skills development. The design of activation and graduation in the unemployment benefit should therefore take into account three factors:

1. The employability barriers of unemployed or inactive individuals.
2. The availability of active labor market services and education, health, social services, and long-term care for older individuals significantly influences the effectiveness of ALMP policies.
3. The activation conditions for receiving benefits and graduation from benefit recipient status.

According to Figure 77, Croatia's unemployment benefit has some of the strictest activation requirements among EU countries. Figure 78 summarizes the key work-related design characteristics of the UB (unemployment benefit). In case of non-compliance, the legislation envisages suspension of further payment of the UB and benefit recovery. There could be numerous reasons for the UB to be suspended, for example, if the beneficiary fails to report in person to the CES at least once every four weeks; when they start working without a contract; after refusing to accept offered (suitable) job; after declining participation in ALMM, etc. Sanctioned is the first case of non-compliance. The removal from

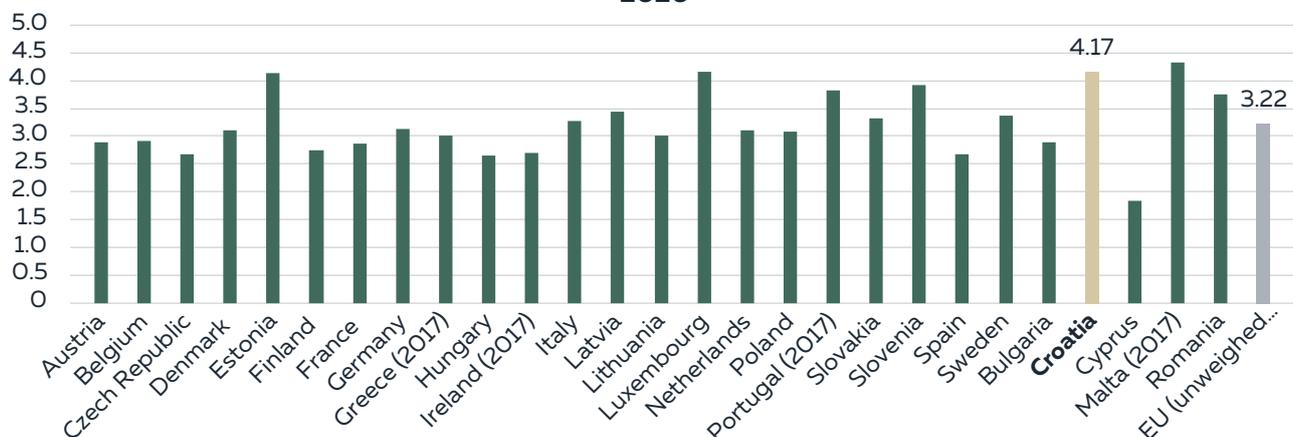
the unemployment register means not only loss of access to benefits but also to CES services.

While severe sanctions may encourage a quicker return to work, it is important to consider their potential drawbacks. Studies have shown that strict sanctions can result in job matches that are less stable and lower paid or lead to more part-time work instead of full-time employment. Additionally, if job seekers are placed in lower-quality jobs, their skills may suffer. Hence, it is important to maintain a balance in imposing sanctions.

Providing wider financial incentives could help unemployed people to move to new locations or jobs more easily. Currently, the UB recipients are entitled to financial assistance and reimbursement of expenses incurred when investing in skills and new occupations through participation in adult education and training arranged and financed by CES. The same right to financial assistance, covering travel and other costs, exists in the case of participation in active employment measures. When the unemployed person finds a job outside of the place of residence, one is entitled to one-time financial assistance and reimbursement of travel and relocation expenses.

However, if someone decides to work and earn income, they cannot continue to receive the UB. The moment they take administrative steps towards work, such as becoming a member of a cooperative, a seasonal worker, a freelancer, or registering a business, the UB is terminated. This policy discourages activity-related behavior, regardless of whether it leads to actual income generation. Furthermore, the design of UB does not include any financial incentives to help ease the risks and uncertainties that come with entering the job market. Unfortunately,

Figure 77: The strictness of activation requirements, overall score, first-tier unemployment benefits, 2020



Source: OECD Strictness of Activation Requirements Database. <https://stats.oecd.org/Index.aspx?DataSetCode=SBE>.

Figure 78: Key incentives and disincentives for activation and graduation in the UB design

<p>Activity-related (behavioral) eligibility criteria and sanctions</p>	<p>To fulfil conditions for active job search as agreed in a job-search plan or agreement for inclusion in the labor market</p> <p>To demonstrate availability for work responding to all CES calls and initiatives</p> <p>To report to CES in person, at least once every 4 weeks, on job-search efforts</p> <p>Not to undertake work without a contract</p> <p>To enrol and complete educational programs for increasing qualification and employability organized or paid for by CES</p> <p>To accept 'suitable' job offers made by CES or employer in the place of residence or within a distance of up to 50 km (exceptions apply)</p> <p>To accept occupational mobility (job offers in different professions)</p> <p>Administrative sanctions for non compliance - suspension of UB and refund</p> <p>Administrative sanction - deregistration from the record of unemployed if not maintaining contacts with CES for 6 months</p>
<p>Incentives and disincentives in the UB design for graduation / labor market integration of claimants</p>	<p>The UB amount is a percentage of (lower than) the past personal earnings which decreases over time</p> <p>The UB amount has a statutory ceiling - cannot exceed the gross minimum wage irrespective of household size</p> <p>The duration of UB receipt depends on past work record and appears long for laid-off long-time employees and employees close to retirement age</p> <p>No automatic eligibility to other rights, or cash and in-kind benefits</p>
<p>Interaction with the employment service (how the 'mutual obligations' principle works?)</p>	<p>To register with CES if able to work or partially able to work within 30 days</p> <p>No mandatory waiting period for the UB</p> <p>Intensity of interventions on behalf of CES is different / lower for UB recipients of close to retirement age</p> <p>Financial compensations (cash payments) to assist the unemployed into employment</p> <ul style="list-style-type: none"> • Financial assistance and reimbursement of expenses incurred in the course of education (training program arranged and financed by CES) • One-time financial assistance and reimbursement of travel and relocation expenses
<p>Other conditions</p>	<p>Cumulation of UB with earnings from work is not possible; suspension of UB and obligation to refund apply</p> <p>Not possible to combine UB receipt with the status of permanent seasonal worker, with starting a business, membership in a cooperative, freelance work</p>

Source: Labor Market Act (Official Gazette, 118/2018), last amended 18/2022.

this means there are no options for a gradual reduction of UB payments or the ability to receive income from work while still receiving UB temporarily.

As labor shortages continue to increase, it's important to reassess the length of time that some workers can receive unemployment benefits (UB).

Although some factors promote graduation, some aspects of the UB design hinder the activation of older workers. There is a legal guarantee that the right to UB payment will be preserved on reemployment and that the UB will be resumed in case of lay-off. This is a way to shorten the actual duration of the unemployment benefit. If the UB claimant takes a job before the expiration of its full term and is subsequently laid off, they are entitled to receive

the remaining part of the entitlement to UB. If the claimant has worked for over three months, the UB will be recalculated/updated with the new work record and wage. However, individuals who are unemployed but have a lengthy work history may need more motivation to seek employment under the current UB design actively. The duration of UB benefits for those who have been laid off and have a long work history is quite generous and can last up to 450 days (about 1 year 3 months) for those who have worked for over 25 years.

To make the most of all available human resources, it's crucial to include older UB recipients in activation and labor market inclusion policies. Individuals who have worked for 32 years or more and require

up to five more years before they are eligible for an old-age pension will continue to receive unemployment benefits until they become eligible for a pension. These regulations prioritize long-term "passive" receipt of unemployment benefits, serving as an early retirement benefit until one becomes an old-age pensioner. There are no obligations for active job searching or specific labor market measures to target the long-term unemployed who are older. Allowing up to five years of UB without requiring efforts to reintegrate into the job market, including behavioral expectations, incentives, and consequences, is too lengthy. Moreover, this extended period puts older workers at risk of losing their current skills and missing out on opportunities to learn new ones. Therefore, it is necessary to modify various ALMMs and employment services to promote job seeking and the ability to work among older workers.

Navigating the Low-Income Support (GMB) Program: Activation and Graduation

The GMB incorporates activation elements consistent with the "second-pillar"⁷³ of last-resort income support schemes in the EU and OECD countries. As a result of such reforms, income support is combined with employment and social services in an integrated service provision model to help benefit recipients become self-sufficient. Figure 79 presents a summary of work-related design characteristics of the GMB, which describes the conditions for the activation of recipients. Effective GMB activation and graduation element design depends on work incentives, activation requirements, and sanctions. Based on meta-evaluations, implementing job-search monitoring and sanctions can lead to more

Figure 79: Incentives and disincentives for activation and graduation in the GMB design

<p>The 'mutual obligations' principle / rights and responsibilities</p>	<p>Obligation for the able to work GMB recipients to register with CES Obligation to accept any offer for work made by CES regardless of qualification or experience, including temporary and seasonal jobs Obligation to participate in ALMMs, specifically in municipal/ community works and training Frequent and personalized interventions by CES during the time of benefit receipts Offer (but no obligation to participate) for people with reduced ability to work (mostly training and retraining)</p>
<p>Incentives and disincentives in the GMB design for graduation / labor market integration</p>	<p>The GMB amount for able to work is lower than GMB for not able to work The GMB amount cannot exceed the gross minimum wage irrespective of household size The benefit formula is "the difference" between income threshold and own income; benefit amount is reduced with earned income at 100 percent The duration of benefit receipt is unlimited, with no downsizing or phasing out over time Presence of associated rights / related benefits (cash and in-kind), including from local government units</p>
<p>Sanctions for non-compliance with activation requirements</p>	<p>The right to GMB can be suspended for six months if:</p> <ul style="list-style-type: none"> • a job offer is rejected • If employment is terminated
<p>Financial work incentives / in-work benefits</p>	<p>When employed those receiving GMB uninterruptedly for at least one year will continue receiving support for 3 consecutive months (full amount in the first month of work, 75% in the second month and 50% in the third month).</p> <p>The right to the GMB is not suspended after three months of work if the average earnings over the period does not exceed the amount of the GMB</p> <p>In case of participation in public works the GMB is not suspended</p>

Source: Social Welfare Act (2013), last amended Official Gazette, 138/2020.

⁷³The focus of the first pillar is on improving the targeting and increasing the coverage of benefits, thus reducing leakage to the non-poor. The second pillar focuses on activation and graduation conditions for benefit recipients.

employment. Like UB, these provisions encourage individuals to seek actively, prepare for, and actively accept employment opportunities. One potential use of these tools is to decrease the number of people making claims, thereby lessening the strain on the benefits systems and employment services. However, this should be achieved via a targeting system by more accurately identifying and supporting those who truly need it.

A distinct feature of the activation and graduation element of the GMB is the presence of financial work incentives or make-work-pay provisions. A key aspect of the GMB's activation and graduation component is its inclusion of financial incentives or "make-work-pay" measures. When employed, those receiving GMB for at least one year will continue receiving (in-work) support for three consecutive months (full amount in the first month of work, 75 percent in the second month, and 50 percent in the third month). The right to the GMB is suspended after three months of work if the average earnings over the period exceed the amount of the GMB. In case of engagement in public works, the GMB is not suspended. Finally, the GMB is not generous compared to incomes from work and thus is not expected to raise benefit dependency. This makes it less likely to discourage work than similar benefits in other EU countries.⁷⁴ GMB beneficiaries who can work or are partially qualified to work must register at the CES within 30 days from the application; must be ready to accept any offer of employment, regardless of their qualifications or experience, including temporary and seasonal jobs; must look actively for employment and be available for work. Individuals under five years from qualifying for an old-age pension are exempt from these behavioral conditions. The receipt of GMB for those who can work is subject to a public works requirement. The local governments organize and finance "work for the common good without compensation" where participation is obligatory, takes 60 to 90 hours per month, and is not paid. This is atypical and is not aligned with EU practice. Therefore, it is crucial to ensure that demanding conditions don't become onerous, as this can lead to intended recipients being excluded from receiving financial support and employment services.

Sanctions for failure to comply accompany requirements for GMB activation. The right to the benefit is suspended for six months for beneficiaries who refuse a job offer without a valid reason, terminate their employment, or decline to meet workfare requirements. Furthermore, the amount is reduced by the GMB amount to which the sanctioned member has been previously entitled. However,

the sanctions should not withhold adequate support from intended recipients. It is recommended to adopt balanced conditions for compliance with work requirements and use targeting and fraud control systems to minimize GMB claims which are not legitimate or not addressed to the target group.

It is crucial to have well-organized social services integrated with the CES through a case management system to maximize the human potential of GMB recipients. There is a need for more inter-institutional coordination to address the various challenges related to labor market reintegration and societal inclusion. To achieve the desired activation outcomes, individuals require personalized support throughout their journey to work. This is particularly important for GMB recipients, who may struggle with long-term unemployment and require housing, childcare, and health and mental health support. Successful (re)integration, due to complex support needs, requires coordinated case management with social services. Currently, several tools are available to help coordinate service provision, including the job-search plan, the agreement for inclusion in the labor market, and the individual plan for improving the life situation. A good plan should consider all family members' needs and limitations and provide activation and support options for everyone in the household. Personal factors and complex issues can greatly impact their situation. When conducting a needs assessment, it is important to consider various factors such as childcare, home care for dependent relatives, financial support, and in-kind support to ensure regular school attendance. When creating service packages, it is important to personalize them to reflect the unique needs and potential for activation of each benefit recipient.

Policy Implications

To reduce poverty cost-effectively through social assistance, increasing the percentage of means-tested aid is important to help alleviate poverty and promote human development. Compared to other countries in the European Union, Croatia's social assistance expenditure is relatively low. Currently, the safety net programs in Croatia primarily target specific groups of people, but they should shift to means-tested benefits by increasing the share of the budget flowing to programs targeting low-income status, such as the Guaranteed Minimum Benefit (GMB).

To make it easier for people to access GMB, the administrative procedures for GMB applications need to be simplified. Some of the requirements for

⁷⁴ The observations are based on the qualitative comparative data on activation-related requirements in guaranteed minimum income programs collected in the MISSOC database of the European Commission (as of 01.01.2022); <https://www.missoc.org/missoc-database/comparative-tables/results/>. With respect to lower-tier (social assistance) benefits, the OECD Strictness of Activation Requirements Database provided ratings for a very few countries in 2020 and earlier. Croatia's GMB was not featured among them.

GMB applications are stricter than in other countries, which can discourage people from applying. One such requirement is the need for a property lien in case benefits are provided incorrectly and need to be returned. To increase access, we could consider eliminating this condition.

It is important to review the mandatory home visits for GMB applicants to address the issue of low coverage. Stigma can be one of the reasons for low coverage of certain benefits, especially when the application process involves compulsory home visits. A better approach would be to use a probabilistic approach to suggest selective home visits based on the higher risk factors identified by profiling algorithms. This will encourage participation while limiting the possibility of fraudulent activities and ensuring that only eligible individuals receive the benefit at a lower administrative cost.

Activation and graduation policies could be strengthened by enhancing complementary services such as health, training, and social services for those facing barriers to labor. These services should aim to overcome dependency and help individuals graduate from social assistance through the "human capital" approach. The enhanced availability of active labor market services, education, health, social services, and long-term care for older individuals significantly influences the effectiveness of ALMP policies.

To maximize the potential of GMB recipients, well-organized social services must be integrated with the GMB and the Croatian employment services. Inter-institutional coordination is necessary to address challenges related to labor market reintegration and societal inclusion. Personalized support is vital for individuals on their journey to work, especially for GMB recipients who require housing, childcare, and health and mental health support. Successful reintegration requires coordinated case management with social services, considering all family members' needs and limitations. An integrated case management must consider personal factors and complex issues to provide personalized service packages and activation options for each benefit recipient.

Financial incentives can be a helpful solution to assist unemployed individuals in relocating or finding new job opportunities. While Financial assistance is available to registered unemployed individuals to help them invest in new skills, cover travel expenses, and provide one-time financial support for relocation expenses, this policy can be further improved to support those who decide to work, as

they lose their benefits after becoming a member of a cooperative, a seasonal worker, a freelancer, or a registered business owner. Therefore, the policy should be more encouraging towards job seeking by not abruptly terminating the benefits.

Considering older unemployment benefit recipients in policies promoting labor market inclusion is essential. Individuals who have worked for 32 years or more and require up to five more years before they are eligible for an old-age pension will continue to receive unemployment benefits until they become eligible for a pension. The current regulations prioritize the "passive" receipt of unemployment benefits for older unemployed individuals as an early retirement benefit until they become old-age pensioners. However, there are no obligations for job searching or specific labor market measures to target the older, long-term unemployed. Allowing up to five years of unemployment benefits without requiring reintegration into the job market, including behavioral expectations, incentives, and consequences, is too lengthy. Furthermore, this extended period puts older workers at risk of losing their skills and missing out on opportunities to learn new ones. Therefore, it is necessary to modify various ALMMs (Active Labor Market Measures) and employment services to promote job-seeking and the ability to work among older workers.

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