



Western Balkans Labor Market Brief 2022

Special Topic – Labor Taxation in
the Western Balkans

(August 2024)



Western Balkans Labor Market Brief for 2022 highlights:

- This report uses data from national labor force surveys to examine key labor market indicators for the six Western Balkan economies – Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, and Serbia – and selected European Union (EU) countries – Austria, Bulgaria, Croatia, and Hungary in 2022. At the time this report was prepared, that was the latest year for which official statistics were available for all six economies.
- Economic growth in 2022 slowed significantly compared to 2021. This slowdown was primarily driven by Russia’s invasion of Ukraine and the resulting global economic slowdown and surge in prices. However, it was also partly due to the strong growth from the previous year, which created a higher base for comparison. Still, despite the unfavorable macroeconomic environment, most labor market indicators continued to improve.
- Activity rates improved in 2022 in most countries and reached record-high levels almost everywhere (except in Kosovo). Changes in activity levels were stronger for women than for men in 2022. Women’s labor market participation in the Western Balkans is significantly lower than that of men, however. In 2022, the difference in activity rates was, on average, around 19 percentage points across all countries.
- The number of employed persons increased in the entire region in 2022 and exceeded pre-pandemic levels in almost all countries, with increases being particularly pronounced among women. Employment rates also reached record levels everywhere. On the other hand, young people (15-24) and individuals with a low level of education continue to be less likely to be employed.
- Unemployment also fell in all Western Balkan countries in 2022. The biggest improvement was seen in Kosovo, where the rate of unemployment dropped by 8 percentage points. The decline in unemployment was due to a decrease in the labor force, new job creation, increasing inactivity, and continued outward migration. Women continued to be more affected by unemployment than men in most countries. Young people and individuals with a low level of education face the highest risk of unemployment.
- Nominal gross wages continued to increase in 2022 across all the Western Balkan countries, driven primarily by inflation, but also by the tightening of the labor market and increases in minimum wages. That said, real net wages only increased in Montenegro and Serbia. Montenegro was a notable case, seeing the biggest real growth in net wages (18.4%) due to the reduction in labor taxes and a substantial increase in the minimum wage.
- Unit labor costs evolved differently across countries. Real unit labor costs increased strongly in Montenegro (10%) and moderately in Serbia (3%) due to real wage growth. On the other hand, they stagnated in Albania, Kosovo, and North Macedonia and declined by 3% in Bosnia and Herzegovina.

This report and the accompanying database are available on the website of the Vienna Institute for International Economic Studies (wiiw) at <https://data.wiiw.ac.at/seejobsgateway.html>.

This report and the SEE Jobs Gateway are financially supported by



WORLD BANK GROUP
Social Protection & Jobs



Federal Ministry
Republic of Austria
Finance

Western Balkans Labor Market Brief 2022

August 2024

Acknowledgements

This report is the result of collaboration between the World Bank and the Vienna Institute for International Economic Studies (wiiw). The team comprised Indhira Santos and Cornelius von Lenthe (co-task team leaders, World Bank); Hermine Vidovic and Branimir Jovanović (wiiw), who wrote most of the report; Monika Schwarzhappel and Galina Vasaros (wiiw), who compiled the regionally comparable database on labor market outcomes and the statistical annex; David Zenz (wiiw), who created and completely redesigned the online graphical user interface; Beate Muck (wiiw), who was responsible for the production of graphs; Michaela Bönisch (wiiw), who formatted the publication; and Josh Ward, who provided editorial support.

The team is grateful for the collaboration of the individual statistical offices of the Western Balkan countries and Natasha Rovo (Senior Economist, World Bank), Besart Myderrizi (Economist, World Bank), Milan Lakicevic (Economist, World Bank), Sanja Madzarevic-Sujster (Senior Economist, World Bank) and Zoran Skopljak (Public Sector Specialist, World Bank) for their inputs to the special topic. The team would also like to thank the peer reviewers Natasha Rovo (Senior Economist, World Bank) and Siddharth Hari (Economist, World Bank) for their valuable comments and Xiaoqing Yu (Country Director, Western Balkans, World Bank) and Paolo Belli (Practice Manager, Social Protection and Jobs, World Bank) for overall guidance.

The team is grateful to the Austrian Federal Ministry of Finance for its financial support of this report and of the [SEE Jobs Gateway](#).

Standard Disclaimer:

This volume is a product of the staff of the International Bank for Reconstruction and Development/The World Bank. The findings, interpretations, and conclusions expressed in this paper do not necessarily reflect the views of the Executive Directors of The World Bank or the governments they represent. The World Bank does not guarantee the accuracy of the data presented in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

Copyright Statement:

The material in this publication is copyrighted. Copying or disseminating portions or all of this work without permission may be a violation of the law. The International Bank for Reconstruction and Development/The World Bank encourages dissemination of its work and will normally grant permission promptly to reproduce portions of the work. For permission to photocopy or reprint any part of this work, please send a request with complete information to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, USA, telephone 978-750-8400, fax 978-750-4470, <http://www.copyright.com>. All other queries on rights and licenses, including subsidiary rights, should be addressed to the Office of the Publisher, The World Bank, 1818 H Street NW, Washington, DC 20433, USA, fax 202-522-2422, e-mail pubrights@worldbank.org.

Content

Executive Summary.....	XI
1. Economic slowdown and high inflation due to Russia’s invasion of Ukraine	1
2. Activity rates exceed pre-pandemic levels.....	3
3. Employment recovered to or even exceeded pre-pandemic levels	8
4. Unemployment declined to a historic low, but remained high by EU standards	13
5. Moderate increases in real unit labor costs.....	18
6. Conclusion.....	21
7. References.....	21
Special Topic: Labor Taxation in the Western Balkans	23
Executive Summary.....	25
1. Introduction	27
2. Overview of existing literature.....	28
3. Labor taxation data	30
4. Description of the labor tax systems in the Western Balkans	31
5. Tax wedges for different levels of wages in the Western Balkans.....	37
6. Comparison of the tax wedges in the Western Balkan economies and the EU comparator countries.....	44
7. Evolution of the labor tax wedge in the Western Balkans.....	47
8. Conclusions	49
References	51
Annex 1 – The labor tax systems in each of the Western Balkan economies in 2022.....	53
Annex 2 – Labor tax calculations	57
Annex 3 – Estimates of share of people with income above thresholds analysed in this study.....	61
Statistical Annex.....	65
SEE Jobs Gateway Database.....	67
Sources and definitions.....	69
Key economic indicators, annual growth in %.....	72
Key economic indicators, annual growth in %.....	73
EU peer countries.....	73
Albania: Labor market indicators.....	74
Albania: Earnings and unit labor costs.....	75
Bosnia and Herzegovina: Labor market indicators	76
Bosnia and Herzegovina: Earnings and unit labor costs	77

Kosovo: Labor market indicators	78
Kosovo: Earnings and unit labor costs	79
Montenegro: Labor market indicators.....	80
Montenegro: Earnings and unit labor costs.....	81
North Macedonia: Labor market indicators	82
North Macedonia: Earnings and unit labor costs	83
Serbia: Labor market indicators.....	84
Serbia: Earnings and unit labor costs.....	85
Western Balkans-6: Labor market indicators	86
Western Balkans-6: Earnings and unit labor costs.....	87
Austria: Labor market indicators	88
Austria: Earnings and unit labor costs	89
Bulgaria: Labor market indicators.....	90
Bulgaria: Earnings and unit labor costs.....	91
Croatia: Labor market indicators	92
Croatia: Earnings and unit labor costs	93
Hungary: Labor market indicators	94
Hungary: Earnings and unit labor costs	95

TABLES AND FIGURES

Table 1 / Changes in activity rates in 2022 vs. 2021 for men and women (pp).....	4
Table 2 / Change in activity rates in 2022 vs. 2021 by educational levels (pp)	7
Table 3 / Change in employment rates in 2022 vs. 2021 for men and women (% of the population aged 15-64), (pp)	9
Table 4 / Change in employment rates in 2022 vs. 2021 for different age groups (pp).....	10
Table 5 / Change in employment rates in 2022 vs. 2021 for people aged 15-64 with different levels of education (pp)	10
Table 6 / Change in the share of part-time employed, temporary employees, and self-employed persons between 2022 and 2021 (aged 15-64), (pp)	13
Table 7 / Change in the unemployment rates for men and women between 2021 and 2022 (% of labor force 15-64), (pp).....	14
Table 8 / Change in the unemployment rates between 2021 and 2022 for different age groups (pp)	15
Table 9 / Change in the unemployment rates between 2021 and 2022 for people aged 15-64 with different education levels (pp)	16
Table 10 / Nominal parameters of labor taxes in the Western Balkan economies in 2022	32
Table 11 / Nominal PIT rates in the Western Balkans and in selected EU countries.....	34
Table 12 / Total nominal SSC rates in the Western Balkan and EU comparator countries	35
Table 13 / Share of people with income above respective thresholds	38
Table 14 / Labor tax calculation for the average gross wage in Albania in 2022	57
Table 15 / Labor tax calculation for the average gross wage in Kosovo in 2022	57
Table 16 / Labor tax calculation for the average gross wage in Montenegro in 2022	58
Table 17 / Labor tax calculation for the average gross wage in North Macedonia in 2022	58
Table 18 / Labor tax calculation for the average gross wage in Federation of BiH in 2022	58
Table 19 / Labor tax calculation for the average gross wage in Republika Srpska in 2022	59
Table 20 / Labor tax calculation for the average gross wage in Serbia in 2022	59
Table 21 / Labor tax calculation for the average gross wage in Austria in 2022	59
Table 22 / Labor tax calculation for the average gross wage in Bulgaria in 2022	60
Table 23 / Labor tax calculation for the average gross wage in Hungary in 2022	60
Table 24 / Comparison of the net wages obtained in our calculations and net wages from official sources.....	60
Table 25 / Income shares for Albania	61
Table 26 / Income shares for Bosnia and Herzegovina.....	61
Table 27 / Income shares for Kosovo.....	62
Table 28 / Income shares for Montenegro.....	62
Table 29 / Income shares for North Macedonia.....	62
Table 30 / Income shares for Serbia	63
Figure 1 / Real GDP growth rates in 2022 (% , year on year)	1
Figure 2 / Annual consumer price inflation in 2022 (%)	2
Figure 3 / Annual change in the working-age population (15-64) in 2022 (%).....	3
Figure 4 / Activity rate in 2015-2022 (% of population aged 15-64)	4
Figure 5 / Female activity rate in 2015-2022 (% of female population aged 15-64)	5
Figure 6 / Male activity rate in 2015-2022 (% of male population aged 15-64).....	5
Figure 7 / Activity rate among persons aged 15-24 in 2021-2022 (% of population aged 15-24).....	6

Figure 8 / NEET rates (young people aged 15-24 neither in employment nor in education or training) in 2021-2022 (% of population aged 15-24)	6
Figure 9 / Activity rate among persons aged 55-64 in 2021-2022 (% of population aged 55-64)	7
Figure 10 / Annual change in employment levels in 2022 (%)	8
Figure 11 / Employment rates in 2015-2022 (% of population aged 15-64)	9
Figure 12 / Informal employment in Albania, North Macedonia, and Serbia (% of employed 15-64)	11
Figure 13 / Share of part-time employed, temporary employees, and self-employed persons in 2015-2022 (% of employed 15-64)	12
Figure 14 / Unemployment rates in 2021 and 2022 (% of labor force 15-64)	13
Figure 15 / Male and female unemployment rates in 2022 (% of labor force 15-64)	14
Figure 16 / Unemployment rates in 2022 for different age groups (%)	15
Figure 17 / Unemployment rates in 2022 for different education levels (% of labor force 15-64) (%)	16
Figure 18 / Share of long-term unemployment in total unemployment (%)	17
Figure 19 / Average nominal monthly gross wages in 2022 (EUR)	18
Figure 20 / Annual growth in average nominal gross wages in 2022 (%)	18
Figure 21 / Annual nominal change in the gross minimum wage expressed in EUR in 2022 (%)	19
Figure 22 / Gross minimum wage in 2022 (% of gross average wage)	19
Figure 23 / Real growth in average net wages in 2022 (%)	19
Figure 24 / Annual change in real unit labor costs, exchange rate adjusted, in 2022 (%)	20
Figure 25 / General government revenues from labor and personal income taxes in the Western Balkan and EU comparator countries in 2021 (% of GDP)	36
Figure 26 / General government revenues in the Western Balkan and EU comparator countries in 2021, by source (% of GDP)	36
Figure 27 / Labor taxes in Albania in 2022 at different levels of wages (% of total labor cost)	39
Figure 28 / Labor taxes in Kosovo in 2022 at different levels of wages (% of total labor cost)	39
Figure 29 / Labor taxes in Montenegro in 2022 at different levels of wages (% of total labor cost)	40
Figure 30 / Labor taxes in North Macedonia in 2022 at different levels of wages (% of total labor cost)	40
Figure 31 / Labor taxes in Federation of BiH in 2022 at different levels of wages (% of total labor cost)	41
Figure 32 / Labor taxes in Republika Srpska in 2022 at different levels of wages (% of total labor cost)	41
Figure 33 / Labor taxes in Serbia in 2022 at different levels of wages (% of total labor cost)	42
Figure 34 / Labor taxes in Hungary in 2022 at different levels of wages (% of total labor cost)	42
Figure 35 / Labor taxes in Bulgaria in 2022 at different levels of wages (% of total labor cost)	43
Figure 36 / Labor taxes in Austria in 2022 at different levels of wages (% of total labor cost)	43
Figure 37 / Total tax wedge, PIT and SSCs for the average gross wage in 2022 (% of total labor cost)	44
Figure 38 / Total tax wedge, PIT, and SSCs for the minimum wage in 2022 (% of total labor cost)	45
Figure 39 / Total tax wedge, PIT, and SSCs for wages 50 times higher than the average in 2022 (% of total labor cost)	45
Figure 40 / Total tax wedges for the minimum wage, average wage, and wage 50 times higher than the average in 2022 (% of total labor cost)	46
Figure 41 / Tax wedge at the minimum wage and at 50 times the average wage in 2022 (% of total labor cost)	46
Figure 42 / Labor tax wedge-related trends in Western Balkan economies in 2010-2022 at the minimum wage, average wage, and wage equal to 50 times the average (% of total labor cost)	48

Abbreviations, country classification, and country codes

Abbreviations

CPI	Consumer price index
EU	European Union
EUR	Euro
FDI	Foreign direct investment
GDP	Gross domestic product
HICP	Harmonized index of consumer prices
ILO	International Labour Organization
IESS	Integrated European Social Statistics (Regulation)
ISCED	International Standard Classification of Education
LFS	Labor Force Survey
NACE	Nomenclature statistique des activités économiques dans la Communauté européenne – statistical classification of economic activities in the European Community
NCU	National currency unit
NEET	Young people neither in employment nor in education and training
OECD	Organisation for Economic Co-operation and Development
PIT	Personal income tax
pp	Percentage point
PPP	Purchasing power parity
SSC	Social security contribution(s)
SEE	South Eastern Europe
ULC	Unit labor costs
wiiw	The Vienna Institute for International Economic Studies

Country codes

AL	Albania
AT	Austria
BA	Bosnia and Herzegovina
BG	Bulgaria
HR	Croatia
HU	Hungary
ME	Montenegro
MK	North Macedonia
RS	Serbia
XK	Kosovo

Executive Summary

The Western Balkans Labor Market Brief presents highlights of the SEE Jobs Gateway labor market observatory. This brief describes the development of key labor market indicators for all those aged 15-64 in 2022 for the six Western Balkan economies – Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, and Serbia – and selected European Union (EU) countries as comparators – Austria, Bulgaria, Croatia, and Hungary. The data have been harmonized across countries, although due to methodological changes in the Labor Force Survey (LFS), selected indicators are not fully comparable.¹ At the time this report was prepared, the latest year for which official statistics were available for the six Western Balkan economies was 2022. The full database, which includes all key labor market indicators disaggregated across gender, age, and education since 2010, is available at <https://data.wiiw.ac.at/seejobsgateway-q.html>.

The global crisis caused by Russia’s full-scale invasion of Ukraine and the consequent hike in global energy and food prices took a toll on the Western Balkan economies in 2022. Inflation skyrocketed everywhere in the region, reaching the highest levels in decades. GDP growth slowed significantly from the previous year, which can be partially attributed to the robust economic recovery from the pandemic experienced in the preceding year. However, slower growth was also driven by the slowdown in global demand, heightened economic uncertainty resulting from Russia’s invasion of Ukraine, and the decline in purchasing power due to inflation. Despite the general slowdown, there were some differences between countries. Montenegro and Albania grew solidly (by 6.4% and 4.9%, respectively) due to the continued recovery of tourism following the pandemic. Bosnia and Herzegovina and Kosovo performed relatively well (growing by 4.1% and 3.5%, respectively) thanks to strong remittances and FDI inflows. Serbia and North Macedonia had the weakest growth (2.5% and 0.9%, respectively) due to their dependence on energy imports and manufacturing.

At the same time, and despite the growth deceleration, labor force participation rates recovered and exceeded pre-pandemic levels in most cases. The labor force participation rate in 2022 improved in five Western Balkan countries, with the largest increase – of 8.5 percentage points (pp) – being in Montenegro. Kosovo was the only country that experienced a decline in activity, of 0.6 pp. Despite these improvements, activity levels across the region remained lower than in the EU comparator countries – ranging from 39% in Kosovo to 73% in Albania. Women’s labor force participation increased more than men’s in 2022, but it remained, on average, 19 pp below that of men. One segment of the population for which labor force participation rates are yet to recover after the pandemic is youth. The activity rate of young people (aged 15-24) only exceeded pre-pandemic levels in three countries: Albania, Montenegro, and Serbia. In fact, the activity rate of youth has increased by only 1.5 pp, on average, since 2015. This stands in stark contrast to participation rates among those aged 55-64, which increased by 11 pp during the same period.

¹ Three Western Balkan countries started publishing LFS data according to a new methodology in 2021 – Bosnia and Herzegovina, Montenegro, and Serbia. The changes were implemented in accordance with the new Regulation (EU) 2019/1700 of the European Parliament and the Council and followed new guidelines from the International Labour Organization (ILO). For further details, see Western Balkans Labor Market Brief 2021: <https://wiiw.ac.at/western-balkans-labor-market-brief-2021-dlp-6636.pdf>

Higher labor force participation rates were accompanied by increases in employment rates. Employment prospects among those aged 15-64 improved everywhere in the region in 2022, with employment reaching a regional record level of 6.5 million people, compared with 5.3 million in 2012. The employment rate also rose to an all-time high. Montenegro stands out: its employment rate was 8 pp higher than in 2021; in Albania, it increased by 4 pp. Despite these improvements, it should be noted that the Western Balkan countries still have significantly lower employment rates (on average 57%) than the EU27 countries (on average 70.5%). The employment dynamics between 2021 and 2022 were more favorable to women than to men. However, young people (15-24) and individuals with low education experienced the smallest increases in employment rates.

Unemployment fell in all Western Balkans countries in 2022 and was at its lowest level in the last decade. The biggest decline took place in Kosovo, where the unemployment rate dropped by 8 pp. Bosnia and Herzegovina, Montenegro, and Serbia observed a fall of around 2 pp, and North Macedonia of around 1 pp. Despite this progress, almost all countries in the region still had double-digit unemployment rates, ranging from 11% in Albania to 15% in Bosnia and Herzegovina. Serbia was the only exception, with a rate of 9.7%. As in the past, female unemployment rates in the Western Balkans exceeded the male rates in most of the countries. The incidence of unemployment continued to be highest among young people; long-term unemployment, despite declining in the past few years, remained high.

Despite improvements in labor force participation as well as in employment and unemployment rates in most countries, real wages only rose in Montenegro and in Serbia, reflecting differential impacts of inflation, various degrees of labor market tightness, and policy changes. Nominal wages in all Western Balkan countries grew in 2022, largely driven by inflation, but also by minimum wage increases. The largest increase was seen in Serbia (13.8%), though because of the high inflation there, the real net wage grew by much less (1.7%). Montenegro also saw a big increase in the nominal gross wage, of 11.3%, and because of the lowering of the labor tax there, the real net wage increased even more, by 18.4%. In Bosnia and Herzegovina and North Macedonia, nominal gross wages grew by 11-12%, but because of the high inflation, the real net wages declined, by 1.4% and 2.9%, respectively. Kosovo saw the smallest increase in the nominal gross wage, of 7.6%, which translated into a decline of 7.5% in real net wages because of high inflation. The real unit labor costs largely reflected these dynamics, i.e., they grew strongly in Montenegro (by 10%) and moderately in Serbia (3%), while they grew by less than 1% in Albania, Kosovo, and North Macedonia and declined in Bosnia and Herzegovina.

In short, while structural weaknesses remain, labor markets in the region recovered significantly in 2022. In some cases, labor markets are stronger than at any time in recent memory. What is more, the labor market recovery has been broad-based, although youth lag other population groups in this process in about half of the countries in the region. Tighter labor markets may translate into improvements in real wages, as well, although high inflation diluted most of the potential gains in 2022.

1. Economic slowdown and high inflation due to Russia's invasion of Ukraine

Russia's full-scale invasion of Ukraine in 2022 created shockwaves in the Western Balkans and beyond. It brought the largest inflationary surge in nearly four decades and increased political and economic uncertainty, which slowed economic activity worldwide. Russia's decision to cut gas supplies to Europe even caused a temporary energy crisis in some countries.

After the strong post-pandemic recovery in 2021, GDP growth halved in all Western Balkan countries in 2022. While the slowdown may be partly due to the strong growth in the previous year, it is also due to the slowdown in global demand, heightened economic uncertainty resulting from Russia's invasion of Ukraine, and the decline in purchasing power owing to high inflation. In addition, unfavorable weather conditions (e.g., floods and wildfires) also had a negative impact on economic performance in some of the countries.

Despite the general slowdown, there were notable differences across countries. Countries with large tourism sectors (e.g., Montenegro and Albania) outperformed the others, growing by 6.4% and 4.9%, respectively, due to the continued post-pandemic tourism boom (Figure 1). Additionally, these two countries are relatively well-positioned on the energy front owing to their status as net electricity exporters. Bosnia and Herzegovina also performed relatively well, growing by 4.1%, thanks to strong remittances, FDI, and public investment ahead of the elections. Kosovo performed similarly, growing by 3.5%, owing to strong FDI and remittances. Serbia trailed behind, growing by just 2.5%, reflecting its manufacturing base as well as its close economic and political ties with Russia. North Macedonia had the weakest growth, of only 0.9%, due to having the highest inflation in the region and being the biggest importer of energy (World Bank 2022a, 2022b).

Figure 1 / Real GDP growth rates in 2022 (% , year on year)



Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

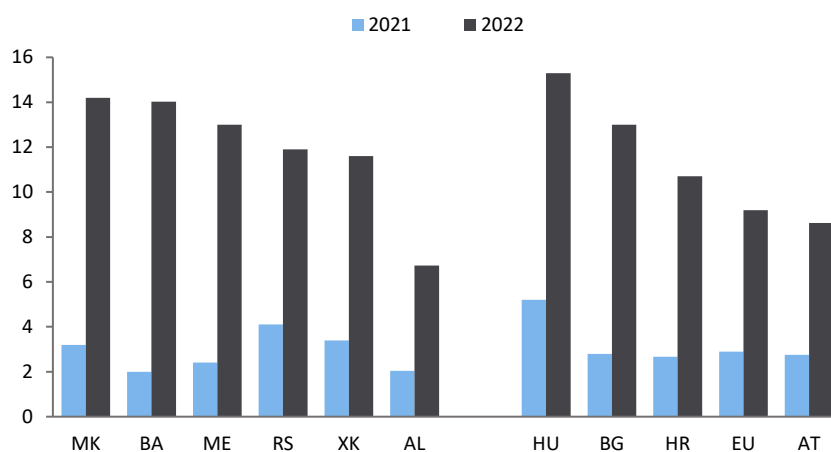
Growth in the Western Balkans was low relative to that of comparator countries in the EU—Austria, Bulgaria, Croatia, and Hungary (Box 1). The average for the six Western Balkan economies was 3.2%, while it was 4.9% for the four EU comparators. Growth in the Western Balkans was also slightly lower than the EU average of 3.4%.

Box 1 / EU comparator countries for the Western Balkans in this report

This report, like the previous one, has selected four EU comparator countries for the Western Balkans – Austria, Bulgaria, Croatia, and Hungary. Throughout the text, the developments in the Western Balkan economies are compared to the developments in those four countries as well as to the EU averages, wherever possible. Bulgaria, Croatia, and Hungary have been selected because they are neighboring countries with a similar histories, cultures, and economic developments to the Western Balkan economies. Austria has been added to this group due to its geographical proximity as well as because its economic indicators often serve as a benchmark to which countries in the Western Balkans aspire.

Inflation, which had already begun to increase in late 2021 due to supply-chain problems and the strong post-pandemic recovery, accelerated in 2022 as global energy and food prices surged due to Russia's invasion of Ukraine. All Western Balkan countries, except Albania, had double-digit rates for the entire year, with Bosnia and Herzegovina and North Macedonia experiencing the strongest price increases, of around 14%. Kosovo, Montenegro, and Serbia experienced inflation rates of around 12-13%. Albania stood out with inflation of only 6.7% for the whole year due to its price controls and the appreciation of the national currency (Figure 2). Inflation in all countries reached the highest levels seen since the 1990s or early 2000s. In all countries except Serbia, inflation peaked toward the end of the year and then began to moderate, although it remained at high levels.

Figure 2 / Annual consumer price inflation in 2022 (%)

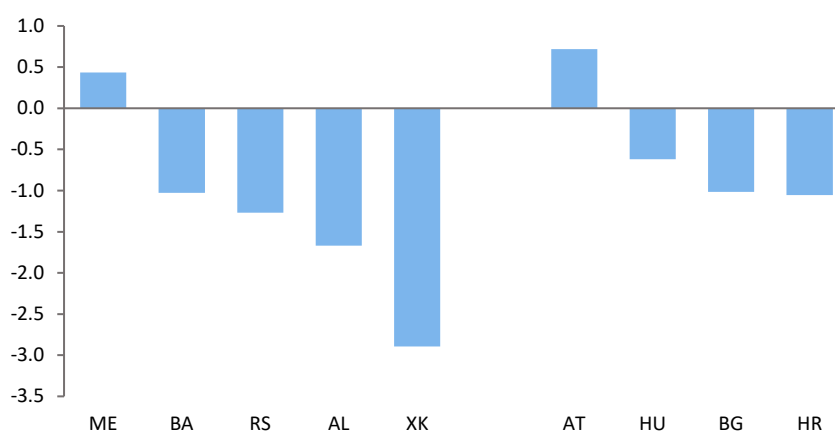


Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

2. Activity rates exceed pre-pandemic levels

The working-age population, defined as persons aged 15-64, continued to decrease in 2022 in almost all Western Balkan countries (except Montenegro) due to low fertility rates, ageing populations, and continued outward migration. Kosovo saw the largest decline in the working-age population (2.9%), but Bosnia and Herzegovina, Serbia, and Albania also witnessed falls of between 1% and 1.7%. These trends are more pronounced than in the EU comparator countries Bulgaria, Croatia, and Hungary, which are also facing a demographic decline. Only Austria stands out for its growing working-age population, mainly due to immigration (Figure 3).

Figure 3 / Annual change in the working-age population (15-64) in 2022 (%)

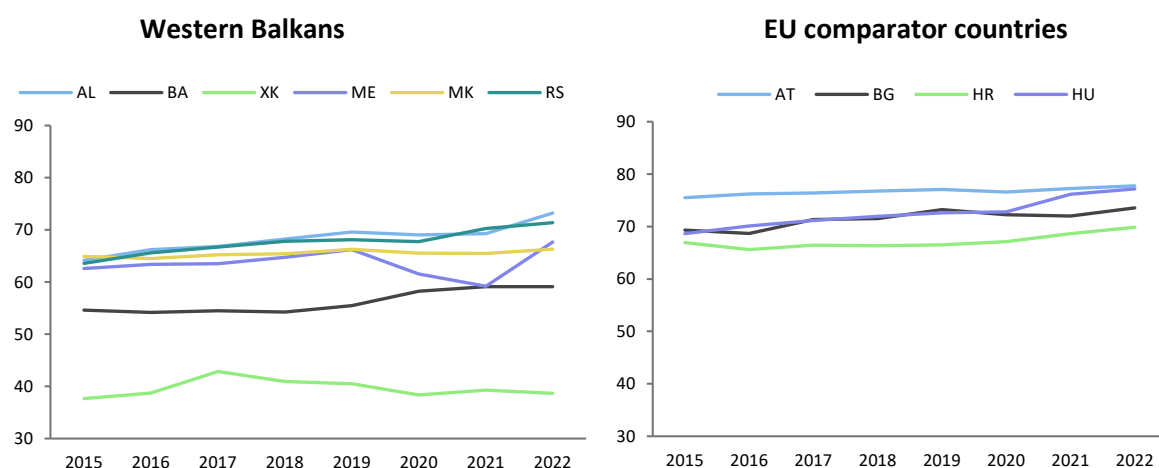


Note: For North Macedonia, no comparable growth rates are available yet because the data for 2022 are based on the new 2021 census.
Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

While the working-age population has fallen, activity rates improved in 2022 in most Western Balkan countries except Kosovo. The biggest increase was seen in Montenegro (8.5 pp), probably reflecting a rebound and reversal to the mean after large declines in activity rates in 2021. Albania was next, with an increase of 4 pp, while it grew in Serbia and North Macedonia by 1.1 pp and 0.8 pp, respectively. The activity rate remained stagnant in Bosnia and Herzegovina and fell in Kosovo by 0.6 pp. By comparison, activity rates went up in all EU comparator countries (Figure 4).

Despite this increase in participation rates, Western Balkan countries still lag significantly behind countries in the EU. Compared to EU comparator countries, activity rates in the Western Balkans are, on average, almost 10 pp lower. Only Albania has an activity rate that comes close to those of the EU comparator countries (around 75%), which might be explained by its still high share of agricultural employment. Serbia, coming next, also has an activity rate exceeding the 70% mark, followed by Montenegro (68%), North Macedonia (66%), and Bosnia and Herzegovina (59%). The activity rate in Kosovo was significantly lower, at around 39%, mainly due to the exceptionally low labor force participation of women.

Figure 4 / Activity rate in 2015-2022 (% of population aged 15-64)



Note: Since 2021, there has been a new methodology in line with the Integrated European Social Statistics Regulation (IESS) in Bosnia and Herzegovina, Montenegro, Serbia, and the EU comparator countries.

Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

In 2022, activity rates among women improved more than among men in Albania, Montenegro, and Serbia. Female activity decreased slightly in Bosnia and Herzegovina, while it remained stagnant in Kosovo (although male participation even declined). By contrast, the activity rates of men and women increased in all EU comparator countries, with the increase in female labor force participation being significantly higher (Table 1).

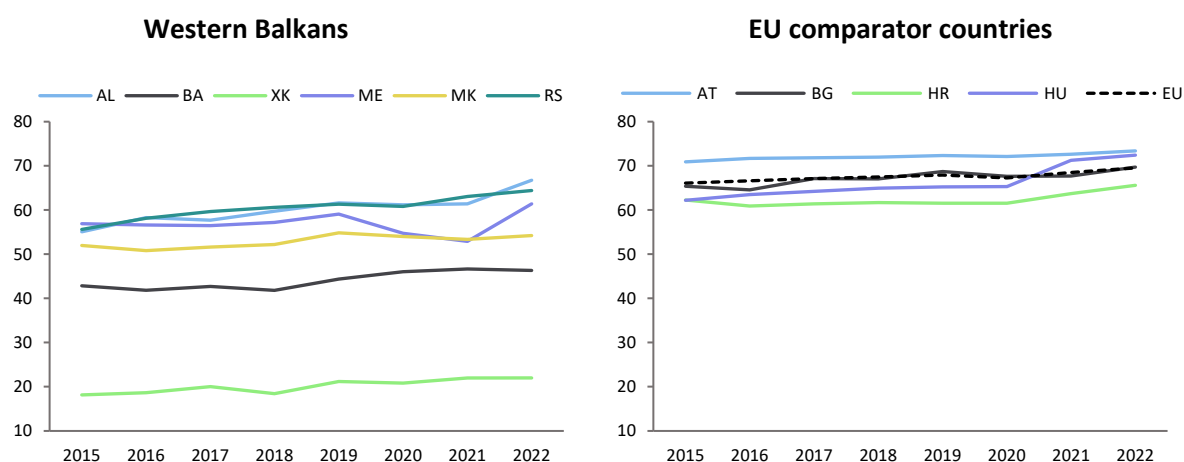
Table 1 / Changes in activity rates in 2022 vs. 2021 for men and women (pp)

	Total	Male	Female
Albania	4.0	2.7	5.4
Bosnia and Herzegovina	0.0	0.3	-0.4
Kosovo	-0.6	-1.2	0.0
Montenegro	8.5	8.4	8.5
North Macedonia	0.8	1.1	0.9
Serbia	1.1	0.9	1.4
Austria	0.5	0.3	0.8
Bulgaria	1.6	1.1	2.0
Croatia	1.2	0.5	1.9
Hungary	1.0	0.8	1.2

Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

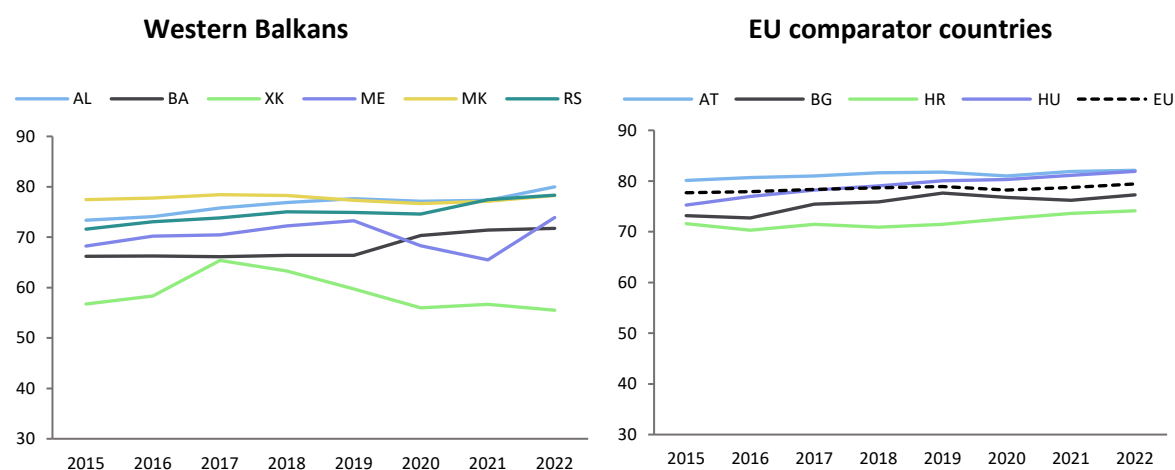
Despite increasing continuously, women's participation in the labor market remained much lower than men's. In 2022, the gender gap in activity rates was, on average, around 19 pp in the Western Balkans versus around 9 pp in comparator countries. Albania stands out again, as around two thirds of its female working-age population are actively engaged in the labor market. Serbia is close behind with 64%, followed by Montenegro (61%). All other countries had female activity rates of below 55% – and the rate was even as low as 22% in Kosovo. The countries of the Western Balkans have an average female labor force participation rate that is 18 pp lower than it is in the four EU comparator countries. At the same time, the average male activity rate in the Western Balkans is just 6 pp lower than the average for the four EU comparator countries (Figures 5 and 6).

Figure 5 / Female activity rate in 2015-2022 (% of female population aged 15-64)



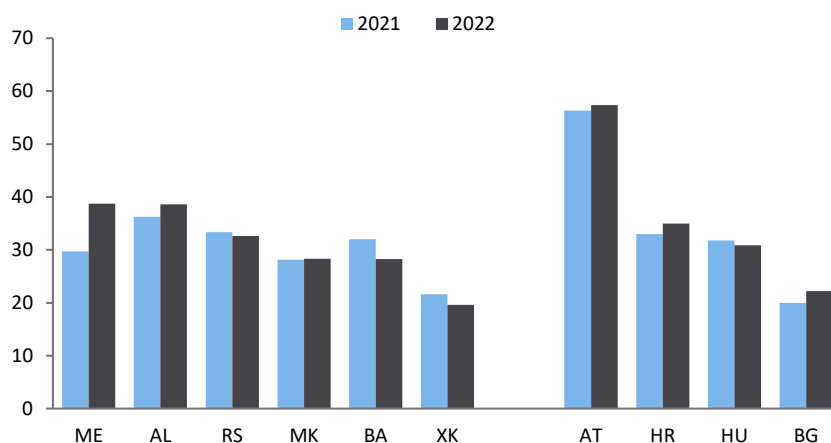
Note: Since 2021, there has been a new methodology in line with the Integrated European Social Statistics Regulation (IESS) in Bosnia and Herzegovina, Montenegro, Serbia, and the EU comparator countries. For North Macedonia, the 2021 census is applied for 2022.
Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

Figure 6 / Male activity rate in 2015-2022 (% of male population aged 15-64)



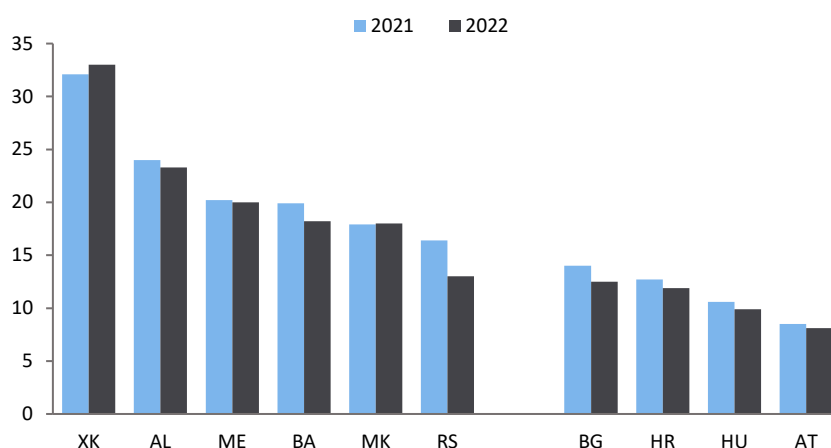
Note: Since 2021, there has been a new methodology in line with the Integrated European Social Statistics Regulation (IESS) in Bosnia and Herzegovina, Montenegro, Serbia, and the EU comparator countries. For North Macedonia, the 2021 census is applied for 2022.
Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

The participation of young people in the labor market improved in half of the Western Balkan countries in 2022 (Albania, Montenegro, and North Macedonia). Montenegro and Albania recorded significant increases in youth activity rates (9 pp and 2 pp, respectively) in 2022, allowing them to surpass their pre-pandemic levels. Although reporting a decline in youth activity in 2022, Serbia already reached its pre-pandemic level in 2021 (Figure 7).

Figure 7 / Activity rate among persons aged 15-24 in 2021-2022 (% of population aged 15-24)

Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

Partly because of increases in activity rates, the share of people aged 15-24 who are neither in employment nor in education or training (NEET) declined almost everywhere in the region in 2022. The decline ranged from 0.2 pp in Montenegro to 3.4 pp in Serbia. Kosovo was an exception, as the NEET rate there rose by 0.9 pp, partly reflecting the decrease in youth activity rates. Only in Bosnia and Herzegovina and in Serbia were the NEET rates lower than in the pre-pandemic period. Even though the NEET rates have improved in most Western Balkan countries, they remained high, varying between 18% in North Macedonia and 33% in Kosovo. Only Serbia has a NEET rate similar to that of Bulgaria, which reports the highest rate among the EU comparator countries, where they ranged from 8% in Austria to around 13% in Bulgaria (Figure 8).

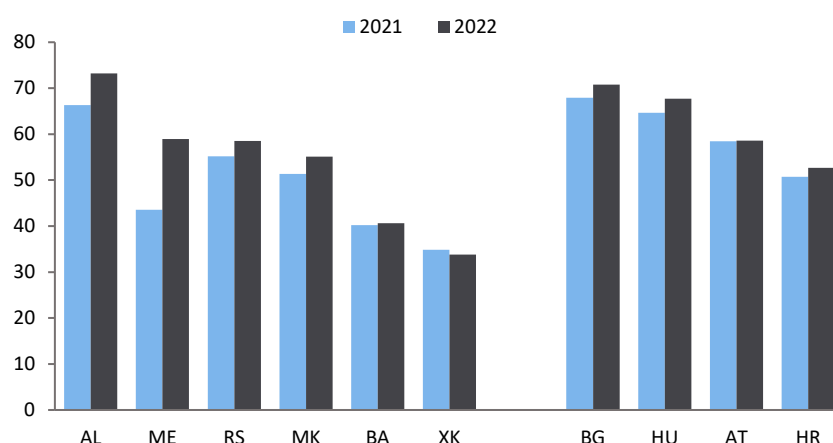
Figure 8 / NEET rates (young people aged 15-24 neither in employment nor in education or training) in 2021-2022 (% of population aged 15-24)

Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

Among older individuals (aged 55-64), the increase in activity rates that had begun a year earlier continued in 2022 and was much more pronounced than among youth (aged 15-24). In fact, the activity rate of older people has grown significantly faster than that of young people since 2015. In 2022, the activity rate of the elderly was 11 pp higher than it was in 2015, while the activity rate of the young rose

by only 1.5 pp. That said, the activity rate among older people in all Western Balkan countries other than Albania is, on average, much lower than in the EU comparator countries (Figure 9).

Figure 9 / Activity rate among persons aged 55-64 in 2021-2022 (% of population aged 55-64)



Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

Improvements in activity rates have most often been driven by improvements among those with medium or high levels of education. Persons with lower levels of schooling (lower secondary and below) experienced a decrease in activity rates in almost all countries (except Albania and Montenegro) between 2021 and 2022. Activity rates of individuals with a medium level of education (upper secondary or post-secondary non-tertiary education) and with a high level of education (tertiary or above) increased in all Western Balkan countries except Kosovo. Similar trends were observed in the four EU comparator countries (Table 2).

Table 2 / Change in activity rates in 2022 vs. 2021 by educational levels (pp)

	Level of education		
	Low	Medium	High
Albania	4.6	3.8	1.1
Bosnia and Herzegovina	-1.2	0.0	1.6
Kosovo	-1.0	-1.2	-1.9
Montenegro	2.0	9.1	5.8
North Macedonia	-0.7	0.8	1.5
Serbia	-0.4	1.4	0.9
Austria	-0.8	1.1	0.3
Bulgaria	1.8	1.2	0.8
Croatia	-0.9	1.1	1.1
Hungary	-0.2	1.0	1.2

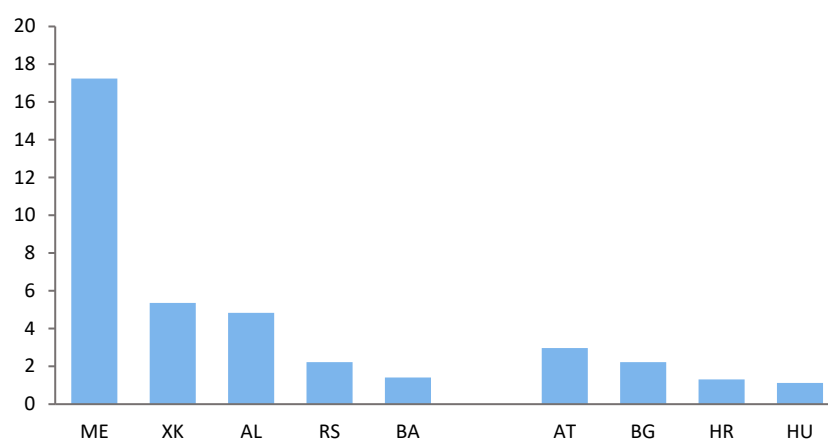
Note: A low level of education indicates attainment of lower secondary education or below; a medium level of education indicates upper secondary education or post-secondary non-tertiary education; a high level of education indicates short-cycle tertiary education, a bachelor's degree (or equivalent), a master's degree (or equivalent) and a doctorate (or equivalent).

Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

3. Employment recovered to or even exceeded pre-pandemic levels

The number of employed persons aged 15-64 increased in 2022 everywhere in the Western Balkans and exceeded pre-pandemic levels. Employment in the region increased by 1.4%, or 86,700 persons, and reached a regional record level of 6.5 million people. The strongest employment growth was reported in Montenegro (17%), which was supported by economic growth (the recovery in tourism, in particular) as well as in Albania and Kosovo (around 5%) (Figure 10). North Macedonia was the only country where employment levels dropped, but this is at least partly explained by methodological changes related to the new census.²

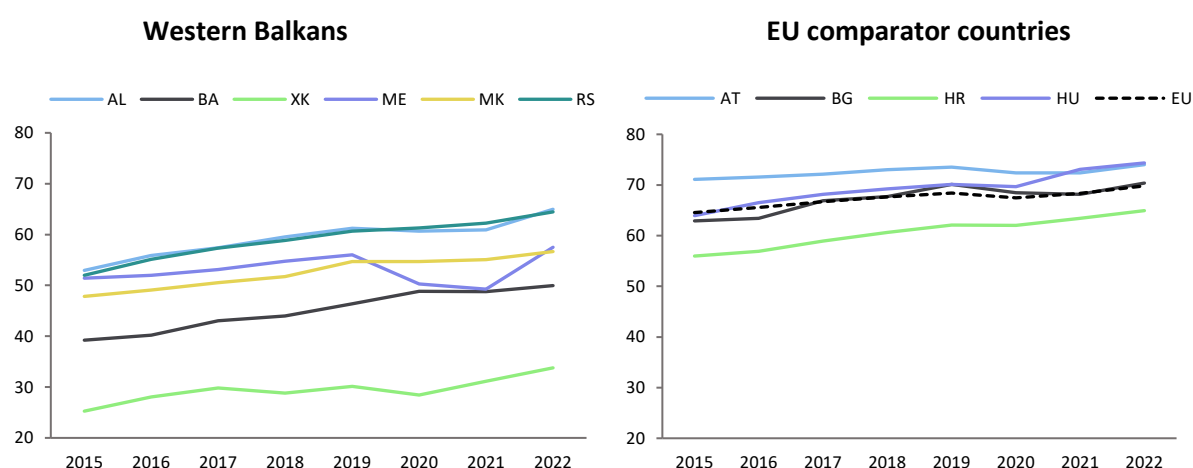
Figure 10 / Annual change in employment levels in 2022 (%)



Note: For North Macedonia, no comparable growth rates are available yet because the data would be based on the 2021 census.
Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

The rise in employment levels was reflected in an increase in employment rates in all Western Balkan countries in 2022, reaching a historical high across the board. Montenegro stands out again, as the employment rate there was 8 pp higher than it was in 2021. In Albania, the employment rate increased by 4 pp. Over the past decade, employment rates have trended upward in all Western Balkan countries, from around 47% in 2015 to 57% in 2022. Despite these improvements, it should be noted that the Western Balkan countries still have significantly lower employment rates compared with the EU comparator countries (on average 71%) and the EU more generally (70%). Only Albania and Serbia had about two thirds of their working-age population (aged 15-64) in employment, which is similar to the employment rate in Croatia (Figure 11).

² Labor Force Survey (LFS) data for 2022 are based on the new census, conducted in 2021, while previous data are based on the previous census from 2002. According to the new census, the population in the country is much lower, which in turn translates in all LFS data.

Figure 11 / Employment rates in 2015-2022 (% of population aged 15-64)

Note: Since 2021, there has been a new methodology in line with the Integrated European Social Statistics Regulation (IESS) in Bosnia and Herzegovina, Montenegro, Serbia, and the EU comparator countries. For North Macedonia, the 2021 census is applied for 2022.

Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

Employment rates increased for both men and women in all countries between 2021 and 2022, with the increase often being higher among women. The rise in employment rates among women was only smaller than among men in Bosnia and Herzegovina as well as in Kosovo. In all Western Balkan countries, employment rates reached record levels for both men and women, except among men in Montenegro. These trends are similar to those seen in the four EU comparator countries (Table 3).

Table 3 / Change in employment rates in 2022 vs. 2021 for men and women (% of the population aged 15-64), (pp)

	Total	Male	Female
Albania	4.0	3.1	5.1
Bosnia and Herzegovina	1.2	1.6	0.8
Montenegro	8.2	7.5	9.0
North Macedonia	1.6	1.5	1.9
Serbia	2.2	1.7	2.7
Kosovo	2.6	3.5	1.9
Austria	1.6	1.4	1.9
Bulgaria	2.2	1.9	2.6
Croatia	1.5	1.3	1.7
Hungary	1.3	0.9	1.7

Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

Increases in employment rates were also observed across all age groups, except for youth in Bosnia and Herzegovina. The rise in employment rates was particularly pronounced among the older age group (55-64) in Albania, Montenegro, North Macedonia, and Serbia as well as among the prime age group (25-54) in Bosnia and Herzegovina as well as in Kosovo. Young people (15-24) experienced the lowest increase in the employment rates in all countries, and employment rates among youth even declined in Bosnia and Herzegovina (Table 4).

Table 4 / Change in employment rates in 2022 vs. 2021 for different age groups (pp)

	15-24	25-54	55-64
Albania	2.6	2.8	7.4
Bosnia and Herzegovina	-1.4	1.8	0.7
Kosovo	2.0	3.0	0.0
Montenegro	8.7	6.3	14.0
North Macedonia	1.2	2.1	4.0
Serbia	0.2	2.3	3.2
Austria	1.8	1.9	1.0
Bulgaria	3.0	1.9	3.4
Croatia	2.9	1.1	1.5
Hungary	0.1	1.2	2.8

Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

Employment patterns across education levels differed throughout the countries of the region, but the most significant gains were typically seen among the better educated. In Bosnia and Herzegovina and in North Macedonia, the employment rate of the low educated fell in 2022 but increased in the remaining countries of the region. Montenegro saw the most significant gains in employment rates of individuals with medium and high education (Table 5). As in the past, in all countries, people with a high level of education (i.e., with tertiary education or above) did relatively better in terms of employment rates. Similar trends were present in the EU comparator countries.

Table 5 / Change in employment rates in 2022 vs. 2021 for people aged 15-64 with different levels of education (pp)

	Level of education		
	Low	Medium	High
Albania	4.8	3.9	1.1
Bosnia and Herzegovina	-1.0	1.7	2.4
Kosovo	0.6	3.2	2.0
Montenegro	3.4	8.3	6.2
North Macedonia	0.0	1.1	3.4
Serbia	0.4	2.2	3.0
Austria	0.6	2.3	1.0
Bulgaria	2.9	1.9	1.2
Croatia	-1.2	1.9	0.6
Hungary	-0.5	1.5	1.4

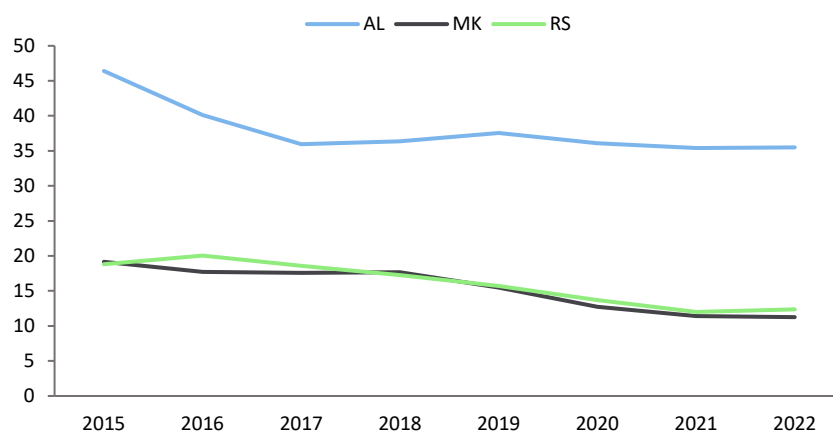
Note: A low level of education indicates attainment of lower secondary education or below; a medium level of education indicates upper secondary education or post-secondary non-tertiary education; a high level of education indicates short-cycle tertiary education, a bachelor's degree (or equivalent), a master's degree (or equivalent) or a doctorate (or equivalent).

Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

In terms of the quality of work, informal employment, which is much higher than in the EU comparator countries, remained stagnant in the Western Balkan countries in 2022. Only Albania, North Macedonia, and Serbia publish official data on informal employment, calculated from the LFS and including self-employed persons in unregistered businesses, wage workers without a written contract, and unpaid family workers. Since 2010, informal employment has fallen in all three countries, but there have been diverging developments in recent years. In Albania, the informality rate has remained almost stagnant since 2017, at around 36%, whereas it fell slightly in North

Macedonia and Serbia, to 11%-12%. Young people and those with low levels of education have the highest rates of informal employment (Figure 12).

Figure 12 / Informal employment in Albania, North Macedonia, and Serbia (% of employed 15-64)



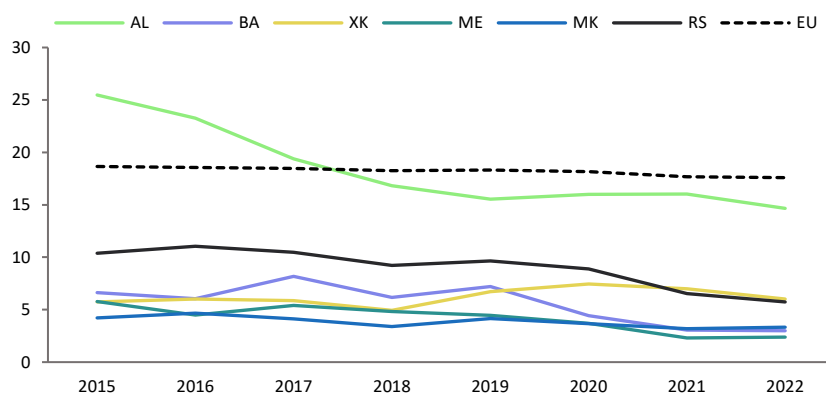
Note: Informal employment encompasses self-employed persons in unregistered businesses, wage workers without a written contract, and unpaid family workers.

Source: SEE Jobs Gateway Database, based on data from national statistical offices

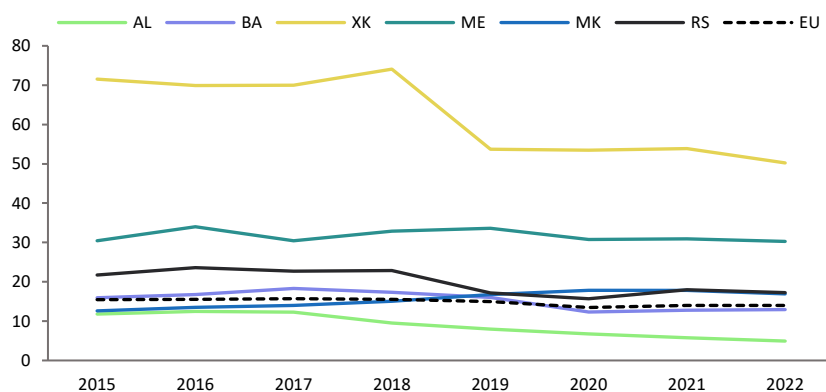
The prevalence of non-standard forms of employment, especially part-time employment and temporary employment, which are much less common in the Western Balkans than in the EU, continued to decrease in the entire region in 2022. The proportion of part-time employed already trended downward from 2017, and both the proportion of temporary employees and the share of self-employed workers, which is higher in most Western Balkan countries than in the EU, declined compared to 2019 (Figure 13 and Table 6).

Figure 13 / Share of part-time employed, temporary employees, and self-employed persons in 2015-2022 (% of employed 15-64)

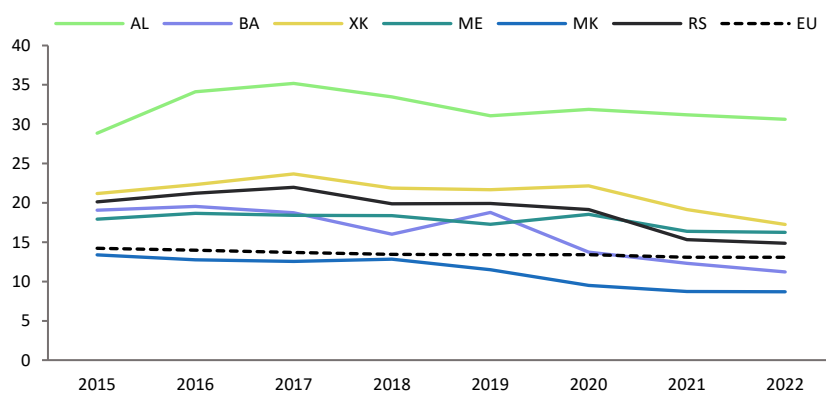
A) Part-time employed



B) Temporary employees



C) Self-employed



Note: The share of temporary employees refers to total employees.
 Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

Table 6 / Change in the share of part-time employed, temporary employees, and self-employed persons between 2022 and 2021 (aged 15-64), (pp)

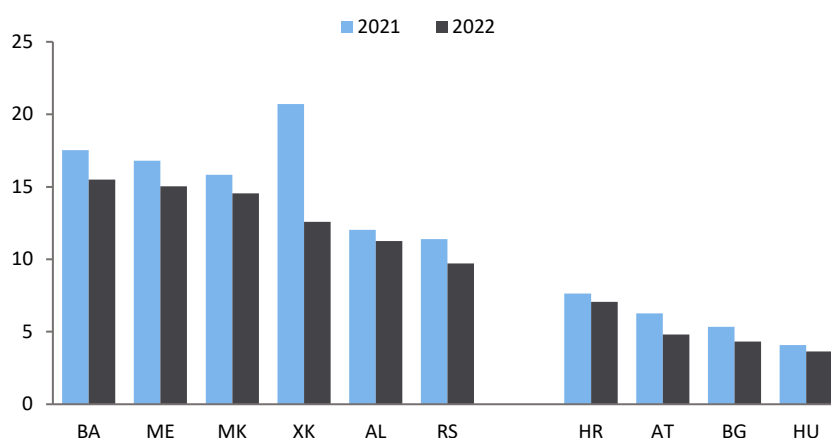
	Part-time employment share	Temporary employees' share	Self-employment share
Albania	-1.4	-0.8	-0.6
Bosnia and Herzegovina	-0.1	0.2	-1.1
Kosovo	-1.0	-3.7	-1.9
Montenegro	0.1	-0.7	-0.1
North Macedonia	0.1	-0.8	0.0
Serbia	-0.8	-0.7	-0.4

Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

4. Unemployment declined to a historic low, but remained high by EU standards

Unemployment fell across all Western Balkan countries in 2022, and almost all of them reached historically low unemployment rates (with Serbia being the only exception). The biggest improvement was seen in Kosovo, where the rate of unemployment dropped by 8 pp. Bosnia and Herzegovina, Montenegro, and Serbia observed a fall of around 2 pp, and Albania and North Macedonia of around 1 pp. The decline in unemployment in Bosnia and Herzegovina, Kosovo, and North Macedonia was partly driven by the decrease in the size of the labor force, increasing inactivity, and continued outward migration. However, except for Serbia (9.7%), all the countries in the region still had double-digit unemployment rates, ranging from 11% in Albania to 16% in Bosnia and Herzegovina. Unemployment levels in the EU comparator countries were significantly lower (Figure 14).

Figure 14 / Unemployment rates in 2021 and 2022 (% of labor force 15-64)



Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

Unemployment rates continue to be higher among women than among men, except in Montenegro and North Macedonia. Gender gaps in unemployment rates are quite large, particularly in Bosnia and Herzegovina (7 pp) and in Kosovo (6 pp) (Figure 15).

Figure 15 / Male and female unemployment rates in 2022 (% of labor force 15-64)



Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

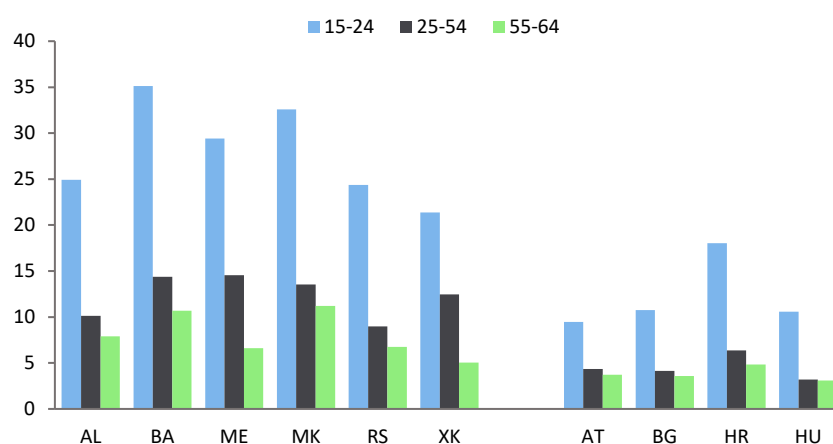
Unemployment declined faster for women than for men in all countries but Albania in 2022. Notably, in Kosovo, both men and women saw a significant reduction in unemployment rates, with a slightly faster decline in the female unemployment rate. In the remaining Western Balkan countries, unemployment rates fell, on average, by around 2 pp among women versus around 1 pp among men (Table 7).

Table 7 / Change in the unemployment rates for men and women between 2021 and 2022 (% of labor force 15-64), (pp)

	Total	Male	Female
Albania	-0.8	-0.9	-0.7
Bosnia and Herzegovina	-2.0	-1.8	-2.3
Kosovo	-8.1	-8.0	-8.5
Montenegro	-1.8	-0.7	-3.1
North Macedonia	-1.3	-0.7	-2.1
Serbia	-1.7	-1.2	-2.3
Austria	-1.5	-1.3	-1.6
Bulgaria	-1.0	-1.1	-1.0
Croatia	-0.6	-1.1	0.0
Hungary	-0.4	-0.1	-0.7

Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

Despite this progress, young people (15-24) continued to experience high unemployment rates across the Western Balkans in 2022. In 2022, the youth unemployment rate averaged 27%, ranging from 35% in Bosnia and Herzegovina to 21% in Kosovo. This was two to three times higher than for the middle age group and the older age group as well as more than double the rate recorded for the four EU comparator countries (Figure 16).

Figure 16 / Unemployment rates in 2022 for different age groups (%)

Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

On a positive note, unemployment decreased across all age groups in 2022. The strongest decline was recorded among youth (15-24) in all of the countries, with the average unemployment rate down by 6 pp. The most significant reductions in this age group took place in Kosovo and Montenegro, where the unemployment rate fell by 16.6 pp and 7.7 pp, respectively. The drop in unemployment was less pronounced in the prime age and older age groups, which respectively decreased by 2.2 pp and 1 pp, on average, in 2022. A similar pattern was observed in the EU comparator countries (Table 8).

Table 8 / Change in the unemployment rates between 2021 and 2022 for different age groups (pp)

	15-24	25-54	55-64
Albania	-2.2	-0.2	-1.7
Bosnia and Herzegovina	-3.1	-1.8	-0.8
Montenegro	-7.7	-1.4	0.9
North Macedonia	-3.8	-1.0	-1.4
Serbia	-2.1	-1.9	-0.1
Kosovo	-16.6	-7.2	-2.7
Austria	-1.5	-1.5	-1.5
Bulgaria	-5.1	-0.9	-0.9
Croatia	-3.9	-0.5	0.7
Hungary	-2.9	-0.3	0.2

Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

In 2022, unemployment fell across all educational groups, though there were some differences across countries. In 2022, unemployment declined most for people with low levels of education in Albania and Montenegro, for those with a medium level of education in Bosnia and Herzegovina and Kosovo, and for those with a high level of education in North Macedonia and Serbia (Table 9).

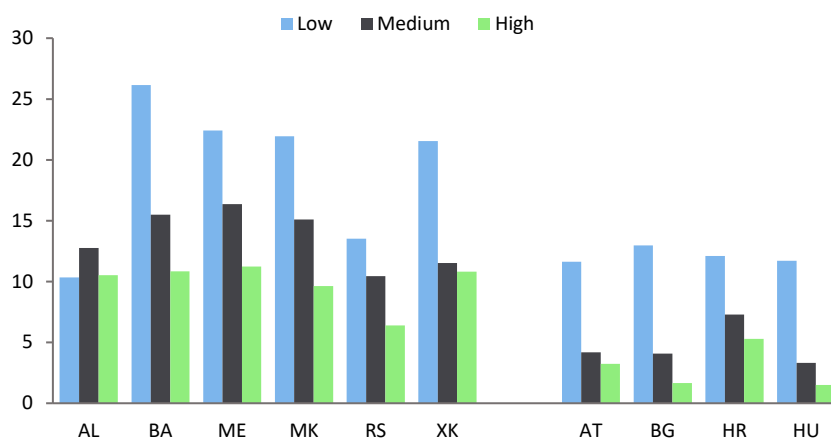
Table 9 / Change in the unemployment rates between 2021 and 2022 for people aged 15-64 with different education levels (pp)

	Level of education		
	Low	Medium	High
Albania	-1.1	-0.8	-0.1
Bosnia and Herzegovina	0.3	-2.5	-1.2
Montenegro	-7.5	-1.1	-1.3
North Macedonia	-1.5	-0.6	-2.2
Serbia	-1.6	-1.3	-2.4
Kosovo	-8.8	-9.4	-5.0
Austria	-2.4	-1.6	-0.8
Bulgaria	-3.3	-0.9	-0.4
Croatia	1.2	-1.1	0.4
Hungary	0.6	-0.7	-0.2

Note: A low level of education indicates attainment of lower secondary education or below; a medium level of education indicates upper secondary education or post-secondary non-tertiary education; a high level of education indicates short-cycle tertiary education, a bachelor's degree (or equivalent), a master's degree (or equivalent) and a doctorate (or equivalent).

Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

People with less education face the highest risk of unemployment in almost all countries. As in previous years, the only exception in 2022 was Albania, where people with medium levels of education had the highest unemployment rate. People with a high level of education had the lowest unemployment rate everywhere in the region. These patterns were similar to those in the EU comparator countries. However, in the Western Balkans, even among those with medium and high levels of education, unemployment is twice as high as it is in the EU comparator countries (Figure 17).

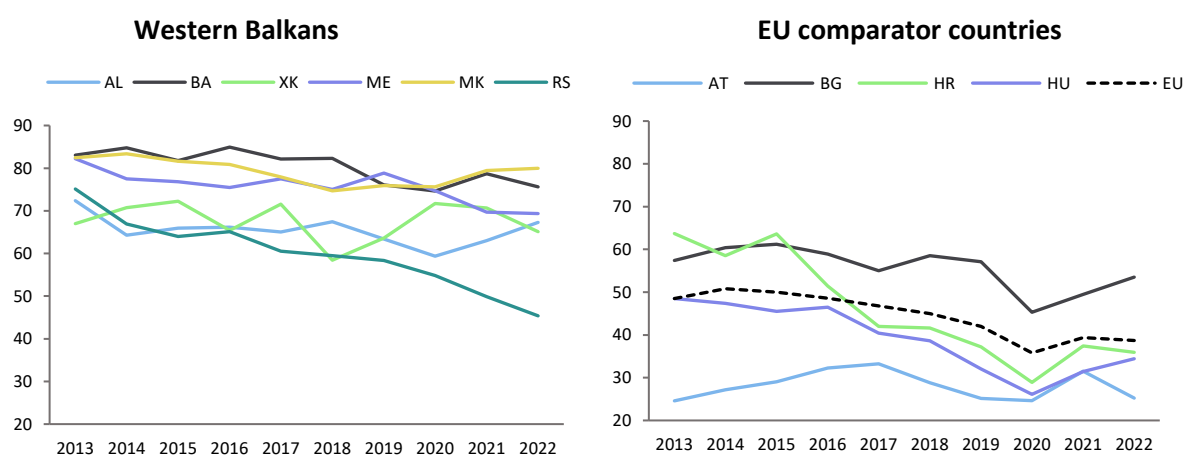
Figure 17 / Unemployment rates in 2022 for different education levels (% of labor force 15-64) (%)

Note: A low level of education indicates attainment of lower secondary education or below; a medium level of education indicates upper secondary education or post-secondary non-tertiary education; a high level of education indicates short-cycle tertiary education, a bachelor's degree (or equivalent), a master's degree (or equivalent) or a doctorate (or equivalent).

Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

Critically, even though long-term unemployment has decreased in most countries over the past decade, it remains a major challenge for policy makers. In 2022, the average share of long-term unemployment in the region stood at 67% of total unemployment. This was 10 pp lower than in 2012 (the first year with data available for all countries) and 1 pp below the 2021 level. There are significant differences across countries: Serbia's long-term unemployment share fell from 64% to 45% in 2015, while it has remained at 80% in North Macedonia. In the EU comparator countries, the share of long-term unemployment is much lower than in the Western Balkans, at around 37% on average (EU average 38%) (Figure 18).

Figure 18 / Share of long-term unemployment in total unemployment (%)



Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

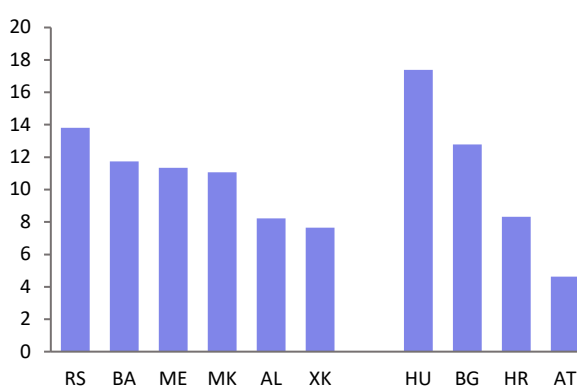
5. Moderate increases in real unit labor costs

Average nominal gross wages continued to grow in all Western Balkan countries in 2022. Bosnia and Herzegovina, Montenegro, and Serbia had the highest average nominal gross wages in the Western Balkans in 2022. These were similar in levels to those in Bulgaria, the EU comparator country with the lowest average nominal gross wage (around EUR 900 per month) (Figure 19). Wage data from administrative sources show the largest increase in Serbia, where the average nominal gross wage rose by 13.8%; this was followed by Bosnia and Herzegovina (11.7%), Montenegro (11.3%), and North Macedonia (11.1%). Smaller wage increases were reported for Albania (Figure 20). Average nominal gross wages also increased in the comparator countries, albeit very unevenly.

Figure 19 / Average nominal monthly gross wages in 2022 (EUR)



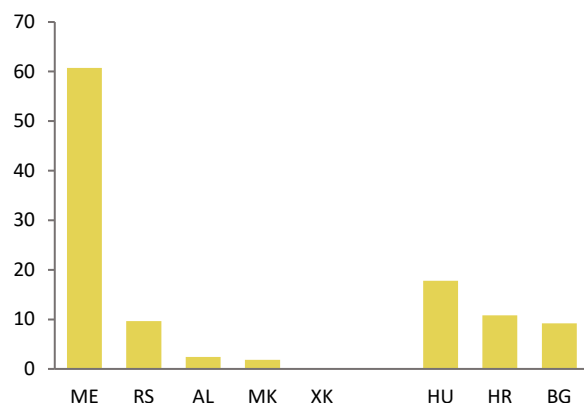
Figure 20 / Annual growth in average nominal gross wages in 2022 (%)



Note: Average wages per employee per month on a gross basis (before deduction of income tax and social security contributions). This figure includes the basic wage and additional payments (bonuses; overtime; night work; payments for statutory, contractual or voluntarily granted leave; etc.). The data only refer to formally employed persons and are taken from register-based statistics (administrative sources). Data for Austria refer to the National Accounts concept (gross wages per employee, domestic concept, divided by 12 months).

Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

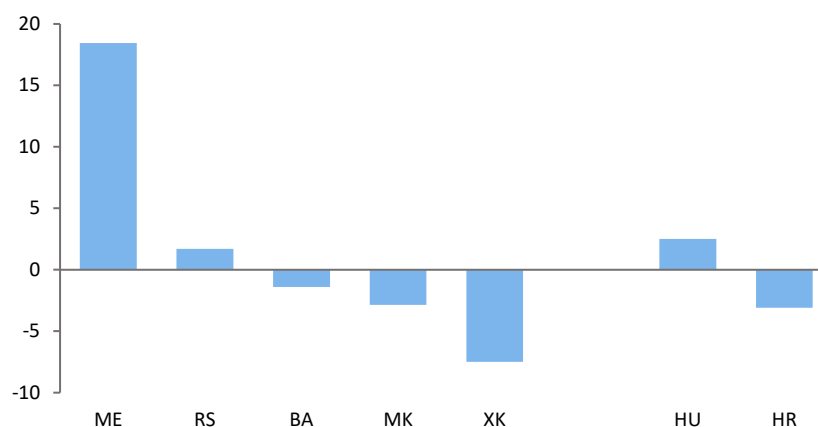
Wage growth was mainly driven by high inflation, minimum wage increases, and a tightening of the labor market. The highest inflation in decades has pushed nominal wages up, while minimum wage increases also contributed to wage growth, especially in Montenegro and Serbia. After stagnating in the years prior to the pandemic and increasing moderately in 2019 and 2021, the minimum wage in Montenegro was raised substantially in 2022. In gross terms, the minimum wage increased by 61%, from EUR 330 to EUR 530. In Serbia, the minimum wage rose by 9.6%, while it increased just marginally in Albania and North Macedonia, by 2.4% and 1.8%, respectively (Figure 21). Relative to the average wage – and given the strong increase – Montenegro had the highest minimum wage in the region in 2022, at 60% of the average (vs. 42% in 2021), followed by Albania (48%), North Macedonia (47%), and Serbia (46%). Kosovo, which has not increased its minimum wage since 2011, had a minimum wage equivalent to 33% of the average wage. By comparison, the EU comparator countries – Bulgaria, Croatia, and Hungary – have minimum wages equivalent to 40-45% of the average wage (Figure 22). The further tightening of the labor markets, resulting from a continued decline in unemployment and growing labor shortages, could exert upward pressure on wages and inflation.

Figure 21 / Annual nominal change in the gross minimum wage expressed in EUR in 2022 (%)**Figure 22 / Gross minimum wage in 2022 (% of gross average wage)**

Note: For Bosnia and Herzegovina, monthly gross minimum wages are available for the three entities separately but not for the whole territory. Austria does not have a statutory minimum wage. For Montenegro, the "Europe Now" reform package to the minimum wage is applied as of 2022.

Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

Given high inflation, however, real net wages declined in three Western Balkan countries – Bosnia and Herzegovina, Kosovo, and North Macedonia. Following a decline in real wages in 2021, Montenegro saw the largest real growth in net wages (18.4%) due to the reduction in labor taxes and the substantial increase in the minimum wage. Real net wages also increased in Serbia, although by much less (1.7%). In contrast, real net wages fell in North Macedonia (2.9%) as well as in Bosnia and Herzegovina (1.4%). Kosovo had the largest decline, of 7.5% (Figure 23).

Figure 23 / Real growth in average net wages in 2022 (%)

Note: For Montenegro, net wages excluded health insurance contributions and included an impact of personal income tax reform beginning in 2022.

Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

Real unit labor costs in the Western Balkan countries increased in all Western Balkan countries except in Bosnia and Herzegovina. Montenegro saw a very strong increase in these costs (10%), and Serbia saw a moderate increase (roughly 3%) due to the (strong) growth in real wages. Despite the decline in real wages, Kosovo, Albania, and North Macedonia saw a marginal increase in costs (less than 1%) due to the increase in employment without commensurate increases in productivity. In

Bosnia and Herzegovina, real unit labor costs declined significantly, by 3% (Figure 24). However, leaving aside the year 2021, when real unit labor costs fell in all countries of the region, the increase in 2022 was only higher in Montenegro and Kosovo than the average for the previous five years.

Figure 24 / Annual change in real unit labor costs, exchange rate adjusted, in 2022 (%)



Note: Real unit labor costs are defined as average nominal gross wages in EUR divided by nominal GDP per employed person (calculated by wiiw).
Source: SEE Jobs Gateway Database, based on data from national statistical offices and Eurostat.

6. Conclusion

The year 2022 was defined by a seismic global event – Russia’s full-scale invasion of Ukraine – which has had global repercussions. This crisis has taken a heavy toll on most economies in the Western Balkans, which, following a robust recovery the previous year, experienced a significant slowdown due to the global economic downturn and rising prices. Inflation soared to levels unseen in decades, and while it began to moderate toward the end of the year in most of the countries, it remained persistently high.

Despite these developments, labor market indicators continued to improve in 2022 and led to record high employment and activity rates in the entire region (except Kosovo), but they remained (far) below the levels reached in the EU comparator countries. Although activity rates among women have risen by around 8 pp over the last decade, the gap in participation rates between women and men has narrowed only modestly over that period. Youth activity in the labor market only returned to pre-pandemic levels in three Western Balkan countries: Albania, Montenegro, and Serbia. Young people’s labor market participation has been almost stagnant at a very low level since 2012.

Employment levels increased everywhere in the region except North Macedonia, reaching the highest levels in at least a decade, at 6.5 million persons. Women saw larger increases in employment than men due to the growing demand in the services sector, which is traditionally dominated by women. In terms of education, the increase in employment has mainly benefited individuals with medium and higher levels of education.

Unemployment fell across all Western Balkan countries in 2022, reaching its lowest levels in a decade but remaining at two-digit levels in most countries. Women continued to experience higher unemployment rates than men, except in Montenegro and North Macedonia. Despite declining across the region, youth unemployment remains a major challenge, as does long-term unemployment.

While real net wages increased only in selected countries, real unit labor costs increased almost everywhere, albeit less rapidly than in recent years. Average nominal gross wages continued to grow in all Western Balkan countries in 2022 driven by inflation across the board as well as by minimum wage increases and the tightening of the labor market in some countries. Real net wages only increased in Montenegro and Serbia, while they declined in the other countries, implying a deterioration in people’s living standards. Real unit labor costs increased strongly in Montenegro and moderately in Serbia due to the growth in real wages. While growing by less than 1% in Albania, Kosovo, and North Macedonia, they declined in Bosnia and Herzegovina.

7. References

World Bank (2022a). Western Balkans Regular Economic Report no. 21, Spring 2022: Steering Through Crises. Washington, DC: World Bank. Available at: <http://hdl.handle.net/10986/37368>.

World Bank (2022b). Western Balkans Regular Economic Report, no.22, Fall 2022: Beyond the Crises. Washington, DC: World Bank. Available at: <http://hdl.handle.net/10986/38189>.

Special Topic: Labor Taxation in the Western Balkans

Executive Summary

This special topic section focuses on labor taxation in the Western Balkans, drawing on a new dataset specifically prepared for this analysis. It documents in detail how labor taxes are calculated, analyzes the nominal and effective tax rates in the region, presents the effective tax rates for different levels of income, and compares them to Austria, Bulgaria and Hungary, which are used as EU comparator countries in the rest of this report. Additionally, this Special Topic also tracks the evolution of labor taxes in the region since 2010.

Labor taxes, ranging from 2% of GDP in Kosovo to 18% of GDP in Serbia, are important because of their impact on labor markets, government revenue, and redistribution. They directly affect labor market incentives of both employers and workers around the decision to work or not, whether to do so formally or informally, the number of hours worked, how many people to hire and who to hire for what type of work. They also impact government revenue, which in turn affects public spending and investment. Moreover, labor taxes serve as a tool for income redistribution, influencing income and wealth inequality. As a result, labor taxation can affect job creation, economic growth, poverty levels, and inequality.

Labor taxation refers to the amount of taxes and mandatory contributions levied on labor earnings. Previous research on labor taxation in the Western Balkans, including our "Western Balkans Labor Market Trends 2019" special topic, has highlighted that the region's labor tax systems are regressive, discouraging work among low-skill and low-wage workers and contributing to high unemployment and informality. Some of the studies also argue that the overall labor tax burden in the Western Balkans is high, owing to the high social security contributions (SSCs). The research undertaken here revisits these questions, focusing additionally on high-income earners, in order to assess the tax regressivity that arises from this part of the distribution.

The main finding from the analysis is that, while labor tax rates are lower in the region than in comparator countries, the effective tax schedule is often much less progressive and, in most cases, even regressive, particularly when including high wage brackets. In 2022, the last year available in our dataset, both the nominal and effective labor tax rates were generally lower in the Western Balkan economies than in the EU comparator countries. The nominal tax rates were progressive in four of the Western Balkan economies (i.e., Albania, Kosovo, Montenegro, and Serbia), but the effective rates – after adjusting for personal tax allowances and minimum and maximum bases for calculating social contributions – were only progressive in Bosnia and Herzegovina (both in Federation of BiH and Republika Srpska) and Kosovo. Albania, Montenegro, North Macedonia, and Serbia exhibit tax systems that start off progressively but become regressive at higher wage brackets. This regressivity stems from relatively low personal income tax rates and regressive social contributions due to the cap on contributions (i.e., the maximum base for calculating contributions). This cap effectively reduces the tax rate for higher wages. In contrast, the floor on SSCs stemming from the minimum base for calculating the contributions (and often highlighted as an issue in the existing literature) has become largely non-binding, at least for full-time employees, as recent hikes in minimum wages in the region have made the minimum wages surpass the minimum contribution bases.

The lack of progressivity in labor taxes in the Western Balkans suggests there is space to rebalance labor taxation by increasing effective taxes for high income earners and reducing them for lower wage earners. This reduction in taxes for the majority of workers can increase take-home pay and incentives to work (formally). Changes, of course, would need to be adequately calibrated to manage potential disincentives to work formally at the top of the distribution as well as potential reductions in the earnings reported among these workers. In the context of technological progress and changing skills demands, such a reform can also help reduce gaps between the taxation of labor and capital, or between low-/middle-skilled labor and higher-skilled labor, and, hence, can reduce potential distortions to firms' technology and workforce choices.

The regressive nature of the labor tax systems implies that governments might be missing out on potential revenue. By increasing effective tax rates for high-income earners and simultaneously reducing them for low-income earners, governments could boost revenues, which could then be used to increase public spending. Alternatively, governments could opt to remain revenue-neutral if they do not prioritize mobilizing additional revenues.

Moreover, the lower effective labor tax rates for high-income individuals in the Western Balkans raise issues regarding tax justice and fairness. Given the region's relatively high poverty rates and significant income and wealth inequality – some of the highest in Europe – the fact that high earners can sometimes pay lower effective labor taxes than the rest of workers not only fails to mitigate these problems but, on the contrary, exacerbates them.

To reduce the regressivity of their labor taxes, the Western Balkan economies have several options available. The first is to introduce more progressive personal income tax schemes. The second is to reduce the regressivity of the SSCs, which could be done by raising the cap on the contributions or by reducing social contribution rates among the low earners (particularly those not directly linked to entitlements). The third option would be a combination of the first two, that is, (a) raising the cap on social contributions and/or reducing contribution rates among the low-wage earners and (b) introducing more progressive income tax. Which option is more appropriate will depend, of course, on the current level and structure of the tax system, the relative weight of revenue generation as an objective of the reforms, and the potential work incentives or disincentives that the changes may generate across the wage distribution.

In some countries in the region, reforms have started to move in this direction, and further efforts may support labor market, fiscal, and equity goals. In recent years, some countries in the region have started to shift toward greater progressivity (or lower regressivity) in labor taxation. Most notably, Albania reinstated the progressive personal income tax in 2014, and Montenegro followed suit in 2022, while North Macedonia has repeatedly raised the cap for SSCs, effectively increasing the labor tax wedge for higher incomes. These changes have also led, at least partially, to increased government revenues in both Albania and North Macedonia. It is still too early to assess the impact in Montenegro. Continuing these efforts, as discussed in this special topic, may help advance countries' socioeconomic objectives, particularly in support of higher take-home pay and lower labor costs for low-wage earners.

1. Introduction

Labor taxation refers to taxes levied on the income that workers earn from their labor. In the economies of the Western Balkans, this refers to the personal income tax (PIT) and social security contributions (SSCs). The SSCs are divided into two distinct components: the employer's SSCs and the employee's SSCs. Despite these names, in the Western Balkan countries, both parts of the SSCs are paid by employers. However, there is an important difference between the two, as the employee's SSCs are deducted from the gross salary to determine the net salary that workers take home (deducting the PIT as well), whereas the employer's SSCs are added to the gross salary to compute the total cost of labor for companies. The resulting difference between total labor costs to the employer and the corresponding net take-home pay of the employee is known as the tax wedge.

Labor taxation is very important because it affects many economic and social outcomes. For example, it affects the net wages that workers receive and, as a result, it may affect their decision to work or whether to work formally or informally. It also affects the total labor costs that companies face when hiring workers and, as a result, it may affect the overall level of job creation in the economy and the types of workers who are hired. Labor taxes are also an important source of government revenues, as they help determine how much governments can spend on public goods and services. Finally, if people with different levels of income face different labor tax rates, this will impact income inequality. Through all these channels, labor taxation can affect economic growth, employment, poverty, inequality, and many other macroeconomic and social indicators.

Labor taxation is arguably a particularly important policy tool for Western Balkan countries given the labor market and overall socioeconomic challenges. These countries grapple with low labor market participation rates, persistently high unemployment, extensive informality, modest average income levels, low labor shares of national income (according to the income side of GDP), significant poverty rates, pronounced income inequality, limited public revenues, and constrained public expenditure on social protection, education, and health care.³ Thus, it comes as no surprise that several studies have already discussed labor taxation in the Western Balkans, as we survey in the next section.

This special topic contributes to our understanding of labor taxation in the region in several ways. First, we have developed a new comprehensive dataset on labor taxation for the Western Balkan economies, which contains data on nominal and effective tax rates across various income levels and covers the period from 2010 to 2022. Second, we provide a detailed account of how labor taxes are calculated in the Western Balkans, thereby offering a valuable reference for analysts and researchers interested in this subject matter. Third, while the literature to date has predominantly focused on low-wage earners, our research also examines high-income earners, assessing labor taxation at this end of the income spectrum and its implications for labor tax progressivity. Throughout the analysis, we compare the dynamics in the Western Balkans to those in three EU comparator countries: Austria,

3 See, for example, see the World Bank's series of "Western Balkans Regular Economic Reports," available at: <https://openknowledge.worldbank.org/search?spc.page=1&query=western%20balkans%20regular%20&spc.sf=score&spc.sd=DESC&spc.cope=>

Bulgaria, and Hungary.⁴ This comparison highlights the similarities and differences between the Western Balkan countries and some of their EU counterparts.

2. Overview of existing literature

There is a wealth of global literature on the effects of labor taxation on labor supply. Meghir and Phillips (2008) and Keane (2011) provide insightful overviews of this literature, noting that while findings from individual studies vary, there is consensus that labor supply elasticities (i.e., the responsiveness of the number of hours worked to changes in taxation) are generally higher among women and low-income earners, especially in terms of labor force participation. This suggests that reducing labor taxes for low-income earners is likely to significantly enhance labor force participation.

More broadly, a number of studies in middle-income countries have shown significant labor market impacts of labor taxation reforms through impacts on both labor supply and labor demand. Whether the labor tax is actually paid by employers or employees depends on how responsive they are to hiring and working decisions, respectively, and not on who the law requires to pay the tax (Gruber 1997). As a result, the impacts of labor taxation can matter for both workers and firms. Biro et al (2022), for example, show that, in Hungary, a large payroll tax cut for older workers led to increases in employment, particularly at low-productivity firms offering low-wage jobs, while wages only increased at high-productivity firms.

Similarly, the literature on taxation and informality generally finds that reducing labor taxes can be an effective measure for increasing formalization. A comprehensive survey by Jessen and Kluge (2021) reviews 170 estimates from 38 academic studies across 13 low- and middle-income countries, concluding that tax incentives, including through reduction in labor taxation, are effective formalization interventions. Additionally, Slonimczyk (2012) demonstrates that reductions in labor taxes in Russia have led to a decrease in the proportion of informal employees. Similar findings exist for other middle-income countries (Antón 2014; Kugler and Kugler 2009).

Finally, there is a substantial body of literature on optimal income taxation, which generally supports progressive taxes. Piketty and Saez (2013) and Diamond and Saez (2011) conclude that optimal taxation is progressive taxation (i.e., lower tax rates for low-income earners and higher rates for high-income earners), as it redistributes income away from higher earners, who derive less marginal utility from each additional unit of money, to lower earners, who benefit more, thus enhancing overall social welfare. While progressive taxation might introduce some economic inefficiencies by potentially disincentivizing work or investment among higher earners, these are generally outweighed by the significant gains in equality. These studies also explore behavioral responses to higher taxes, finding that high-income earners typically exhibit low elasticity to tax changes, which in turn suggests that more progressive taxation could be implemented without substantial negative impacts on economic activities.

4 In this special section of the report, just as in the regular section and the previous year's report, we aim to compare developments in the Western Balkan economies with those in four EU comparator countries: Austria, Bulgaria, Croatia, and Hungary. Bulgaria, Croatia, and Hungary were chosen because they are neighboring countries with similar histories, cultures, and economic developments to the Western Balkan economies. Austria is included due to its geographical proximity to the Western Balkans and because its economic indicators often serve as benchmarks for countries in the region. Croatia is not included because the available data was not sufficient for calculating effective tax rates for the entire period of interest. Where possible, we also incorporate other EU countries and EU averages, although not for the effective tax rates, as effective tax rates for different income levels are not readily available.

Several studies have provided insights into the structure of labor tax systems in the Western Balkans as well as their economic and social effects in addition to identifying weaknesses and making recommendations for improvement. More than a decade ago, Arandarenko and Vukojevic (2008) highlighted the regressive nature of labor taxation in the region, particularly noting that lower-wage workers often bear a heavier relative tax burden due to high mandatory social security contributions (SSCs) and the absence of a zero-tax bracket in PIT.

More recently, Arandarenko (2019) and Aleksić and Arandarenko (2022) have echoed these conclusions, highlighting that the labor tax system is regressive due to relatively high SSC rates compared to PIT rates. They argue that this structure particularly affects low-wage workers and industries, as the high tax wedge disincentivizes both the search for formal jobs among low-skilled workers and firms' hiring of such workers vis-à-vis higher-skilled ones or the use of capital. They also argue that the overall tax burden in most of the Western Balkan countries is high as a result of the high SSC rates.

Similarly, Jousten et al. (2022) discuss the twin challenges of equity and efficiency in labor taxation in the Western Balkans. They focus on the low redistributive capacity of the tax systems due to limited progressivity in PIT and flat SSC rates. The high tax wedge on low wages, they argue, contribute to low labor force participation rates and high informality, particularly among women. They recommend PIT reforms to enhance progressivity and consider employment tax incentives to incentivize formal employment. Additionally, they propose SSC reforms, such as reducing rates for low-income earners and revising contribution ceilings, to improve equity and efficiency.

In summary, the literature consistently identifies highly regressive labor taxation as a critical issue. The concerns are primarily focused on the potential disincentive effects to work formally or to hire workers, particularly low-skill and low-wage workers.

3. Labor taxation data

The dataset compiled for this report is based primarily on tax legislation, including personal income tax laws, social insurance laws, and various bylaws. For information on the years preceding 2022, additional sources (e.g., EY's Worldwide Personal Tax Guides) were also consulted. The information taken from the laws and the tax guides includes the nominal parameters of labor taxes (e.g. nominal PIT and SSC rates, thresholds for the different rates, bases for calculating the taxes, and personal tax allowances). Based on this information, we calculate effective PIT and SSC rates for different income levels, including high-wage earners. For OECD member states (i.e., Austria and Hungary), we use data from the OECD tax database. While this database includes most of the data needed for this study, it does not cover some income levels.⁵

Hence, the final dataset includes information on:

- **Nominal aspects of labor taxes**, such as nominal PIT and SSC rates, income thresholds for the tax rates, personal tax allowances, family allowances, and minimum and maximum bases for calculating contributions;⁶
- **Net wages, gross wages, and total labor costs for different income levels** (where, as explained above, the total labor cost refers to the net wage plus the employee and employer contributions, while the gross wage refers to the net wage plus the employee contributions);
- **Effective tax rates for different levels of income**, including the total labor tax (commonly referred to as the “tax wedge”), personal income tax, and total SSCs expressed as a percentage of total labor costs;
- **Detailed calculations** of the personal income taxes, the SSCs, the effective tax rates, the total labor cost, and the net wage at each income level.

The information above is available for:

- **Different income levels**, namely: the minimum wage in the country (which, in most of the cases, is around 45% of the average wage⁷), the wage equal to 67% of the average wage, the average wage, the wage equal to 167% of the average, the wage equal to three times the average, the wage equal to five times the average, the wage equal to 10 times the average, the wage equal to 20 times the average, and the wage equal to 50 times the average.
- **The period between 2010 and 2022**. Concretely, we include the years 2010, 2014, 2018, and 2022, opting for four-year intervals to help provide a longer-time perspective.⁸

5 The OECD tax database covers only average income, income equal to 67% of the average wage, and income equal to 167% of the average wage.

6 Importantly, we do not consider government subsidies for companies or vocational training costs as part of the labor tax. Although they may be related to the labor costs that firms incur for hiring workers, they are not taxes in the conventional understanding of the term. While employment and wage subsidies may be considered forms of negative taxation, it is still more common to view them as a form of state aid.

7 Notable exceptions in 2020 are Kosovo, where it is around one third of the average wage, and Montenegro, where it is around 60%.

8 Future work will expand the analysis to include every intervening year within this range so as to provide a more continuous and detailed assessment of trends over time.

- **The six Western Balkan economies plus three EU comparator countries.** Concretely, we include Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, and Serbia in addition to Austria, Bulgaria, and Hungary. Bosnia and Herzegovina (BiH) is included with the two entities (i.e., the Federation of BiH as well as Republika Srpska) as well as Brčko District, as each has its own tax system.

4. Description of the labor tax systems in the Western Balkans

Labor tax systems in the Western Balkan countries encompass the PIT and the SSCs (i.e., the taxes that are directly associated with the income workers earn from their labor). A key difference between the SSCs and the PIT is that the SSCs finance associated benefit entitlements and, as such, are not a tax per se, although they may still be viewed as one (Jousten et al. 2022). While some of the jurisdictions distinguish between employer and employee SSCs, others do not. Albania, the Federation of BiH, Montenegro, Kosovo, and Serbia do, while North Macedonia and Republika Srpska do not. When there is both employer SSCs and employee SSCs, they are (despite their names) both paid by employers. The employee's SSCs are deducted from the gross salary to determine the net salary that workers take home, whereas the employer's SSCs are added to the gross salary to compute the total cost of labor for companies. This difference also has practical implications. Since work contracts are usually defined in gross wage terms, changes in SSCs have differentiated impacts on net wages and labor costs, depending on whether they affect the employer's or the employee's share. Specifically, if the contracts remain unchanged, increasing the employer's SSCs should not reduce net wages but should increase firm labor costs, while increasing the employee's SSCs should not raise firm labor costs but should reduce net wages. In reality, of course, this boils down to the question of tax incidence (i.e., who ultimately pays the tax) and depends on factors such as bargaining power of labor and market structure.

Table 10 shows the main features of the labor tax systems in the Western Balkan economies in 2022. Detailed explanation of all the aspects can be found in Annex 1. One can see that the PIT is nominally progressive in four of the six countries – Albania, Kosovo, Montenegro, and Serbia – and flat (i.e., proportional) in Bosnia and Herzegovina and North Macedonia. Still, the progressivity of the PIT rates is very mild and much milder than in most of the EU countries, as can be seen in Table 11. Furthermore, the PIT rates are generally much lower in the Western Balkan countries than in the EU.

Table 10 / Nominal parameters of labor taxes in the Western Balkan economies in 2022

	Albania	Bosnia and Herzegovina			Kosovo	North Macedonia	Montenegro	Serbia
		Federation of BiH	Republika Srpska	Brčko District				
PIT rates	Under EUR 252 - 0%, EUR 253-1,261 - 13%, above EUR 1,262 - 23%	10%	8%	10%	Under EUR 80 - 0%, EUR 81-250 - 4%, EUR 251-450 - 8%, Over EUR 451 - 10%	10%	Under EUR 700 - 0%, EUR 701-1,000 - 9%, above EUR 1,001 - 15%	10%. In addition, there is an annual income tax for annual net income exceeding 3 average gross annual salaries. For the amount between 3 and 9 average annual salaries, the rate is 10%; for the level above 9 average annual salaries, the rate is 15%. The tax base can be deducted up to 40% of the average annual salary, but not more than 50% of the taxable base.
Personal allowance (PA)	None	EUR 153	EUR 510	EUR 255	None	EUR 143	None	EUR 164
Family allowance (FA)	None	Spouse - EUR 77, First child – EUR 77, Second child - EUR 138, Third and every additional child - EUR 46, Parent with monthly income below EUR 153 - EUR 36	EUR 36 for every dependent family member	EUR 128 for dependent family members	None	None	None	The tax base for the annual income tax may be reduced by 15% of the average annual salary per dependent family member, but not more than 50% of the taxable annual income.
PIT tax base	Gross wage minus employee SSCs	Gross wage minus PA minus FA minus employee SSCs	Gross wage minus PA minus FA	Gross wage - PA minus FA minus employee SSCs	Gross wage minus employee SSCs	Gross wage minus PA minus SSCs	Gross wage	Gross wage minus PA minus employee SSCs

Contd.

Table 10 / Continued

	Albania	Bosnia and Herzegovina			Kosovo	North Macedonia	Montenegro	Serbia
		Federation of BiH	Republika Srpska	Brčko District				
Employer SSC rates	Health - 1.7% Social Insurance - 15% (covering pensions, maternity leave, sickness, employment injury, and unemployment)	Pension - 6%, Health - 4%, Unemployment - 0.5%	None	Pension - 6% (if the worker is insured in the pension fund of the Federation of BiH)	Pension - 5% (voluntarily, up to additional 10%)	None	Pension - 5.5%, Unemployment - 0.5%, Work Fund - 0.2%, Chamber of Commerce - 0.27%, Labor union - 0.2%	Pension - 11.5%, Health - 5.15%
Employee SSC rates	Health - 1.7%, Social insurance - 9.5% (covering pensions, maternity leave, and sickness)	Pension - 17%, Health - 12.5%, Unemployment - 1.5%	Pension - 18.5%, Health - 10.2%, Unemployment - 0.6%, Childcare - 1.7%	Pension - 17% if the worker is insured in the pension fund of the Federation of BiH; 18.5% if he/she is insured in the pension fund of Republika Srpska Health - 12% Unemployment - 1.5%	Pension - 5% (voluntarily up to additional 10%)	Pension - 18.8%, Health - 7.5%, Unemployment - 1.7%	Pension - 15%, Unemployment - 0.5%	Pension - 14%, Health - 5.15%, Unemployment - 0.75%
SSC base	Gross wage	Gross wage	Gross wage	Gross wage	Gross wage	Gross wage	Gross wage	Gross wage
Minimum SSC base	EUR 269	EUR 421	EUR 436	EUR 421 or 436	EUR 170	EUR 353	None	EUR 263
Maximum SSC base	EUR 1,186 (just for the social insurance; the health insurance is uncapped)	None	None	None	None	EUR 11,297	EUR 4,604	EUR 3,756
Surtax	0	0	0	0	0	0	Podgorica and Cetinje - 15%, Budva - 10%, Other -13%	0
Surtax base	0	0	0		0	0	Amount of PIT	0

Note: The nominal values in EUR are on a monthly basis. SSC(s) refers to social security contributions, PIT to personal tax rate, PA to personal allowance, and FA to family allowance.

Source: Authors' compilation using information from national tax legislation.

Three of the Western Balkan countries – Bosnia and Herzegovina, North Macedonia, and Serbia – have a personal tax allowance. This means that part of the income is exempt from the PIT tax, which effectively acts as a 0% tax rate for the income below the personal tax allowance. A tax allowance may lead to some effective progressivity in the PIT despite the nominally flat rates. The tax allowance is rather low in North Macedonia, Serbia, and the Federation of BiH, at around EUR 150 per month. It is EUR 250 in Brčko District and around EUR 500 in Republika Srpska.

All the Western Balkan countries only have individual income tax systems, meaning that there is no option to pay taxes as a couple, as is the case in some EU countries. Moreover, only Bosnia and Herzegovina and Serbia have a family allowance, meaning that the tax base is reduced in the amount of the allowance. The family allowances are shown in Table 10.

Table 11 / Nominal PIT rates in the Western Balkans and in selected EU countries

Tax jurisdiction	PIT rates
Austria	20-55%
Belgium	25-50%
Bulgaria	10%
Czechia	15-23%
Estonia	20%
Finland	6-31.25%
France	11-45%
Greece	9-44%
Hungary	15%
Ireland	20-40%
Italy	23-43%
Latvia	20-31%
Lithuania	20-32%
Luxembourg	8-38%
Netherlands	9.42-49.5%
Poland	22-32%
Portugal	14.5-37%
Slovakia	19-25%
Slovenia	16-45%
Spain	9.5-24.5%
Albania	13-23%
Federation of BiH	10%
Republika Srpska	8%
Brčko District	10%
Kosovo	4-10%
Montenegro	9-15%
North Macedonia	10%
Serbia	10-25%

Source: OECD Tax Database for EU countries; national tax legislation for the Western Balkan economies.

All countries in the region have SSCs, but they refer to contributions to different programs. In Kosovo, for example, there is only a pension contribution. In Albania, there is a SSC and a health contribution, with the SSCs covering pensions, maternity leave, sickness, employment injury, and unemployment benefits. In Montenegro, there are contributions for pensions, unemployment benefits, the work fund, the chamber of commerce, and the labor union. Table 10 (above) displays the different contributions in each of the jurisdictions.

The nominal SSC rates are flat (i.e., the same for all levels of wages). The total SSC rates (i.e., both the employer's and employee's SSCs) are higher than the PIT rates in all Western Balkan countries (Table 12). They range from 10% of the gross wage in Kosovo to 41.5% in the Federation of BiH. The SSC rates, except for those in the Federation of BiH, are lower than they are in Austria, Bulgaria, and Hungary.

Table 12 / Total nominal SSC rates in the Western Balkan and EU comparator countries

Country	Total social security contribution rates (% of gross wage)
Austria	39.25
Bulgaria	33.4
Hungary	31.5
Albania	27.9
Federation of BiH	41.5
Republika Srpska	31
Brčko District	32 or 36.5
Kosovo	10
Montenegro	22.17
North Macedonia	28
Serbia	36.55

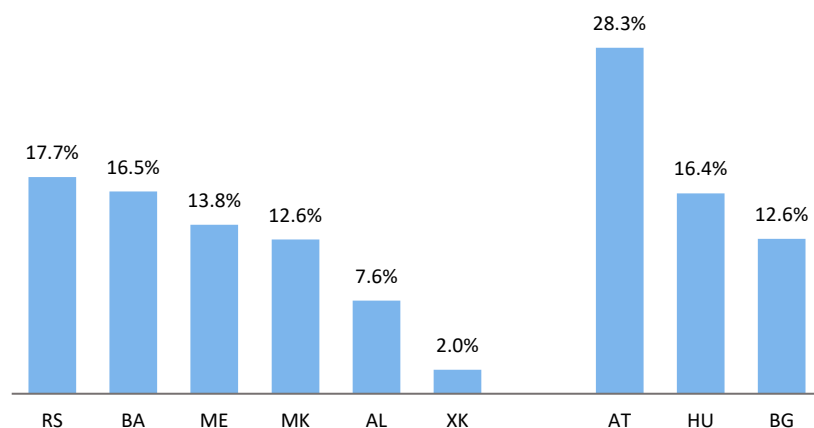
Source: OECD Tax Database for the EU countries; national tax legislation for the Western Balkan economies.

Arguably, one of the most salient features of the labor tax systems in the region is that, while the base for calculating the SSCs is the gross wage, in some countries there is a minimum and maximum base that make effective SSC rates regressive, as shown in Table 10. All the countries, except Montenegro, have a minimum base for calculating contributions, which produces a floor on the SSCs that can be paid. This social contribution base increases the effective SSC rate for wages that fall below this level. Similarly, all countries, except Bosnia and Herzegovina and Kosovo, have a maximum base for calculating contributions, which produces a cap on the SSCs to be paid. This ceiling reduces the effective SSC rate for wages above this level. Owing to these floors and ceilings, lower-income workers may end up paying higher effective SSC rates than higher-income workers.

The revenues that Western Balkan economies receive from labor and personal income taxes more generally range from 2% of GDP in Kosovo to 18% of GDP in Serbia. This is far lower than the 28% of GDP in Austria. Serbia and Bosnia and Herzegovina, which have the highest labor tax revenues in the region, are close to Hungary (16-18%); Montenegro and North Macedonia are close to Bulgaria (around 13%); and Albania and Kosovo are far lower than any other country considered here (Figure 25). This level of tax revenues in the Western Balkans partly reflects high informality rates (including underreporting of wages)⁹ and weaknesses in tax administration systems in addition to relatively low nominal PIT rates.

⁹ See, for example, Ungerer et al. 2021, for Albania.

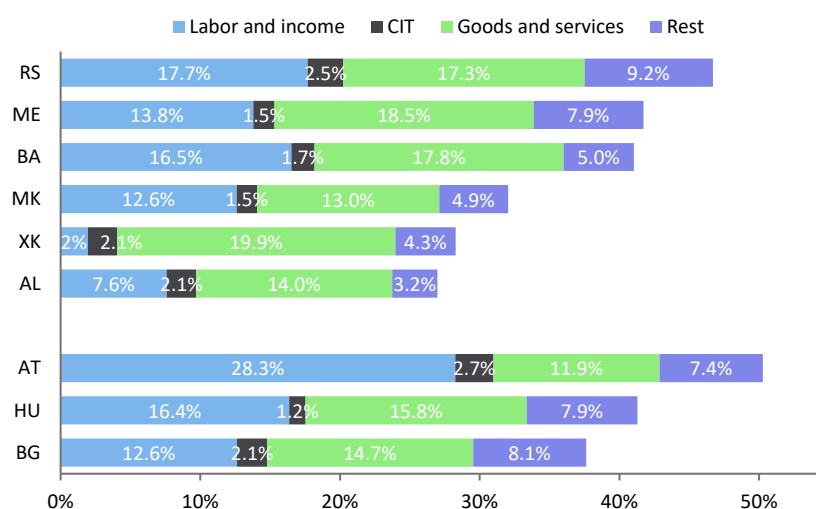
Figure 25 / General government revenues from labor and personal income taxes in the Western Balkan and EU comparator countries in 2021 (% of GDP)



Notes: Data refer to total PIT and SSC revenues, meaning that personal non-labor income is also included. Data for Bulgaria refer to 2020.
Source: UNU-WIDER Government Revenue Dataset 2023.

Similarly, the proportion of total government revenues coming from labor taxes is generally low in the Western Balkans. In Austria, nearly 60% of general government revenues stem from PIT and SSCs, while in the Western Balkans, this figure reaches about 40% at most in Serbia, Bosnia and Herzegovina, and North Macedonia, which is similar to Hungary's share. In Montenegro and Albania, the share is closer to 30%, which is similar to Bulgaria's, whereas it falls below 10% in Kosovo (Figure 26). Tax systems in the Western Balkans rely significantly more on indirect taxes, such as VAT and excise duties, which constitute between 40% and 70% of total revenues.

Figure 26 / General government revenues in the Western Balkan and EU comparator countries in 2021, by source (% of GDP)



Notes: Labor and income taxes refer to total PIT and SSC revenues, meaning that some non-labor income is also included. While CIT refers to corporate income taxes, goods and services refers to VAT and excise duties. Data for Bulgaria refer to 2020.
Source: UNU-WIDER Government Revenue Dataset 2023.

5. Tax wedges for different levels of wages in the Western Balkans

This section examines the effective labor tax rate, commonly referred to as the tax wedge, across Western Balkan economies at various wage levels. Detailed calculations for each country based on the average gross wage can be found in Annex 2. Besides the average gross wage, we also present the effective rates at:

- the minimum wage,
- a wage equal to 67% of the average,
- a wage equal to 167% of the average,
- a wage equal to 3 times the average,
- a wage equal to 5 times the average,
- a wage equal to 10 times the average,
- a wage equal to 20 times the average,
- a wage equal to 50 times the average.

We intentionally include the higher end of the income distribution for two main reasons. First, top earners are frequently overlooked in similar analyses. This includes the OECD Tax Database, which only covers incomes up to 167% of the average. Second, income inequality is relatively high in the Western Balkans (and higher than in most EU member states), and it is important to understand whether the labor tax system exacerbates or attenuates this.

Quality data are lacking to determine precisely where these thresholds fall within the labor income distribution. To gain some insight, we look at the World Inequality Database (WID) and the Labor Force Surveys (LFSs) for the countries that have adequate data.

The income shares according to the WID data are shown in Table 13 (details of the calculations are shown in Annex 3). It is important to note that the income used there is total pre-tax national income, which encompasses not only labor income but all pre-tax personal income flows, including wages and salaries, capital income (e.g., dividends and interest), pensions, and business income (from self-employment and business activities). According to this source, a threshold of 167% of the average income aligns with the top 14-15% of the income earners in the Western Balkans (i.e., a person with an income of 167% of the average would fall around the 85th-86th percentile of the income distribution). A threshold of 3 times the average income aligns with the top 3-4% of earners, while a threshold of 5 times the average typically aligns with the top 1%. A threshold of 10 times the average corresponds to the top 0.2-0.3% of earners, while a threshold of 20 times the average generally matches the top 0.05%. The highest threshold (i.e., 50 times the average income) corresponds to the top 0.005-0.01% of the income spectrum. It is also important to note that the underlying data that the World Inequality Database uses for the Western Balkan economies is rated as low, as they are based primarily on surveys rather than on tax records, which means that the high-income earners are mostly

omitted. This, in turn, means that the income shares are likely to be higher than those shown here, though, arguably, not by a huge margin.

Table 13 / Share of people with income above respective thresholds

Income level (relative to average)	AL	BA	ME	MK	RS	XK
67% of average	56%	55%	57%	58%	56%	58%
Average	38%	35%	38%	45%	37%	38%
167% of average	15%	15%	15%	14%	14%	14%
3x average	3%	4%	3%	3%	3%	3%
5x average	1.00%	1%	0.9%	0.70%	1%	0.9%
10x average	0.20%	0.3%	0.2%	0.15%	0.3%	0.2%
20x average	0.04%	0.05%	0.03%	0.03%	0.07%	0.03%
50x average	0.004%	0.007%	0.003%	0.005%	0.01%	0.004%

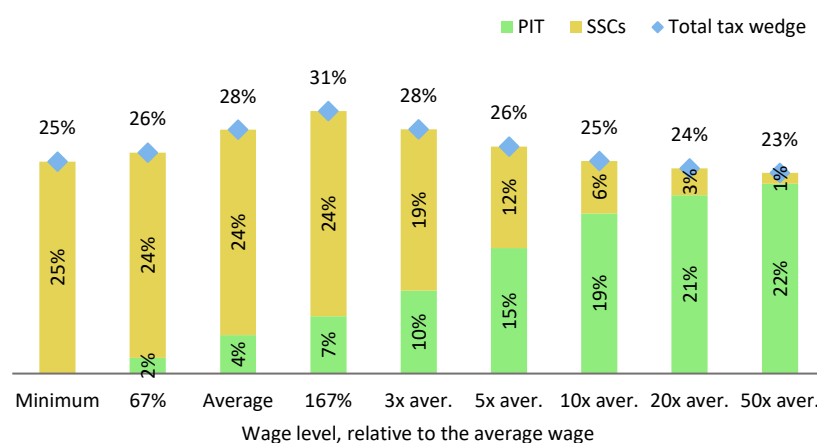
Note: The income refers to total pre-tax national income (i.e., all pre-tax personal income flows).

Source: Authors' calculations using data from the World Inequality Database.

Adequate LFS data are only available for Bosnia and Herzegovina and Kosovo, and they present a different distribution pattern. Their advantage is that they only cover labor income. According to the LFS data for Kosovo, 76% of employees earn more than 67% of the average income, while only 6% have incomes surpassing 167% of the average. This implies that 70% of income earners in Kosovo are grouped between 67% and 167% of the average, as opposed to the 44% reported in the WID data. In Bosnia and Herzegovina, the LFS data show that approximately 85% of people earn more than 67% of the average, with only about 7% earning above 167% of the average. Consequently, about 78% of individuals are positioned between these income brackets, compared to the only 40% indicated by the WID data. Therefore, income figures from the LFS tend to cluster more closely around the mean. This pattern is expected, as LFS data typically omit both the lowest and highest income earners, as noted in studies by Atkinson et al. (2011) and Castañeda et al. (2016).

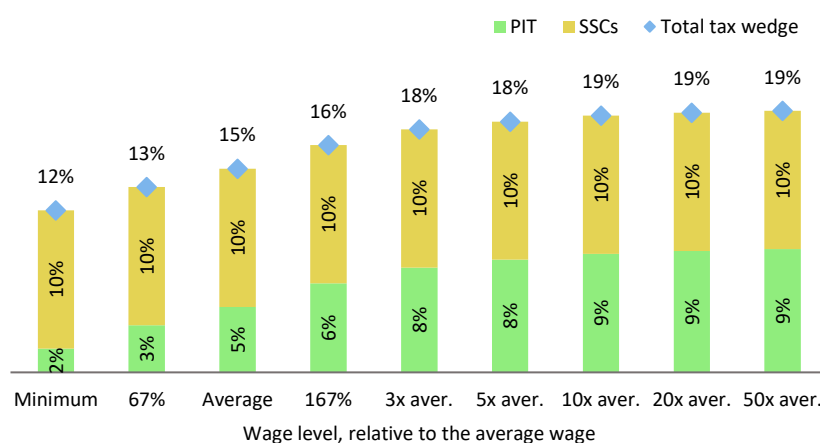
The calculations for the tax wedges that we present here refer to a single earner taxpayer. Family allowances are not included in the calculations, as only Bosnia and Herzegovina and Serbia offer such allowances in the region.

We start with Albania, shown in Figure 27, where one can see that the labor tax schedule is kinked. From the minimum wage, until a wage equal to 167% of the average, there is some progressivity – the total tax wedge increases from 25% to 31%. This is owed to the progressive PIT, whose effective rate increases from 0% for the minimum wage to around 7% of a wage equal to 167% of the average. After that level, the system becomes regressive and the total effective tax wedge declines. For wages higher than 20 times the average wage, the labor tax becomes even lower than for the minimum wage (24% vs. 25%). This is owed to the cap on the base for calculating SSCs, which is close to two average monthly wages of EUR 1,186 in 2022. This is evident in Figure 27, as well. Here, the effective SSC rate for a wage equal to 167% of the average is 24%, while it drops to just 1% for a wage 50 times higher than the average. While the effective PIT rate increases at the same time, this is not enough to offset the decline in the effective SSC rate. The minimum base for SSCs is very close to the minimum wage (EUR 269 vs EUR 248 in 2022), so its effect is not pronounced.

Figure 27 / Labor taxes in Albania in 2022 at different levels of wages (% of total labor cost)

Source: Authors' calculations, using data from SEE Jobs Gateway and national tax legislation.

The labor tax system in Kosovo is progressive throughout the entire income distribution (Figure 28). The total effective tax wedge for the minimum wage is 12%, it reaches 15% for the average wage, and it converges to 19% for wages around and above 10 times the average. The progressivity is due to the PIT, which increases from 2% effectively for the minimum wage to 9% effectively for wages 10 times higher than the average. The SSC rate is always 10%, as there is no maximum base for the calculation of the contributions, and the minimum base is equal to the minimum wage.

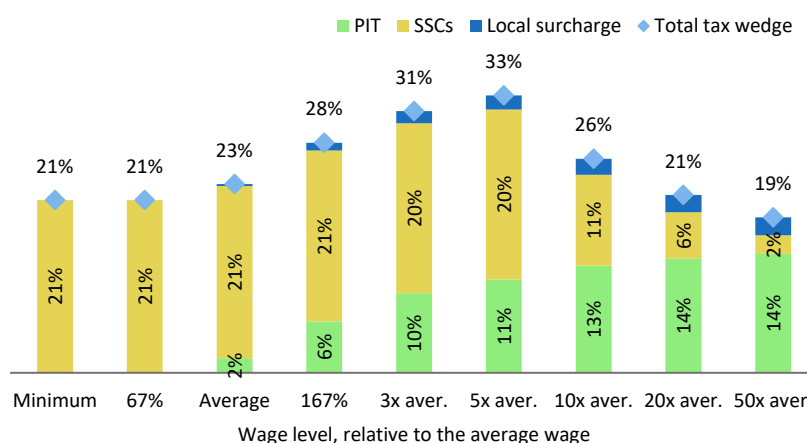
Figure 28 / Labor taxes in Kosovo in 2022 at different levels of wages (% of total labor cost)

Source: Authors' calculations, using data from SEE Jobs Gateway and national tax legislation.

In Montenegro, the labor tax system is kinked just like in Albania, with the difference being that the regressivity kicks in at higher incomes (Figure 29). The effective labor tax wedge increases progressively from those who earn the minimum wage to those earning around 5 times the average wage. While minimum wage earners are taxed at a rate of 21%, those earning 5 times the average wage pay 33%. This is owed to the progressive PIT, which increases from effectively zero at the level of the minimum wage to 11% for a wage 5 times the average. At around that level, the cap on social contributions kicks in – the maximum base for the contributions in 2022 was EUR 4,604 per month, which is close to 5 average monthly wages. The total effective labor tax then starts declining, coming down to 19% for wages 50 times higher than the average, which is lower than the wedge for the

minimum wage. The effective PIT rate increases at the same time, but only marginally, to 14%, which is insufficient to compensate for the decline in the effective SSC rate.

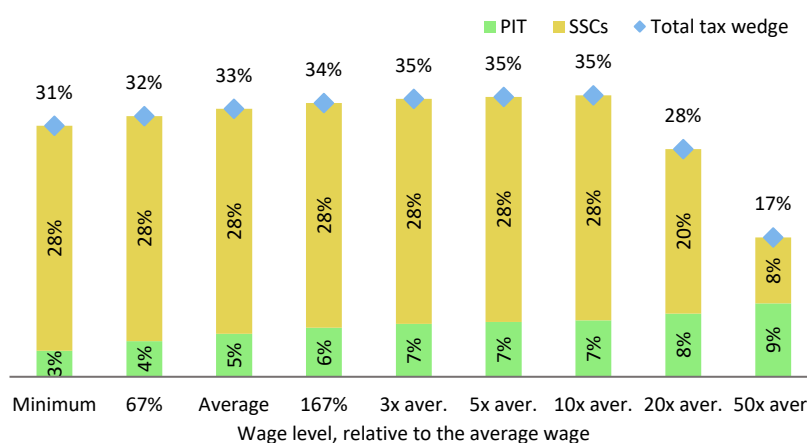
Figure 29 / Labor taxes in Montenegro in 2022 at different levels of wages (% of total labor cost)



Source: Authors' calculations, using data from SEE Jobs Gateway and national tax legislation.

North Macedonia also has a kinked labor tax system, the difference from Albania and Montenegro being that the progressivity here is much milder, while the regressivity is sharper despite kicking in at higher incomes (Figure 30). Despite the flat nominal PIT rates, there is still some effective progressivity in the PIT owing to the personal tax allowance. Because of that, the tax wedge increases from 31% for the minimum wage to 35% for wages 3-10 times higher than the average. As soon as the cap on the social contributions kicks in, at 16 times the average wage, the effective tax wedge drops sharply. For wages 50 times the average, it declines to just 17%, which is nearly half of the rate for the minimum wage. The minimum base for contributions has become largely irrelevant, as the minimum wage has exceeded it in recent years.

Figure 30 / Labor taxes in North Macedonia in 2022 at different levels of wages (% of total labor cost)

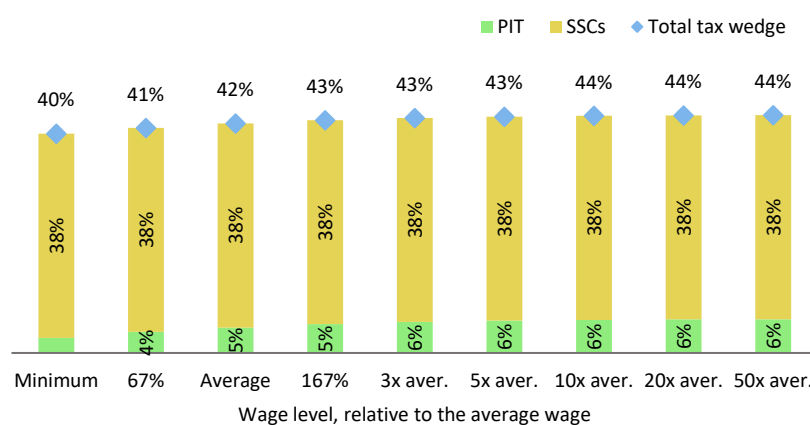


Source: Authors' calculations, using data from SEE Jobs Gateway and national tax legislation.

The labor tax system in the Federation of BiH is progressive, though only marginally (Figure 31).

The total effective tax rate for the minimum wage is 40%, and it converges gradually to 44% for wages 10 times the average wage. Given the flat nominal PIT, the progressivity arises from the personal tax allowance. As there is no cap on social contributions, their effective rate always remains at 38%. The minimum base for the contributions, on the other hand, has been surpassed by the minimum wage in recent years, which is why its relevance has diminished.

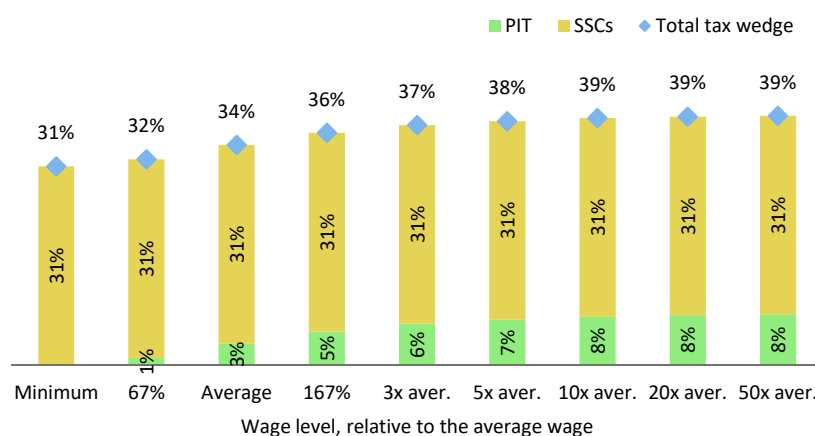
Figure 31 / Labor taxes in Federation of BiH in 2022 at different levels of wages (% of total labor cost)



Source: Authors' calculations, using data from Federation of BiH's statistical office and tax legislation.

The situation in Republika Srpska is very similar to that in the Federation of BiH, although the system is slightly more progressive and the overall level of labor taxation slightly lower (Figure 32). The total tax wedge increases from 31% for the minimum wage to 39% for wages 10 times the average wage. Again, as the PIT is nominally flat, this is owed to the personal tax allowance. As the tax allowance in Republika Srpska is bigger than in the Federation of BiH, the progressivity there is slightly more pronounced. Since there is no cap on SSCs, their effective rate remains at 31%. Despite the minimum base for calculating contributions, its level is now below the minimum wage in the entity, which renders it irrelevant.

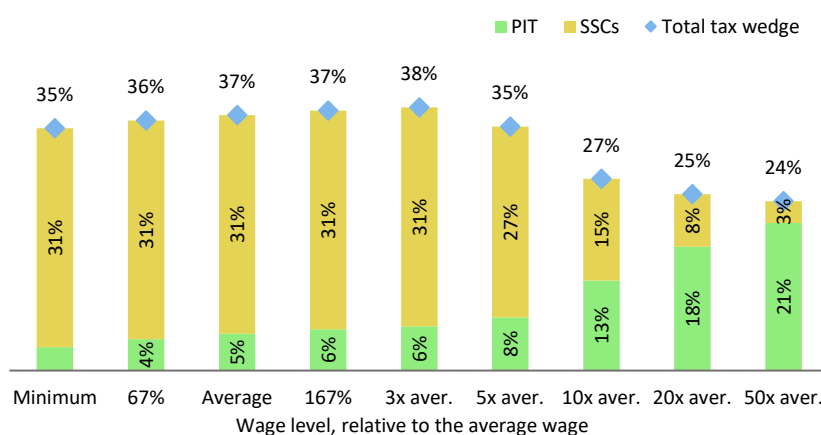
Figure 32 / Labor taxes in Republika Srpska in 2022 at different levels of wages (% of total labor cost)



Source: Authors' calculations, using data from Republika Srpska's statistical office and tax legislation.

Serbia has a kinked labor tax system, which resembles to some extent the one in North Macedonia (Figure 33). The progressive section runs from the minimum wage up to around the level of four average wages, but it is very mild, increasing from 35% to 38%. At around that level, the cap on social contributions kicks in, and the effective SSC rate declines rapidly, from 31% at three average wages to just 3% at 50 average wages. This decline is partially offset by the progressive PIT, as the annual PIT becomes effective at around this level, but it is insufficient to prevent a decline in the overall effective labor tax. The minimum base for calculating the social contributions is below the minimum wage, so it is not binding.

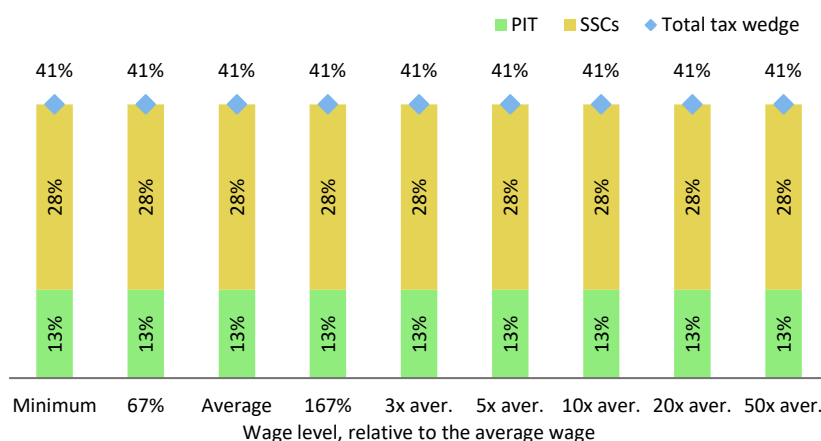
Figure 33 / Labor taxes in Serbia in 2022 at different levels of wages (% of total labor cost)



Source: Authors' calculations, using data from SEE Jobs Gateway and national tax legislation.

Turning to the EU comparator countries, Hungary has a very simple labor tax system, which is flat throughout the whole income distribution, even when the effective rates are considered (Figure 34). Due to the absence of tax allowances as well as minimum and maximum bases for the contributions, and owing to the flat nominal PIT rates, the total effective labor tax rate is 41% for all wage levels, consisting of 13% of PIT and 28% of SSCs. It is important to note, however, that the rates in Hungary are generally much higher than the rates in the Western Balkans across all income levels, with the only exception from this pattern being the Federation of BiH, which has effective tax rates similar to those of Hungary.

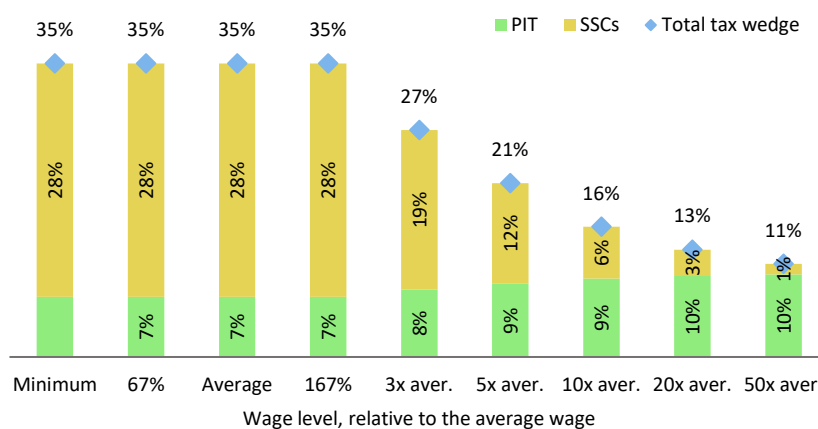
Figure 34 / Labor taxes in Hungary in 2022 at different levels of wages (% of total labor cost)



Source: Authors' calculations, using data from SEE Jobs Gateway and OECD Tax Database.

Bulgaria, in contrast, has a flat effective labor tax until a wage level of around two average wages owing to the nominally flat PIT and the absence of a personal tax allowance. After that level, the maximum base for calculating the SSCs kicks in, and the labor tax wedge starts declining. For wages equal to 50 times the average wage, the effective tax rate declines to just 11% of the total labor cost, which is the lowest rate for that wage level in all the countries included in this analysis.

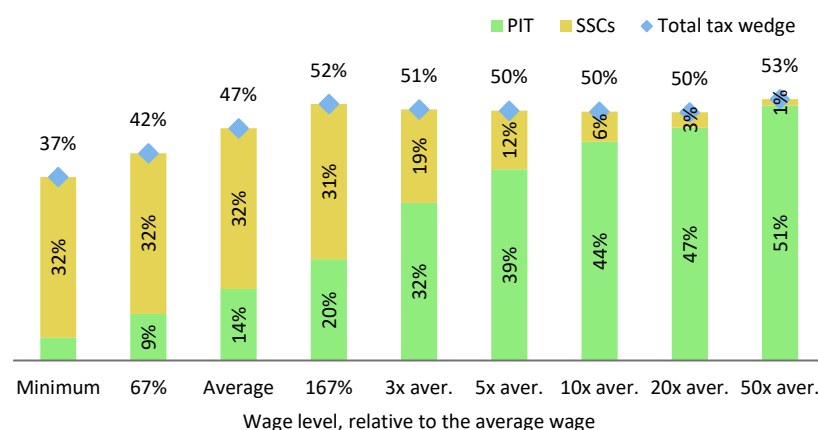
Figure 35 / Labor taxes in Bulgaria in 2022 at different levels of wages (% of total labor cost)



Source: Authors' calculations, using data from SEE Jobs Gateway and national tax legislation.

Finally, in Austria, the tax wedge first increases, then declines, and then increases again (Figure 36). The total effective tax rate at the minimum wage¹⁰ is equal to 37%, and it gradually increases to 52% for wages equal to 167% of the average wage owing to the progressive PIT rates. At around that level, the cap for the social contributions becomes effective (it is set on a relatively low level of EUR 5,850 per month). The resulting decline in the effective SSCs is offset to some extent, but not entirely, by the progressive PIT. Hence, the effective labor tax wedge declines to 50% for wages between three and 20 times the average wage. After that level, the top marginal tax rate of 55% kicks in, raising the effective labor tax to 53% for wages in the vicinity of 50 average wages in the country.

Figure 36 / Labor taxes in Austria in 2022 at different levels of wages (% of total labor cost)



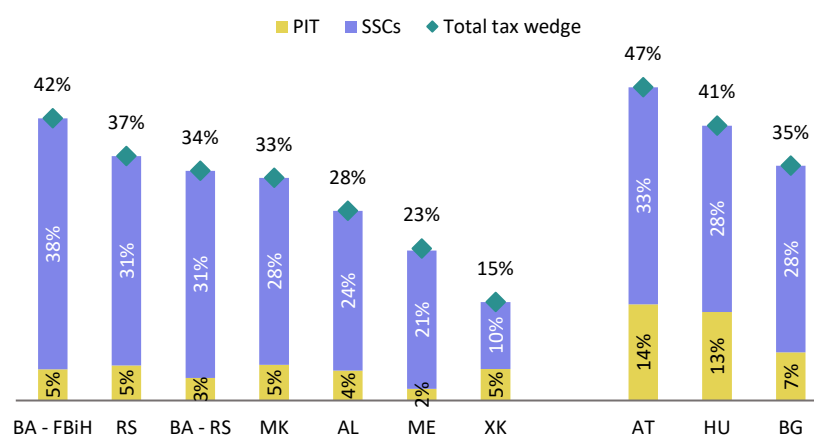
Source: Authors' calculations, using data from SEE Jobs Gateway and OECD Tax Database.

¹⁰ As Austria does not have a statutory national minimum wage, we use here the minimum wage in the retail sector, which was EUR 1,700 gross in 2022.

6. Comparison of the tax wedges in the Western Balkan economies and the EU comparator countries

Comparing the tax wedges for the average wage in the Western Balkan economies with the wedges in the EU comparator countries, one can see that the wedge is generally lower in the Western Balkans (Figure 37). Austria has the highest total tax wedge, at 47% of the total labor costs, while Hungary's wedge stands at 41%. The Federation of BiH is the only entity within the Western Balkans with a total tax wedge nearing those figures, at 42%. The remaining jurisdictions in the Western Balkans have wedges below 40%. Serbia, Republika Srpska, and North Macedonia exhibit moderate wedges, ranging from 33% to 37%. Albania's and Montenegro's wedges are around 25%, while Kosovo has the lowest total tax wedge in the group, at 15% of the total labor cost. While we focus here on three comparator countries, Tables 11 and 12 indicate that this pattern is likely to hold even when comparing to a wider set of EU countries.

Figure 37 / Total tax wedge, PIT and SSCs for the average gross wage in 2022 (% of total labor cost)

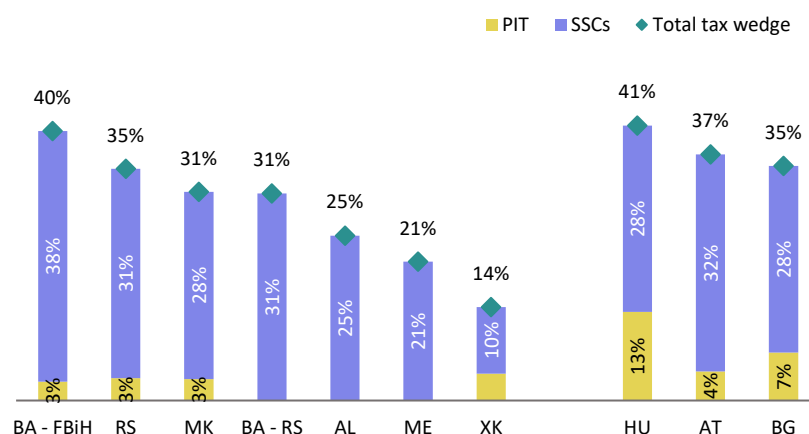


Source: Authors' calculations, using data from SEE Jobs Gateway, national statistical offices, OECD Tax Database, and national tax legislation.

The reason why the Western Balkan countries have lower tax wedges is that they have significantly lower effective PIT rates. In the Western Balkans, no jurisdiction has an effective PIT rate exceeding 5% of labor costs, whereas the respective rates are 14% and 13% in Austria and Hungary. Even Bulgaria has an effective PIT rate of 7%. Conversely, the effective SSC rates in most of the Western Balkans – specifically, the Federation of BiH, Serbia, Republika Srpska, and North Macedonia – are either higher than or comparable to those in Austria, Bulgaria, and Hungary. Albania, Montenegro, and Kosovo, on the other hand, have effective contribution rates that are lower than those of the EU comparator countries.

The same applies to tax wedges at the minimum wage. The tax wedges at the minimum wage in the Western Balkans are again generally lower than in the EU comparator countries (Figure 38). The Federation of BiH is an exception, as it has a tax wedge level similar to those in Austria and Hungary.

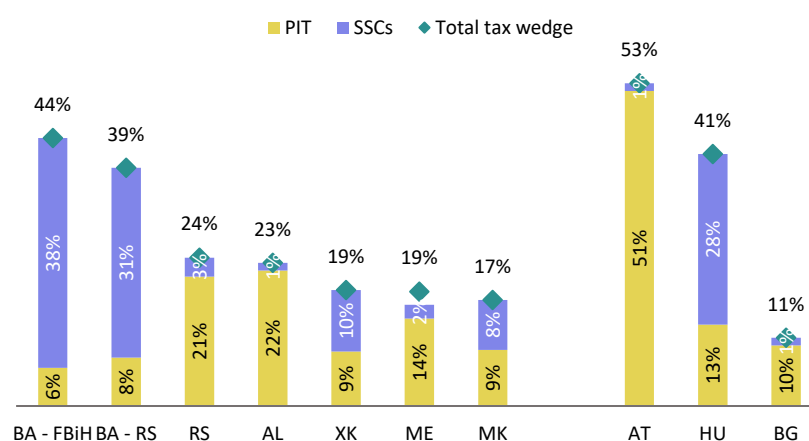
Figure 38 / Total tax wedge, PIT, and SSCs for the minimum wage in 2022 (% of total labor cost)



Source: Authors' calculations, using data from SEE Jobs Gateway, national statistical offices, OECD Tax Database, and national tax legislation.

In contrast, while tax wedges for high-income earners are again lower in the Western Balkan economies, the difference with comparators is much bigger than at lower wages. A comparison of effective taxes between the Western Balkans and EU countries for wages 50 times the average (Figure 39) reveals that only Bosnia and Herzegovina (both entities) comes close to Hungary's rates of 41%, while still being considerably lower than Austria's 53%. The other countries' rates hover at around 20%.

Figure 39 / Total tax wedge, PIT, and SSCs for wages 50 times higher than the average in 2022 (% of total labor cost)

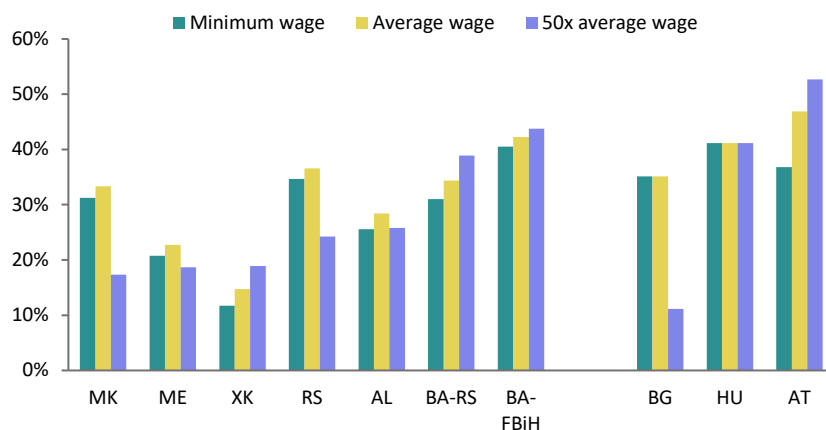


Source: Authors' calculations, using data from SEE Jobs Gateway, national statistical offices, OECD Tax Database, and national tax legislation.

The regressivity of labor taxes in Albania, Montenegro, North Macedonia, and Serbia is notable. Figure 40 compares the tax wedges for the minimum wage, average wage, and wages 50 times the average in Western Balkan economies and selected EU comparator countries. In Albania, Montenegro, North Macedonia, and Serbia, the tax wedge for wages 50 times the average is lower than that for the average wage and often even lower than that for the minimum wage. Both entities in Bosnia and Herzegovina and Kosovo stand out as exceptions to this trend. In contrast, among the EU comparator countries, only Bulgaria exhibits this type of regressivity. The same picture emerges in Figure 41. The horizontal axis represents the labor tax wedge at the minimum wage, and the vertical axis shows the tax

wedge at 50 times the average wage. The purple line is a 45-degree line indicating where tax jurisdictions would be positioned if their labor tax wedge for the minimum wage equaled their tax wedge for wages 50 times the average. One can see that the four Western Balkan countries with regressive labor taxation – Albania, Montenegro, North Macedonia, and Serbia – fall below the 45-degree line.

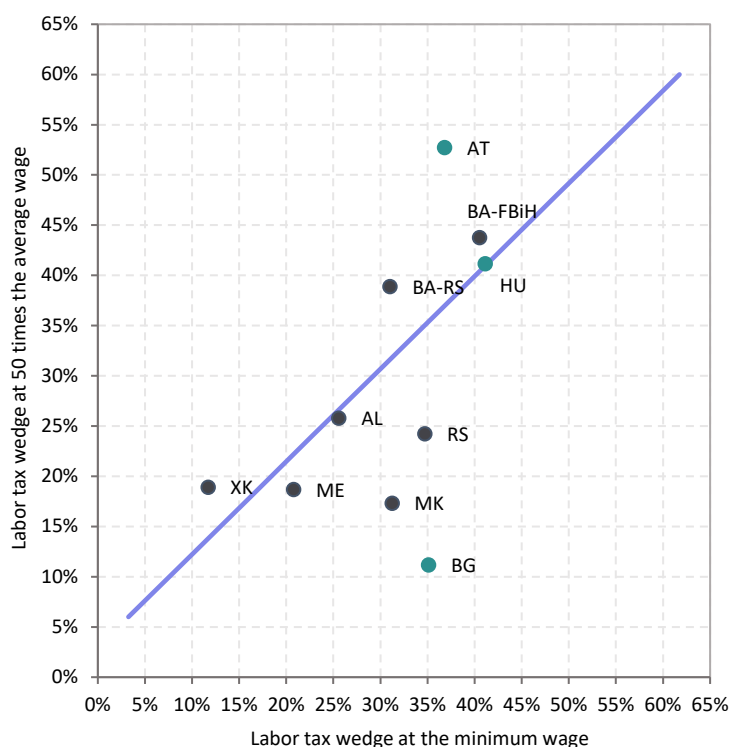
Figure 40 / Total tax wedges for the minimum wage, average wage, and wage 50 times higher than the average in 2022 (% of total labor cost)



Note: Jurisdictions are ordered by the tax wedge for the highest wage, from low to high. The EU comparator countries are shown in the right-hand part of the figure.

Source: Authors' calculations, using data from SEE Jobs Gateway, national statistical offices, OECD Tax Database, and national tax legislation.

Figure 41 / Tax wedge at the minimum wage and at 50 times the average wage in 2022 (% of total labor cost)



Note: The purple 45-degree line indicates where tax jurisdictions would lie if their labor tax wedge for the minimum wage equaled their tax wedge for wages 50 times the average wage.

Source: Authors' calculations, using data from SEE Jobs Gateway, national statistical offices, OECD Tax Database, and national tax legislation.

7. Evolution of the labor tax wedge in the Western Balkans

There were not many big changes in the labor tax systems in the Western Balkans between 2010 and 2022, but it is important to note that most of the changes were in the direction of greater progressivity or reduced regressivity (Figure 42). The two biggest changes occurred in Albania in 2014 and in Montenegro in 2022. North Macedonia, Republika Srpska, and Serbia also made some changes, but they were not as big.

Albania reintroduced a progressive PIT in 2014, which led to a significant increase in its labor tax wedge at the highest wages and a small decline in the wedge at lower wages. Until the end of 2013, it had a flat-rate PIT with a rate of 10%, while it introduced a two-rate PIT with rates of 13% and 23% in 2014. As a result of this change, the total tax wedge for wages equal to 50 times the average wage increased from around 14% of the labor cost in 2010 to around 26% in 2014. At the same time, Albania increased the non-taxable part of income from around EUR 70 a month to around EUR 210 a month, which reduced the tax wedge at the minimum and average wages. These changes brought the tax wedge for the highest incomes close to the tax wedge for the minimum and average wages. Reforms also appear to have boosted general government revenues from PIT, which rose from about 1.5% of GDP before the introduction of the progressive tax to roughly 1.9% thereafter.¹¹ In the years following the initial impact of the reform, the wedge for the minimum and average wage has been growing steadily due to “cold progression” (i.e., the increase in the nominal wages and the consequent push of workers toward the higher tax bracket).

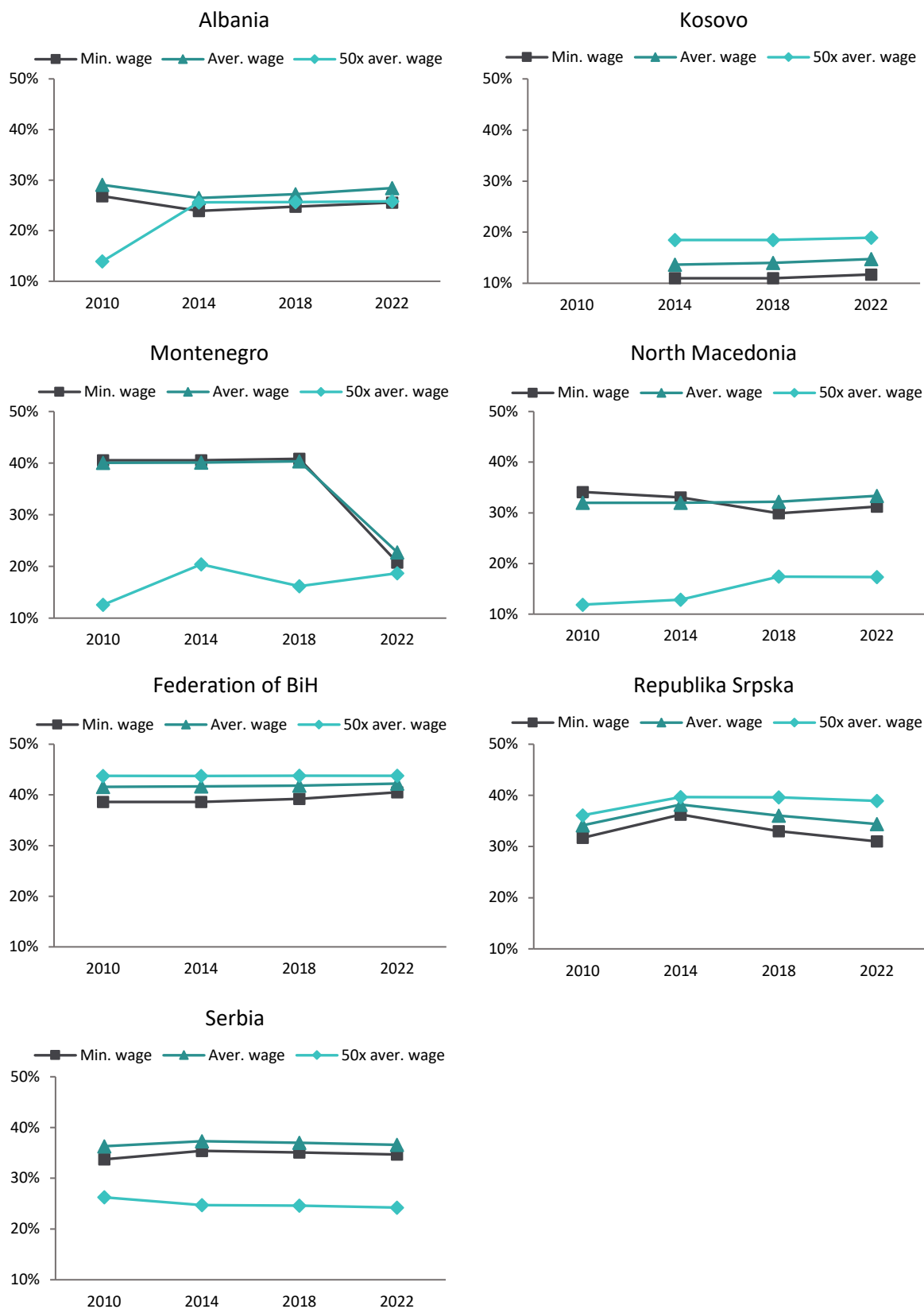
Montenegro likewise saw a big change in its labor tax system in 2022, which significantly reduced the tax wedge at the lower wages and increased the wedge at the highest wages. As part of the reform, the healthcare contribution was eliminated and a progressive PIT was introduced with three rates – 0% for wage below EUR 700 a month, 9% for wages between EUR 701 and EUR 1,000 a month, and 15% for wages above that. As a result of these changes, the tax wedge on the minimum and average wages declined from around 40% to around 20%, while the tax wedge for the highest wages increased from around 16% to around 19%.

In North Macedonia, the tax wedge for the minimum wage declined from 34% in 2010 to 31% in 2022 due to an increase in the minimum wage, which made the minimum base for the calculation of the SSCs inconsequential. At the same time, the maximum base for the SSCs was raised on several occasions, from four times the average gross salary in the country in 2010 to 16 times in 2022. This increased the tax wedge for the wage equal to 50 average wages, from 12% in 2010 to 17% in 2022. At least partly as a result, general government revenues from SSCs increased from 8.8% of GDP in 2010 to 9.8% in 2021.¹²

11 UNU-WIDER Government Revenue Dataset 2023. Available at: www.wider.unu.edu/project/grd-government-revenue-dataset.

12 UNU-WIDER Government Revenue Dataset 2023. Available at: www.wider.unu.edu/project/grd-government-revenue-dataset. North Macedonia also introduced a progressive PIT in 2019 with an additional marginal rate of 18% for income exceeding EUR 1,500 a month (corresponding to the top 2% of income earners), but it was repealed during the same year.

Figure 42 / Labor tax wedge-related trends in Western Balkan economies in 2010-2022 at the minimum wage, average wage, and wage equal to 50 times the average (% of total labor cost)



Notes: No official data on wages in Kosovo were available before 2012.

Source: Authors' calculations, using data from SEE Jobs Gateway, national statistical offices, OECD Tax Database, and national tax legislation.

Serbia and Republika Srpska saw a general decline in their labor taxes. In Serbia, the employer SSCs were gradually reduced by 1 pp and led to a decline in the labor tax wedge by a similar magnitude at all wage levels. In Republika Srpska, the decline in the tax wedge was due to the lowering of the PIT rate to 8% in 2021 (from 10%) and the lowering of the health insurance contribution, to 10.2% from 12%.

The other jurisdictions did not see any major changes in their labor tax systems, although they did experience a small increase in their effective tax rates. In Kosovo, there has been a gradual increase in the labor tax wedge across all wage levels due to the increase in the nominal wages and cold progression. The Federation of BiH saw an increase in the tax wedge for the minimum wage, as the minimum wage grew by around 55% nominally during the observed period while the personal tax allowance remained unchanged, which increased the effective labor tax rate.

8. Conclusions

This special topic focuses on labor taxation in the Western Balkans while utilizing a newly compiled dataset tailored for this study. It thoroughly details the calculation of labor taxes, examines both nominal and effective tax rates in the region, and contrasts these rates across various income levels with those in Austria, Bulgaria, and Hungary, which serve as EU benchmarks. Additionally, it discusses the evolution of labor taxes in the region since 2010.

Previous research has often portrayed Western Balkan labor tax systems as regressive. Studies have particularly emphasized the regressivity at lower levels of wages stemming from the minimum base for calculating social security contributions (SSCs). The literature to date suggests that such regressivity potentially discourages low-skilled and low-wage (formal) employment and can contribute to inactivity, unemployment, and informality. Some of the studies also argue that the overall labor tax burden in the Western Balkans is high.

Our study confirms some of these findings but also uncovers new insights. We first document that both nominal and effective labor tax rates in the Western Balkans are generally lower than in EU comparator countries. Markedly, countries in the region stand out in terms of the structure of their labor taxes. In particular, SSCs play a larger role in the tax wedge in the Western Balkans than in comparator countries and, in a majority of cases, the tax system shows not only limited progressivity but also effective regressivity.

Significantly, regressivity in the labor tax system in Albania, Montenegro, North Macedonia, and Serbia stems from insufficient progressivity in the PIT combined with caps in social contributions at high wages (as opposed to floors at the low end, as was usually highlighted in the literature to date). This regressivity is observed even in countries with nominally progressive personal income taxes, such as Albania and Serbia. This is largely due to the cap on social contributions, which effectively reduces the tax rate for higher incomes, favoring high-wage earners. While Austria also imposes a cap on SSCs, its highly progressive PIT offsets this effect.

Even in Bosnia and Herzegovina and Kosovo, which feature progressive tax systems in terms of the effective labor tax rates, the progressivity is only moderate. For instance, the effective tax rate for individuals with wages 50 times the average is only slightly higher than for those earning the minimum

wage – 4 pp higher in Federation of BiH, 7 pp in Kosovo, and 8 pp in Republika Srpska. By contrast, in Austria, this differential is 16 pp.

The rise in the minimum wage has made the minimum base for calculating SSCs – the source of the previously found regressivity – no longer binding, at least not for full-time workers. We find that the tax wedge for the minimum wage is typically not higher than for the average wage, except marginally in Albania. Of course, the minimum contribution base may still impact part-time workers, who often earn less than the minimum wage. The share of part-time employment in the Western Balkans is around 8% of total employment (which is much lower than Austria's rate of 29%), potentially due to the presence of minimum bases in the former, among other factors. The justification for maintaining these bases is to reduce incentives for underreporting wages and to preserve the protection they offer workers, such as securing higher pensions for them upon retirement. Thus, any proposal to eliminate these bases should be carefully balanced with adjustments to pension legislation so as to safeguard the entitlements of part-time workers.

The lower effective tax rates for high-wage earners in the Western Balkans raises economic and social justice concerns. First, it can have fiscal implications if rates could be increased at the top without significant changes in labor supply. More fiscal revenues, in turn, could support increased public spending. Second, it has implications for inequality.¹³ Hence, there is a clear opportunity for Western Balkan governments: by aligning effective tax rates of high-income earners with those of the average taxpayer – or perhaps even by making them a bit higher (balancing with work incentives) – they could increase public resources and help reduce inequality. If combined with lowering the effective rates on low-income earners, this could also foster formalization and labor force participation, especially among women.

The Western Balkan economies have several options at hand for achieving a more equitable tax system. The first option would involve introducing more progressive personal income tax schemes. For instance, they could follow Austria's highly progressive model, which features six marginal tax rates ranging from 20% to 55%. Implementing such a change in the Western Balkans could be challenging, as it would represent a significant departure from the systems currently in place, which are mostly flat or only mildly progressive. Alternatively, the second option could involve abolishing or at least significantly raising the cap on SSCs. This change would eliminate or reduce the preferential tax treatment of the very top wage earners in the Western Balkans, but it would need to be balanced with appropriate mechanisms to reduce incentives for underreporting wages. A third approach could combine these two measures by raising the cap on social contributions while simultaneously introducing a progressive personal income tax system.

There can also be space to reduce social contribution rates for overall low-wage earners, but this again would need to be carefully considered in the context of broader reforms and probably focus on contributions not directly linked to entitlements. Contributions that are linked to universal benefits (e.g., access to basic health care or minimum pension benefits) are more likely to be considered a tax and, hence, may be more appropriately financed through general taxation (Packard et al. 2019). However, even reductions in social contributions more directly linked to entitlements are possible, as the experience in the EU has shown (Jousten et al. 2022).

¹³ Lower tax rates on income sources more commonly associated with the wealthier (e.g., capital income) further exacerbate this issue, as highlighted by Ungerer et al. (2021).

Recent years have seen labor tax systems in the Western Balkans shift toward greater progressivity or reduced regressivity. Notably, Albania reinstated the progressive PIT in 2014, and Montenegro did the same in 2022. North Macedonia has repeatedly raised the cap for SSCs, increasing it from four times the average gross wage in 2010 to 16 times in 2022. These adjustments have led to improved government revenues. In Albania, the progressive tax increased government revenues from PIT by approximately 25% (from 1.5% to 1.9% of GDP), while revenues from SSCs rose by about 11% (from 8.8% to 9.8% of GDP) in North Macedonia. It is still too early to assess the impact in Montenegro.

These examples challenge the notion that increasing effective labor taxes on higher-income earners would lead to income underreporting and fail to boost public revenues. They align well with the arguments presented by Piketty and Saez (2013) and Diamond and Saez (2011). Therefore, the trends toward greater progressivity in recent years should not only continue but possibly intensify, potentially in conjunction with lowering effective tax rates on lower-income earners. This would not only address the existing shortcomings in the labor tax systems in the region but could also help mitigate some of the structural labor market issues in the region.

Moving forward, there are some important questions around labor taxation that will require further research in the Western Balkans. First, we have focused in this special topic on wage employment. But other papers have highlighted work disincentives embedded in self-employment regimes in the region due, for example, to the absence of third-party information sources for return filing as well as withholding mechanisms for revenue collection or to the discontinuities in the tax scale linked to maximum thresholds and lump-sum regimes for the self-employed (Jousten et al. 2022). Second, there is ample room to simulate the impacts of potential labor market reforms on relevant outcomes, including government revenues, labor force participation, employment, formality, hours worked, and inequality. Third, more work is required to identify policy options for strengthening tax administration in the region, particularly as it relates to the underreporting of wages and overall informality.

References

Aleksić, Dragan, and Mihail Arandarenko (2022). “A Low-Wage, High-Tax Trap in the Western Balkans.” In *Towards Economic Inclusion in the Western Balkans*, edited by William Bartlett and Milica Uvalić, Cham: Springer, 19-48.

Antón, A. (2014). “The effect of payroll taxes on employment and wages under high labor informality.” *IZA Journal of Labor & Development*, 3(20). <https://doi.org/10.1186/2193-9020-3-20>.

Arandarenko, Mihail (2019). “Western Balkans Labour Market Trends 2019 – Special Topic: Labour Costs, Labour Taxes and Low-Wage Earners in the Western Balkans.” The World Bank Group and Vienna Institute for International Economic Studies (wiiw).

Arandarenko, Mihail, and Vladimir Vukojevic (2008). “Labor Costs and Labor Taxes in the Western Balkans.” In *Enhancing Efficiency and Equity: Challenges and Reform Opportunities Facing Health and Pension Systems in the Western Balkans*, edited by Caryn Bredenkamp, Michele Gagnolati and Vedad Ramljak, Washington, DC: World Bank Group, 119-160.

Atkinson, Anthony B., Thomas Piketty, and Emmanuel Saez (2011). "Top Incomes in the Long Run of History." *Journal of Economic Literature*, 49(1): 3-71.

Bíró, Anikó, Réka Branyiczki, Attila Lindner, Lili Márk and Dániel Prinz (2022). "Firm Heterogeneity and the Impact of Payroll Taxes." Policy Research Working Paper 10265, World Bank Group.

Castañeda, A., Dung Doan, David Newhouse, Minh Cong Nguyen, Hiroki Uematsu and João Pedro Azevedo (2016). "Who Are the Poor in the Developing World?" Policy Research Working Paper 7844, World Bank Group.

Diamond, Peter, and Emmanuel Saez (2011). "The Case for a Progressive Tax: From Basic Research to Policy Recommendations." *Journal of Economic Perspectives*, 25(4): 165-90.

Gruber, Jonathan (1997) "The Incidence of Payroll Taxation: Evidence from Chile." *Journal of Labor Economics*, 15(3): S72-S101.

Jessen, Jonas, and Jochen Kluge (2021). "The Effectiveness of Interventions to Reduce Informality in Low- and Middle-Income Countries." *World Development* 138, 105256.

Jousten, Alain, Mario Mansour, Irena Jankulov Suljagic and Charles Vellutini (2022). "Labor Taxation in the Western Balkan: Looking Back and Forward." IMF WP/22/239, International Monetary Fund.

Keane, Michael P. (2011). "Labor Supply and Taxes: A Survey." *Journal of Economic Literature*, 49(4): 961-1075.

Kugler, Adriana, and Maurice Kugler (2009). "Labor Market Effects of Payroll Taxes in Developing Countries: Evidence from Colombia." *Economic Development and Cultural Change*, 57(2): 335-358.

Meghir, Costas, and David Phillips (2008). "Labour Supply and Taxation." IFS Working Papers, No. 08,04, Institute for Fiscal Studies (IFS), London.

Packard, Truman G., Ugo Gentilini, Margaret Ellen Grosh, Philip B. O'Keefe, Robert J. Palacios, David A. Robalino and Indhira Vanessa Santos (2019). "Protecting All: Risk Sharing for a Diverse and Diversifying World of Work." Washington, DC: World Bank Group.

Piketty, Thomas, and Emmanuel Saez (2013). "Chapter 7 – Optimal Labor Income Taxation." In *Handbook of Public Economics (Vol. 5)*, edited by Alan J. Auerbach, Raj Chetty, Martin Feldstein and Emmanuel Saez, Elsevier: 391-474.

Slonimczyk, Fabian (2012). "The Effect of Taxation on Informal Employment: Evidence from the Russian Flat Tax Reform." In *Informal Employment in Emerging and Transition Economies, Research in Labor Economics (Vol. 34)*, edited by Hartmut Lehmann and Konstantinos Tatsiramos, Leeds: Emerald Group Publishing Limited, 55-99.

Ungerer, Christoph T. F., Hilda Shijaku, Natasha Rovo, Sarah Coll-Black, Stefanie Koettl-Brodmann, Flora Kelmendi, Angela Demas, Lucas Gortazar, Romina Miorelli, Marolla Haddad and Cornelius Claus Von Lenthe (2021). "Albania Country Economic Memorandum: Strengthening the Sustainability of Albania's Growth Model." Washington, DC: World Bank Group.

Annex 1 – The labor tax systems in each of the Western Balkan economies in 2022

Albania in 2022 had a nominally progressive PIT with three rates:

- 0% for annual incomes below ALL 360,000 (monthly income below EUR 252)
- 13% for annual incomes between ALL 360,000 and 1,800,000 (monthly income between EUR 253 and 1,261)
- 23% for annual incomes above ALL 1,800,000 (monthly income above EUR 1,262)

The SSCs consist of contributions for social insurance and health insurance. Social insurance contributions cover pensions, maternity leave, sickness, employment injury, and unemployment benefits. There are both employer and employee contributions. The employer contribution rate for social insurance is 15% and for health insurance 1.7%. The employee contribution rate is 9.5% for social insurance and 1.7% for health insurance. In total, the SSC rates total 27.9% of the gross wage.

There are both minimum and maximum bases for calculating the social insurance contributions. The minimum base is equal to the minimum monthly gross wage, which was ALL 32,000 (EUR 269) in 2022. The maximum base in 2022 was set to ALL 141,133 (EUR 1,186). For health contributions, there is only a minimum base, which is equal to the minimum wage.

The basis for calculating the PIT is the gross wage minus the employee SSCs.

Bosnia and Herzegovina has distinct tax regimes for its three administrative divisions – the Federation of BiH, Republika Srpska, and Brčko District. Despite overarching similarities, notable differences do exist among them. Regarding the personal income tax, each entity has instituted a nominally flat-rate PIT. In 2022, the Federation of BiH and Brčko District imposed a 10% rate, while Republika Srpska opted for a slightly lower rate of 8%. All three administrative divisions offer personal tax allowances, which introduce a degree of effective progressivity to the PIT system. The Federation of BiH sets this allowance at KM 300 per month (approximately EUR 153), Republika Srpska at KM 1,000 (around EUR 510), and Brčko District at KM 500 (roughly EUR 255).

All three administrative divisions allow for family allowances, which can be deducted from the tax base before calculating the PIT. In the Federation of BiH, the allowance is EUR 77 per month for the spouse and the first child, EUR 138 for the second child, EUR 46 for the third and every additional child, and EUR 36 for a parent with monthly income below EUR 153. In Republika Srpska, the family allowance is EUR 36 per month for every dependent family member. In Brčko District, the allowance is EUR 128 for dependent family members.

In terms of SSCs, the Federation of BiH mandates contributions from both employers and employees, with employers contributing 6% toward the pension fund, 4% for health insurance, and 0.5% for unemployment insurance. Employees contribute 17% for pensions, 12.5% for health insurance, and 1.5% for unemployment insurance. Together, these yield a total SSC rate of 41.5% of the gross wage – the highest in the Western Balkans. Republika Srpska, by contrast, only requires employee contributions, with rates of 18.5% for pensions, 10.2% for health insurance, 0.6% for unemployment,

and an additional 1.7% for child protection, totaling 31% (i.e. the same as the employee contributions in the Federation of BiH). Brčko District's system has employee contributions, with rates of 12% for health insurance and 1.5% for unemployment insurance, as well as flexible pension contributions, which allow employees to choose whether they want to be insured by the pension system of the Federation of BiH or that of Republika Srpska. Thus, the total SSC rates in Brčko District can be either 30.5% if the pension insurance is in the Republika Srpska system or 32% if the pension insurance is in the Federation of BiH system.

Both the Federation of BiH and Republika Srpska have established minimum bases for SSC calculations: EUR 277 per month in the Federation of BiH and EUR 332 in Republika Srpska, with neither entity setting a maximum cap.

A key distinction in tax calculation exists between the Federation of BiH and Republika Srpska. In the Federation of BiH, PIT is calculated in the traditional way (i.e., on the gross wage after deductions for both the employee SSCs and the tax allowance). Conversely, Republika Srpska calculates PIT on the gross wage, with a deduction only for the tax allowance. As such, Republika Srpska's higher tax allowance does not make a big difference on the actual PIT due, since the tax base there is not adjusted for SSCs.

The main difference between the systems in the Federation of BiH and Republika Srpska stems from the employer's SSCs, which are non-existent in the latter. Thus, despite the similar gross and net wages in the two entities, the total labor costs are higher in the Federation of BiH due to the employer's SSCs.

Kosovo has a progressive PIT with four rates:

- 0% for annual incomes below EUR 960 (EUR 80 per month)
- 4% for annual incomes between EUR 960 and 3,000 (between EUR 80 and 250 per month)
- 8% for annual incomes between EUR 3,000 and 5,400 (between EUR 250 and 450 per month)
- 10% for annual incomes above EUR 5,400 (above EUR 450 per month)

There are only pension insurance contributions. The mandatory rate is 5% for the employer and 5% for the employee, resulting in a total mandatory SSC rate of 10% of the gross wage. There is also a possibility for a voluntary pension contribution of up to an additional 10% of the gross wage for both the employer and the employee, resulting in a highest possible amount of SSCs of 30% of the gross wage.

There is a minimum base for the contributions, which is equal to the minimum wage in the country, (EUR 170 per month in 2022). There is not a maximum base for the calculation of the contributions.

Unlike in most of the other Western Balkan countries, both the employer's and employee's SSCs are deducted from the gross wage in Kosovo to arrive at the net wage. This means that the gross wage and the total labor costs are the same in Kosovo.

Montenegro introduced a progressive PIT in 2022 with three rates:

- 0% for annual incomes below EUR 8,400 (below EUR 700 per month)
- 9% for annual incomes between EUR 8,400 and 12,000 (between EUR 700 and 1,000 per month)
- 15% for annual incomes exceeding EUR 12,000 (above EUR 1,000 per month)

SSCs consist of employer and employee contributions. Employer contributions include pension contributions (5.5%), unemployment insurance contributions (0.5%), work fund contributions (0.2%), chamber of commerce contributions (0.27%), and trade union contributions (0.2%). Employee contributions comprise pension contributions (15%) and unemployment insurance contributions (0.5%). Up until 2022, there was also a healthcare contribution, but it has been abolished. In total, the SSCs add up to 22.17% of the gross wage. There is not a minimum base for the calculation of the contribution, but there is a maximum base equal to EUR 4,604 per month.

In addition to the PIT and SSCs, Montenegro also has a municipality surcharge on the PIT. It has a rate of 15% of the PIT paid for Podgorica and Cetinje and of 13% for the other municipalities. For example, if the monthly PIT that a person pays to the central government is EUR 100, the municipality surcharge will be EUR 15 if the person is in Podgorica. It is added onto the gross wage, together with the employer SSCs, to arrive at the total labor cost.

Unlike in most other Western Balkan countries, both the PIT and the SSCs in Montenegro are calculated on the gross wage (i.e., the employee SSCs are not deducted before the PIT is applied).

North Macedonia has a flat PIT, with a rate of 10% for all levels of income. It has a personal tax allowance, which changes every year. For 2022, it was MKD 105,456 per annum, or EUR 143 per month. This means that the first EUR 143 of wages every month are effectively exempt from the PIT. This ensures some degree of progressivity in the PIT.

The SSCs consist of a pension contribution (18.8%), a health insurance contribution (7.5%), an unemployment insurance contribution (1.2%), and additional health insurance contribution (0.5%). In total, the SSCs add up to 28% of the gross wage. No distinction is made between employer and employee contributions, and all contributions are paid by the employer (although in the name of the employee) and deducted from the gross wage to arrive at the net wage. This means that the total labor cost in the country is equal to the gross wage.

There are minimum and maximum bases for calculating the contributions. The minimum base is equal to 50% of the average gross monthly salary, which for 2022 amounted to EUR 353 per month. The maximum base is equal to 16 times the average gross monthly salary, which amounted to EUR 11,297 in 2022.

The basis for calculating the PIT is equal to the gross wage minus the social contributions minus the personal tax allowance.

Serbia has a progressive PIT with two components. The first part is a flat-rate PIT of 10%, which is applied to income as it is earned regardless of the level of income. There is a monthly personal tax allowance for this, of EUR 164. Then, at the end of the year, there is an additional annual PIT for annual net incomes exceeding three average annual gross salaries (which was RSD 3,719,376 per annum, or EUR 2,639 per month, in 2022). The base for the annual PIT is the net income that exceeds this threshold, reduced for a tax deduction of up to 40% of the average annual salary but not more than 50% of the taxable base (maximum reduction of EUR 353 per month). The tax base that is up to six average gross salaries (EUR 5,278 per month) is taxed at a rate of 10%, while the tax base that exceeds this level is taxed at 15%.

Additionally, Serbia has a family allowance for the annual PIT, according to which the tax base for the annual income tax may be reduced by 15% of the average annual salary for each dependent family member, but not by more than 50% of the taxable annual income.

Serbia has both employer and employee SSCs. Employer contributions consist of 11.5% of pension contributions of 11.5% and health insurance contributions of 5.15%. Employee contributions consist of pension contributions of 14%, health insurance contributions of 5.15%, and unemployment insurance contributions of 0.75%. In total, the SSC rate is 36.55% of the gross income.

There are both minimum and maximum bases for calculating the contributions. The minimum base is set at 35% of the average monthly salary in the country, while the maximum base is capped at five times the average monthly salary. For 2022, these were equivalent to EUR 263 and EUR 3,756.

Annex 2 – Labor tax calculations

This annex displays the tax calculations for the average gross wage in each of the 10 tax jurisdictions for 2022. The starting base for the calculation is the gross wage, which we take from the SEE Jobs Gateway Database (<https://wiiw.ac.at/seejobsgateway.html>). Data on wages in the Federation of BiH and Republika Srpska are from the respective statistical offices.

Table 14 / Labor tax calculation for the average gross wage in Albania in 2022

1. Average gross wage, EUR	520.2
2. Employer SSCs, EUR (16.7% of gross wage)	86.9
3. Employee SSCs, EUR (11.2% of gross wage)	58.3
4. Basis for PIT, EUR (1-3)	461.9
5. PIT, EUR (0% below EUR 252, 13% above that, of the basis for PIT)	27.3
6. Total PIT and SSCs, EUR (2+3+5)	172.4
7. Net average wage, EUR (1-3-5)	434.6
8. Total labor costs, EUR (1+2)	607.1
Total tax wedge, % of labor costs (6/8)	28.4%
PIT, % of labor costs (5/8)	4.5%
SSCs, % of labor costs ((2+3)/8)	23.9%

Source: Authors' calculations, using data from SEE Jobs Gateway and national tax legislation.

Table 15 / Labor tax calculation for the average gross wage in Kosovo in 2022

1. Gross wage, EUR	521.0
2. SSCs, EUR (10% of gross wage)	52.1
3. Basis for PIT, EUR (1-3)	468.9
4. PIT, EUR (0% below EUR 80, 4% between EUR 80 and 250, 8% between EUR 250 and 450, 10% above EUR 450, of the basis for PIT)	24.7
5. Total PIT and SSCs, EUR (2+4)	76.8
6. Net wages, EUR (1-5)	444.2
7. Total labor costs, EUR (=1)	521.0
Total tax wedge, % of labor costs (5/7)	14.7%
PIT, % of labor costs (4/7)	4.7%
SSCs, % of labor costs (2/7)	10.0%

Source: Authors' calculations, using data from SEE Jobs Gateway and national tax legislation.

Table 16 / Labor tax calculation for the average gross wage in Montenegro in 2022

1. Gross wage, EUR	883.0
2. Employer SSCs, EUR (6.67% of gross wage)	58.9
3. Employee SSCs, EUR (15.5% of gross wage)	136.9
4. PIT, EUR (0% below EUR 700, 9% above that, of the gross wage)	16.5
5. Municipality surcharge, EUR (15% of PIT)	2.5
6. Total PIT, SSCs and surcharge, EUR (2+3+4+5)	214.7
7. Net wages, EUR (1-3-4)	729.7
8. Total labor costs, EUR (1+2+5)	944.4
Total tax wedge, % of labor costs (6/8)	22.7%
PIT, % of labor costs (4/8)	1.7%
SSCs, % of labor costs ((2+3)/8)	20.7%
Municipality surcharge, % of labor costs (5/8)	0.3%

Source: Authors' calculations, using data from SEE Jobs Gateway and national tax legislation.

Table 17 / Labor tax calculation for the average gross wage in North Macedonia in 2022

1. Gross wage, EUR	773.0
2. SSCs, EUR (28% of gross wage)	216.5
3. Personal tax allowance, EUR	142.6
4. Basis for PIT, EUR (1-2-3)	414.0
5. PIT, EUR (10% of basis for PIT)	41.4
6. Total PIT and SSCs, EUR (2+5)	257.9
7. Net wages, EUR (1-6)	515.2
8. Total labor costs, EUR (=1)	773.0
Total tax wedge, % of labor costs (6/8)	33.4%
PIT, % of labor costs (5/8)	5.4%
SSCs, % of labor costs (2/8)	28.0%

Source: Authors' calculations, using data from SEE Jobs Gateway and national tax legislation.

Table 18 / Labor tax calculation for the average gross wage in Federation of BiH in 2022

1. Gross wage, EUR	879.6
2. Employer SSCs, EUR (10.5% of gross wage)	92.4
3. Employee SSCs, EUR (31% of gross wage)	272.7
4. Personal allowance, EUR	153.1
5. Basis for PIT, EUR (1-3-4)	453.9
6. PIT, EUR (10% of basis for PIT)	45.4
7. Total PIT and SSCs, EUR (2+3+6)	410.4
8. Net wages, EUR (1-3-6)	561.5
9. Total labor costs, EUR (1+2)	971.9
Total tax wedge, % of labor costs (7/9)	42.2%
PIT, % of labor costs (6/9)	4.7%
SSCs, % of labor costs ((2+3)/9)	37.6%

Source: Authors' calculations, using data from Federation of BiH's statistical office and tax legislation.

Table 19 / Labor tax calculation for the average gross wage in Republika Srpska in 2022

1. Gross wage, EUR	882.7
2. SSCs, EUR (31% of gross wage)	273.6
3. Personal allowance, EUR	510.2
4. Basis for PIT, EUR (1-3)	372.4
5. PIT, EUR (8% of basis for PIT)	29.8
6. Total PIT and SSCs, EUR (2+5)	303.4
7. Net wages, EUR (1-2-5)	579.2
8. Total labor costs, EUR (=1)	882.7
Total tax wedge, % of labor costs (6/8)	34.4%
PIT, % of labor costs (5/8)	3.4%
SSCs, % of labor costs (2/8)	31.0%

Source: Authors' calculations, using data from Republika Srpska's statistical office and tax legislation.

Table 20 / Labor tax calculation for the average gross wage in Serbia in 2022

1. Gross wage, EUR	879.6
2. Employer SSCs, EUR (16.65% of gross wage)	146.5
3. Employee SSCs, EUR (19.9% of gross wage)	175.0
4. Personal allowance, EUR	164.3
5. Basis for PIT, EUR (1-3-4)	540.3
6. PIT, EUR (10% of basis for PIT)	54.0
7. Total PIT and SSCs, EUR (2+3+6)	375.5
8. Net wages, EUR (1-3-6)	650.5
9. Total labor costs, EUR (1+2)	1,026.1
Total tax wedge, % of labor costs	36.6%
PIT, % of labor costs	5.3%
SSCs, % of labor costs	31.3%

Source: Authors' calculations, using data from SEE Jobs Gateway and national tax legislation.

Table 21 / Labor tax calculation for the average gross wage in Austria in 2022

1. Gross wage, EUR	3,644.0
2. Employer SSCs, EUR (21.13% of gross wage)	770.0
3. Employee SSCs, EUR (18.2% of gross wage)	663.2
4. Basis for PIT, EUR (1-3)	2,980.8
5. PIT, EUR (0% up to EUR 917, 20% from EUR 917 to 1,500, 32.5% from EUR 1,500 to 2,583, 42% for the rest, of the basis for the PIT)	635.6
6. Total PIT and SSCs, EUR (2+3+5)	2,068.8
7. Net wages, EUR (1-3-5)	2,345.1
8. Total labor costs, EUR (1+2)	4,410.3
Total tax wedge, % of labor costs (6/8)	46.9%
PIT, % of labor costs (5/8)	14.1%
SSCs, % of labor costs ((2+3)/8)	32.5%

Source: Authors' calculations, using data from SEE Jobs Gateway and OECD Tax Database.

Table 22 / Labor tax calculation for the average gross wage in Bulgaria in 2022

1. Gross wage, EUR	900.2
2. Employer SSCs, EUR (19.62% of gross wage)	176.6
3. Employee SSCs, EUR (13.78% of gross wage)	124.1
4. Basis for PIT, EUR (1-3)	776.2
5. PIT, EUR (10% of basis for PIT)	77.6
6. Total PIT and SSCs, EUR (2+3+5)	378.3
7. Net wages, EUR (1-3-5)	698.6
8. Total labor costs, EUR (1+2)	1,076.9
Total tax wedge, % of labor costs (6/8)	35.1%
PIT, % of labor costs (5/8)	7.2%
SSCs, % of labor costs ((2+3)/8)	27.9%

Source: Authors' calculations, using data from SEE Jobs Gateway and national tax legislation.

Table 23 / Labor tax calculation for the average gross wage in Hungary in 2022

1. Gross wage, EUR	1,278.0
2. Employer SSCs, EUR (13% of gross wage)	166.1
3. Employee SSCs, EUR (18.5% of gross wage)	236.4
4. PIT, EUR (15% of gross wage)	191.7
5. Total PIT and SSCs, EUR (2+3+4)	594.3
6. Net wages, EUR (1-3-4)	849.9
7. Total labor costs, EUR (1+2)	1,444.1
Total tax wedge, % of labor costs (5/7)	41.2%
PIT, % of labor costs (4/7)	13.3%
SSCs, % of labor costs ((2+3)/7)	27.9%

Source: Authors' calculations, using data from SEE Jobs Gateway and OECD Tax Database.

To verify the accuracy of the calculations, the net wages derived from these calculations are compared with the official net wages from the SEE Jobs Gateway database. This comparison is presented in Table 24. The results show that the discrepancy between the two is either below or around 2%, indicating that the calculations are reliable. For Albania, Austria, and Bulgaria, official net wage data are not available. However, for Austria, the calculated tax wedge of 47% aligns with the figure from the OECD Tax Database.

Table 24 / Comparison of the net wages obtained in our calculations and net wages from official sources

	Net wage from calculations (EUR)	Net wage from official data (EUR)	Difference calculation/official (%)
MK, 2022	515.2	517.0	-0.3
XK, 2022	444.2	446.0	-0.4
RS, 2022	650.5	638.0	2.0
ME, 2022	727.2	712.0	2.1
BA - RS, 2022	579.2	583.7	-0.8
BA - FBiH, 2022	576.2	568.4	1.4
HU, 2022	849.9	849.7	0.0

Source: Authors' calculations, using data from SEE Jobs Gateway, national statistical offices, OECD Tax Database, and national tax legislation.

Annex 3 – Estimates of share of people with income above thresholds analysed in this study

This annex shows the share of people above the relevant income levels discussed in this special topic for each of the six Western Balkan economies. The calculations are based on the World Inequality Database. The definition of a person is “equal-split adults,” meaning that the data refer only to adults and that income is distributed to all adult individuals equally within a couple or a household. The income used is total pre-tax national income, which encompasses not only labor income but all pre-tax personal income flows, including wages and salaries, capital income (e.g., dividends and interest), pensions, and business income (from self-employment and business activities). It is worth noting once again that the quality of the underlying data is ranked by the World Inequality Database as low, as the data are based on surveys rather than on tax records and include imputations. This means that high incomes are underrepresented, which in turn means that the share of people reported to be above the higher-income thresholds is likely to be higher than what is reported here. One can also see that the average incomes in the World Inequality Database are lower than the official wage data, which is likely due to the omission of the high wages. Serbia is the only exception, as tax data are used in addition to surveys there.

Table 25 / Income shares for Albania

Income level (relative to average)	Income level in EUR (monthly)	Share of persons with income above that level
67% of average	373	56%
Average	557	38%
167% of average	930	15%
3x average	1,671	3%
5x average	2,785	1.00%
10x average	5,569	0.20%
20x average	11,138	0.04%
50x average	27,845	0.004%

Note: The income level shows the threshold for the respective income groups, except for the average, where it shows the average income for the whole population. Income refers to total pre-tax national income (i.e., all pre-tax personal income flows) on a monthly basis in EUR. Source: Authors' calculations using data from the World Inequality Database.

Table 26 / Income shares for Bosnia and Herzegovina

Income group	Income level in EUR (monthly)	Share of persons with income above that level
67% of average	450	55%
Average	671	35%
167% of average	1,121	15%
3x average	2,013	4%
5x average	3,355	1%
10x average	6,710	0.3%
20x average	13,419	0.05%
50x average	33,548	0.007%

Note: The income level shows the threshold for the respective income groups, except for the average, where it shows the average income for the whole population. Income refers to total pre-tax national income (i.e., all pre-tax personal income flows) on a monthly basis in EUR. Source: Authors' calculations using data from the World Inequality Database.

Table 27 / Income shares for Kosovo

Income group	Income level in EUR (monthly)	Share of persons with income above that level
67% of average	343	58%
Average	511	38%
167% of average	854	14%
3x average	1,534	3%
5x average	2,557	0.9%
10x average	5,113	0.2%
20x average	10,226	0.03%
50x average	25,565	0.004%

Note: The income level shows the threshold for the respective income groups, except for the average, where it shows the average income for the whole population. Income refers to total pre-tax national income (i.e., all pre-tax personal income flows) on a monthly basis in EUR. Source: Authors' calculations using data from the World Inequality Database.

Table 28 / Income shares for Montenegro

Income group	Income level in EUR (monthly)	Share of persons with income above that level
67% of average	611	57%
Average	913	38%
167% of average	1,524	15%
3x average	2,738	3%
5x average	4,563	0.9%
10x average	9,125	0.2%
20x average	18,250	0.03%
50x average	45,625	0.003%

Note: The income level shows the threshold for the respective income groups, except for the average, where it shows the average income for the whole population. Income refers to total pre-tax national income (i.e., all pre-tax personal income flows) on a monthly basis in EUR. Source: Authors' calculations using data from the World Inequality Database.

Table 29 / Income shares for North Macedonia

Income group	Income level in EUR (monthly)	Share of persons with income above that level
67% of average	348	58%
Average	520	45%
167% of average	868	14%
3x average	1,559	3%
5x average	2,598	0.70%
10x average	5,195	0.15%
20x average	10,391	0.03%
50x average	25,977	0.005%

Note: The income level shows the threshold for the respective income groups, except for the average, where it shows the average income for the whole population. Income refers to total pre-tax national income (i.e., all pre-tax personal income flows) on a monthly basis in EUR. Source: Authors' calculations using data from the World Inequality Database.

Table 30 / Income shares for Serbia

Income group	Income level in EUR (monthly)	Share of persons with income above that level
67% of average	457	56%
Average	683	37%
167% of average	1,140	14%
3x average	2,048	3%
5x average	3,413	1%
10x average	6,826	0.3%
20x average	13,652	0.07%
50x average	34,131	0.01%

Note: The income level shows the threshold for the respective income groups, except for the average, where it shows the average income for the whole population. Income refers to total pre-tax national income (i.e., all pre-tax personal income flows) on a monthly basis in EUR.
Source: Authors' calculations using data from the World Inequality Database.

Statistical Annex

- SEE Jobs Gateway
- Sources and definitions
- Key economic indicators

Tables per country:

- Labor market data
- Earnings and unit labor costs

The tables in the statistical annex provide data on key economic indicators, as well as labor market indicators, according to the labor force survey (LFS) methodology and data on earnings and unit labor costs for the six Western Balkan countries (Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia, and Kosovo) and for four EU peer countries (Austria, Bulgaria, Croatia, and Hungary).

Disclaimer

All data presented in this report and online have been collected directly from the national statistical offices of the six Western Balkan countries and Eurostat, with the objective of harmonizing the data as far as possible across countries. The data have been collected within the framework of the SEE Jobs Gateway and, as such, are not official World Bank estimates.

SEE Jobs Gateway Database

All time series presented in the statistical annex are available in the SEE Jobs Gateway Database at <https://wiiw.ac.at/seejobsgateway.html>

This database covers a unique and detailed set of labor market indicators, based on LFS data for the Western Balkan countries and four EU peer countries. The dataset is harmonized across indicators, gender, age groups, and educational attainment. In addition, some wage-related indicators are included. Overall, the database covers four parts: (i) Key economic indicators, (ii) Labor market – LFS data, (iii) Labor market – administrative data, and (iv) Data on earnings and unit labor costs.

The database contains both raw and derived statistics. The underlying basic employment data (in thousand persons) are provided by the statistical offices on an annual and quarterly basis (raw data, to three decimal places). All corresponding rates and shares on an annual and quarterly basis have been calculated based on these raw data. Flags in the database are used as alerts, drawing attention to the fact that the data could be less accurate (or inaccurate) and should be interpreted with caution.

Major breaks in the LFS series

The LFS in the Western Balkans have steadily improved and are being harmonized with EU and ILO definitions, which means that breaks in the time series are unavoidable. Most of the breaks in the series occur for one or other of the following reasons: change in survey design; change in survey questionnaire; change in survey frequency; revision of the data series based on updated population census results for 2011 or 2021/2022; and reclassification of educational attainment. In addition, the EU LFS survey was changed as of 2021. The following changes affect the data series' comparability over time and across countries:

- *EU LFS survey changes:* From 2021, a new methodology started to be introduced, in line with the Integrated European Social Statistics (IESS) Regulation. This has resulted in some major changes, which are carefully defined at [Eurostat](https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&plugin=1). As of 2021, three Western Balkan countries – Bosnia and Herzegovina, Montenegro, and Serbia – and all four EU peer countries were already applying this new methodology. Any changes in comparison to previous years should be carefully interpreted. A mandatory back-calculation for some major indicators – including gender, age, and education – is required by Eurostat. In this SEE Jobs Gateway Database, no back-calculation is provided.

When calculating labor productivity and unit labor costs a comparable growth rate 2021 is applied for the respective countries, except for Bosnia and Herzegovina and Montenegro.

- *Introduction of a continuous quarterly survey producing quarterly results:* in Albania – from 2012 (previously, the survey was carried out once a year – in 2010, in September-October; in 2011, in July-September); in Bosnia and Herzegovina – from 2020 (until 2019, the survey was carried out once a year in April); in Serbia – from 2015 (in 2010-2013, the survey was carried out twice a year, in April and October; in 2014, a quarterly survey with a fixed reference week was introduced). Amendment: In Kosovo the survey was already based on a continuous quarterly survey; so far the data are only available on an annual basis between 2012 and 2015, and starting from 2016 on a quarterly basis.
- *Updated population census results:* Census 2011 has been applied in Albania and Montenegro from 2011 (data for 2010 are not fully comparable); in Serbia from 2013 (low impact on growth rates in comparison to the previous year). Census 2013 has been applied in Bosnia and Herzegovina from 2020 (due to this and other methodological changes, data are not comparable to previous years). In North Macedonia, the 2022 census is applied from 2022, census 2002 backward (growth rates 2022 are not comparable).
- *Educational attainment:* Indicators showing educational attainment are based on the International Standard Classification of Education (ISCED 1997 or ISCED 2011). In the following tables, as well as in the SEE Jobs Gateway Database, the definition of low-educated (level 0-2), medium-educated (level 3-4), and high-educated (level 5-8) refers to ISCED 2011. Any deviations (application of ISCED 1997) are described in the metadata.
Detailed ISCED 2011 levels of education: 0 = early childhood education, 1 = primary education, 2 = lower secondary education, 3 = upper secondary education, 4 = post-secondary non-tertiary education, 5 = short-cycle tertiary education, 6 = bachelor's or equivalent, 7 = master's or equivalent, 8 = doctorate or equivalent). In comparison, ISCED 1997 includes only seven levels of education (tertiary education is less detailed). A correspondence table is available at [Eurostat](#).

Regarding *average monthly wages* (gross and net), breaks may occur if the survey basis has changed, or the data are taken from a new or different source. This is the case in Albania (data from General Directorate of Taxation from 2014; before that, Structural Business Statistics data); in Croatia (from 2016, data are based on tax records; before that, survey data; from 2020, employees expressed in full-time equivalents); in Serbia (from 2018 tax administration data; before that, wage survey data supplemented by tax administration data); and in Hungary (enterprises with 5 and more employees based on survey data, from 2019 total economy based on tax administration data). The SEE Jobs Gateway database provides comparable growth rates. The comparability between annual and quarterly data may also be impaired by survey coverage (this is the case for Albania and Kosovo).

In the SEE Jobs Gateway Database, all methodological breaks in time series and definitions are defined in the metadata.

In this round of data collection, the existing dataset has been enlarged with new time series, namely Index 2020=100 for gross domestic product, labor productivity, consumer prices and unit labor costs.

Western Balkans-6 aggregate

This country grouping is the sum of the six countries only when data for all the countries are available. Time series therefore start from 2012 (because data for Kosovo are not available prior to this). If necessary, weighted averages have been calculated (GDP, consumer price index (CPI), labor productivity, wages, unit labor cost).

Conventional signs

- . Data not available
- () less accurate estimate
- (()) inaccurate estimate

Sources and definitions

Macro-economic indicators

Sources

SEE Jobs Gateway Database, based on data provided by national statistical offices and Eurostat. The unit labor costs are calculations done by wiiw.

Definitions

GDP real: gross domestic product at 2015 reference prices, real growth in %.

Labor productivity: GDP at 2015 reference prices per person employed (LFS), growth in %.

Inflation: consumer price index (harmonized CPI for EU peer countries), growth in %.

Labor market indicators

Sources

Data for the Western Balkans are provided by the statistical offices of the respective country; data for the EU peer countries are taken from Eurostat (partly supplemented by data from national statistical offices).

Definitions

Indicators like **population**, **employment**, **unemployment**, etc. are presented in 1,000 persons and refer to averages.

Working-age population: for the Western Balkans population 15+ (ILO); for the EU peer countries population aged 15-74. From 2021, for those countries applying the new EU LFS regulation, the age group refers to 15-89.

Labor force: employed and unemployed persons.

Employment rate: employed persons as a percentage of the working-age population of the respective gender, age, and education group.

Share of self-employed: self-employed as a percentage of the total employment of the respective gender, age, and education group.

Share of part-time employment: part-time employed as a percentage of the total employment of the respective gender, age, and education group.

Share of temporary employment: temporary employees as a percentage of total employees of the respective gender, age, and education group.

Activity rate: labor force as a percentage of the working-age population of the respective gender, age, and education group.

Unemployment rate: unemployed persons as a percentage of the labor force of the respective gender, age, and education group.

NEET rate: young people neither in employment nor education and training (NEET) as a percentage of the young population of the respective gender, age, and education group.

Long-term unemployment: persons unemployed for 12 months or more.

Long-term unemployment rate: long-term unemployed as a percentage of the labor force.

Share of long-term unemployment: long-term unemployed as a percentage of total unemployed.

Data on earnings and unit labor costs

Sources

Data on average monthly gross and net wages and monthly gross minimum wages are provided by the statistical offices of the respective country. Unit labor costs are own calculations from existing time series.

Definitions

Average monthly wages: wages per employee per month (on a gross/net basis – before/after deduction of income tax and social security contributions). Gross wages comprise the basic wage and all kinds of additional payments (bonuses, overtime hours, night work, payments for statutory contractual or voluntarily granted leave, etc.).

Data are taken from administrative sources, except for Austria, where they refer to the National Accounts concept (gross wages per employee, domestic concept, divided by 12 months).

Wages are presented in national currency, in euro (converted using the average exchange rate) and in Purchasing Power Parities (PPPs) (using PPPs in EUR for total GDP).

Monthly gross minimum wages: data refer to national minimum wages as of 1 January of the respective year. The metadata indicate since when the minimum wage has been in effect.

The basic national minimum wage is fixed at an hourly, weekly, or monthly rate in net or gross terms; this minimum wage is enforced by law (the government), often after consultation with the social partners, or directly by national intersectoral agreement. Minimum wages are gross amounts – that is, before deduction of income tax and social security contributions.

In the database monthly gross minimum wages are reported.

Minimum wages are provided in national currency; they are then converted into euro by applying the exchange rate from the end of the previous month. To remove the effect of differences in price levels between the countries, the minimum wages are converted using PPPs for household final consumption expenditure in each country.

Nominal unit labor costs (ULC): average annual nominal gross wages per employee in NCU relative to real labor productivity (real GDP per employed person, LFS).

Nominal unit labor costs (ULC) exchange rate adjusted: average annual nominal gross wages per employee in EUR relative to real labor productivity (real GDP per employed person, LFS).

Real unit labor costs (ULC): average annual nominal gross wages per employee in NCU relative to nominal labor productivity (nominal GDP per employed person, LFS).

Real unit labor costs (ULC) exchange rate adjusted: average annual nominal gross wages per employee in EUR relative to nominal labor productivity (nominal GDP per employed person, LFS).

For all unit labor cost indicators, comparable growth rates have been applied for all breaks.

Units

Definitions

Growth rate (nominal/real) in %:

The annual rate is the growth rate in % of the previous year.

The quarterly rate is the growth rate in % of the corresponding quarter of the previous year.

Key economic indicators, annual growth in %

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Albania										
GDP, real	1.0	1.8	2.2	3.3	3.8	4.0	2.1	-3.3	8.9	4.9
Employment aged 15+	-10.2	1.3	4.8	6.5	3.3	3.0	2.8	-1.8	0.4	4.0
Labor productivity	12.5	0.5	-2.4	-3.0	0.5	1.0	-0.7	-1.6	8.4	0.8
Inflation	1.9	1.6	1.9	1.3	2.0	2.0	1.4	1.6	2.0	6.7
Monthly gross wages per employee, nominal	-3.2	0.9	5.2	-0.8	3.0	3.3	3.5	2.4	6.6	8.2
Monthly gross wages per employee, real	-5.0	-0.7	3.2	-2.0	1.0	1.3	2.1	0.8	4.4	1.4
Nominal unit labor cost, EUR adjusted	-14.7	0.6	8.0	4.0	5.0	7.6	8.2	3.5	-0.7	10.5
Real unit labor cost, EUR adjusted	-14.9	-0.9	7.4	4.7	3.5	6.0	6.8	2.7	-4.0	0.5
Bosnia and Herzegovina										
GDP, real	2.3	1.2	4.3	3.2	3.2	3.8	2.9	-3.0	7.4	4.1
Employment aged 15+	1.0	-1.2	1.2	-2.5	1.8	0.8	-2.4	-(1.0)	-1.9	1.0
Labor productivity	1.4	2.3	3.1	5.9	1.4	3.0	5.4	-(2.0)	9.5	3.1
Inflation	-0.1	-0.9	-1.0	-1.6	0.8	1.4	0.6	-1.1	2.0	14.0
Monthly gross wages per employee, nominal	0.1	-0.1	0.0	0.9	1.6	3.1	4.3	3.8	4.5	11.7
Monthly gross wages per employee, real	0.2	0.8	1.0	2.5	0.8	1.7	3.7	5.0	2.4	-2.0
Nominal unit labor cost, EUR adjusted	-1.3	-2.4	-3.0	-4.7	0.2	0.1	-1.0	(6.0)	-4.6	8.4
Real unit labor cost, EUR adjusted	-1.0	-3.4	-3.2	-6.0	-1.6	-2.6	-3.4	(5.9)	-9.1	-2.9
Kosovo										
GDP, real	5.3	3.3	5.9	5.6	4.8	3.4	4.8	-5.3	10.7	3.5
Employment aged 15+	12.3	-4.9	-8.2	11.8	7.8	-3.3	5.2	-4.2	10.3	5.4
Labor productivity	-6.2	8.7	15.3	-5.6	-2.7	7.0	-0.4	-1.2	0.4	-1.8
Inflation	1.8	0.4	-0.5	0.3	1.5	1.1	2.7	0.2	3.4	11.6
Monthly gross wages per employee, nominal	0.8	4.4	3.0	1.7	2.1	5.1	5.3	-2.3	3.9	7.6
Monthly gross wages per employee, real	-1.0	4.0	3.5	1.4	0.6	4.0	2.5	-2.5	0.4	-3.5
Nominal unit labor cost, EUR adjusted	7.4	-3.9	-10.7	7.7	5.0	-1.7	5.7	-1.1	3.4	9.6
Real unit labor cost, EUR adjusted	7.0	-5.4	-11.2	6.9	4.5	-3.2	4.7	-2.5	-2.5	0.8
Montenegro										
GDP, real	3.5	1.8	3.4	2.9	4.7	5.1	4.1	-15.3	13.0	6.4
Employment aged 15+	0.4	7.1	2.5	1.1	2.3	3.5	2.7	-10.0	-3.1	18.1
Labor productivity	3.1	-5.0	0.9	1.8	2.4	1.5	1.3	-5.9	16.7	-9.9
Inflation	2.2	-0.7	1.6	-0.3	2.4	2.6	0.4	-0.3	2.4	13.0
Monthly gross wages per employee, nominal	-0.1	-0.4	0.3	3.6	1.9	0.1	0.9	1.3	1.3	11.3
Monthly gross wages per employee, real	-2.3	0.3	-1.3	3.9	-0.5	-2.4	0.6	1.6	-1.1	-1.5
Nominal unit labor cost, EUR adjusted	-3.1	4.8	-0.6	1.8	-0.5	-1.3	-0.4	7.6	-13.2	23.6
Real unit labor cost, EUR adjusted	-5.1	3.7	-2.7	-3.2	-4.2	-4.4	-2.4	7.8	-17.1	10.0
North Macedonia										
GDP, real	2.9	3.6	3.9	2.8	1.1	2.9	3.9	-4.7	4.5	0.9
Employment aged 15+	4.3	1.7	2.3	2.5	2.4	2.5	5.1	-0.3	0.0	-0.2
Labor productivity	-1.4	1.9	1.5	0.4	-1.3	0.4	-1.1	-4.4	4.5	1.1
Inflation	2.8	-0.3	-0.3	-0.2	1.4	1.5	0.8	1.2	3.2	14.2
Monthly gross wages per employee, nominal	1.2	1.0	2.7	2.0	2.6	5.8	5.1	8.3	5.7	11.1
Monthly gross wages per employee, real	-1.6	1.3	3.0	2.2	1.2	4.2	4.3	7.0	2.4	-2.7
Nominal unit labor cost, EUR adjusted	2.5	-1.0	1.2	1.7	4.0	5.5	6.3	13.0	1.3	9.9
Real unit labor cost, EUR adjusted	-1.9	-2.4	-0.8	-1.7	1.1	1.5	5.4	11.4	-2.9	1.7
Serbia										
GDP, real	2.9	-1.6	1.8	3.3	2.1	4.5	4.3	-0.9	7.7	2.5
Employment aged 15+	3.5	4.7	0.6	5.6	2.8	1.4	2.4	-0.2	2.6	2.3
Labor productivity	-0.6	-6.0	1.2	-2.2	-0.6	3.1	1.9	-0.7	5.0	0.3
Inflation	7.7	2.1	1.4	1.1	3.0	2.0	1.7	1.6	4.1	11.9
Monthly gross wages per employee, nominal	5.7	1.2	-0.5	3.8	3.9	6.0	10.5	9.5	9.4	13.8
Monthly gross wages per employee, real	-1.9	-1.7	-2.4	2.6	0.9	3.9	8.4	7.8	5.2	1.7
Nominal unit labor cost, EUR adjusted	6.3	3.8	-4.5	4.1	6.2	5.5	8.8	10.5	4.2	13.6
Real unit labor cost, EUR adjusted	1.1	1.2	-6.2	2.5	3.1	3.5	6.2	7.8	-1.5	2.9

Key economic indicators, annual growth in %

Western Balkans-6	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
GDP, real	2.7	0.5	2.9	3.4	2.7	4.1	3.7	-3.0	7.9	3.2
Employment aged 15+	1.1	2.4	1.3	4.5	3.0	1.6	2.4	1.2	1.4	2.9
Labor productivity	1.6	-1.9	1.6	-1.1	-0.2	2.4	1.3	-4.1	6.4	0.3
Inflation	4.4	1.0	0.7	0.4	2.1	1.8	1.4	0.9	3.2	11.8
Monthly gross wages per employee, nominal	2.1	1.0	1.3	2.2	3.1	4.8	7.0	6.1	7.0	11.6
Monthly gross wages per employee, real	-2.1	-0.4	0.2	1.6	0.9	2.9	5.4	5.2	3.8	0.1
Monthly gross wages per employee, EUR nominal	3.4	-0.6	-0.5	1.1	4.0	5.5	7.6	7.7	6.9	12.4
Monthly gross wages per employee, EUR real	-2.3	-1.9	-1.0	1.0	2.0	5.2	6.3	5.1	4.0	0.7
Nominal unit labor cost, EUR adjusted	1.7	1.3	-2.1	2.2	4.2	2.9	6.2	12.3	0.4	12.0
Real unit labor cost, EUR adjusted	-1.3	-0.6	-3.4	0.6	1.8	0.6	4.2	10.6	-4.3	1.4

EU peer countries

Austria	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
GDP, real	0.0	0.7	1.0	2.0	2.3	2.4	1.5	-6.6	4.2	4.8
Employment aged 15-74	0.5	0.1	0.9	1.7	1.0	1.4	0.8	-1.3	1.3	3.1
Labor productivity	-0.5	0.5	0.1	0.3	1.3	1.0	0.6	-5.4	2.9	1.6
Inflation (harmonized CPI)	2.1	1.5	0.8	1.0	2.2	2.1	1.5	1.4	2.8	8.6
Monthly gross wages per employee, nominal	2.1	1.8	2.1	2.3	1.6	2.8	3.0	1.8	3.0	4.9
Monthly gross wages per employee, real	0.1	0.1	1.1	1.4	-0.4	0.8	1.5	0.4	0.2	-3.4
Nominal unit labor cost, EUR adjusted	2.6	1.2	1.9	2.1	0.4	1.8	2.3	7.6	0.0	3.2
Real unit labor cost, EUR adjusted	1.0	-0.9	-0.4	0.2	-0.6	-0.1	0.7	4.7	-2.0	-2.0
Bulgaria	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
GDP, real	-0.5	0.9	3.4	3.0	2.7	2.7	4.0	-4.0	7.7	3.9
Employment aged 15-74	0.0	1.6	1.7	-0.5	4.4	0.1	2.6	-3.5	-0.6	2.3
Labor productivity	-0.6	-0.6	1.7	3.5	-1.6	2.6	1.4	-0.5	8.3	1.5
Inflation (harmonized CPI)	0.4	-1.6	-1.1	-1.3	1.2	2.6	2.5	1.2	2.8	13.0
Monthly gross wages per employee, nominal	6.0	6.0	6.8	8.0	9.4	10.5	10.6	9.7	12.3	12.8
Monthly gross wages per employee, real	5.1	7.5	7.0	8.9	7.2	7.5	7.2	7.9	8.7	-2.2
Unit labor costs	6.6	6.6	5.1	4.3	11.1	7.7	9.0	10.3	3.7	11.1
Nominal unit labor cost, EUR adjusted	6.6	6.6	5.1	4.3	11.1	7.7	9.0	10.3	3.7	11.1
Real unit labor cost, EUR adjusted	6.6	5.2	2.1	1.0	6.0	3.3	3.6	5.8	-3.2	-4.4
Croatia	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
GDP, real	-0.4	-0.4	2.5	3.6	3.4	2.8	3.4	-8.6	13.8	6.3
Employment aged 15-74	-2.6	2.9	1.3	0.3	2.2	1.7	1.5	-1.3	1.3	1.7
Labor productivity	2.2	-3.2	1.2	3.2	1.1	1.1	1.9	-7.3	12.4	4.6
Inflation (harmonized CPI)	2.3	0.2	-0.3	-0.6	1.3	1.6	0.8	0.0	2.7	10.7
Monthly gross wages per employee, nominal	0.8	0.2	1.3	1.9	3.9	4.9	3.8	2.5	4.2	8.3
Monthly gross wages per employee, real	-1.4	0.4	1.8	3.0	2.8	3.3	3.0	2.4	1.6	-2.3
Nominal unit labor cost, EUR adjusted	-2.1	2.7	0.3	-0.2	3.7	4.4	1.8	8.8	-7.2	3.5
Real unit labor cost, EUR adjusted	-2.8	2.6	0.3	-0.2	2.5	2.3	-0.2	8.0	-8.6	-5.5
Hungary	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
GDP, real	1.8	4.2	3.7	2.2	4.3	5.4	4.9	-4.5	7.1	4.6
Employment aged 15-74	1.7	5.3	2.7	3.4	1.6	1.1	1.0	-1.1	0.7	1.3
Labor productivity	0.1	-1.1	1.0	-1.1	2.6	4.2	3.9	-3.4	6.4	3.2
Inflation (harmonized CPI)	1.7	0.0	0.1	0.4	2.4	2.9	3.4	3.4	5.2	15.3
Monthly gross wages per employee, nominal	3.4	3.0	4.3	6.1	12.9	11.3	11.4	9.8	8.9	17.4
Monthly gross wages per employee, real	1.7	3.2	4.4	5.7	10.3	8.3	7.6	6.3	3.6	2.5
Nominal unit labor cost, EUR adjusted	0.7	0.1	2.8	6.8	10.8	3.5	5.1	5.3	0.3	4.2
Real unit labor cost, EUR adjusted	-2.1	-3.4	0.1	5.5	6.5	-1.3	0.3	-1.0	-5.8	-9.0

Notes: For country-specific methodological notes on employment and wages see footnotes to the following tables.

Western Balkans-6: Labor market data for the Western Balkans show the aggregate of six countries only when data are available for all of them. Growth rates for GDP, inflation and wages are weighted averages.

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.

Albania: Labor market indicators

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total										
Total population (1,000)	2,895	2,889	2,881	2,876	2,873	2,866	2,854	2,838	2,812	2,778
Working-age population aged 15+ (1,000)	2,322	2,340	2,354	2,374	2,376	2,363	2,369	2,367	2,362	2,337
Employment aged 15+ (1,000)	1,024	1,037	1,087	1,157	1,195	1,231	1,266	1,243	1,249	1,298
Employment rate (% population aged 15+)	44.1	44.3	46.2	48.7	50.3	52.1	53.4	52.5	52.9	55.5
Employment rate (% population aged 15-64)	49.9	50.5	52.9	55.9	57.4	59.5	61.2	60.6	60.9	65.0
Employment rate (% population aged 20-64)	56.7	56.6	59.3	62.1	63.9	65.6	67.1	66.3	66.3	70.4
Employment rate (% population aged 15-24)	19.0	17.7	18.9	20.2	21.6	25.7	26.7	26.3	26.4	29.0
Employment rate (% population aged 25-29)	54.8	53.2	55.5	59.0	59.4	63.9	68.3	67.7	67.7	69.4
Employment rate (% population aged 25-54)	63.9	64.6	67.5	69.7	71.1	73.7	75.0	73.6	73.6	76.5
Employment rate (% population aged 55-64)	51.1	51.2	53.6	54.8	55.5	58.2	60.4	60.3	60.0	67.4
Employment rate for low skilled 15-64 (ISCED 0-2)	45.3	46.7	50.2	52.5	53.0	56.9	58.3	55.9	54.7	59.5
Employment rate for medium skilled 15-64 (ISCED 3-4)	50.6	49.9	51.8	55.8	57.9	58.6	59.2	59.9	61.5	65.4
Employment rate for high skilled 15-64 (ISCED 5-8)	67.1	66.5	64.4	66.6	69.1	68.0	72.2	73.0	74.4	75.5
Self-employed (% of total employment)	25.8	26.0	29.2	34.9	35.8	34.0	32.3	33.3	31.9	31.4
Part-time employment (% of total employment)	24.3	27.5	26.6	24.3	20.7	18.3	17.1	17.9	17.9	16.3
Temporary employment (% of total employees)	12.6	13.7	11.8	12.4	12.3	9.6	7.9	6.7	5.8	5.0
Activity rate (% population aged 15+)	52.4	53.7	55.7	57.5	58.3	59.4	60.4	59.5	59.8	62.4
Activity rate (% population aged 15-64)	59.6	61.5	64.2	66.2	66.8	68.3	69.6	69.1	69.3	73.2
Activity rate (% population aged 15-24)	27.6	29.0	31.3	31.8	31.8	35.8	36.7	35.8	36.3	38.6
Activity rate (% population aged 25-54)	75.5	76.7	79.7	80.7	81.3	83.0	83.9	83.0	82.1	85.1
Activity rate (% population aged 55-64)	56.6	58.1	60.2	61.4	61.3	63.7	65.2	64.6	66.3	73.2
Unemployment aged 15+ (1,000)	194	220	224	208	190	173	165	165	163	160
Unemployment rate (% labor force 15+)	15.9	17.5	17.1	15.2	13.7	12.3	11.5	11.7	11.5	10.9
Youth unemployment rate (% labor force 15-24)	31.4	39.0	39.8	36.5	31.9	28.3	27.2	26.5	27.1	24.9
NEET rate (% population aged 15-24)	30.8	30.9	29.6	27.0	25.9	26.5	25.5	26.6	24.0	23.3
Long-term unemployment rate (% labor force 15+)	11.5	11.2	11.3	10.1	8.9	8.3	7.3	7.0	7.2	7.3
Share of long-term unemployed (% of total)	72.4	64.3	66.0	66.2	64.8	67.4	63.4	59.5	62.8	67.0
Unemployment rate, low educated 15+ (ISCED 0-2)	14.1	14.5	13.5	12.7	12.3	9.9	8.7	9.5	10.6	9.9
Unemployment rate, medium educated 15+ (ISCED 3-4)	18.9	21.3	20.4	17.5	15.5	14.3	14.4	13.6	13.2	12.4
Unemployment rate, high educated 15+ (ISCED 5-8)	14.9	17.2	19.1	16.9	13.7	14.0	12.3	12.6	10.5	10.5
Male										
Total population (1,000)	1,461	1,461	1,460	1,456	1,446	1,434	1,425	1,415	1,399	1,377
Working-age population aged 15+ (1,000)	1,110	1,140	1,164	1,189	1,190	1,170	1,169	1,166	1,164	1,145
Employment aged 15+ (1,000)	563	586	621	650	679	691	703	690	693	701
Employment rate (% population aged 15+)	50.7	51.4	53.3	54.7	57.1	59.0	60.1	59.2	59.5	61.2
Employment rate (% population aged 15-64)	57.3	58.0	60.5	61.9	64.3	66.7	68.2	67.8	68.2	71.3
Employment rate (% population aged 20-64)	64.8	65.2	68.1	69.4	72.1	73.9	74.7	74.0	74.6	77.4
Employment rate (% population aged 15-24)	24.2	21.4	23.8	23.1	24.9	30.6	31.2	31.4	30.6	33.1
Employment rate (% population aged 25-29)	59.7	59.6	63.7	65.4	69.6	73.4	74.6	74.2	73.0	72.9
Employment rate (% population aged 25-54)	71.6	72.7	75.5	76.3	79.0	80.7	80.9	79.9	80.1	81.8
Employment rate (% population aged 55-64)	62.2	64.7	66.9	67.1	69.1	71.4	73.7	73.2	73.2	79.4
Employment rate for low skilled 15-64 (ISCED 0-2)	51.8	53.0	55.5	57.2	58.7	62.7	64.4	62.6	59.7	63.6
Employment rate for medium skilled 15-64 (ISCED 3-4)	60.3	60.0	62.4	64.9	67.6	68.3	68.9	69.2	71.8	74.7
Employment rate for high skilled 15-64 (ISCED 5-8)	70.6	70.6	71.4	69.4	73.2	73.8	76.7	77.8	81.4	81.2
Self-employed (% of total employment)	32.4	32.8	37.8	42.0	42.6	41.6	39.6	39.3	39.0	38.1
Part-time employment (% of total employment)	19.2	21.3	22.0	21.0	17.0	14.8	13.5	14.4	13.4	12.1
Temporary employment (% of total employees)	16.1	18.0	14.8	15.5	15.8	12.8	10.0	8.3	7.2	6.1
Activity rate (% population aged 15+)	61.7	63.5	64.3	65.0	66.8	67.6	68.0	66.9	67.2	68.4
Activity rate (% population aged 15-64)	70.2	72.2	73.4	74.1	75.8	76.9	77.6	77.1	77.3	80.0
Activity rate (% population aged 15-24)	36.6	37.2	39.2	36.9	37.8	43.4	43.2	43.0	41.1	43.6
Activity rate (% population aged 25-54)	86.4	87.4	88.6	88.7	90.9	90.7	90.6	89.7	89.4	90.8
Activity rate (% population aged 55-64)	70.2	74.9	76.0	76.3	77.4	78.5	79.4	78.3	80.4	85.5
Unemployment aged 15+ (1,000)	122	139	128	123	116	100	92	90	89	83
Unemployment rate (% labor force 15+)	17.8	19.2	17.1	15.9	14.6	12.7	11.6	11.5	11.3	10.6
Youth unemployment rate (% labor force 15-24)	33.8	42.5	39.2	37.4	34.1	29.6	27.8	27.0	25.5	24.1
NEET rate (% population aged 15-24)	29.7	29.6	28.2	26.8	24.7	25.4	25.8	27.1	22.1	21.4
Long-term unemployment rate (% labor force 15+)	12.4	11.7	11.2	10.3	9.2	8.3	7.3	6.9	6.9	7.2
Share of long-term unemployed (% of total)	69.7	61.0	65.8	64.9	63.3	65.6	63.1	59.7	60.5	68.2
Unemployment rate, low educated 15+ (ISCED 0-2)	17.3	17.8	15.4	14.6	14.3	10.9	9.7	9.5	10.7	10.8
Unemployment rate, medium educated 15+ (ISCED 3-4)	19.8	21.6	19.0	17.1	15.3	14.6	13.8	13.6	12.9	10.7
Unemployment rate, high educated 15+ (ISCED 5-8)	13.5	16.0	16.4	16.2	13.5	11.9	10.5	10.6	8.8	9.7

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Female										
Total population (1,000)	1,434	1,428	1,421	1,420	1,427	1,432	1,429	1,423	1,413	1,401
Working-age population aged 15+ (1,000)	1,212	1,199	1,190	1,186	1,187	1,193	1,200	1,201	1,198	1,193
Employment aged 15+ (1,000)	461	451	466	507	516	540	563	554	555	598
Employment rate (% population aged 15+)	38.0	37.6	39.2	42.8	43.5	45.3	46.9	46.1	46.4	50.1
Employment rate (% population aged 15-64)	43.1	43.4	45.5	49.7	50.3	52.4	54.4	53.6	53.8	58.9
Employment rate (% population aged 20-64)	49.3	48.5	50.7	55.0	55.6	57.4	59.7	58.8	58.3	63.7
Employment rate (% population aged 15-24)	14.1	13.9	13.4	16.8	17.7	20.4	22.2	21.1	22.3	25.0
Employment rate (% population aged 25-29)	49.8	46.3	46.3	51.8	48.8	54.1	61.7	61.0	62.0	66.0
Employment rate (% population aged 25-54)	57.3	57.2	60.1	63.4	63.4	67.0	69.2	67.6	67.4	71.4
Employment rate (% population aged 55-64)	40.0	37.3	39.2	42.0	41.7	45.2	46.9	47.5	46.7	56.0
Employment rate for low skilled 15-64 (ISCED 0-2)	40.1	41.3	45.3	48.3	47.8	51.7	52.9	50.2	50.3	55.9
Employment rate for medium skilled 15-64 (ISCED 3-4)	39.4	37.9	38.8	44.3	45.4	46.0	46.5	47.2	47.8	53.2
Employment rate for high skilled 15-64 (ISCED 5-8)	64.2	63.1	58.9	64.4	65.8	63.9	69.0	69.6	69.5	71.6
Self-employed (% of total employment)	17.6	17.2	17.6	25.7	26.8	24.3	23.1	25.8	23.3	23.7
Part-time employment (% of total employment)	30.5	35.4	32.6	28.5	25.5	22.8	21.6	22.3	23.6	21.2
Temporary employment (% of total employees)	7.8	7.9	8.1	8.8	8.0	5.9	5.6	4.9	4.1	3.7
Activity rate (% population aged 15+)	44.0	44.4	47.2	49.9	49.8	51.4	53.0	52.3	52.6	56.5
Activity rate (% population aged 15-64)	50.1	51.3	55.1	58.3	57.7	59.7	61.6	61.2	61.4	66.7
Activity rate (% population aged 15-24)	19.4	20.5	22.7	25.8	24.5	27.6	30.2	28.5	31.5	33.8
Activity rate (% population aged 25-54)	66.1	66.9	71.6	73.1	72.2	75.6	77.4	76.6	75.1	79.7
Activity rate (% population aged 55-64)	42.9	40.8	43.1	45.8	45.2	49.1	50.8	51.1	52.2	61.5
Unemployment aged 15+ (1,000)	72	81	96	85	74	73	72	75	74	77
Unemployment rate (% labor force 15+)	13.5	15.2	17.1	14.4	12.6	11.9	11.4	11.9	11.8	11.4
Youth unemployment rate (% labor force 15-24)	27.3	32.6	40.8	34.9	27.7	26.0	26.3	25.9	29.2	25.9
NEET rate (% population aged 15-24)	31.9	32.2	31.1	27.1	27.3	27.6	25.3	26.2	25.9	25.2
Long-term unemployment rate (% labor force 15+)	10.4	10.7	11.3	9.8	8.4	8.3	7.3	7.1	7.7	7.5
Share of long-term unemployed (% of total)	76.9	70.1	66.2	68.2	67.1	69.8	63.7	59.1	65.5	65.7
Unemployment rate, low educated 15+ (ISCED 0-2)	10.5	10.4	11.2	10.5	9.9	8.8	7.6	9.5	10.4	8.9
Unemployment rate, medium educated 15+ (ISCED 3-4)	17.2	20.7	23.0	18.3	16.0	13.7	15.5	13.7	13.8	15.4
Unemployment rate, high educated 15+ (ISCED 5-8)	16.2	18.2	21.5	17.6	13.8	15.7	13.6	14.1	11.9	11.2

Albania: Earnings and unit labor costs

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Wages										
Average monthly gross wages, NCU	36,332	45,539	47,900	47,522	48,967	50,589	52,380	53,662	57,191	61,898
nominal annual growth in %	-3.2	0.9	5.2	-0.8	3.0	3.3	3.5	2.4	6.6	8.2
real annual growth in % (CPI deflated)	-5.0	-0.7	3.2	-2.0	1.0	1.3	2.1	0.8	4.4	1.4
Average monthly gross wages, EUR	259	325	343	346	365	397	426	434	467	520
Average monthly gross wages, EUR (PPP)	594	761	806	779	796	811	840	852	892	971
Average monthly net wages, NCU	.	.	.	.	.	.	.	.	.	.
nominal annual growth in %	.	.	.	.	.	.	.	.	.	.
real annual growth in % (CPI deflated)	.	.	.	.	.	.	.	.	.	.
Average monthly net wages, EUR	.	.	.	.	.	.	.	.	.	.
Average monthly net wages, EUR (PPP)	.	.	.	.	.	.	.	.	.	.
Minimum wages as of January 1st	.	.	.	.	.	.	.	.	.	.
Monthly gross minimum wages, NCU	21,000	22,000	22,000	22,000	22,000	24,000	26,000	26,000	30,000	30,000
Monthly gross minimum wages, EUR (ER)	150	157	157	160	163	181	211	214	243	248
Monthly gross minimum wages, EUR (PPP)	302	313	326	313	313	336	363	354	406	411
Unit labor costs (ULC)										
Nominal ULC in EUR, annual growth in %	-14.7	0.6	8.0	4.0	5.0	7.6	8.2	3.5	-0.7	10.5
Real ULC in EUR, annual growth in %	-14.9	-0.9	7.4	4.7	3.5	6.0	6.8	2.7	-4.0	0.5

Notes: Data based on a continuous quarterly survey and on census 2011. The education groups are according to ISCED 1997.

Wage data are from General Directorate of Taxation from 2014, and Structural Business Statistics (SBS) before; growth rate in 2014 refers to SBS data. Until 2018 the minimum wage data refer to the minimum wage in effect since 1 July of the respective previous year, from 2019 to 1 January of the respective year.

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.

Bosnia and Herzegovina: Labor market indicators

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total										
Total population (1,000)	3,832	3,827	3,819	3,816	3,809	3,801	3,791	3,475	3,453	3,431
Working-age population aged 15+ (1,000)	2,598	2,565	2,579	2,489	2,407	2,396	2,262	2,926	2,904	2,887
Employment aged 15+ (1,000)	822	812	822	801	816	822	803	1,173	1,151	1,162
Employment rate (% population aged 15+)	31.6	31.7	31.9	32.2	33.9	34.3	35.5	40.1	39.6	40.2
Employment rate (% population aged 15-64)	38.5	39.0	39.2	40.2	43.0	44.0	46.4	48.8	48.8	50.0
Employment rate (% population aged 20-64)	42.8	43.2	43.2	44.2	46.6	47.7	49.7	52.5	52.6	53.9
Employment rate (% population aged 15-24)	11.6	10.9	12.1	13.8	17.6	19.7	23.4	21.0	19.8	18.3
Employment rate (% population aged 25-29)	44.5	45.1	45.5	45.6	50.9	54.8	52.3	55.5	54.8	55.5
Employment rate (% population aged 25-54)	51.4	52.5	52.4	53.6	56.4	57.8	59.4	61.7	61.6	63.4
Employment rate (% population aged 55-64)	27.7	28.5	28.2	29.7	32.5	32.6	36.2	35.4	35.6	36.3
Employment rate for low skilled 15-64 (ISCED 0-2)	20.3	18.4	20.1	20.2	22.5	20.7	23.1	21.4	18.2	17.2
Employment rate for medium skilled 15-64 (ISCED 3-4)	43.8	45.5	44.4	45.3	48.0	49.9	51.9	53.5	54.1	55.7
Employment rate for high skilled 15-64 (ISCED 5-8)	69.8	68.0	68.6	66.7	70.5	71.4	72.5	74.4	75.0	77.3
Self-employed (% of total employment)	20.7	19.1	20.7	21.1	20.6	17.6	21.9	15.0	13.1	11.7
Part-time employment (% of total employment)	9.6	7.8	7.2	6.8	9.1	7.0	8.7	4.9	3.2	3.2
Temporary employment (% of total employees)	14.5	14.9	16.1	16.8	18.4	17.5	16.1	12.3	12.7	12.9
Activity rate (% population aged 15+)	43.6	43.7	44.1	43.1	42.6	42.1	42.1	47.7	48.0	47.6
Activity rate (% population aged 15-64)	53.5	54.2	54.6	54.2	54.5	54.2	55.5	58.2	59.1	59.1
Activity rate (% population aged 15-24)	28.3	29.3	32.2	30.2	32.5	32.3	35.4	33.2	32.0	28.3
Activity rate (% population aged 25-54)	69.1	70.8	70.3	70.4	70.3	70.4	70.7	72.3	73.5	74.0
Activity rate (% population aged 55-64)	33.1	32.8	33.1	35.2	36.6	36.5	39.7	39.2	40.2	40.7
Unemployment aged 15+ (1,000)	311	308	315	273	211	185	149	221	242	211
Unemployment rate (% labor force 15+)	27.5	27.5	27.7	25.4	20.5	18.4	15.7	15.9	17.4	15.4
Youth unemployment rate (% labor force 15-24)	59.1	62.7	62.3	54.3	45.8	38.8	33.8	36.6	38.3	35.1
NEET rate (% population aged 15-24)	25.8	26.1	27.7	26.4	24.3	21.6	21.0	21.6	19.9	18.2
Long-term unemployment rate (% labor force 15+)	22.8	23.3	22.6	21.6	16.9	15.2	11.9	11.8	13.6	11.6
Share of long-term unemployed (% of total)	83.1	84.8	81.7	85.0	82.1	82.3	76.0	74.7	78.4	75.7
Unemployment rate, low educated 15+ (ISCED 0-2)	28.2	30.2	27.3	25.6	(18.2)	18.5	(14.1)	18.5	24.4	25.0
Unemployment rate, medium educated 15+ (ISCED 3-4)	30.0	28.9	30.0	26.6	22.3	19.2	16.9	16.5	17.9	15.4
Unemployment rate, high educated 15+ (ISCED 5-8)	16.9	19.3	18.4	20.3	15.5	15.1	12.0	12.1	12.0	10.8
Male										
Total population (1,000)	1,872	1,870	1,866	1,864	1,861	1,857	1,853	1,705	1,694	1,683
Working-age population aged 15+ (1,000)	1,268	1,242	1,259	1,208	1,177	1,169	1,109	1,422	1,417	1,408
Employment aged 15+ (1,000)	515	511	515	514	509	515	495	723	724	731
Employment rate (% population aged 15+)	40.6	41.2	40.9	42.5	43.2	44.1	44.6	50.9	51.1	51.9
Employment rate (% population aged 15-64)	48.0	48.9	48.8	51.1	53.3	54.7	57.0	60.2	61.1	62.7
Employment rate (% population aged 20-64)	53.3	54.6	53.9	56.4	58.1	59.5	61.6	64.9	66.0	67.7
Employment rate (% population aged 15-24)	14.9	13.5	15.8	18.3	22.8	26.1	27.4	26.0	25.4	24.0
Employment rate (% population aged 25-29)	52.2	51.3	52.3	54.4	58.6	64.4	62.4	65.4	65.3	66.9
Employment rate (% population aged 25-54)	63.4	64.9	64.6	67.3	69.3	70.7	72.7	75.1	75.7	77.5
Employment rate (% population aged 55-64)	36.4	38.9	37.3	40.4	42.2	42.3	47.3	46.2	47.9	50.3
Employment rate for low skilled 15-64 (ISCED 0-2)	30.4	27.7	30.9	30.9	32.8	32.1	34.2	32.6	29.6	29.6
Employment rate for medium skilled 15-64 (ISCED 3-4)	51.4	53.8	52.2	54.8	56.4	58.9	60.6	64.3	65.4	67.2
Employment rate for high skilled 15-64 (ISCED 5-8)	72.1	70.2	70.1	71.0	76.8	74.0	76.1	77.5	79.8	83.4
Self-employed (% of total employment)	24.0	21.8	23.9	23.6	22.6	19.6	22.8	16.4	14.5	13.8
Part-time employment (% of total employment)	9.0	7.0	6.6	5.7	8.4	6.0	7.7	4.5	3.0	3.2
Temporary employment (% of total employees)	15.5	15.9	16.3	17.9	19.7	18.6	16.5	11.5	11.6	11.8
Activity rate (% population aged 15+)	55.3	55.0	55.1	54.9	53.3	53.2	51.7	59.2	59.7	59.6
Activity rate (% population aged 15-64)	65.7	65.9	66.2	66.2	66.1	66.4	66.4	70.4	71.4	71.8
Activity rate (% population aged 15-24)	36.3	34.6	38.9	38.1	40.2	40.4	39.8	38.5	38.8	34.9
Activity rate (% population aged 25-54)	83.0	84.1	83.8	83.8	83.8	84.2	83.7	85.9	86.8	87.2
Activity rate (% population aged 55-64)	44.4	45.3	44.0	48.2	47.5	47.9	51.7	52.2	53.6	55.9
Unemployment aged 15+ (1,000)	186	172	179	149	118	107	78	119	122	106
Unemployment rate (% labor force 15+)	26.5	25.2	25.8	22.5	18.9	17.2	13.6	14.1	14.4	12.6
Youth unemployment rate (% labor force 15-24)	59.1	61.0	59.5	52.0	43.1	35.4	31.3	32.5	34.5	31.2
NEET rate (% population aged 15-24)	27.4	27.9	29.2	28.0	24.5	22.1	20.7	20.3	19.5	17.7
Long-term unemployment rate (% labor force 15+)	21.7	21.4	21.1	19.2	15.3	14.0	10.3	10.2	11.0	9.1
Share of long-term unemployed (% of total)	81.9	85.0	81.8	85.1	81.0	81.4	75.3	72.6	76.1	72.4
Unemployment rate, low educated 15+ (ISCED 0-2)	29.0	27.9	27.0	24.1	(16.4)	(19.1)	(13.4)	20.3	22.3	21.3
Unemployment rate, medium educated 15+ (ISCED 3-4)	28.3	26.3	27.2	23.6	20.8	17.5	14.5	14.0	14.6	12.5
Unemployment rate, high educated 15+ (ISCED 5-8)	(14.3)	16.2	(15.9)	(14.8)	(11.0)	(13.4)	(9.2)	9.9	8.3	7.4

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Female										
Total population (1,000)	1,960	1,958	1,953	1,952	1,948	1,944	1,938	1,770	1,759	1,748
Working-age population aged 15+ (1,000)	1,330	1,324	1,320	1,281	1,230	1,227	1,153	1,504	1,487	1,394
Employment aged 15+ (1,000)	307	301	307	288	307	307	308	450	427	426
Employment rate (% population aged 15+)	23.0	22.7	23.2	22.4	24.9	25.0	26.7	29.9	28.7	30.6
Employment rate (% population aged 15-64)	28.9	28.9	29.5	29.1	32.5	33.0	35.6	37.3	36.3	37.1
Employment rate (% population aged 20-64)	32.2	31.9	32.4	32.0	35.1	35.8	38.0	40.0	39.1	40.0
Employment rate (% population aged 15-24)	7.9	8.1	8.0	(8.7)	(11.4)	(12.6)	18.6	15.8	13.7	12.3
Employment rate (% population aged 25-29)	35.4	38.0	37.2	35.3	41.7	41.5	39.4	45.0	43.5	43.2
Employment rate (% population aged 25-54)	39.2	39.7	40.0	39.8	43.4	44.5	46.1	47.9	47.1	48.9
Employment rate (% population aged 55-64)	19.7	19.3	19.8	19.4	23.5	23.7	26.0	25.3	24.2	23.4
Employment rate for low skilled 15-64 (ISCED 0-2)	13.7	12.6	13.3	13.6	16.2	13.5	16.6	14.5	11.2	9.4
Employment rate for medium skilled 15-64 (ISCED 3-4)	33.7	34.3	34.0	32.8	37.0	38.2	40.7	39.9	39.5	41.2
Employment rate for high skilled 15-64 (ISCED 5-8)	67.4	65.9	67.3	62.7	64.7	69.0	69.1	71.9	71.0	72.5
Self-employed (% of total employment)	15.2	14.4	15.2	16.5	17.4	14.3	20.4	12.7	10.5	8.1
Part-time employment (% of total employment)	10.7	9.2	8.0	8.8	10.1	8.7	10.3	5.5	3.6	3.2
Temporary employment (% of total employees)	12.7	13.1	15.7	15.0	16.2	15.7	15.4	13.7	14.5	14.7
Activity rate (% population aged 15+)	32.5	33.0	33.5	32.1	32.4	31.4	32.9	36.7	36.8	38.2
Activity rate (% population aged 15-64)	41.0	42.4	42.9	41.9	42.7	41.8	44.4	46.1	46.7	46.3
Activity rate (% population aged 15-24)	19.4	23.3	24.5	21.3	23.4	23.1	29.9	27.6	24.8	21.2
Activity rate (% population aged 25-54)	54.8	57.1	56.6	56.8	56.5	56.1	57.6	58.3	59.8	60.4
Activity rate (% population aged 55-64)	22.9	21.9	22.9	22.9	26.5	25.9	28.7	27.3	27.8	26.6
Unemployment aged 15+ (1,000)	125	136	136	124	92	78	71	102	120	105
Unemployment rate (% labor force 15+)	29.0	31.2	30.7	30.0	23.1	20.3	18.8	18.5	22.0	19.8
Youth unemployment rate (% labor force 15-24)	59.2	65.4	67.3	58.9	51.4	(45.5)	(37.9)	42.8	44.5	42.1
NEET rate (% population aged 15-24)	24.1	24.0	26.0	24.7	24.0	21.1	21.4	23.0	20.4	18.6
Long-term unemployment rate (% labor force 15+)	24.6	26.4	25.1	25.5	19.3	17.0	14.4	14.3	17.7	15.6
Share of long-term unemployed (% of total)	84.8	84.7	81.6	85.0	83.6	83.6	76.8	77.1	80.8	79.0
Unemployment rate, low educated 15+ (ISCED 0-2)	27.0	33.1	27.8	27.5	(20.3)	(17.5)	(15.0)	15.9	27.3	31.3
Unemployment rate, medium educated 15+ (ISCED 3-4)	33.2	33.9	35.0	32.6	25.2	22.3	21.2	21.2	24.1	20.9
Unemployment rate, high educated 15+ (ISCED 5-8)	19.6	22.2	20.9	25.5	(19.9)	(16.7)	(14.7)	13.9	15.2	13.7

Bosnia and Herzegovina: Earnings and unit labor costs

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Wages										
Average monthly gross wages, NCU	1,291	1,290	1,289	1,301	1,321	1,363	1,421	1,476	1,542	1,723
nominal annual growth in %	0.1	-0.1	0.0	0.9	1.6	3.1	4.3	3.8	4.5	11.7
real annual growth in % (CPI deflated)	0.2	0.8	1.0	2.5	0.8	1.7	3.7	5.0	2.4	-2.0
Average monthly gross wages, EUR	660	659	659	665	676	697	727	755	788	881
Average monthly gross wages, EUR (PPP)	1,358	1,345	1,335	1,337	1,333	1,370	1,420	1,465	1,514	1,619
Average monthly net wages, NCU	827	831	830	838	851	879	921	956	998	1,122
nominal annual growth in %	0.1	0.4	0.0	0.9	1.6	3.3	4.8	3.8	4.4	12.4
real annual growth in % (CPI deflated)	0.2	1.3	1.0	2.6	0.7	1.9	4.2	4.9	2.4	-1.4
Average monthly net wages, EUR	423	425	425	428	435	449	471	489	510	574
Average monthly net wages, EUR (PPP)	870	866	860	861	859	884	920	949	980	1,054
Minimum wages as of January 1st	.	.	.	.	.	.	.	.	.	.
Monthly gross minimum wages, NCU	.	.	.	.	.	.	.	.	.	.
Monthly gross minimum wages, EUR (ER)	.	.	.	.	.	.	.	.	.	.
Monthly gross minimum wages, EUR (PPP)	.	.	.	.	.	.	.	.	.	.
Unit labor costs (ULC)										
Nominal ULC in EUR, annual growth in %	-1.3	-2.4	-3.0	-4.7	0.2	0.1	-1.0	(6.0)	-4.6	8.4
Real ULC in EUR, annual growth in %	-1.0	-3.4	-3.2	-6.0	-1.6	-2.6	-3.4	(5.9)	-9.1	-2.9

Notes: Until 2019 the survey conducted once a year in April (data allocated to the 2nd quarter of each year) based on census 1991. From 2020 onwards, continuous quarterly survey, based on census 2013, with further adjustments according to EU + ILO guidelines. Data before and after 2020 are not comparable. From 2021, new methodology in line with the Integrated European Social Statistics Regulation (IESS); growth rates are not fully comparable before and after 2021. Education groups refer to ISCED 1997 until 2013, ISCED 2011 from 2014.

Minimum wages are available for the three entities separately but not for the whole territory.

ULC: Employment growth rate in 2020 estimated by wiw based on administrative sources.

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.

Kosovo: Labor market indicators

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total										
Total population (1,000)	1,818	1,813	1,788	1,778	1,791	1,797	1,789	1,790	1,786	1,782
Working-age population aged 15+ (1,000)	1,330	1,351	1,328	1,349	1,387	1,401	1,391	1,414	1,417	1,389
Employment aged 15+ (1,000)	342	325	299	334	360	348	366	351	387	408
Employment rate (% population aged 15+)	25.7	24.1	22.5	24.8	26.0	24.9	26.3	24.8	27.3	29.4
Employment rate (% population aged 15-64)	28.5	26.9	25.3	28.0	29.8	28.8	30.1	28.4	31.1	33.8
Employment rate (% population aged 20-64)	33.1	31.3	29.1	32.3	34.4	33.2	34.2	32.3	35.1	37.9
Employment rate (% population aged 15-24)	10.1	9.0	8.6	10.1	11.2	10.0	13.2	11.4	13.4	15.4
Employment rate (% population aged 25-29)	31.8	29.6	27.4	31.0	32.3	32.0	33.7	32.1	36.6	40.1
Employment rate (% population aged 25-54)	37.3	35.4	33.2	36.7	38.3	37.3	37.9	35.9	39.0	42.0
Employment rate (% population aged 55-64)	30.8	29.8	27.2	29.6	32.7	31.5	32.2	30.9	32.1	32.1
Employment rate for low skilled 15-64 (ISCED 0-2)	12.0	11.0	9.4	12.9	12.9	9.7	11.9	10.9	10.8	11.4
Employment rate for medium skilled 15-64 (ISCED 3-4)	38.5	35.4	32.0	33.8	37.0	35.9	35.9	33.1	35.5	38.6
Employment rate for high skilled 15-64 (ISCED 5-8)	64.9	58.9	53.3	56.3	56.3	65.8	61.6	60.0	62.7	64.8
Self-employed (% of total employment)	23.1	23.6	21.2	22.5	23.7	22.1	21.9	22.4	19.4	17.3
Part-time employment (% of total employment)	12.2	8.4	5.8	6.1	5.9	4.9	6.8	7.5	7.1	6.0
Temporary employment (% of total employees)	67.9	71.1	71.4	69.9	70.1	73.8	53.6	53.2	53.7	50.1
Activity rate (% population aged 15+)	36.6	37.2	33.5	34.2	37.3	35.2	35.3	33.4	34.4	33.6
Activity rate (% population aged 15-64)	40.6	41.6	37.7	38.7	42.9	40.9	40.5	38.4	39.3	38.6
Activity rate (% population aged 15-24)	22.9	23.1	20.2	21.3	23.8	22.5	26.0	22.4	21.6	19.6
Activity rate (% population aged 25-54)	50.8	52.3	47.8	48.6	53.7	51.3	49.1	47.0	48.5	48.0
Activity rate (% population aged 55-64)	34.3	35.2	31.1	33.7	36.8	34.9	34.8	34.3	34.8	33.8
Unemployment aged 15+ (1,000)	145	177	146	127	157	145	125	122	100	58
Unemployment rate (% labor force 15+)	29.7	35.2	32.8	27.5	30.3	29.4	25.5	25.7	20.6	12.5
Youth unemployment rate (% labor force 15-24)	55.8	61.0	57.7	52.4	52.8	55.4	49.4	49.1	38.0	21.4
NEET rate (% population aged 15-24)	35.3	30.2	31.4	30.1	27.4	30.1	32.7	33.6	32.1	33.0
Long-term unemployment rate (% labor force 15+)	19.9	24.9	23.7	18.0	21.7	17.2	16.2	18.5	14.6	8.1
Share of long-term unemployed (% of total)	67.0	70.7	72.3	65.5	71.5	58.4	63.6	71.7	70.7	65.2
Unemployment rate, low educated 15+ (ISCED 0-2)	40.4	46.3	47.0	32.4	35.0	40.0	32.2	34.2	30.3	21.4
Unemployment rate, medium educated 15+ (ISCED 3-4)	29.1	35.4	32.6	28.9	30.6	30.4	24.9	26.1	20.9	11.5
Unemployment rate, high educated 15+ (ISCED 5-8)	16.8	20.6	19.9	18.5	25.8	19.7	22.5	19.7	15.7	10.7
Male										
Total population (1,000)	915	912	895	885	889	885	875	874	875	873
Working-age population aged 15+ (1,000)	658	672	667	677	692	697	693	702	704	687
Employment aged 15+ (1,000)	264	250	232	259	284	274	283	264	285	296
Employment rate (% population aged 15+)	40.1	37.2	34.7	38.3	41.0	39.3	40.8	37.6	40.4	43.1
Employment rate (% population aged 15-64)	44.2	41.3	38.7	43.1	46.7	45.3	46.2	42.8	45.9	49.4
Employment rate (% population aged 20-64)	51.6	48.3	44.9	49.9	54.0	52.6	53.0	48.8	51.9	55.7
Employment rate (% population aged 15-24)	15.2	13.4	12.9	15.2	16.7	14.6	18.6	16.1	18.4	20.8
Employment rate (% population aged 25-29)	45.8	43.4	38.5	43.9	48.1	45.5	46.0	42.1	46.7	52.9
Employment rate (% population aged 25-54)	58.4	55.3	51.0	56.5	61.2	59.6	58.8	54.2	57.5	61.4
Employment rate (% population aged 55-64)	50.5	47.2	45.2	49.4	52.0	51.6	53.7	51.1	51.8	52.2
Employment rate for low skilled 15-64 (ISCED 0-2)	25.4	23.8	20.2	27.4	28.6	21.6	26.6	24.5	24.6	25.2
Employment rate for medium skilled 15-64 (ISCED 3-4)	50.3	46.2	42.9	45.9	51.0	50.2	49.0	44.2	47.7	52.6
Employment rate for high skilled 15-64 (ISCED 5-8)	71.8	66.0	61.3	64.5	65.1	75.1	72.8	71.2	72.4	73.3
Self-employed (% of total employment)	26.1	26.5	23.4	24.6	26.3	24.3	24.8	26.3	22.9	20.8
Part-time employment (% of total employment)	11.4	7.8	5.1	4.5	5.3	4.7	6.9	7.6	7.5	6.4
Temporary employment (% of total employees)	67.7	71.0	73.1	70.2	72.1	75.8	56.1	54.0	53.6	50.3
Activity rate (% population aged 15+)	54.7	55.5	50.8	51.9	57.4	54.9	52.6	49.0	49.8	48.4
Activity rate (% population aged 15-64)	60.4	61.8	56.8	58.3	65.4	63.3	59.7	56.0	56.7	55.5
Activity rate (% population aged 15-24)	30.6	30.6	28.1	28.9	32.4	30.1	33.3	29.4	27.8	25.5
Activity rate (% population aged 25-54)	77.0	79.8	72.9	74.4	84.3	81.7	73.8	69.2	70.6	69.1
Activity rate (% population aged 55-64)	56.7	56.4	52.2	57.0	59.2	57.9	58.6	57.2	56.3	54.4
Unemployment aged 15+ (1,000)	96	123	107	92	113	108	82	80	66	36
Unemployment rate (% labor force 15+)	26.7	33.1	31.7	26.2	28.5	28.3	22.4	23.3	18.9	10.9
Youth unemployment rate (% labor force 15-24)	50.4	56.2	54.2	47.2	48.4	51.5	44.1	45.2	33.7	18.6
NEET rate (% population aged 15-24)	30.0	26.6	28.3	26.5	23.8	30.1	31.4	34.0	31.8	32.2
Long-term unemployment rate (% labor force 15+)	18.2	22.8	22.5	17.2	20.7	17.3	13.9	16.8	13.5	7.6
Share of long-term unemployed (% of total)	68.4	69.0	71.1	65.7	72.5	61.2	61.8	72.1	71.1	69.3
Unemployment rate, low educated 15+ (ISCED 0-2)	37.6	45.4	48.9	34.5	37.4	41.8	32.3	34.0	28.8	18.1
Unemployment rate, medium educated 15+ (ISCED 3-4)	25.5	32.4	30.6	27.1	28.2	28.0	21.9	23.6	19.0	10.4
Unemployment rate, high educated 15+ (ISCED 5-8)	14.2	16.1	14.6	12.0	19.5	17.2	15.2	13.5	12.5	8.1

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Female										
Total population (1,000)	903	901	893	892	902	912	914	916	911	909
Working-age population aged 15+ (1,000)	672	679	661	672	695	704	699	712	712	702
Employment aged 15+ (1,000)	78	76	67	75	76	74	84	87	102	111
Employment rate (% population aged 15+)	11.6	11.1	10.2	11.1	10.9	10.5	12.0	12.2	14.4	15.9
Employment rate (% population aged 15-64)	12.9	12.5	11.5	12.7	12.7	12.3	13.9	14.1	16.5	18.4
Employment rate (% population aged 20-64)	14.9	14.5	13.2	14.6	14.6	14.1	15.6	16.0	18.5	20.5
Employment rate (% population aged 15-24)	4.6	4.2	3.7	4.4	5.2	5.0	7.1	6.4	8.0	9.7
Employment rate (% population aged 25-29)	16.1	14.3	14.5	15.5	14.0	16.4	19.5	21.0	25.3	26.2
Employment rate (% population aged 25-54)	17.0	16.3	15.6	17.2	16.2	15.7	17.5	18.2	21.0	23.1
Employment rate (% population aged 55-64)	12.2	13.5	9.6	10.0	12.4	11.8	11.6	11.8	13.5	13.7
Employment rate for low skilled 15-64 (ISCED 0-2)	4.5	4.0	3.5	4.8	4.2	3.2	4.0	3.7	3.4	3.9
Employment rate for medium skilled 15-64 (ISCED 3-4)	19.2	17.4	14.3	14.7	14.3	13.6	15.1	15.6	16.7	18.0
Employment rate for high skilled 15-64 (ISCED 5-8)	54.7	49.8	43.2	45.7	45.8	54.0	49.7	48.4	53.2	56.7
Self-employed (% of total employment)	12.8	13.9	13.9	15.1	14.2	13.9	12.1	10.4	9.4	8.2
Part-time employment (% of total employment)	14.7	10.4	8.4	11.8	8.4	5.7	6.2	7.3	5.9	5.2
Temporary employment (% of total employees)	68.5	71.2	66.3	69.0	63.6	67.2	46.3	51.3	53.9	49.6
Activity rate (% population aged 15+)	18.9	19.0	16.0	16.3	17.2	15.8	18.2	18.0	19.2	19.0
Activity rate (% population aged 15-64)	21.1	21.4	18.2	18.6	20.0	18.5	21.2	20.8	22.0	22.0
Activity rate (% population aged 15-24)	14.5	14.8	11.4	12.8	14.3	14.0	17.8	14.9	15.0	13.3
Activity rate (% population aged 25-54)	25.8	25.9	23.0	23.2	24.2	21.9	25.0	25.7	27.0	27.4
Activity rate (% population aged 55-64)	13.2	15.1	10.5	10.7	13.2	12.2	11.9	12.5	14.5	15.0
Unemployment aged 15+ (1,000)	49	54	39	35	44	37	44	41	34	22
Unemployment rate (% labor force 15+)	38.4	41.5	36.5	31.7	36.4	33.3	34.4	32.2	25.0	16.4
Youth unemployment rate (% labor force 15-24)	68.3	71.7	67.2	65.4	63.6	64.7	60.3	57.2	46.5	27.0
NEET rate (% population aged 15-24)	40.9	34.0	34.9	34.2	31.4	30.0	34.2	33.2	32.4	33.8
Long-term unemployment rate (% labor force 15+)	24.7	31.1	27.6	20.6	25.1	16.6	23.0	22.8	17.4	9.6
Share of long-term unemployed (% of total)	64.3	74.8	75.5	65.0	69.0	50.0	67.0	70.9	69.9	58.3
Unemployment rate, low educated 15+ (ISCED 0-2)	47.9	49.2	40.0	24.8	24.4	32.5	32.2	35.0	35.4	30.9
Unemployment rate, medium educated 15+ (ISCED 3-4)	41.2	45.9	41.0	36.7	41.8	41.4	37.6	35.7	28.3	15.6
Unemployment rate, high educated 15+ (ISCED 5-8)	21.4	27.3	28.1	28.3	34.7	23.6	31.8	27.7	19.8	13.8

Kosovo: Earnings and unit labor costs

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Wages										
Average monthly gross wages, NCU	386	403	415	422	431	453	477	466	484	521
nominal annual growth in %	0.8	4.4	3.0	1.7	2.1	5.1	5.3	-2.3	3.9	7.6
real annual growth in % (CPI deflated)	-1.0	4.0	3.5	1.4	0.6	4.0	2.5	-2.5	0.4	-3.5
Average monthly gross wages, EUR	386	403	415	422	431	453	477	466	484	521
Average monthly gross wages, EUR (PPP)	837	850	880	864	870	911	941	912	944	982
Average monthly net wages, NCU	351	365	376	382	390	409	430	416	432	446
nominal annual growth in %	0.9	4.0	3.0	1.6	2.1	4.9	5.1	-3.3	3.8	3.2
real annual growth in % (CPI deflated)	-0.9	3.6	3.5	1.3	0.6	3.7	2.4	-3.4	0.4	-7.5
Average monthly net wages, EUR	351	365	376	382	390	409	430	416	432	446
Average monthly net wages, EUR (PPP)	761	770	797	782	788	823	849	814	843	840
Minimum wages as of January 1st	.	.	.	.	.	.	.	.	.	.
Monthly gross minimum wages, NCU	170	170	170	170	170	170	170	170	170	170
Monthly gross minimum wages, EUR (ER)	170	170	170	170	170	170	170	170	170	170
Monthly gross minimum wages, EUR (PPP)	328	319	322	321	317	311	301	296	295	285
Unit labor costs (ULC)										
Nominal ULC in EUR, annual growth in %	7.4	-3.9	-10.7	7.7	5.0	-1.7	5.7	-1.1	3.4	9.6
Real ULC in EUR, annual growth in %	7.0	-5.4	-11.2	6.9	4.5	-3.2	4.7	-2.5	-2.5	0.8

Notes: Data are based on a continuous quarterly survey and census 2011. Education groups refer to ISCED 1997. The data are slightly revised in comparison to the previous editions (in this report including persons without any school education).

Minimum wages refer to employees aged between 35 and 65. For employees up to the age of 35 minimum wage is EUR 130.

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.

Montenegro: Labor market indicators

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total										
Total population (1,000)	621	622	622	622	622	622	622	621	619	617
Working-age population aged 15+ (1,000)	501	501	501	500	500	500	500	501	499	498
Employment aged 15+ (1,000)	202	216	222	224	229	237	244	219	213	251
Employment rate (% population aged 15+)	40.3	43.2	44.3	44.9	45.9	47.5	48.7	43.8	42.6	50.4
Employment rate (% population aged 15-64)	47.4	50.4	51.4	52.0	53.1	54.7	56.0	50.3	49.3	57.5
Employment rate (% population aged 20-64)	52.6	55.6	56.7	57.1	58.2	59.8	60.8	55.2	54.2	62.5
Employment rate (% population aged 15-24)	13.5	18.8	18.8	21.0	21.3	23.2	27.3	19.8	18.7	27.3
Employment rate (% population aged 25-29)	56.0	58.4	59.8	61.5	61.1	59.7	62.5	52.0	49.9	63.1
Employment rate (% population aged 25-54)	61.2	64.6	65.6	65.4	66.3	67.4	67.1	61.9	61.8	68.0
Employment rate (% population aged 55-64)	38.7	38.7	40.0	41.2	43.7	46.6	50.1	44.2	41.1	55.1
Employment rate for low skilled 15-64 (ISCED 0-2)	14.0	16.6	19.4	22.2	24.4	25.4	23.5	18.1	17.0	20.4
Employment rate for medium skilled 15-64 (ISCED 3-4)	49.4	52.6	53.0	52.9	54.0	55.7	57.5	51.5	49.4	57.7
Employment rate for high skilled 15-64 (ISCED 5-8)	78.9	77.6	78.2	77.1	77.7	78.6	77.8	73.5	73.3	79.5
Self-employed (% of total employment)	14.8	16.8	18.4	19.2	19.1	19.2	18.0	19.1	16.9	17.0
Part-time employment (% of total employment)	3.3	6.3	6.0	4.9	5.9	5.4	4.9	4.1	2.7	2.8
Temporary employment (% of total employees)	26.0	27.4	30.2	33.8	30.3	32.6	33.4	30.6	30.7	30.1
Activity rate (% population aged 15+)	50.1	52.7	53.7	54.5	54.7	56.0	57.4	53.3	51.0	59.1
Activity rate (% population aged 15-64)	58.9	61.6	62.6	63.4	63.5	64.7	66.2	61.5	59.2	67.7
Activity rate (% population aged 15-24)	23.2	29.2	30.2	32.7	31.2	32.9	36.5	30.9	29.7	38.7
Activity rate (% population aged 25-54)	75.4	77.9	78.5	78.9	78.9	79.5	79.3	75.1	73.5	79.6
Activity rate (% population aged 55-64)	43.3	43.4	44.9	45.0	47.0	50.0	54.1	49.0	43.5	59.0
Unemployment aged 15+ (1,000)	49	47	47	48	44	42	43	48	42	43
Unemployment rate (% labor force 15+)	19.5	18.0	17.5	17.7	16.1	15.2	15.1	17.9	16.6	14.7
Youth unemployment rate (% labor force 15-24)	41.6	35.8	37.6	35.9	31.7	29.4	25.2	36.0	37.1	29.4
NEET rate (% population aged 15-24)	17.9	17.7	19.1	18.4	16.7	16.2	17.3	21.1	20.2	20.0
Long-term unemployment rate (% labor force 15+)	16.0	13.9	13.5	13.4	12.4	11.4	11.9	13.4	11.6	10.2
Share of long-term unemployed (% of total)	82.3	77.5	76.8	75.6	77.5	75.1	79.0	74.8	69.8	69.4
Unemployment rate, low educated 15+ (ISCED 0-2)	41.5	31.8	28.1	24.2	21.8	19.7	25.4	33.0	28.0	20.2
Unemployment rate, medium educated 15+ (ISCED 3-4)	20.6	19.7	19.2	19.5	17.5	16.6	15.4	18.0	17.4	16.0
Unemployment rate, high educated 15+ (ISCED 5-8)	9.8	9.9	10.3	11.9	10.9	10.3	11.3	13.2	12.3	11.1
Male										
Total population (1,000)	307	307	308	308	308	308	308	307	306	305
Working-age population aged 15+ (1,000)	244	244	244	244	244	244	245	245	244	244
Employment aged 15+ (1,000)	111	119	121	123	129	133	136	123	117	135
Employment rate (% population aged 15+)	45.4	48.9	49.4	50.5	52.6	54.5	55.7	50.0	47.9	55.4
Employment rate (% population aged 15-64)	51.9	55.5	56.0	57.3	59.4	61.0	62.3	56.1	54.2	61.6
Employment rate (% population aged 20-64)	57.8	61.4	61.9	63.0	65.2	66.7	67.5	61.7	59.8	66.8
Employment rate (% population aged 15-24)	14.8	21.5	19.9	22.6	23.9	25.6	30.9	24.2	20.7	29.7
Employment rate (% population aged 25-29)	57.1	60.0	61.9	64.5	62.6	64.4	67.9	54.2	53.9	63.0
Employment rate (% population aged 25-54)	65.7	69.5	70.5	71.3	73.5	74.5	73.6	67.6	67.0	72.7
Employment rate (% population aged 55-64)	48.5	48.3	48.2	49.6	52.8	55.8	59.8	53.5	49.3	60.6
Employment rate for low skilled 15-64 (ISCED 0-2)	18.7	22.4	24.5	29.1	33.6	34.7	32.6	24.6	22.9	25.3
Employment rate for medium skilled 15-64 (ISCED 3-4)	54.4	58.5	57.7	58.6	61.2	63.0	65.5	58.9	55.5	62.9
Employment rate for high skilled 15-64 (ISCED 5-8)	78.8	77.5	78.7	77.8	78.8	78.6	76.6	74.4	74.6	81.8
Self-employed (% of total employment)	19.2	21.3	23.5	24.6	25.0	26.3	24.5	25.2	22.6	22.6
Part-time employment (% of total employment)	3.9	6.7	5.7	5.4	5.9	5.7	5.1	4.5	2.3	2.6
Temporary employment (% of total employees)	25.9	28.6	28.9	35.4	31.6	34.5	36.2	33.3	32.4	33.1
Activity rate (% population aged 15+)	56.8	59.5	60.1	61.8	62.2	64.3	65.2	60.6	57.8	66.2
Activity rate (% population aged 15-64)	65.1	67.7	68.3	70.2	70.5	72.3	73.3	68.3	65.5	73.9
Activity rate (% population aged 15-24)	26.3	33.7	33.2	35.7	34.4	38.3	41.6	36.4	34.6	45.0
Activity rate (% population aged 25-54)	81.4	83.4	84.2	86.4	86.5	87.3	86.6	81.5	79.8	86.0
Activity rate (% population aged 55-64)	54.6	54.6	54.4	54.6	57.2	60.0	63.9	59.3	52.3	65.9
Unemployment aged 15+ (1,000)	28	26	26	28	23	24	23	26	24	26
Unemployment rate (% labor force 15+)	20.1	17.8	17.7	18.2	15.4	15.2	14.7	17.5	17.1	16.2
Youth unemployment rate (% labor force 15-24)	43.8	36.0	39.9	36.9	30.7	33.3	25.8	33.6	40.0	34.1
NEET rate (% population aged 15-24)	19.3	18.9	19.9	18.7	16.3	18.6	18.8	21.5	24.2	21.6
Long-term unemployment rate (% labor force 15+)	16.8	13.8	13.6	13.8	12.2	11.3	11.4	12.8	12.3	11.7
Share of long-term unemployed (% of total)	84.0	77.7	76.7	75.8	79.1	74.1	77.6	73.4	72.0	72.1
Unemployment rate, low educated 15+ (ISCED 0-2)	39.8	31.0	26.3	24.9	19.1	15.9	20.3	27.0	26.0	21.2
Unemployment rate, medium educated 15+ (ISCED 3-4)	20.8	18.8	19.4	19.4	16.4	16.5	14.4	17.8	17.7	17.8
Unemployment rate, high educated 15+ (ISCED 5-8)	10.3	10.0	9.8	12.4	10.5	11.0	13.2	13.1	13.2	11.0



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Female										
Total population (1,000)	314	314	315	315	315	315	314	314	313	312
Working-age population aged 15+ (1,000)	257	256	256	256	256	255	255	256	256	254
Employment aged 15+ (1,000)	91	97	101	101	101	104	107	97	96	116
Employment rate (% population aged 15+)	35.4	37.8	39.4	39.4	39.4	40.8	42.1	37.9	37.5	45.6
Employment rate (% population aged 15-64)	42.8	45.3	46.9	46.8	46.8	48.4	49.7	44.4	44.4	53.4
Employment rate (% population aged 20-64)	47.5	49.7	51.5	51.3	51.4	52.9	54.2	48.8	48.7	58.2
Employment rate (% population aged 15-24)	12.2	15.8	17.7	19.3	18.6	20.6	23.5	15.0	16.4	24.8
Employment rate (% population aged 25-29)	54.9	56.8	57.7	58.3	59.4	54.7	56.3	49.6	45.8	63.2
Employment rate (% population aged 25-54)	56.8	59.6	60.6	59.5	59.2	60.3	60.5	56.3	56.6	63.4
Employment rate (% population aged 55-64)	29.4	29.7	32.3	33.2	35.1	37.9	40.9	35.5	33.3	49.9
Employment rate for low skilled 15-64 (ISCED 0-2)	10.1	11.8	15.4	16.9	16.7	17.4	15.5	12.3	11.9	16.2
Employment rate for medium skilled 15-64 (ISCED 3-4)	44.0	46.1	47.5	46.2	45.6	47.2	48.4	43.1	42.6	51.5
Employment rate for high skilled 15-64 (ISCED 5-8)	79.0	77.7	77.8	76.5	76.9	78.6	78.8	72.7	72.3	77.9
Self-employed (% of total employment)	9.3	11.3	12.3	12.6	11.4	10.2	9.8	11.4	9.9	10.6
Part-time employment (% of total employment)	2.6	5.7	6.4	4.4	5.9	4.9	4.5	3.6	3.1	3.1
Temporary employment (% of total employees)	26.1	26.1	31.5	32.1	28.8	30.5	30.5	27.5	28.8	27.0
Activity rate (% population aged 15+)	43.6	46.2	47.6	47.6	47.5	48.1	49.9	46.4	44.5	52.3
Activity rate (% population aged 15-64)	52.8	55.4	56.9	56.6	56.5	57.2	59.1	54.7	52.9	61.4
Activity rate (% population aged 15-24)	19.8	24.4	27.0	29.5	27.8	27.0	31.1	24.8	24.5	31.9
Activity rate (% population aged 25-54)	69.5	72.4	72.8	71.4	71.3	71.7	72.1	68.6	67.2	73.3
Activity rate (% population aged 55-64)	32.8	32.9	35.9	35.9	37.5	40.6	44.9	39.2	35.4	52.5
Unemployment aged 15+ (1,000)	21	22	21	21	21	19	20	22	18	17
Unemployment rate (% labor force 15+)	18.8	18.2	17.3	17.1	16.9	15.1	15.7	18.4	15.9	12.8
Youth unemployment rate (% labor force 15-24)	38.5	35.4	34.5	34.6	33.1	23.6	24.3	39.7	32.8	22.3
NEET rate (% population aged 15-24)	16.3	16.4	18.3	18.0	17.1	13.6	15.8	20.6	15.9	18.2
Long-term unemployment rate (% labor force 15+)	15.1	14.1	13.3	12.8	12.8	11.5	12.7	14.0	10.6	8.4
Share of long-term unemployed (% of total)	79.9	77.3	76.9	75.2	75.5	76.5	80.7	76.3	66.8	65.3
Unemployment rate, low educated 15+ (ISCED 0-2)	43.8	33.0	30.0	23.3	25.7	24.9	32.9	40.8	30.8	18.9
Unemployment rate, medium educated 15+ (ISCED 3-4)	20.4	21.1	19.0	19.6	19.1	16.8	16.8	18.4	16.9	13.4
Unemployment rate, high educated 15+ (ISCED 5-8)	9.4	9.9	10.6	11.4	11.3	9.7	9.8	13.3	11.6	11.1

Montenegro: Earnings and unit labor costs

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Wages										
Average monthly gross wages, NCU	726	723	725	751	765	766	773	783	793	883
nominal annual growth in %	-0.1	-0.4	0.3	3.6	1.9	0.1	0.9	1.3	1.3	11.3
real annual growth in % (CPI deflated)	-2.3	0.3	-1.3	3.9	-0.5	-2.4	0.6	1.6	-1.1	-1.5
Average monthly gross wages, EUR	726	723	725	751	765	766	773	783	793	883
Average monthly gross wages, EUR (PPP)	1,439	1,432	1,449	1,494	1,497	1,491	1,525	1,562	1,540	1,647
Average monthly net wages, NCU	479	477	480	499	510	511	515	524	532	712
nominal annual growth in %	-1.6	-0.4	0.6	4.0	2.2	0.2	0.8	1.7	1.5	33.8
real annual growth in % (CPI deflated)	-3.8	0.3	-0.9	4.2	-0.2	-2.3	0.4	2.1	-0.9	18.4
Average monthly net wages, EUR	479	477	480	499	510	511	515	524	532	712
Average monthly net wages, EUR (PPP)	950	945	959	993	998	995	1,016	1,045	1,033	1,328
Minimum wages as of January 1st	.	.	.	.	.	.	.	.	.	.
Monthly gross minimum wages, NCU	.	288	288	288	288	288	288	331	331	533
Monthly gross minimum wages, EUR (ER)	.	288	288	288	288	288	288	331	331	533
Monthly gross minimum wages, EUR (PPP)	.	507	513	515	506	501	504	553	564	881
Unit labor costs (ULC)										
Nominal ULC in EUR, annual growth in %	-3.1	4.8	-0.6	1.8	-0.5	-1.3	-0.4	7.6	-13.2	23.6
Real ULC in EUR, annual growth in %	-5.1	3.7	-2.7	-3.2	-4.2	-4.4	-2.4	7.8	-17.1	10.0

Notes: Data are based on a continuous quarterly survey and census 2011. From 2021, new methodology in line with the Integrated European Social Statistics Regulation (IESS); growth rates are not fully comparable before and after 2021. Education groups refer to ISCED 1997 until 2012, ISCED 2011 from 2013.

From 2022 net wages excluding health insurance contributions and including an impact of personal income tax reform (based on "Europe now" reform package).

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.

North Macedonia: Labor market indicators

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total										
Total population (1,000)	2,064	2,067	2,070	2,072	2,075	2,076	2,077	2,073	2,065	1,834
Working-age population aged 15+ (1,000)	1,672	1,673	1,677	1,679	1,680	1,683	1,685	1,686	1,683	1,465
Employment aged 15+ (1,000)	679	690	706	724	741	759	798	795	795	692
Employment rate (% population aged 15+)	40.6	41.2	42.1	43.1	44.1	45.1	47.3	47.2	47.2	47.2
Employment rate (% population aged 15-64)	46.0	46.9	47.8	49.1	50.5	51.7	54.7	54.7	55.1	56.7
Employment rate (% population aged 20-64)	50.3	51.3	51.9	53.3	54.8	56.1	59.2	59.1	59.5	61.7
Employment rate (% population aged 15-24)	16.2	15.2	17.3	16.2	17.5	17.4	20.7	19.8	17.9	19.1
Employment rate (% population aged 25-29)	45.9	48.2	47.3	49.6	51.5	53.4	56.7	55.7	58.6	62.4
Employment rate (% population aged 25-54)	57.9	59.3	59.4	61.2	62.7	63.9	66.8	66.6	67.8	69.9
Employment rate (% population aged 55-64)	37.9	38.6	40.1	40.7	41.4	42.7	45.1	45.7	44.9	48.9
Employment rate for low skilled 15-64 (ISCED 0-2)	28.4	29.9	28.9	27.3	28.4	29.2	30.6	29.3	27.4	27.4
Employment rate for medium skilled 15-64 (ISCED 3-4)	52.4	52.5	53.6	55.4	56.4	57.7	61.0	60.2	61.1	62.3
Employment rate for high skilled 15-64 (ISCED 5-8)	67.5	69.1	72.0	72.4	73.7	74.8	77.5	78.1	79.7	83.1
Self-employed (% of total employment)	14.5	14.0	13.9	13.2	12.9	13.3	11.9	10.0	9.2	9.3
Part-time employment (% of total employment)	4.6	5.9	4.4	5.0	4.2	3.6	4.4	4.0	3.5	3.8
Temporary employment (% of total employees)	14.0	15.4	12.6	13.6	14.0	15.0	16.7	17.8	17.8	16.9
Activity rate (% population aged 15+)	57.2	57.3	57.0	56.5	56.8	56.9	57.2	56.4	56.0	55.2
Activity rate (% population aged 15-64)	64.9	65.3	64.9	64.5	65.3	65.4	66.3	65.5	65.5	66.3
Activity rate (% population aged 15-24)	33.6	32.4	32.8	31.3	32.8	31.8	32.2	30.9	28.1	28.3
Activity rate (% population aged 25-54)	79.2	80.0	78.8	78.7	79.1	78.9	79.9	78.7	79.3	80.8
Activity rate (% population aged 55-64)	49.9	49.9	50.6	49.4	49.7	51.4	51.1	52.0	51.4	55.1
Unemployment aged 15+ (1,000)	277	269	249	225	214	199	166	156	148	116
Unemployment rate (% labor force 15+)	29.0	28.0	26.1	23.7	22.4	20.7	17.3	16.4	15.7	14.4
Youth unemployment rate (% labor force 15-24)	51.9	53.1	47.3	48.2	46.7	45.4	35.6	35.7	36.4	32.6
NEET rate (% population aged 15-24)	24.2	25.2	24.7	24.3	24.9	24.1	18.1	19.6	17.9	18.0
Long-term unemployment rate (% labor force 15+)	23.9	23.4	21.3	19.2	17.4	15.5	13.1	12.4	12.5	11.5
Share of long-term unemployed (% of total)	82.5	83.4	81.6	80.9	77.9	74.7	75.9	75.6	79.5	80.0
Unemployment rate, low educated 15+ (ISCED 0-2)	34.2	32.1	29.7	29.1	26.5	23.7	23.2	21.4	22.8	21.0
Unemployment rate, medium educated 15+ (ISCED 3-4)	28.7	28.3	26.6	23.7	22.6	21.0	16.6	16.1	15.6	15.0
Unemployment rate, high educated 15+ (ISCED 5-8)	23.5	22.5	21.1	19.4	18.7	17.8	14.3	13.7	11.7	9.6
Male										
Total population (1,000)	1,034	1,036	1,037	1,038	1,039	1,040	1,040	1,037	1,024	909
Working-age population aged 15+ (1,000)	837	837	839	840	841	842	843	844	842	725
Employment aged 15+ (1,000)	408	420	424	440	450	459	477	472	473	405
Employment rate (% population aged 15+)	48.7	50.1	50.5	52.3	53.6	54.4	56.6	55.9	56.2	55.9
Employment rate (% population aged 15-64)	54.5	56.1	56.6	58.6	60.5	61.4	64.4	63.7	64.3	65.8
Employment rate (% population aged 20-64)	59.7	61.6	61.5	63.7	65.6	66.6	69.7	68.9	69.5	71.7
Employment rate (% population aged 15-24)	18.9	18.9	20.2	20.4	22.6	21.7	25.4	25.1	23.0	25.3
Employment rate (% population aged 25-29)	52.3	57.1	53.8	56.7	61.1	61.9	65.1	62.4	64.9	67.3
Employment rate (% population aged 25-54)	67.4	69.8	69.1	71.2	73.2	74.0	76.5	75.1	76.4	78.4
Employment rate (% population aged 55-64)	49.4	50.3	52.2	55.0	54.5	56.8	60.1	60.3	60.3	62.9
Employment rate for low skilled 15-64 (ISCED 0-2)	41.9	44.3	42.2	42.6	43.3	44.7	47.9	45.4	42.7	43.3
Employment rate for medium skilled 15-64 (ISCED 3-4)	57.3	58.6	59.7	61.9	63.5	64.4	67.5	66.3	67.9	69.0
Employment rate for high skilled 15-64 (ISCED 5-8)	71.4	72.8	74.8	75.7	78.3	78.6	79.7	81.0	81.3	84.3
Self-employed (% of total employment)	19.2	19.4	18.9	17.2	17.3	17.6	15.5	12.8	12.0	12.4
Part-time employment (% of total employment)	4.4	6.5	4.3	4.6	4.1	3.5	4.3	3.7	3.0	3.6
Temporary employment (% of total employees)	14.6	16.9	13.8	14.8	15.2	16.5	18.1	19.7	18.4	18.1
Activity rate (% population aged 15+)	68.5	69.3	68.9	69.2	69.3	69.2	67.8	67.1	67.2	66.3
Activity rate (% population aged 15-64)	76.8	77.7	77.5	77.8	78.4	78.3	77.3	76.7	77.1	78.3
Activity rate (% population aged 15-24)	39.9	39.3	40.1	39.2	41.7	40.6	38.1	38.0	34.6	35.9
Activity rate (% population aged 25-54)	91.9	93.2	91.8	92.1	92.4	91.5	90.9	89.2	90.5	92.3
Activity rate (% population aged 55-64)	65.7	66.8	67.4	68.1	67.0	69.3	67.7	69.4	69.7	72.9
Unemployment aged 15+ (1,000)	166	160	155	142	133	124	94	95	93	75
Unemployment rate (% labor force 15+)	29.0	27.6	26.7	24.4	22.7	21.3	16.5	16.7	16.4	15.7
Youth unemployment rate (% labor force 15-24)	52.5	52.0	49.7	47.9	45.7	46.6	33.4	34.0	33.5	29.5
NEET rate (% population aged 15-24)	23.3	23.6	24.5	23.6	23.9	23.3	17.1	19.4	18.3	17.6
Long-term unemployment rate (% labor force 15+)	24.0	23.1	22.1	20.1	17.6	15.7	12.9	12.7	13.3	12.4
Share of long-term unemployed (% of total)	82.7	83.6	82.5	82.5	77.5	73.7	78.0	76.2	81.2	79.0
Unemployment rate, low educated 15+ (ISCED 0-2)	35.3	32.8	31.2	30.3	29.3	26.2	20.1	23.4	25.3	22.6
Unemployment rate, medium educated 15+ (ISCED 3-4)	28.6	27.4	27.0	24.2	22.7	21.5	16.3	16.1	15.3	15.7
Unemployment rate, high educated 15+ (ISCED 5-8)	19.8	20.0	19.3	17.6	15.4	15.2	13.4	12.2	12.1	10.4

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Female										
Total population (1,000)	1,030	1,032	1,033	1,034	1,036	1,036	1,037	1,035	1,041	924
Working-age population aged 15+ (1,000)	835	836	838	839	839	840	841	842	841	740
Employment aged 15+ (1,000)	271	271	282	284	290	301	320	323	322	287
Employment rate (% population aged 15+)	32.5	32.4	33.7	33.8	34.6	35.8	38.1	38.4	38.3	38.8
Employment rate (% population aged 15-64)	37.3	37.4	38.8	39.2	40.3	41.7	44.7	45.3	45.5	47.4
Employment rate (% population aged 20-64)	40.7	40.8	42.1	42.5	43.7	45.2	48.4	49.0	49.2	51.6
Employment rate (% population aged 15-24)	13.3	11.3	14.2	11.8	12.0	12.8	15.8	14.3	12.4	12.6
Employment rate (% population aged 25-29)	39.2	38.9	40.6	42.2	41.3	44.4	47.8	48.6	52.0	57.3
Employment rate (% population aged 25-54)	48.0	48.5	49.3	50.9	51.8	53.5	56.7	57.7	58.8	61.2
Employment rate (% population aged 55-64)	26.6	27.1	28.3	26.6	28.5	28.8	30.3	31.3	29.8	35.5
Employment rate for low skilled 15-64 (ISCED 0-2)	18.0	18.5	18.4	15.5	17.3	17.8	17.8	17.2	16.3	16.1
Employment rate for medium skilled 15-64 (ISCED 3-4)	45.8	44.4	45.3	46.6	46.6	48.5	52.4	52.2	51.8	53.3
Employment rate for high skilled 15-64 (ISCED 5-8)	64.1	66.0	69.6	69.6	69.9	71.7	75.7	75.7	78.3	82.1
Self-employed (% of total employment)	7.4	5.6	6.4	6.9	6.0	6.8	6.5	6.0	5.1	5.0
Part-time employment (% of total employment)	5.0	5.0	4.7	5.7	4.5	3.6	4.5	4.5	4.3	4.1
Temporary employment (% of total employees)	13.2	13.3	11.0	11.8	12.3	12.9	14.8	15.2	16.9	15.4
Activity rate (% population aged 15+)	45.8	45.3	44.9	43.8	44.3	44.6	46.6	45.7	44.8	44.3
Activity rate (% population aged 15-64)	52.7	52.5	52.0	50.8	51.7	52.2	54.8	54.0	53.4	54.3
Activity rate (% population aged 15-24)	27.1	25.1	25.1	23.0	23.4	22.5	25.8	23.3	21.2	20.4
Activity rate (% population aged 25-54)	66.0	66.4	65.3	64.8	65.3	65.8	68.6	67.9	67.7	69.2
Activity rate (% population aged 55-64)	34.5	33.5	34.2	31.0	32.6	33.8	34.7	34.8	33.4	38.1
Unemployment aged 15+ (1,000)	111	108	94	83	81	75	72	61	55	41
Unemployment rate (% labor force 15+)	29.0	28.6	25.1	22.7	21.8	19.9	18.4	15.9	14.6	12.5
Youth unemployment rate (% labor force 15-24)	51.0	55.0	43.3	48.8	48.6	43.2	38.9	38.6	41.3	38.2
NEET rate (% population aged 15-24)	25.2	26.8	24.9	25.1	25.9	25.1	19.2	19.8	17.6	18.4
Long-term unemployment rate (% labor force 15+)	23.8	23.8	20.1	17.8	17.2	15.2	13.5	11.9	11.2	10.2
Share of long-term unemployed (% of total)	82.2	83.1	80.2	78.2	78.6	76.4	73.2	74.8	76.6	81.9
Unemployment rate, low educated 15+ (ISCED 0-2)	32.1	30.9	26.8	26.3	20.7	18.7	28.8	17.3	17.4	17.9
Unemployment rate, medium educated 15+ (ISCED 3-4)	28.9	29.8	25.9	22.7	22.3	20.1	17.0	16.2	16.1	13.8
Unemployment rate, high educated 15+ (ISCED 5-8)	26.7	24.6	22.5	21.0	21.7	20.1	15.0	15.1	11.4	8.8

North Macedonia: Earnings and unit labor costs

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Wages										
Average monthly gross wages, NCU	31,025	31,325	32,171	32,821	33,688	35,626	37,446	40,566	42,887	47,637
nominal annual growth in %	1.2	1.0	2.7	2.0	2.6	5.8	5.1	8.3	5.7	11.1
real annual growth in % (CPI deflated)	-1.6	1.3	3.0	2.2	1.2	4.2	4.3	7.0	2.4	-2.7
Average monthly gross wages, EUR	504	508	522	533	547	579	609	658	696	773
Average monthly gross wages, EUR (PPP)	1,172	1,182	1,190	1,202	1,220	1,275	1,334	1,426	1,495	1,617
Average monthly net wages, NCU	21,145	21,394	21,904	22,342	22,928	24,276	25,213	27,182	28,718	31,859
nominal annual growth in %	1.2	1.2	2.4	2.0	2.6	5.9	3.9	7.8	5.7	10.9
real annual growth in % (CPI deflated)	-1.6	1.5	2.7	2.2	1.2	4.4	3.1	6.5	2.3	-2.9
Average monthly net wages, EUR	343	347	356	363	372	395	410	441	466	517
Average monthly net wages, EUR (PPP)	799	807	810	819	830	869	898	955	1,001	1,082
Minimum wages as of January 1st										
Monthly gross minimum wages, NCU	12,268	13,140	13,482	14,739	14,739	17,130	17,370	21,107	21,776	22,146
Monthly gross minimum wages, EUR (ER)	199	214	219	239	240	279	282	343	353	359
Monthly gross minimum wages, EUR (PPP)	407	441	455	499	491	558	567	669	713	704
Unit labor costs (ULC)										
Nominal ULC in EUR, annual growth in %	2.5	-1.0	1.2	1.7	4.0	5.5	6.3	13.0	1.3	9.9
Real ULC in EUR, annual growth in %	-1.9	-2.4	-0.8	-1.7	1.1	1.5	5.4	11.4	-2.9	1.7

Notes: Data based on a continuous quarterly survey and the census 2002 until 2021, census 2021 from 2022 onwards. Education groups refer to ISCED 2011.

Until 2017 the minimum wage was in effect from 1 January of the respective year, in 2018 from 1 September of the previous year, in 2019 from 1 July of the previous year, in 2020 from 1 January, in 2021 from 1 July of the previous year, in 2022 from May of the previous year.

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.

Serbia: Labor market indicators

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total										
Total population (1,000)	7,167	7,132	7,095	7,058	7,021	6,983	6,945	6,899	6,834	6,664
Working-age population aged 15+ (1,000)	6,121	6,099	6,060	6,018	5,985	5,955	5,924	5,894	5,857	5,795
Employment aged 15+ (1,000)	2,444	2,559	2,574	2,719	2,795	2,833	2,901	2,895	2,849	2,913
Employment rate (% population aged 15+)	39.9	42.0	42.5	45.2	46.7	47.6	49.0	49.1	48.6	50.3
Employment rate (% population aged 15-64)	48.5	50.7	52.0	55.2	57.3	58.8	60.7	61.3	62.2	64.5
Employment rate (% population aged 20-64)	52.3	54.7	55.9	59.1	61.4	63.1	65.1	65.9	66.7	69.3
Employment rate (% population aged 15-24)	14.7	14.9	16.6	19.7	20.9	21.1	21.5	20.8	24.5	24.7
Employment rate (% population aged 25-29)	49.2	52.4	53.5	56.2	58.9	62.5	63.5	62.4	67.0	70.6
Employment rate (% population aged 25-54)	63.3	65.9	67.1	69.2	71.3	73.1	74.5	74.8	75.5	77.7
Employment rate (% population aged 55-64)	35.1	36.7	37.3	42.7	45.5	46.5	50.2	52.2	51.4	54.6
Employment rate for low skilled 15-64 (ISCED 0-2)	32.3	32.9	33.9	37.3	38.2	37.6	39.1	37.9	36.6	37.0
Employment rate for medium skilled 15-64 (ISCED 3-4)	50.5	52.3	53.3	56.5	58.7	60.4	62.1	63.4	64.4	66.6
Employment rate for high skilled 15-64 (ISCED 5-8)	66.9	70.1	70.9	72.5	75.7	77.8	79.8	79.2	81.2	84.2
Self-employed (% of total employment)	24.1	23.4	22.0	23.7	24.8	22.7	23.0	22.4	17.0	16.4
Part-time employment (% of total employment)	10.5	12.2	11.8	13.0	12.5	11.3	12.2	11.6	8.0	7.0
Temporary employment (% of total employees)	16.1	18.8	21.8	23.7	22.8	23.0	16.5	15.0	17.6	16.9
Activity rate (% population aged 15+)	51.5	51.9	51.6	53.3	54.0	54.5	54.6	54.0	54.7	55.5
Activity rate (% population aged 15-64)	63.2	63.3	63.6	65.6	66.7	67.8	68.1	67.7	70.3	71.4
Activity rate (% population aged 15-24)	29.3	28.5	29.2	30.3	30.6	30.0	29.6	28.3	33.3	32.6
Activity rate (% population aged 25-54)	81.1	81.1	81.0	82.0	82.5	83.8	83.2	82.2	84.7	85.4
Activity rate (% population aged 55-64)	41.7	41.9	42.1	46.9	49.5	51.0	53.7	55.1	55.2	58.5
Unemployment aged 15+ (1,000)	708	608	552	489	435	412	336	287	352	302
Unemployment rate (% labor force 15+)	22.5	19.2	17.7	15.3	13.5	12.7	10.4	9.0	11.0	9.4
Youth unemployment rate (% labor force 15-24)	49.9	47.5	43.2	34.9	31.9	29.7	27.5	26.7	26.4	24.4
NEET rate (% population aged 15-24)	20.0	20.4	19.9	17.7	17.2	16.5	15.3	15.9	16.4	13.0
Long-term unemployment rate (% labor force 15+)	16.9	12.8	11.3	9.9	8.2	7.5	6.0	4.9	5.5	4.3
Share of long-term unemployed (% of total)	75.1	66.9	64.0	65.1	60.5	59.4	58.3	54.8	49.9	45.4
Unemployment rate, low educated 15+ (ISCED 0-2)	20.6	17.3	15.0	12.4	11.0	12.1	10.7	8.6	13.2	11.7
Unemployment rate, medium educated 15+ (ISCED 3-4)	24.5	21.2	19.4	16.7	14.8	13.7	11.2	9.6	11.6	10.3
Unemployment rate, high educated 15+ (ISCED 5-8)	18.6	15.4	15.3	13.9	12.2	10.8	8.3	7.9	8.6	6.3
Male										
Total population (1,000)	3,490	3,473	3,455	3,438	3,420	3,402	3,384	3,360	3,327	3,241
Working-age population aged 15+ (1,000)	2,956	2,941	2,922	2,902	2,886	2,873	2,858	2,844	2,825	2,794
Employment aged 15+ (1,000)	1,413	1,457	1,466	1,532	1,565	1,590	1,617	1,609	1,595	1,616
Employment rate (% population aged 15+)	47.8	49.5	50.2	52.8	54.2	55.4	56.6	56.6	56.5	57.9
Employment rate (% population aged 15-64)	56.2	57.7	59.1	61.9	63.9	65.6	67.1	67.7	69.3	71.0
Employment rate (% population aged 20-64)	60.6	62.3	63.6	66.3	68.5	70.5	72.1	72.9	74.2	76.2
Employment rate (% population aged 15-24)	19.3	19.0	21.2	24.9	26.1	26.0	26.7	26.3	30.7	30.0
Employment rate (% population aged 25-29)	57.1	58.4	59.3	61.7	64.8	69.3	69.7	70.4	73.9	77.8
Employment rate (% population aged 25-54)	70.9	72.4	73.3	74.8	76.8	79.0	79.9	80.4	81.5	83.4
Employment rate (% population aged 55-64)	45.8	47.7	48.9	53.8	55.9	57.2	60.8	62.1	62.0	64.7
Employment rate for low skilled 15-64 (ISCED 0-2)	41.3	41.7	42.3	44.3	45.9	45.3	46.6	45.6	45.9	45.6
Employment rate for medium skilled 15-64 (ISCED 3-4)	58.5	59.5	61.0	64.2	65.8	68.0	69.7	70.7	72.2	73.9
Employment rate for high skilled 15-64 (ISCED 5-8)	69.9	73.6	74.3	75.8	79.0	81.4	82.2	82.3	84.6	87.2
Self-employed (% of total employment)	30.9	30.8	29.9	31.0	30.9	28.8	28.7	27.6	23.4	23.0
Part-time employment (% of total employment)	10.0	11.6	11.2	12.0	11.6	10.5	11.5	10.4	7.2	6.2
Temporary employment (% of total employees)	17.3	20.0	23.2	25.8	23.9	24.5	16.2	14.3	16.9	16.5
Activity rate (% population aged 15+)	60.4	60.7	60.3	61.8	62.2	62.9	62.7	62.0	62.9	63.6
Activity rate (% population aged 15-64)	71.6	71.3	71.6	73.1	73.8	75.1	74.9	74.6	77.5	78.3
Activity rate (% population aged 15-24)	35.3	35.3	35.4	36.8	36.8	36.3	36.2	35.1	40.7	39.1
Activity rate (% population aged 25-54)	88.3	87.4	87.3	87.7	88.1	89.5	88.5	87.7	90.4	91.1
Activity rate (% population aged 55-64)	55.4	55.2	55.9	59.6	61.4	63.0	65.0	65.9	66.5	69.5
Unemployment aged 15+ (1,000)	372	327	296	262	230	215	176	153	180	161
Unemployment rate (% labor force 15+)	20.8	18.3	16.8	14.6	12.8	11.9	9.8	8.7	10.2	9.0
Youth unemployment rate (% labor force 15-24)	45.2	46.1	40.1	32.2	29.2	28.3	26.1	25.0	24.6	23.2
NEET rate (% population aged 15-24)	20.1	21.0	20.2	17.2	17.1	16.0	14.8	17.0	16.9	13.4
Long-term unemployment rate (% labor force 15+)	15.4	12.0	10.6	9.5	7.9	7.2	5.8	4.7	4.9	3.8
Share of long-term unemployed (% of total)	74.2	65.7	63.0	65.1	61.4	60.4	58.9	54.7	48.6	41.7
Unemployment rate, low educated 15+ (ISCED 0-2)	19.5	16.9	15.8	13.6	11.1	12.3	11.0	9.0	12.0	11.4
Unemployment rate, medium educated 15+ (ISCED 3-4)	22.2	20.1	17.9	15.4	13.9	12.8	10.2	9.0	10.7	9.7
Unemployment rate, high educated 15+ (ISCED 5-8)	17.5	13.7	14.1	12.8	11.0	9.1	7.6	7.5	7.4	5.7

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Female										
Total population (1,000)	3,677	3,659	3,640	3,621	3,601	3,581	3,562	3,539	3,507	3,424
Working-age population aged 15+ (1,000)	3,166	3,158	3,138	3,115	3,098	3,083	3,066	3,050	3,032	3,002
Employment aged 15+ (1,000)	1,031	1,102	1,108	1,188	1,230	1,243	1,284	1,285	1,253	1,297
Employment rate (% population aged 15+)	32.6	34.9	35.3	38.1	39.7	40.3	41.9	42.1	41.3	43.2
Employment rate (% population aged 15-64)	40.9	43.7	44.9	48.4	50.8	52.0	54.3	54.8	55.2	57.9
Employment rate (% population aged 20-64)	44.1	47.1	48.2	51.9	54.4	55.8	58.2	58.9	59.3	62.3
Employment rate (% population aged 15-24)	9.7	10.6	11.7	14.2	15.3	15.9	15.9	14.9	17.9	19.0
Employment rate (% population aged 25-29)	41.3	46.1	47.5	50.4	52.7	55.3	57.1	54.0	59.7	63.0
Employment rate (% population aged 25-54)	55.8	59.5	60.9	63.6	65.7	67.1	69.1	69.1	69.3	71.9
Employment rate (% population aged 55-64)	25.1	26.6	26.6	32.5	36.0	36.7	40.5	43.2	41.7	45.4
Employment rate for low skilled 15-64 (ISCED 0-2)	24.9	25.8	26.7	31.4	31.7	31.0	32.5	31.0	28.4	29.2
Employment rate for medium skilled 15-64 (ISCED 3-4)	41.4	44.0	44.4	47.5	50.4	51.6	53.4	54.9	55.5	58.3
Employment rate for high skilled 15-64 (ISCED 5-8)	64.3	67.4	68.3	70.0	73.2	75.0	78.0	77.0	78.6	81.8
Self-employed (% of total employment)	14.9	13.7	11.6	14.1	17.0	14.9	15.8	15.8	8.8	8.3
Part-time employment (% of total employment)	11.1	13.0	12.7	14.2	13.6	12.2	13.1	13.0	9.0	7.9
Temporary employment (% of total employees)	14.7	17.4	20.2	21.4	21.6	21.3	16.8	15.9	18.5	17.4
Activity rate (% population aged 15+)	43.2	43.8	43.5	45.4	46.3	46.7	47.1	46.5	47.0	47.9
Activity rate (% population aged 15-64)	54.8	55.3	55.6	58.1	59.6	60.6	61.3	60.8	63.0	64.4
Activity rate (% population aged 15-24)	22.9	21.3	22.6	23.4	24.1	23.3	22.7	21.1	25.4	25.8
Activity rate (% population aged 25-54)	73.9	74.8	74.6	76.1	76.9	78.0	77.8	76.5	78.9	79.6
Activity rate (% population aged 55-64)	28.8	29.6	29.5	35.2	38.5	40.0	43.4	45.2	44.9	48.6
Unemployment aged 15+ (1,000)	336	281	256	228	205	197	160	134	172	142
Unemployment rate (% labor force 15+)	24.6	20.3	18.8	16.1	14.3	13.7	11.1	9.4	12.1	9.8
Youth unemployment rate (% labor force 15-24)	57.5	50.0	48.2	39.5	36.3	32.0	29.9	29.5	29.5	26.2
NEET rate (% population aged 15-24)	19.9	19.9	19.6	18.3	17.3	17.0	15.8	14.8	15.9	12.6
Long-term unemployment rate (% labor force 15+)	18.7	13.9	12.2	10.5	8.5	8.0	6.4	5.2	6.2	4.9
Share of long-term unemployed (% of total)	76.2	68.2	65.2	65.1	59.5	58.4	57.6	54.9	51.4	49.5
Unemployment rate, low educated 15+ (ISCED 0-2)	22.0	17.9	13.9	11.1	10.9	11.8	10.2	8.2	14.8	12.1
Unemployment rate, medium educated 15+ (ISCED 3-4)	28.0	23.0	21.6	18.6	16.0	15.1	12.7	10.5	12.9	11.2
Unemployment rate, high educated 15+ (ISCED 5-8)	19.5	16.8	16.4	14.8	13.3	12.3	8.9	8.3	9.6	6.8

Serbia: Earnings and unit labor costs

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Wages										
Average monthly gross wages, NCU	60,708	61,426	61,145	63,474	65,976	68,629	75,814	82,984	90,784	103,316
nominal annual growth in %	5.7	1.2	-0.5	3.8	3.9	6.0	10.5	9.5	9.4	13.8
real annual growth in % (CPI deflated)	-1.9	-1.7	-2.4	2.6	0.9	3.9	8.4	7.8	5.2	1.7
Average monthly gross wages, EUR	537	524	506	516	544	580	643	706	772	880
Average monthly gross wages, EUR (PPP)	1,114	1,106	1,079	1,090	1,110	1,135	1,243	1,333	1,420	1,532
Average monthly net wages, NCU	43,932	44,530	44,432	46,097	47,893	49,650	54,919	60,073	65,864	74,933
nominal annual growth in %	6.2	1.4	-0.2	3.7	3.9	6.5	10.6	9.4	9.6	13.8
real annual growth in % (CPI deflated)	-1.5	-1.5	-2.1	2.5	0.9	4.4	8.5	7.7	5.4	1.7
Average monthly net wages, EUR	388	380	368	374	395	420	466	511	560	638
Average monthly net wages, EUR (PPP)	806	802	784	791	806	821	901	965	1,030	1,111
Minimum wages as of January 1st										
Monthly gross minimum wages, NCU	27,206	26,976	28,431	28,403	30,613	33,813	36,408	40,502	43,044	47,193
Monthly gross minimum wages, EUR (ER)	239	235	235	234	248	285	308	344	366	401
Monthly gross minimum wages, EUR (PPP)	445	437	458	448	469	512	547	588	614	640
Unit labor costs (ULC)										
Nominal ULC in EUR, annual growth in %	6.3	3.8	-4.5	4.1	6.2	5.5	8.8	10.5	4.2	13.6
Real ULC in EUR, annual growth in %	1.1	1.2	-6.2	2.5	3.1	3.5	6.2	7.8	-1.5	2.9
Nominal ULC in EUR, index 2020=100	71.9	74.7	71.4	74.3	78.9	83.2	90.5	100.0	104.2	118.4
Real ULC in EUR, index 2020=100	84.1	85.2	79.9	81.9	84.4	87.3	92.7	100.0	98.5	101.4

Notes: Until 2013 the labor force survey was carried out twice a year in April and October; in 2014 quarterly in a fixed reference week; from 2015, the survey is conducted continuously. Further adjustments according to EU guidelines were introduced 2014. For better comparability, the data before 2014 were recalculated by applying double entries for 2014. For LFS data census 2011 is applied from 2013 with low impact on growth rates in comparison to previous year. From 2021, new methodology in line with the Integrated European Social Statistics Regulation (IESS); growth rates are not fully comparable before and after 2021. Education groups refer to ISCED 1997 until 2013, ISCED 2011 from 2014. From 2018, average monthly wages based on tax administration data and full-time equivalent (FTE) employees, before that survey data supplemented by tax administration data. The minimum wage in 2013 was in effect from April 2012; since 2014 it is in effect as of January of the respective year.

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.

Western Balkans-6: Labor market indicators

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total										
Total population (1,000)	18,397	18,350	18,276	18,223	18,191	18,146	18,078	17,696	17,569	17,106
Working-age population aged 15+ (1,000)	14,545	14,529	14,498	14,409	14,335	14,297	14,131	14,787	14,721	14,372
Employment aged 15+ (1,000)	5,512	5,640	5,709	5,960	6,135	6,231	6,377	6,676	6,643	6,725
Employment rate (% population aged 15+)	37.9	38.8	39.4	41.4	42.8	43.6	45.1	45.1	45.1	46.8
Employment rate (% population aged 15-64)	44.7	45.8	46.8	49.2	51.2	52.4	54.4	54.1	54.8	57.3
Employment rate (% population aged 20-64)	49.3	50.5	51.3	53.8	55.9	57.1	59.1	58.8	59.3	62.1
Employment rate (% population aged 15-24)	14.5	14.1	15.3	17.0	18.6	19.8	21.7	20.3	21.3	22.5
Employment rate (% population aged 25-29)	47.2	48.5	49.0	51.5	53.8	56.9	58.7	57.4	59.6	62.7
Employment rate (% population aged 25-54)	58.0	59.6	60.3	62.5	64.4	65.9	67.5	66.7	67.4	69.8
Employment rate (% population aged 55-64)	36.2	37.1	38.0	40.9	43.0	44.1	47.1	47.3	46.8	50.4
Employment rate for low skilled 15-64 (ISCED 0-2)	30.0	30.2	31.5	33.9	34.9	34.8	36.8	34.5	33.4	34.8
Employment rate for medium skilled 15-64 (ISCED 3-4)	48.4	49.3	49.5	51.9	54.1	55.4	57.0	57.0	57.9	60.3
Employment rate for high skilled 15-64 (ISCED 5-8)	67.8	68.8	68.8	70.0	72.4	74.2	75.9	75.6	77.0	79.6
Self-employed (% of total employment)	22.3	21.9	22.0	24.0	24.7	22.9	23.0	21.5	18.3	17.9
Part-time employment (% of total employment)	12.0	13.2	12.5	12.7	12.0	10.6	11.2	10.2	8.3	7.6
Temporary employment (% of total employees)	19.0	20.6	21.6	23.1	22.8	22.8	18.1	16.4	17.9	17.2
Activity rate (% population aged 15+)	49.5	50.0	49.9	50.9	51.5	51.7	52.1	51.9	52.2	53.0
Activity rate (% population aged 15-64)	58.7	59.5	59.7	60.9	62.0	62.5	63.2	62.5	63.6	65.1
Activity rate (% population aged 15-24)	28.2	28.4	29.3	29.4	30.4	30.7	31.9	30.1	31.1	30.9
Activity rate (% population aged 25-54)	74.7	75.6	75.4	76.1	77.0	77.6	77.5	76.2	77.4	78.5
Activity rate (% population aged 55-64)	42.8	43.1	43.7	46.2	47.8	49.0	51.1	51.1	51.4	54.8
Unemployment aged 15+ (1,000)	1,684	1,630	1,533	1,370	1,251	1,157	985	998	1,047	890
Unemployment rate (% labor force 15+)	23.4	22.4	21.2	18.7	16.9	15.7	13.4	13.0	13.6	11.7
Youth unemployment rate (% labor force 15-24)	48.4	50.2	47.7	42.1	38.6	35.6	32.1	32.6	31.5	27.1
NEET rate (% population aged 15-24)	25.8	25.4	25.4	23.6	22.5	22.3	21.4	22.3	21.2	19.6
Long-term unemployment rate (% labor force 15+)	18.0	16.4	15.2	13.5	11.8	10.5	8.9	8.6	8.9	7.4
Share of long-term unemployed (% of total)	77.0	73.4	72.0	72.2	69.7	67.4	66.4	66.2	65.5	63.4
Unemployment rate, low educated 15+ (ISCED 0-2)	22.7	22.0	19.8	17.1	15.5	14.7	13.0	13.1	15.3	13.6
Unemployment rate, medium educated 15+ (ISCED 3-4)	25.6	24.5	23.3	20.4	18.5	17.0	14.4	13.8	14.5	12.5
Unemployment rate, high educated 15+ (ISCED 5-8)	18.0	17.1	17.1	16.0	14.6	13.3	11.3	11.1	10.5	8.6
Male										
Total population (1,000)	9,079	9,059	9,020	8,989	8,962	8,925	8,884	8,699	8,624	8,388
Working-age population aged 15+ (1,000)	7,074	7,077	7,095	7,060	7,030	6,995	6,917	7,222	7,197	7,003
Employment aged 15+ (1,000)	3,274	3,342	3,378	3,518	3,616	3,662	3,710	3,880	3,887	3,885
Employment rate (% population aged 15+)	46.3	47.2	47.6	49.8	51.4	52.3	53.6	53.7	54.0	55.5
Employment rate (% population aged 15-64)	53.4	54.3	55.1	57.6	59.9	61.2	63.0	62.8	63.9	66.2
Employment rate (% population aged 20-64)	58.9	60.0	60.6	63.1	65.5	66.9	68.5	68.2	69.3	71.8
Employment rate (% population aged 15-24)	18.7	17.8	19.4	21.4	23.4	24.7	26.4	25.4	26.6	27.6
Employment rate (% population aged 25-29)	54.7	55.7	55.8	58.5	62.2	65.4	66.2	65.2	67.0	70.0
Employment rate (% population aged 25-54)	67.8	69.0	69.3	71.5	73.9	75.3	76.3	75.6	76.6	78.8
Employment rate (% population aged 55-64)	47.4	49.0	50.0	53.1	54.7	56.1	59.6	59.3	59.5	62.8
Employment rate for low skilled 15-64 (ISCED 0-2)	40.1	40.6	41.5	43.9	45.5	45.4	47.9	45.5	44.3	45.5
Employment rate for medium skilled 15-64 (ISCED 3-4)	56.2	57.0	57.3	60.1	62.2	63.8	65.2	65.3	66.8	69.2
Employment rate for high skilled 15-64 (ISCED 5-8)	71.1	72.2	72.5	73.3	76.4	78.3	79.2	79.3	81.3	83.7
Self-employed (% of total employment)	27.8	27.7	28.4	29.6	29.7	28.1	27.8	25.6	23.1	22.7
Part-time employment (% of total employment)	10.6	11.5	11.0	11.1	10.5	9.2	9.9	8.8	6.9	6.3
Temporary employment (% of total employees)	21.1	22.9	23.7	25.6	25.2	25.5	19.2	16.8	18.0	17.5
Activity rate (% population aged 15+)	60.0	60.6	60.2	61.1	61.9	62.0	61.5	61.5	62.0	62.5
Activity rate (% population aged 15-64)	69.6	70.2	70.1	71.1	72.5	73.1	72.7	72.3	73.6	74.7
Activity rate (% population aged 15-24)	35.3	35.3	36.2	36.1	37.4	38.1	38.1	36.7	37.5	37.0
Activity rate (% population aged 25-54)	86.2	86.7	86.0	86.5	88.1	88.3	87.0	85.9	87.2	88.0
Activity rate (% population aged 55-64)	56.9	57.8	58.1	60.7	61.5	62.8	64.6	64.6	65.2	68.3
Unemployment aged 15+ (1,000)	970	947	891	795	734	679	546	562	574	487
Unemployment rate (% labor force 15+)	22.9	22.1	20.9	18.4	16.9	15.6	12.8	12.7	12.9	11.1
Youth unemployment rate (% labor force 15-24)	46.9	49.5	46.3	40.8	37.4	35.1	30.7	30.8	29.2	25.6
NEET rate (% population aged 15-24)	25.0	25.0	25.1	23.1	21.6	22.0	21.0	22.5	21.1	19.2
Long-term unemployment rate (% labor force 15+)	17.4	16.0	15.0	13.3	11.8	10.6	8.5	8.4	8.4	6.9
Share of long-term unemployed (% of total)	76.3	72.3	71.9	72.4	70.0	67.5	66.5	66.2	65.1	62.3
Unemployment rate, low educated 15+ (ISCED 0-2)	24.1	23.4	21.8	19.1	17.4	16.4	13.6	14.4	15.5	14.0
Unemployment rate, medium educated 15+ (ISCED 3-4)	24.2	23.5	22.1	19.5	17.9	16.6	13.4	13.1	13.3	11.5
Unemployment rate, high educated 15+ (ISCED 5-8)	16.2	15.2	15.2	14.2	12.7	11.6	10.0	9.7	9.1	7.6

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Female										
Total population (1,000)	9,318	9,291	9,255	9,234	9,229	9,220	9,194	8,997	8,945	8,718
Working-age population aged 15+ (1,000)	7,471	7,453	7,403	7,348	7,305	7,302	7,214	7,565	7,525	7,285
Employment aged 15+ (1,000)	2,239	2,298	2,331	2,442	2,520	2,569	2,667	2,796	2,756	2,836
Employment rate (% population aged 15+)	30.0	30.8	31.5	33.2	34.5	35.2	37.0	37.0	36.6	38.9
Employment rate (% population aged 15-64)	36.1	37.3	38.4	40.7	42.4	43.5	45.8	45.4	45.6	48.4
Employment rate (% population aged 20-64)	39.9	41.0	42.1	44.4	46.2	47.3	49.7	49.4	49.4	52.5
Employment rate (% population aged 15-24)	10.2	10.2	10.8	12.3	13.3	14.5	16.5	14.9	15.9	17.2
Employment rate (% population aged 25-29)	39.3	40.8	41.5	43.8	44.8	47.6	50.6	49.1	51.7	55.0
Employment rate (% population aged 25-54)	48.4	50.2	51.4	53.5	54.9	56.4	58.7	57.8	58.0	60.7
Employment rate (% population aged 55-64)	25.8	26.1	26.6	29.3	32.0	32.9	35.4	36.1	34.9	38.9
Employment rate for low skilled 15-64 (ISCED 0-2)	22.4	22.5	23.9	26.2	26.7	26.6	28.3	26.3	25.0	26.7
Employment rate for medium skilled 15-64 (ISCED 3-4)	38.7	39.6	39.7	41.5	43.8	44.7	46.7	46.5	46.7	49.4
Employment rate for high skilled 15-64 (ISCED 5-8)	64.9	65.9	65.8	67.2	69.1	70.9	73.3	72.7	73.6	76.3
Self-employed (% of total employment)	14.3	13.4	12.7	16.0	17.5	15.6	16.4	15.8	11.6	11.3
Part-time employment (% of total employment)	14.1	15.6	14.7	15.1	14.1	12.5	13.0	12.2	10.2	9.3
Temporary employment (% of total employees)	16.2	17.6	18.9	19.8	19.6	19.3	16.5	15.8	17.8	16.8
Activity rate (% population aged 15+)	39.5	40.0	40.2	41.1	41.6	41.7	43.1	42.7	42.9	44.5
Activity rate (% population aged 15-64)	47.9	48.7	49.3	50.5	51.4	51.9	53.7	52.8	53.7	55.5
Activity rate (% population aged 15-24)	20.8	21.1	21.8	22.1	22.6	22.8	25.2	23.2	24.4	24.4
Activity rate (% population aged 25-54)	63.5	64.6	64.8	65.7	66.0	66.7	68.1	66.5	67.5	69.1
Activity rate (% population aged 55-64)	29.5	29.3	29.9	32.4	34.8	36.1	38.3	38.5	38.4	42.2
Unemployment aged 15+ (1,000)	714	682	642	575	516	478	439	435	473	404
Unemployment rate (% labor force 15+)	24.2	22.9	21.6	19.1	17.0	15.7	14.1	13.5	14.7	12.5
Youth unemployment rate (% labor force 15-24)	50.9	51.5	50.3	44.6	40.9	36.5	34.3	35.7	35.1	29.6
NEET rate (% population aged 15-24)	26.7	25.9	25.7	24.2	23.5	22.6	21.9	22.1	21.3	20.1
Long-term unemployment rate (% labor force 15+)	18.9	17.1	15.6	13.7	11.8	10.5	9.4	8.9	9.7	8.1
Share of long-term unemployed (% of total)	78.0	74.9	72.0	72.1	69.3	67.1	66.3	66.2	65.9	64.7
Unemployment rate, low educated 15+ (ISCED 0-2)	20.9	20.0	17.0	14.5	13.0	12.4	12.3	11.5	14.8	13.0
Unemployment rate, medium educated 15+ (ISCED 3-4)	28.1	26.4	25.3	22.1	19.4	17.8	16.1	15.1	16.5	14.2
Unemployment rate, high educated 15+ (ISCED 5-8)	19.6	18.8	18.8	17.7	16.3	14.8	12.5	12.3	11.7	9.5

Western Balkans-6: Earnings and unit labor costs

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Wages										
Average monthly gross wages, NCU	.	.	.	.	.	.	.	.	.	.
nominal annual growth in %	2.1	1.0	1.3	2.2	3.1	4.8	7.0	6.1	7.0	11.6
real annual growth in % (CPI deflated)	-2.1	-0.4	0.2	1.6	0.9	2.9	5.4	5.2	3.8	0.1
Average monthly gross wages, EUR	497	506	503	508	529	559	602	648	692	778
Average monthly gross wages, EUR (PPP)	1,056	1,084	1,082	1,079	1,092	1,120	1,190	1,263	1,322	1,419
Average monthly net wages, NCU	.	.	.	.	.	.	.	.	.	.
nominal annual growth in %	.	.	.	.	.	.	.	.	.	.
real annual growth in % (CPI deflated)	.	.	.	.	.	.	.	.	.	.
Average monthly net wages, EUR	.	.	.	.	.	.	.	.	.	.
Average monthly net wages, EUR (PPP)	.	.	.	.	.	.	.	.	.	.
Minimum wages as of January 1st	.	.	.	.	.	.	.	.	.	.
Monthly gross minimum wages, NCU	.	.	.	.	.	.	.	.	.	.
Monthly gross minimum wages, EUR (ER)	.	.	.	.	.	.	.	.	.	.
Monthly gross minimum wages, EUR (PPP)	.	.	.	.	.	.	.	.	.	.
Unit labor costs (ULC)										
Nominal ULC in EUR, annual growth in %	1.7	1.3	-2.1	2.2	4.2	2.9	6.2	12.3	0.4	12.0
Real ULC in EUR, annual growth in %	-1.3	-0.6	-3.4	0.6	1.8	0.6	4.2	10.6	-4.3	1.4

Notes: Labor market data for the Western Balkans show the aggregate of six countries only when data are available for all of them.

Wage data for the Western Balkan are weighted averages with employment data from LFS.

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.

Austria: Labor market indicators

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total										
Total population (1,000)	8,480	8,546	8,643	8,737	8,798	8,841	8,880	8,917	8,956	9,042
Working-age population aged 15+ (1,000)	6,486	6,527	6,555	6,612	6,615	6,630	6,645	6,677	6,719	6,780
Employment aged 15+ (1,000)	4,092	4,098	4,133	4,204	4,245	4,304	4,338	4,282	4,296	4,431
Employment rate (% population aged 15+)	63.1	62.8	63.1	63.6	64.2	64.9	65.3	64.1	63.9	65.4
Employment rate (% population aged 15-64)	71.4	71.1	71.1	71.5	72.2	73.0	73.6	72.4	72.4	74.0
Employment rate (% population aged 20-64)	74.6	74.2	74.3	74.8	75.4	76.2	76.8	75.5	75.6	77.3
Employment rate (% population aged 15-24)	53.1	52.1	51.4	51.0	50.6	51.3	51.6	50.2	50.1	51.9
Employment rate (% population aged 25-29)	80.4	79.2	80.2	80.9	80.4	80.7	81.8	79.4	81.2	82.6
Employment rate (% population aged 25-54)	84.0	83.4	83.5	83.6	84.1	84.5	85.3	83.9	83.8	85.7
Employment rate (% population aged 55-64)	43.8	45.1	46.3	49.2	51.3	54.0	54.5	54.7	55.4	56.4
Employment rate for low skilled 15-64 (ISCED 0-2)	47.3	47.5	47.2	47.3	46.9	48.2	48.2	47.5	47.6	48.2
Employment rate for medium skilled 15-64 (ISCED 3-4)	76.2	73.8	73.5	73.8	74.5	75.4	76.1	74.1	73.8	76.1
Employment rate for high skilled 15-64 (ISCED 5-8)	85.3	83.3	83.3	84.0	84.6	84.5	84.7	84.6	84.7	85.7
Self-employed (% of total employment)	11.3	11.2	11.3	11.1	10.9	10.7	11.0	10.9	10.4	10.8
Part-time employment (% of total employment)	26.7	27.7	28.0	28.5	28.6	28.0	27.8	27.8	29.3	30.4
Temporary employment (% of total employees)	9.2	9.1	9.1	9.0	9.2	9.1	8.7	8.2	8.8	8.8
Activity rate (% population aged 15+)	66.7	66.5	66.9	67.7	67.9	68.2	68.4	67.8	68.2	68.6
Activity rate (% population aged 15-64)	75.5	75.4	75.5	76.2	76.4	76.8	77.1	76.6	77.2	77.8
Activity rate (% population aged 15-24)	58.8	58.0	57.4	57.5	56.1	56.6	56.4	56.1	56.3	57.4
Activity rate (% population aged 25-54)	88.3	88.0	88.0	88.4	88.7	88.5	89.0	88.3	89.0	89.6
Activity rate (% population aged 55-64)	45.5	46.9	48.6	51.7	53.6	56.2	56.4	57.0	58.4	58.6
Unemployment aged 15+ (1,000)	231	245	252	270	248	220	205	244	284	221
Unemployment rate (% labor force 15+)	5.4	5.6	5.7	6.0	5.5	4.9	4.5	5.4	6.2	4.8
Youth unemployment rate (% labor force 15-24)	9.7	10.3	10.6	11.2	9.8	9.4	8.5	10.5	11.0	9.5
NEET rate (% population aged 15-24)	7.3	7.7	7.5	7.7	6.5	6.8	7.1	8.0	8.5	8.1
Long-term unemployment rate (% labor force 15+)	1.3	1.5	1.7	1.9	1.8	1.4	1.1	1.3	2.0	1.2
Share of long-term unemployed (% of total)	24.6	27.2	29.3	32.3	33.4	28.9	25.1	24.6	31.5	25.2
Unemployment rate, low educated 15+ (ISCED 0-2)	10.3	11.4	11.2	12.7	13.0	11.4	10.7	12.3	13.8	11.4
Unemployment rate, medium educated 15+ (ISCED 3-4)	4.7	5.0	5.4	5.8	5.1	4.2	4.0	5.0	5.8	4.1
Unemployment rate, high educated 15+ (ISCED 5-8)	3.5	4.0	3.9	3.6	3.2	3.2	3.0	3.4	4.0	3.2
Male										
Total population (1,000)	4,139	4,178	4,236	4,292	4,325	4,348	4,368	4,388	4,411	4,452
Working-age population aged 15+ (1,000)	3,198	3,221	3,242	3,282	3,279	3,285	3,293	3,311	3,335	3,364
Employment aged 15+ (1,000)	2,171	2,164	2,183	2,223	2,244	2,286	2,304	2,268	2,283	2,344
Employment rate (% population aged 15+)	67.9	67.2	67.3	67.7	68.4	69.6	70.0	68.5	68.4	69.7
Employment rate (% population aged 15-64)	76.0	75.3	75.1	75.4	76.2	77.4	78.0	76.5	76.7	78.0
Employment rate (% population aged 20-64)	79.1	78.3	78.4	78.7	79.4	80.7	81.2	79.5	79.9	81.2
Employment rate (% population aged 15-24)	56.4	54.3	54.0	52.9	52.1	53.9	54.8	52.7	54.6	55.6
Employment rate (% population aged 25-29)	82.2	81.3	81.6	82.1	81.5	84.0	85.3	81.6	83.7	84.5
Employment rate (% population aged 25-54)	87.5	86.6	86.6	86.6	87.2	87.8	88.5	86.9	86.9	88.5
Employment rate (% population aged 55-64)	52.8	54.3	54.1	57.6	60.1	63.5	63.1	62.7	62.7	63.9
Employment rate for low skilled 15-64 (ISCED 0-2)	52.0	51.7	51.5	51.7	51.2	52.9	53.4	52.6	53.2	54.7
Employment rate for medium skilled 15-64 (ISCED 3-4)	79.7	77.5	76.7	77.1	78.0	79.4	80.1	77.8	77.8	79.4
Employment rate for high skilled 15-64 (ISCED 5-8)	88.1	85.4	85.8	86.2	87.3	87.4	87.7	87.4	87.4	88.3
Self-employed (% of total employment)	13.7	13.7	13.7	13.6	13.3	13.0	13.4	13.3	12.7	13.1
Part-time employment (% of total employment)	10.0	10.6	10.8	11.5	11.6	10.9	10.4	10.5	11.5	12.4
Temporary employment (% of total employees)	9.4	9.2	9.1	8.9	9.2	8.8	8.6	8.3	9.0	8.9
Activity rate (% population aged 15+)	71.7	71.4	71.7	72.4	72.7	73.3	73.3	72.5	73.0	73.3
Activity rate (% population aged 15-64)	80.4	80.0	80.1	80.7	81.0	81.6	81.8	81.0	81.9	82.1
Activity rate (% population aged 15-24)	62.3	60.7	60.7	60.2	58.4	59.5	60.3	59.5	61.2	61.4
Activity rate (% population aged 25-54)	92.1	91.5	91.6	91.8	92.3	92.1	92.4	91.4	92.3	92.6
Activity rate (% population aged 55-64)	55.1	56.8	57.4	61.2	63.0	66.0	65.6	65.5	66.4	66.8
Unemployment aged 15+ (1,000)	124	135	142	153	142	121	112	132	152	122
Unemployment rate (% labor force 15+)	5.4	5.9	6.1	6.5	5.9	5.0	4.6	5.5	6.3	4.9
Youth unemployment rate (% labor force 15-24)	9.4	10.6	11.1	12.1	10.8	9.4	9.2	11.3	10.7	9.5
NEET rate (% population aged 15-24)	7.2	8.0	7.7	8.0	7.0	6.6	7.0	9.0	8.5	8.2
Long-term unemployment rate (% labor force 15+)	1.4	1.7	1.9	2.2	2.0	1.5	1.2	1.5	2.1	1.3
Share of long-term unemployed (% of total)	25.9	28.2	31.9	34.2	33.7	29.1	26.3	26.6	32.9	25.7
Unemployment rate, low educated 15+ (ISCED 0-2)	11.6	13.0	12.9	14.7	15.0	13.2	12.5	13.9	15.1	11.6
Unemployment rate, medium educated 15+ (ISCED 3-4)	4.9	5.3	5.8	6.1	5.5	4.3	4.0	5.1	5.6	4.4
Unemployment rate, high educated 15+ (ISCED 5-8)	2.9	3.8	4.0	3.8	3.1	3.1	2.7	3.0	4.0	3.2



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Female										
Total population (1,000)	4,340	4,368	4,406	4,444	4,472	4,493	4,512	4,529	4,545	4,590
Working-age population aged 15+ (1,000)	3,288	3,306	3,313	3,330	3,336	3,345	3,353	3,366	3,384	3,416
Employment aged 15+ (1,000)	1,921	1,934	1,950	1,981	2,001	2,018	2,035	2,014	2,013	2,087
Employment rate (% population aged 15+)	58.4	58.5	58.9	59.5	60.0	60.3	60.7	59.8	59.5	61.1
Employment rate (% population aged 15-64)	66.9	66.9	67.1	67.7	68.2	68.6	69.2	68.3	68.1	70.0
Employment rate (% population aged 20-64)	70.0	70.1	70.2	70.9	71.4	71.7	72.4	71.5	71.3	73.4
Employment rate (% population aged 15-24)	49.7	49.9	48.7	49.0	49.0	48.7	48.4	47.8	45.7	48.2
Employment rate (% population aged 25-29)	78.8	77.2	78.7	79.8	79.2	77.3	78.2	77.1	78.5	80.5
Employment rate (% population aged 25-54)	80.5	80.3	80.3	80.6	81.0	81.3	82.1	80.8	80.7	83.0
Employment rate (% population aged 55-64)	35.2	36.4	38.8	41.1	42.8	44.8	46.0	47.0	48.3	49.0
Employment rate for low skilled 15-64 (ISCED 0-2)	43.9	44.3	44.1	43.8	43.4	44.5	43.9	43.3	42.8	42.5
Employment rate for medium skilled 15-64 (ISCED 3-4)	72.6	69.8	69.9	70.1	70.6	71.1	71.8	70.1	69.3	72.6
Employment rate for high skilled 15-64 (ISCED 5-8)	82.1	81.3	80.7	81.8	82.0	81.6	81.7	81.7	82.0	83.0
Self-employed (% of total employment)	8.6	8.5	8.6	8.4	8.2	8.1	8.3	8.2	7.9	8.3
Part-time employment (% of total employment)	45.5	46.8	47.3	47.6	47.6	47.4	47.5	47.2	49.6	50.7
Temporary employment (% of total employees)	9.0	9.1	9.0	9.1	9.2	9.3	8.8	8.1	8.7	8.6
Activity rate (% population aged 15+)	61.7	61.8	62.2	63.0	63.2	63.3	63.5	63.1	63.4	64.0
Activity rate (% population aged 15-64)	70.7	70.8	70.9	71.7	71.8	72.0	72.3	72.1	72.6	73.4
Activity rate (% population aged 15-24)	55.3	55.4	54.1	54.6	53.7	53.8	52.5	52.8	51.5	53.2
Activity rate (% population aged 25-54)	84.5	84.5	84.4	84.9	85.0	84.8	85.7	85.1	85.6	86.6
Activity rate (% population aged 55-64)	36.4	37.5	40.2	42.7	44.5	46.6	47.4	48.8	50.7	50.5
Unemployment aged 15+ (1,000)	108	110	110	117	106	99	93	111	131	99
Unemployment rate (% labor force 15+)	5.3	5.4	5.3	5.6	5.0	4.7	4.4	5.2	6.1	4.5
Youth unemployment rate (% labor force 15-24)	10.0	9.9	10.0	10.2	8.7	9.4	7.8	9.5	11.2	9.5
NEET rate (% population aged 15-24)	7.4	7.4	7.3	7.4	6.0	7.1	7.3	6.9	8.5	7.9
Long-term unemployment rate (% labor force 15+)	1.2	1.4	1.4	1.6	1.7	1.3	1.0	1.2	1.8	1.1
Share of long-term unemployed (% of total)	23.2	25.9	25.9	29.7	33.1	28.8	23.7	22.1	29.9	24.7
Unemployment rate, low educated 15+ (ISCED 0-2)	9.3	10.0	9.6	10.9	11.1	9.6	8.8	10.6	12.6	11.2
Unemployment rate, medium educated 15+ (ISCED 3-4)	4.6	4.7	5.0	5.4	4.5	4.1	3.9	4.9	6.0	3.8
Unemployment rate, high educated 15+ (ISCED 5-8)	4.2	4.2	3.7	3.4	3.2	3.4	3.4	3.8	4.0	3.2

Austria: Earnings and unit labor costs

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Wages										
Average monthly gross wages, NCU	2,899	2,950	3,010	3,081	3,131	3,219	3,315	3,374	3,475	3,644
nominal annual growth in %	2.1	1.8	2.1	2.3	1.6	2.8	3.0	1.8	3.0	4.9
real annual growth in % (HICP deflated)	0.1	0.1	1.1	1.4	-0.4	0.8	1.5	0.4	0.2	-3.4
Average monthly gross wages, EUR	2,899	2,950	3,010	3,081	3,131	3,219	3,315	3,374	3,475	3,644
Average monthly gross wages, EUR (PPP)	2,624	2,646	2,709	2,754	2,775	2,852	2,920	2,962	3,045	3,253
Average monthly net wages, NCU	.	.	.	.	.	.	.	.	.	.
nominal annual growth in %	.	.	.	.	.	.	.	.	.	.
real annual growth in % (CPI deflated)	.	.	.	.	.	.	.	.	.	.
Average monthly net wages, EUR	.	.	.	.	.	.	.	.	.	.
Average monthly net wages, EUR (PPP)	.	.	.	.	.	.	.	.	.	.
Minimum wages as of January 1st	.	.	.	.	.	.	.	.	.	.
Monthly gross minimum wages, NCU	.	.	.	.	.	.	.	.	.	.
Monthly gross minimum wages, EUR (ER)	.	.	.	.	.	.	.	.	.	.
Monthly gross minimum wages, EUR (PPP)	.	.	.	.	.	.	.	.	.	.
Unit labor costs (ULC)										
Nominal ULC in EUR, annual growth in %	2.6	1.2	1.9	2.1	0.4	1.8	2.3	7.6	0.0	3.2
Real ULC in EUR, annual growth in %	1.0	-0.9	-0.4	0.2	-0.6	-0.1	0.7	4.7	-2.0	-2.0

Notes: Data based on a continuous quarterly survey. Population aged 15+ refers to the population 15-74. The population data are based on registration data (a census is no longer carried out). From 2021, new methodology in line with the Integrated European Social Statistics Regulation (IESS); growth rates are not fully comparable before and after 2021. Education groups refer to ISCED 1997 until 2013, ISCED 2011 from 2014.

Average monthly gross wages refer to National Accounts (gross wages per employee, domestic concept, divided by 12 months).

In Austria 'minimum wages' are set by sectoral collective agreements (no national minimum wage).

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.

Bulgaria: Labor market indicators

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total										
Total population (1,000)	7,265	7,224	7,178	7,128	7,076	7,025	6,976	6,934	6,878	6,465
Working-age population aged 15+ (1,000)	5,649	5,609	5,563	5,510	5,455	5,398	5,348	5,298	5,253	5,193
Employment aged 15+ (1,000)	2,932	2,978	3,029	3,014	3,146	3,148	3,229	3,117	3,073	3,145
Employment rate (% population aged 15+)	51.9	53.1	54.4	54.7	57.7	58.3	60.4	58.8	58.5	60.6
Employment rate (% population aged 15-64)	59.5	61.0	62.9	63.4	66.9	67.7	70.1	68.5	68.1	70.4
Employment rate (% population aged 20-64)	63.5	65.1	67.1	67.7	71.3	72.4	75.0	73.4	73.2	75.7
Employment rate (% population aged 15-24)	21.2	20.7	20.3	19.8	22.9	20.7	21.8	18.8	16.8	19.8
Employment rate (% population aged 25-29)	61.4	64.2	66.6	64.7	69.0	69.9	72.9	70.4	69.0	73.4
Employment rate (% population aged 25-54)	73.3	74.5	76.1	76.2	79.4	80.1	82.3	80.5	80.4	82.3
Employment rate (% population aged 55-64)	47.4	50.0	53.0	54.5	58.2	60.7	64.4	64.2	64.8	68.2
Employment rate for low skilled 15-64 (ISCED 0-2)	27.8	29.7	29.6	29.6	33.4	34.8	38.4	35.2	34.0	36.9
Employment rate for medium skilled 15-64 (ISCED 3-4)	63.6	65.2	67.2	67.8	71.7	72.4	74.6	72.7	71.5	73.3
Employment rate for high skilled 15-64 (ISCED 5-8)	80.7	81.7	84.0	84.2	85.5	86.1	88.5	87.6	88.7	89.9
Self-employed (% of total employment)	11.4	11.8	11.4	11.1	11.1	10.9	10.2	10.4	10.4	10.5
Part-time employment (% of total employment)	2.6	2.6	2.4	2.2	2.4	2.0	2.1	2.0	1.7	1.8
Temporary employment (% of total employees)	5.6	5.3	4.4	4.2	4.5	4.1	4.4	3.6	3.5	4.0
Activity rate (% population aged 15+)	59.6	59.9	59.9	59.2	61.5	61.5	63.0	62.0	61.8	63.3
Activity rate (% population aged 15-64)	68.4	69.0	69.3	68.7	71.3	71.5	73.2	72.2	72.0	73.6
Activity rate (% population aged 15-24)	29.6	27.2	26.0	23.9	26.3	23.7	23.9	21.9	20.0	22.2
Activity rate (% population aged 25-54)	83.1	83.3	83.2	82.0	84.3	84.3	85.8	84.7	84.7	85.9
Activity rate (% population aged 55-64)	54.1	56.6	58.0	58.8	61.8	63.7	66.9	67.1	67.9	70.8
Unemployment aged 15+ (1,000)	436	385	305	247	207	173	143	169	171	140
Unemployment rate (% labor force 15+)	13.0	11.4	9.2	7.6	6.2	5.2	4.2	5.1	5.3	4.3
Youth unemployment rate (% labor force 15-24)	28.4	23.8	21.7	17.2	12.9	12.7	8.9	14.2	15.9	10.7
NEET rate (% population aged 15-24)	21.6	20.2	19.3	18.2	15.3	15.0	13.7	14.4	14.0	12.5
Long-term unemployment rate (% labor force 15+)	7.4	6.9	5.6	4.5	3.4	3.1	2.4	2.3	2.6	2.3
Share of long-term unemployed (% of total)	57.4	60.5	61.3	59.2	55.1	58.8	57.1	45.4	49.4	53.7
Unemployment rate, low educated 15+ (ISCED 0-2)	29.9	28.3	25.1	22.2	18.1	15.5	13.1	13.9	16.0	12.9
Unemployment rate, medium educated 15+ (ISCED 3-4)	12.3	10.7	8.3	6.7	5.3	4.5	3.4	4.7	4.9	4.0
Unemployment rate, high educated 15+ (ISCED 5-8)	6.4	5.1	4.0	3.4	3.0	2.3	1.9	2.5	2.0	1.6
Male										
Total population (1,000)	3,535	3,513	3,490	3,464	3,436	3,409	3,383	3,360	3,331	3,109
Working-age population aged 15+ (1,000)	2,785	2,766	2,743	2,717	2,689	2,661	2,636	2,611	2,589	2,562
Employment aged 15+ (1,000)	1,545	1,575	1,606	1,606	1,680	1,683	1,730	1,673	1,647	1,676
Employment rate (% population aged 15+)	55.5	56.9	58.5	59.1	62.5	63.2	65.6	64.1	63.6	65.4
Employment rate (% population aged 15-64)	62.1	63.9	65.9	66.7	70.6	71.5	74.1	72.5	72.0	73.8
Employment rate (% population aged 20-64)	66.4	68.1	70.4	71.3	75.3	76.5	79.3	77.8	77.3	79.5
Employment rate (% population aged 15-24)	24.0	24.0	24.0	23.1	26.5	24.2	25.0	21.7	20.3	23.4
Employment rate (% population aged 25-29)	67.0	69.4	71.5	71.7	77.7	77.6	80.9	78.4	75.0	79.0
Employment rate (% population aged 25-54)	75.0	76.4	78.5	79.2	82.8	83.5	86.0	84.4	83.9	85.3
Employment rate (% population aged 55-64)	51.9	54.5	56.8	58.3	62.5	65.4	69.2	69.4	69.9	73.2
Employment rate for low skilled 15-64 (ISCED 0-2)	31.7	34.3	34.6	35.4	40.1	41.7	46.2	42.7	41.3	43.2
Employment rate for medium skilled 15-64 (ISCED 3-4)	67.2	69.1	71.5	72.3	76.2	77.0	78.9	77.7	76.4	78.1
Employment rate for high skilled 15-64 (ISCED 5-8)	83.1	84.5	86.7	86.7	87.9	89.1	91.7	89.9	90.7	91.4
Self-employed (% of total employment)	14.4	14.9	14.4	13.7	13.8	13.7	12.8	13.1	12.9	13.0
Part-time employment (% of total employment)	2.1	2.3	2.0	1.9	2.1	1.8	1.8	1.7	1.4	1.6
Temporary employment (% of total employees)	6.2	5.7	4.8	4.5	5.0	4.4	4.7	4.0	3.9	4.3
Activity rate (% population aged 15+)	64.4	64.9	64.9	64.3	66.7	67.1	68.7	67.8	67.3	68.5
Activity rate (% population aged 15-64)	72.2	72.9	73.2	72.7	75.4	75.9	77.6	76.8	76.2	77.3
Activity rate (% population aged 15-24)	34.3	31.5	30.5	28.0	30.5	27.9	27.6	25.3	24.2	26.2
Activity rate (% population aged 25-54)	85.7	86.2	86.4	85.7	88.0	88.3	90.0	89.1	88.4	89.0
Activity rate (% population aged 55-64)	59.9	62.5	62.7	63.4	66.8	69.1	72.0	72.6	73.5	76.2
Unemployment aged 15+ (1,000)	250	222	174	142	114	102	82	96	96	78
Unemployment rate (% labor force 15+)	13.9	12.3	9.8	8.1	6.4	5.7	4.5	5.4	5.5	4.5
Youth unemployment rate (% labor force 15-24)	30.2	23.8	21.2	17.4	13.3	13.2	9.4	14.6	16.1	(10.7)
NEET rate (% population aged 15-24)	22.1	19.2	18.6	17.1	13.6	13.3	12.7	13.7	12.7	11.7
Long-term unemployment rate (% labor force 15+)	8.1	7.7	6.1	4.8	3.6	3.4	2.6	2.6	2.7	2.5
Share of long-term unemployed (% of total)	58.4	62.6	62.4	59.2	56.7	60.4	57.9	47.7	50.1	55.3
Unemployment rate, low educated 15+ (ISCED 0-2)	30.3	28.5	24.3	21.4	16.4	15.0	12.2	12.6	14.6	12.0
Unemployment rate, medium educated 15+ (ISCED 3-4)	12.8	10.8	8.5	6.8	5.3	4.8	3.7	4.9	4.9	3.9
Unemployment rate, high educated 15+ (ISCED 5-8)	6.5	5.5	4.0	3.5	3.3	2.5	1.8	2.6	(2.0)	(2.0)



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Female										
Total population (1,000)	3,730	3,710	3,688	3,664	3,640	3,616	3,593	3,574	3,547	3,356
Working-age population aged 15+ (1,000)	2,865	2,843	2,820	2,794	2,766	2,738	2,712	2,687	2,664	2,631
Employment aged 15+ (1,000)	1,388	1,403	1,423	1,408	1,466	1,465	1,499	1,443	1,426	1,469
Employment rate (% population aged 15+)	48.4	49.4	50.5	50.4	53.0	53.5	55.3	53.7	53.5	55.8
Employment rate (% population aged 15-64)	56.8	58.2	59.8	60.0	63.1	63.9	66.0	64.3	64.2	66.8
Employment rate (% population aged 20-64)	60.7	62.0	63.8	64.0	67.3	68.3	70.7	68.9	68.9	71.8
Employment rate (% population aged 15-24)	18.4	17.3	16.5	16.3	19.1	17.0	18.4	15.7	13.1	16.2
Employment rate (% population aged 25-29)	55.4	58.8	61.4	57.2	59.9	61.7	64.4	62.1	62.6	67.6
Employment rate (% population aged 25-54)	71.5	72.5	73.6	73.0	75.8	76.5	78.3	76.4	76.7	79.2
Employment rate (% population aged 55-64)	43.4	46.0	49.5	51.0	54.3	56.4	59.9	59.4	60.1	63.5
Employment rate for low skilled 15-64 (ISCED 0-2)	23.7	24.8	24.2	23.4	26.2	27.3	30.1	27.2	26.5	30.4
Employment rate for medium skilled 15-64 (ISCED 3-4)	59.2	60.3	61.9	62.3	66.1	66.9	69.3	66.7	65.5	67.4
Employment rate for high skilled 15-64 (ISCED 5-8)	79.1	79.9	82.3	82.6	83.9	84.1	86.4	86.0	87.3	88.8
Self-employed (% of total employment)	8.1	8.3	7.9	8.1	7.9	7.6	7.2	7.3	7.5	7.7
Part-time employment (% of total employment)	3.2	3.0	2.8	2.5	2.7	2.3	2.4	2.4	2.1	2.0
Temporary employment (% of total employees)	5.1	4.9	4.1	3.7	4.0	3.8	4.0	3.2	3.0	3.6
Activity rate (% population aged 15+)	54.9	55.1	55.1	54.2	56.4	56.1	57.5	56.4	56.4	58.2
Activity rate (% population aged 15-64)	64.5	65.0	65.4	64.6	67.1	67.0	68.7	67.6	67.7	69.7
Activity rate (% population aged 15-24)	24.7	22.6	21.2	19.6	21.8	19.3	20.0	18.2	15.5	18.1
Activity rate (% population aged 25-54)	80.3	80.2	79.8	78.2	80.5	80.2	81.4	80.1	80.7	82.5
Activity rate (% population aged 55-64)	49.0	51.4	53.8	54.6	57.3	58.7	62.2	62.0	62.7	65.7
Unemployment aged 15+ (1,000)	187	163	131	106	93	72	61	72	76	62
Unemployment rate (% labor force 15+)	11.8	10.4	8.4	7.0	6.0	4.7	3.9	4.8	5.0	4.1
Youth unemployment rate (% labor force 15-24)	25.7	23.7	22.2	17.0	12.5	11.8	(8.3)	13.8	(15.4)	(10.6)
NEET rate (% population aged 15-24)	21.1	21.4	20.0	19.4	17.2	16.8	14.8	15.2	15.4	13.4
Long-term unemployment rate (% labor force 15+)	6.6	6.0	5.0	4.1	3.2	2.6	2.2	2.0	2.4	2.1
Share of long-term unemployed (% of total)	56.0	57.7	59.8	59.0	53.1	56.5	56.1	42.2	48.6	51.8
Unemployment rate, low educated 15+ (ISCED 0-2)	29.3	28.1	26.3	23.5	20.7	16.4	14.5	16.1	18.4	14.3
Unemployment rate, medium educated 15+ (ISCED 3-4)	11.7	10.4	8.0	6.6	5.3	4.1	3.0	4.4	4.9	4.2
Unemployment rate, high educated 15+ (ISCED 5-8)	6.4	4.8	3.9	3.3	2.9	2.2	1.9	2.4	(1.9)	(1.4)

Bulgaria: Earnings and unit labor costs

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Wages										
Average monthly gross wages, NCU	775	822	878	948	1,037	1,146	1,267	1,391	1,561	1,761
nominal annual growth in %	6.0	6.0	6.8	8.0	9.4	10.5	10.6	9.7	12.3	12.8
real annual growth in % (HICP deflated)	5.1	7.5	7.0	8.9	7.2	7.5	7.2	7.9	8.7	-2.2
Average monthly gross wages, EUR	396	420	449	485	530	586	648	711	798	900
Average monthly gross wages, EUR (PPP)	823	891	930	988	1,053	1,143	1,219	1,325	1,439	1,503
Average monthly net wages, NCU	.	.	.	.	.	.	.	.	.	.
nominal annual growth in %	.	.	.	.	.	.	.	.	.	.
real annual growth in % (CPI deflated)	.	.	.	.	.	.	.	.	.	.
Average monthly net wages, EUR	.	.	.	.	.	.	.	.	.	.
Average monthly net wages, EUR (PPP)	.	.	.	.	.	.	.	.	.	.
Minimum wages as of January 1st	.	.	.	.	.	.	.	.	.	.
Monthly gross minimum wages, NCU	310	340	360	420	460	510	560	610	650	710
Monthly gross minimum wages, EUR (ER)	159	174	184	215	235	261	286	312	332	363
Monthly gross minimum wages, EUR (PPP)	312	352	370	432	459	503	534	568	598	618
Unit labor costs (ULC)										
Nominal ULC in EUR, annual growth in %	6.6	6.6	5.1	4.3	11.1	7.7	9.0	10.3	3.7	11.1
Real ULC in EUR, annual growth in %	6.6	5.2	2.1	1.0	6.0	3.3	3.6	5.8	-3.2	-4.4

Notes: Data based on a continuous quarterly survey. Population aged 15+ refers to the population 15-74. Census 2011 was applied throughout for LFS data; population data based on census 2011 until 2021 and on census 2021 from 2022 onwards. From 2021, new methodology in line with the Integrated European Social Statistics Regulation (IESS); growth rates are not fully comparable before and after 2021. Education groups refer to ISCED 1997 until 2013, ISCED 2011 from 2014.

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.

Croatia: Labor market indicators

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total										
Total population (1,000)	4,254	4,236	4,208	4,172	4,130	4,091	4,067	4,047	3,949	3,857
Working-age population aged 15+ (1,000)	3,258	3,243	3,210	3,185	3,162	3,142	3,125	3,113	3,104	3,099
Employment aged 15+ (1,000)	1,518	1,562	1,582	1,587	1,623	1,651	1,675	1,652	1,675	1,703
Employment rate (% population aged 15+)	46.6	48.2	49.3	49.8	51.3	52.5	53.6	53.1	54.0	54.9
Employment rate (% population aged 15-64)	52.5	54.6	56.0	56.9	58.9	60.6	62.1	62.0	63.4	64.9
Employment rate (% population aged 20-64)	57.2	59.2	60.6	61.4	63.6	65.2	66.7	66.9	68.2	69.7
Employment rate (% population aged 15-24)	14.9	18.3	19.1	25.6	25.9	25.6	27.7	25.6	25.8	28.7
Employment rate (% population aged 25-29)	61.5	64.5	66.0	66.2	68.7	70.9	73.3	71.3	71.9	75.2
Employment rate (% population aged 25-54)	68.3	71.2	72.3	72.4	74.9	77.0	78.3	78.3	79.4	80.6
Employment rate (% population aged 55-64)	37.8	36.2	39.2	38.1	40.4	42.8	44.0	45.5	48.6	50.1
Employment rate for low skilled 15-64 (ISCED 0-2)	27.5	26.7	28.0	27.4	24.4	25.8	26.7	25.3	27.4	26.2
Employment rate for medium skilled 15-64 (ISCED 3-4)	55.5	57.0	58.0	59.5	62.6	63.9	65.5	64.9	66.1	68.0
Employment rate for high skilled 15-64 (ISCED 5-8)	75.7	78.4	78.7	79.7	81.5	81.5	81.8	83.4	84.1	84.7
Self-employed (% of total employment)	16.2	14.0	13.6	12.4	11.0	10.7	11.0	11.3	11.5	12.2
Part-time employment (% of total employment)	6.2	6.0	6.8	6.4	5.5	5.7	5.4	5.2	5.4	5.4
Temporary employment (% of total employees)	14.5	16.9	20.3	22.2	20.7	19.9	18.2	15.4	13.6	14.7
Activity rate (% population aged 15+)	56.3	58.2	58.8	57.4	57.8	57.4	57.4	57.4	58.4	59.1
Activity rate (% population aged 15-64)	63.7	66.1	66.9	65.6	66.4	66.3	66.5	67.1	68.7	69.9
Activity rate (% population aged 15-24)	29.9	33.6	33.2	37.2	35.7	33.5	33.2	32.5	33.0	35.0
Activity rate (% population aged 25-54)	80.8	84.1	84.5	82.0	83.3	83.4	83.6	83.9	85.3	86.0
Activity rate (% population aged 55-64)	41.9	41.0	44.3	42.2	43.6	44.8	45.5	47.8	50.8	52.7
Unemployment aged 15+ (1,000)	318	327	306	240	205	152	119	135	138	128
Unemployment rate (% labor force 15+)	17.3	17.3	16.2	13.1	11.2	8.5	6.6	7.5	7.6	7.0
Youth unemployment rate (% labor force 15-24)	50.0	45.5	42.3	31.3	27.4	23.7	16.6	21.1	21.9	18.0
NEET rate (% population aged 15-24)	19.6	19.3	18.1	16.9	15.4	13.6	11.8	12.2	12.7	11.9
Long-term unemployment rate (% labor force 15+)	11.0	10.1	10.3	6.8	4.7	3.5	2.5	2.2	2.8	2.5
Share of long-term unemployed (% of total)	63.7	58.4	63.6	51.5	42.1	41.6	37.2	28.9	37.0	35.8
Unemployment rate, low educated 15+ (ISCED 0-2)	21.5	25.7	21.5	17.4	19.8	11.6	9.3	10.2	10.6	11.9
Unemployment rate, medium educated 15+ (ISCED 3-4)	18.7	18.7	18.1	14.6	11.7	9.2	6.9	8.2	8.5	7.2
Unemployment rate, high educated 15+ (ISCED 5-8)	11.3	9.6	9.2	7.8	7.1	6.0	5.3	5.4	4.9	5.3
Male										
Total population (1,000)	2,053	2,044	2,031	2,014	1,994	1,977	1,972	1,968	1,906	1,861
Working-age population aged 15+ (1,000)	1,602	1,596	1,579	1,567	1,556	1,547	1,540	1,535	1,531	1,529
Employment aged 15+ (1,000)	818	847	854	858	880	891	905	897	905	915
Employment rate (% population aged 15+)	51.1	53.1	54.1	54.8	56.5	57.6	58.8	58.5	59.1	59.8
Employment rate (% population aged 15-64)	56.5	59.1	60.3	61.4	63.8	65.4	67.0	67.1	68.2	69.5
Employment rate (% population aged 20-64)	61.6	64.2	65.4	66.2	68.9	70.3	72.0	72.5	73.4	74.5
Employment rate (% population aged 15-24)	17.4	21.2	22.4	28.9	29.8	30.5	33.2	31.9	31.1	34.1
Employment rate (% population aged 25-29)	64.2	69.0	71.3	70.3	73.2	77.8	78.9	78.0	78.2	83.2
Employment rate (% population aged 25-54)	71.6	74.5	75.4	76.3	78.7	80.4	81.7	82.0	83.4	84.4
Employment rate (% population aged 55-64)	45.0	45.8	48.2	45.1	49.0	51.0	52.6	53.4	55.1	55.7
Employment rate for low skilled 15-64 (ISCED 0-2)	32.3	30.3	32.2	33.0	29.8	30.5	31.3	31.1	34.2	31.0
Employment rate for medium skilled 15-64 (ISCED 3-4)	59.5	62.5	63.1	64.2	68.1	69.8	71.3	70.7	72.1	74.2
Employment rate for high skilled 15-64 (ISCED 5-8)	76.5	78.4	79.0	81.0	82.9	82.2	83.3	85.7	84.1	85.0
Self-employed (% of total employment)	19.2	17.4	17.3	15.7	13.3	12.8	13.8	14.7	15.2	15.9
Part-time employment (% of total employment)	5.3	4.8	5.6	5.2	4.4	4.3	3.8	4.0	4.7	4.5
Temporary employment (% of total employees)	14.8	16.7	20.5	22.0	20.7	19.4	17.0	14.4	11.8	12.5
Activity rate (% population aged 15+)	62.1	63.5	64.0	62.6	63.2	62.4	62.7	63.2	63.8	63.8
Activity rate (% population aged 15-64)	68.9	70.9	71.6	70.3	71.5	70.9	71.5	72.6	73.6	74.1
Activity rate (% population aged 15-24)	34.7	38.5	38.2	41.9	40.9	37.9	38.8	39.2	38.4	40.0
Activity rate (% population aged 25-54)	84.7	86.6	86.9	85.2	86.7	86.4	86.9	88.1	89.3	89.5
Activity rate (% population aged 55-64)	51.0	52.1	54.9	50.7	52.8	53.4	54.2	55.7	57.4	58.3
Unemployment aged 15+ (1,000)	176	167	157	123	105	74	60	73	71	60
Unemployment rate (% labor force 15+)	17.7	16.5	15.6	12.5	10.6	7.7	6.2	7.5	7.3	6.2
Youth unemployment rate (% labor force 15-24)	49.9	44.9	41.4	31.3	27.1	19.6	14.6	18.7	18.9	14.8
NEET rate (% population aged 15-24)	20.6	21.9	20.5	19.0	15.4	13.2	11.4	12.2	12.1	12.2
Long-term unemployment rate (% labor force 15+)	14.9	11.2	12.9	9.3	5.0	4.0	3.0	3.6	3.8	2.7
Share of long-term unemployed (% of total)	84.0	68.0	82.9	73.9	46.7	52.5	48.1	47.5	52.7	43.4
Unemployment rate, low educated 15+ (ISCED 0-2)	22.8	24.9	21.4	17.0	19.5	(11.8)	(10.8)	(10.0)	(9.5)	(10.1)
Unemployment rate, medium educated 15+ (ISCED 3-4)	18.9	17.3	16.6	13.7	10.5	7.9	6.2	8.1	7.8	6.0
Unemployment rate, high educated 15+ (ISCED 5-8)	10.5	8.9	9.2	6.8	7.3	5.4	(4.4)	4.9	4.7	5.2



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Female										
Total population (1,000)	2,201	2,192	2,177	2,158	2,136	2,114	2,095	2,079	2,043	1,996
Working-age population aged 15+ (1,000)	1,657	1,647	1,631	1,618	1,605	1,594	1,585	1,578	1,573	1,570
Employment aged 15+ (1,000)	700	715	728	729	743	759	770	755	770	788
Employment rate (% population aged 15+)	42.3	43.4	44.6	45.0	46.3	47.6	48.5	47.8	48.9	50.2
Employment rate (% population aged 15-64)	48.5	50.0	51.6	52.4	54.0	55.9	57.1	56.9	58.6	60.4
Employment rate (% population aged 20-64)	52.8	54.2	55.9	56.6	58.3	60.1	61.5	61.3	62.9	65.0
Employment rate (% population aged 15-24)	12.4	15.3	15.7	22.2	21.8	20.3	21.9	19.0	20.0	23.0
Employment rate (% population aged 25-29)	58.7	59.8	60.5	62.0	64.2	63.8	67.5	64.3	65.5	66.8
Employment rate (% population aged 25-54)	64.9	67.9	69.3	68.5	71.1	73.5	74.9	74.5	75.4	76.6
Employment rate (% population aged 55-64)	31.0	27.3	30.7	31.6	32.3	35.2	35.9	38.2	42.7	45.0
Employment rate for low skilled 15-64 (ISCED 0-2)	23.7	23.8	24.8	22.9	19.9	21.7	22.9	20.4	21.2	21.8
Employment rate for medium skilled 15-64 (ISCED 3-4)	50.9	50.6	52.0	54.0	56.2	57.0	58.4	57.9	59.1	60.7
Employment rate for high skilled 15-64 (ISCED 5-8)	75.1	78.3	78.4	78.7	80.4	81.0	80.8	81.7	84.1	84.5
Self-employed (% of total employment)	12.8	9.9	9.3	8.4	8.3	8.2	7.7	7.3	7.0	8.0
Part-time employment (% of total employment)	7.3	7.5	8.2	7.9	6.7	7.3	7.4	6.7	6.2	6.5
Temporary employment (% of total employees)	14.1	17.2	20.1	22.5	20.8	20.6	19.5	16.5	15.5	17.1
Activity rate (% population aged 15+)	50.8	53.1	53.7	52.3	52.6	52.5	52.3	51.8	53.2	54.5
Activity rate (% population aged 15-64)	58.5	61.3	62.3	60.9	61.4	61.7	61.5	61.6	63.7	65.6
Activity rate (% population aged 15-24)	24.8	28.5	28.0	32.3	30.2	28.8	27.3	25.3	27.2	29.7
Activity rate (% population aged 25-54)	76.8	81.5	82.1	78.8	79.9	80.3	80.2	79.8	81.2	82.5
Activity rate (% population aged 55-64)	33.4	30.6	34.4	34.2	35.1	36.7	37.5	40.4	44.6	47.5
Unemployment aged 15+ (1,000)	142	160	149	117	101	78	59	62	67	68
Unemployment rate (% labor force 15+)	16.8	18.3	16.9	13.8	11.9	9.4	7.2	7.6	8.0	7.9
Youth unemployment rate (% labor force 15-24)	50.1	46.4	43.7	31.3	27.8	29.4	19.9	25.0	26.4	22.7
NEET rate (% population aged 15-24)	18.6	16.7	15.6	14.6	15.3	14.0	12.1	12.3	13.3	11.6
Long-term unemployment rate (% labor force 15+)	11.1	11.0	10.3	6.6	4.0	3.7	2.2	1.7	3.0	2.2
Share of long-term unemployed (% of total)	65.8	60.1	61.0	47.6	33.5	40.0	30.1	22.4	37.3	28.2
Unemployment rate, low educated 15+ (ISCED 0-2)	19.9	26.5	21.7	17.9	20.3	(11.4)	(7.5)	(10.4)	(12.1)	(14.0)
Unemployment rate, medium educated 15+ (ISCED 3-4)	18.5	20.6	20.0	15.9	13.4	10.8	7.9	8.5	9.4	8.8
Unemployment rate, high educated 15+ (ISCED 5-8)	11.9	10.2	9.3	8.6	7.0	6.5	5.9	5.7	5.0	5.4

Croatia: Earnings and unit labor costs

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Wages										
Average monthly gross wages, NCU	1,054	1,056	1,069	1,029	1,069	1,121	1,163	1,223	1,274	1,380
nominal annual growth in %	0.8	0.2	1.3	1.9	3.9	4.9	3.8	2.5	4.2	8.3
real annual growth in % (HICP deflated)	-1.4	0.4	1.8	3.0	2.8	3.3	3.0	2.4	1.6	-2.3
Average monthly gross wages, EUR	1,048	1,042	1,058	1,029	1,079	1,139	1,182	1,223	1,275	1,380
Average monthly gross wages, EUR (PPP)	1,602	1,608	1,649	1,592	1,664	1,730	1,799	1,909	1,954	2,073
Average monthly net wages, NCU	732	734	758	755	794	828	857	898	946	1,016
nominal annual growth in %	0.7	0.3	3.2	1.6	5.3	4.3	3.4	2.7	5.4	7.4
real annual growth in % (CPI deflated)	-1.5	0.5	3.7	2.4	4.2	2.8	2.6	2.6	2.7	-3.1
Average monthly net wages, EUR	728	725	750	755	802	841	870	897	947	1,016
Average monthly net wages, EUR (PPP)	1,113	1,119	1,169	1,168	1,236	1,278	1,325	1,401	1,451	1,526
Minimum wages as of January 1st	.	.	.	.	.	.	.	.	.	.
Monthly gross minimum wages, NCU	396	401	402	414	435	457	498	539	564	622
Monthly gross minimum wages, EUR (ER)	395	396	396	408	434	463	506	546	563	624
Monthly gross minimum wages, EUR (PPP)	562	578	587	604	634	657	710	763	790	862
Unit labor costs (ULC)										
Nominal ULC in EUR, annual growth in %	-2.1	2.7	0.3	-0.2	3.7	4.4	1.8	8.8	-7.2	3.5
Real ULC in EUR, annual growth in %	-2.8	2.6	0.3	-0.2	2.5	2.3	-0.2	8.0	-8.6	-5.5

Notes: Data based on a continuous quarterly survey. Population aged 15+ refers to the population 15-74. Census 2011 was applied throughout for LFS data; population data based on census 2011 until 2020 and on census 2021 from 2021 onwards. From 2021, new methodology in line with the Integrated European Social Statistics Regulation (IESS); growth rates are not fully comparable before and after 2021. Education groups refer to ISCED 1997 until 2013, ISCED 2011 from 2014.

From 2016 wage data based on tax administration data, survey data before. From 2020 employees expressed in full-time equivalents (FTE), before that employees receiving compensation, except those working less than 80 hours per month. In both cases growth rates comparable. Euro-introduction on 1 Jan 2023: Time series in HRK (NCU) have been divided by the conversion factor 7.5345 (HRK per EUR) to EUR-HRK.

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.

Hungary: Labor market indicators

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total										
Total population (1,000)	9,893	9,866	9,843	9,814	9,788	9,776	9,771	9,750	9,710	9,643
Working-age population aged 15+ (1,000)	7,610	7,573	7,538	7,508	7,460	7,432	7,419	7,409	7,359	7,327
Employment aged 15+ (1,000)	3,893	4,101	4,211	4,352	4,421	4,470	4,512	4,461	4,635	4,696
Employment rate (% population aged 15+)	51.2	54.1	55.9	58.0	59.3	60.1	60.8	60.2	63.0	64.1
Employment rate (% population aged 15-64)	58.1	61.8	63.9	66.5	68.2	69.2	70.1	69.7	73.1	74.4
Employment rate (% population aged 20-64)	63.0	66.7	68.9	71.5	73.3	74.4	75.3	75.0	78.8	80.2
Employment rate (% population aged 15-24)	20.1	23.5	25.7	28.1	29.0	29.0	28.5	27.2	27.5	27.6
Employment rate (% population aged 25-29)	69.0	73.0	73.6	75.5	77.5	77.6	77.8	76.3	81.3	83.0
Employment rate (% population aged 25-54)	75.7	79.2	80.6	82.2	83.7	84.1	84.4	82.9	87.0	88.1
Employment rate (% population aged 55-64)	37.9	41.8	45.3	49.8	51.7	54.4	56.7	59.6	62.8	65.6
Employment rate for low skilled 15-64 (ISCED 0-2)	26.9	31.5	33.9	36.6	38.5	39.4	39.4	37.7	39.2	38.7
Employment rate for medium skilled 15-64 (ISCED 3-4)	63.3	66.7	68.8	71.5	73.1	73.7	74.8	74.3	77.1	78.6
Employment rate for high skilled 15-64 (ISCED 5-8)	78.8	80.8	82.1	84.4	84.3	85.1	85.2	85.2	89.9	91.4
Self-employed (% of total employment)	10.9	10.6	10.6	10.4	10.1	10.2	10.6	11.8	12.2	12.2
Part-time employment (% of total employment)	6.8	6.4	6.0	5.2	4.8	4.8	5.2	5.7	5.4	5.1
Temporary employment (% of total employees)	10.9	10.8	11.4	9.7	8.8	7.3	6.6	5.9	5.9	5.5
Activity rate (% population aged 15+)	57.0	58.7	59.9	61.1	61.8	62.5	63.0	62.9	65.6	66.5
Activity rate (% population aged 15-64)	64.7	67.0	68.6	70.1	71.2	71.9	72.6	72.8	76.2	77.2
Activity rate (% population aged 15-24)	27.4	29.5	31.0	32.3	32.4	32.3	32.2	31.2	31.8	30.8
Activity rate (% population aged 25-54)	83.3	85.0	85.8	86.1	86.9	87.0	87.0	86.2	90.1	91.1
Activity rate (% population aged 55-64)	41.2	44.6	48.1	52.1	53.6	55.8	58.0	61.4	64.7	67.7
Unemployment aged 15+ (1,000)	441	343	308	235	192	172	160	198	196	176
Unemployment rate (% labor force 15+)	10.2	7.7	6.8	5.1	4.2	3.7	3.4	4.3	4.1	3.6
Youth unemployment rate (% labor force 15-24)	26.6	20.4	17.3	12.9	10.7	10.2	11.4	12.7	13.5	10.6
NEET rate (% population aged 15-24)	15.5	13.6	11.6	11.0	11.0	10.7	11.0	11.7	10.6	9.9
Long-term unemployment rate (% labor force 15+)	4.9	3.7	3.1	2.4	1.7	1.4	1.1	1.1	1.3	1.2
Share of long-term unemployed (% of total)	48.6	47.5	45.6	46.5	40.4	38.5	31.9	26.2	31.2	34.2
Unemployment rate, low educated 15+ (ISCED 0-2)	23.7	18.5	17.4	13.2	11.1	10.3	9.7	10.9	11.0	11.6
Unemployment rate, medium educated 15+ (ISCED 3-4)	10.0	7.4	6.4	4.8	3.8	3.3	3.0	4.1	4.0	3.3
Unemployment rate, high educated 15+ (ISCED 5-8)	3.9	3.1	2.4	1.8	1.6	1.5	1.5	1.8	1.7	1.5
Male										
Total population (1,000)	4,710	4,700	4,692	4,682	4,673	4,674	4,678	4,672	4,654	4,634
Working-age population aged 15+ (1,000)	3,668	3,654	3,641	3,632	3,613	3,605	3,606	3,608	3,584	3,568
Employment aged 15+ (1,000)	2,104	2,221	2,284	2,363	2,417	2,446	2,480	2,461	2,472	2,492
Employment rate (% population aged 15+)	57.4	60.8	62.7	65.0	66.9	67.9	68.8	68.2	69.0	69.8
Employment rate (% population aged 15-64)	63.7	67.8	70.3	73.0	75.2	76.3	77.3	77.0	77.9	78.8
Employment rate (% population aged 20-64)	69.3	73.5	75.8	78.6	81.0	82.1	83.1	83.1	84.1	85.1
Employment rate (% population aged 15-24)	23.0	26.4	28.1	31.5	32.9	33.4	32.8	31.1	30.9	30.2
Employment rate (% population aged 25-29)	76.4	82.3	83.2	84.4	86.8	86.9	85.8	84.8	85.2	87.9
Employment rate (% population aged 25-54)	81.4	85.3	86.8	88.2	90.1	90.4	90.8	89.8	90.4	91.3
Employment rate (% population aged 55-64)	44.8	49.6	54.4	59.7	62.5	65.5	69.0	71.6	74.1	76.8
Employment rate for low skilled 15-64 (ISCED 0-2)	30.8	36.3	39.9	42.5	44.2	45.8	46.0	43.9	45.0	43.3
Employment rate for medium skilled 15-64 (ISCED 3-4)	69.1	73.1	75.2	78.2	80.2	81.0	82.3	81.9	82.6	84.0
Employment rate for high skilled 15-64 (ISCED 5-8)	85.3	87.1	88.6	90.5	91.6	91.9	93.1	93.5	93.8	94.9
Self-employed (% of total employment)	13.6	13.4	13.0	12.7	11.9	12.1	12.7	14.0	14.5	14.7
Part-time employment (% of total employment)	4.5	4.5	4.4	3.5	3.1	3.1	3.3	3.5	3.5	3.3
Temporary employment (% of total employees)	11.4	11.2	11.6	9.3	8.2	6.7	6.2	5.4	5.7	5.4
Activity rate (% population aged 15+)	63.9	65.7	67.2	68.6	69.6	70.3	71.1	71.1	71.8	72.5
Activity rate (% population aged 15-64)	71.0	73.4	75.3	76.9	78.2	79.1	80.0	80.3	81.1	81.9
Activity rate (% population aged 15-24)	31.0	33.0	34.4	36.1	36.5	37.1	37.3	35.3	35.1	34.0
Activity rate (% population aged 25-54)	89.5	91.2	92.0	92.4	93.3	93.3	93.4	93.1	93.6	94.3
Activity rate (% population aged 55-64)	49.0	53.2	57.8	62.4	64.5	67.1	70.6	74.0	76.6	79.4
Unemployment aged 15+ (1,000)	239	182	162	128	96	88	86	104	100	97
Unemployment rate (% labor force 15+)	10.2	7.6	6.6	5.1	3.8	3.5	3.4	4.1	3.9	3.7
Youth unemployment rate (% labor force 15-24)	25.6	20.0	18.3	12.9	9.7	9.8	12.0	11.9	12.0	11.3
NEET rate (% population aged 15-24)	13.6	12.0	10.4	8.9	7.9	7.6	8.9	9.5	8.2	8.5
Long-term unemployment rate (% labor force 15+)	5.0	3.6	3.1	2.3	1.5	1.4	1.1	1.1	1.2	1.3
Share of long-term unemployed (% of total)	48.6	48.0	47.1	45.8	40.6	40.6	32.1	27.5	31.6	33.6
Unemployment rate, low educated 15+ (ISCED 0-2)	24.5	18.4	16.8	13.7	11.0	10.1	9.4	10.7	10.6	11.8
Unemployment rate, medium educated 15+ (ISCED 3-4)	9.8	7.0	6.0	4.5	3.2	3.0	2.9	3.8	3.5	3.3
Unemployment rate, high educated 15+ (ISCED 5-8)	3.4	2.8	2.2	1.8	1.4	1.2	1.5	1.6	1.7	1.4



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Female										
Total population (1,000)	5,183	5,167	5,151	5,132	5,115	5,102	5,093	5,078	5,056	5,009
Working-age population aged 15+ (1,000)	3,942	3,919	3,897	3,876	3,848	3,827	3,813	3,800	3,775	3,759
Employment aged 15+ (1,000)	1,789	1,880	1,927	1,989	2,004	2,023	2,032	2,000	2,163	2,204
Employment rate (% population aged 15+)	45.4	48.0	49.5	51.3	52.1	52.9	53.3	52.6	57.3	58.6
Employment rate (% population aged 15-64)	52.6	55.9	57.8	60.2	61.3	62.3	63.0	62.3	68.2	69.9
Employment rate (% population aged 20-64)	56.9	60.2	62.1	64.6	65.7	66.8	67.6	67.0	73.5	75.3
Employment rate (% population aged 15-24)	17.0	20.5	23.1	24.6	24.8	24.3	24.0	23.1	23.9	24.8
Employment rate (% population aged 25-29)	61.4	63.3	63.5	66.1	67.6	67.7	69.3	67.2	77.3	77.9
Employment rate (% population aged 25-54)	70.0	73.2	74.4	76.2	77.2	77.7	78.0	75.9	83.4	84.9
Employment rate (% population aged 55-64)	32.1	35.2	37.7	41.5	42.4	44.9	46.2	49.2	52.9	55.7
Employment rate for low skilled 15-64 (ISCED 0-2)	23.7	27.3	28.7	31.5	33.7	33.7	33.4	32.0	33.7	34.3
Employment rate for medium skilled 15-64 (ISCED 3-4)	56.8	59.6	61.6	63.9	65.0	65.4	66.1	65.4	70.6	72.2
Employment rate for high skilled 15-64 (ISCED 5-8)	74.2	76.1	77.3	80.0	78.9	80.0	79.8	79.4	87.2	88.8
Self-employed (% of total employment)	7.8	7.4	7.7	7.8	7.8	7.8	8.1	9.2	9.4	9.4
Part-time employment (% of total employment)	9.4	8.6	8.0	7.3	6.9	6.9	7.5	8.2	7.7	7.1
Temporary employment (% of total employees)	10.4	10.3	11.1	10.2	9.5	8.0	7.2	6.5	6.2	5.7
Activity rate (% population aged 15+)	50.5	52.1	53.2	54.1	54.6	55.1	55.2	55.1	59.8	60.7
Activity rate (% population aged 15-64)	58.6	60.7	62.2	63.5	64.2	64.9	65.3	65.3	71.2	72.4
Activity rate (% population aged 15-24)	23.6	25.9	27.5	28.2	28.2	27.2	26.9	26.9	28.3	27.5
Activity rate (% population aged 25-54)	77.1	78.8	79.6	79.8	80.4	80.7	80.6	79.1	86.6	87.7
Activity rate (% population aged 55-64)	34.7	37.4	39.9	43.5	44.3	46.3	47.2	50.6	54.3	57.4
Unemployment aged 15+ (1,000)	202	162	146	107	96	84	74	94	96	80
Unemployment rate (% labor force 15+)	10.1	7.9	7.0	5.1	4.6	4.0	3.5	4.5	4.2	3.5
Youth unemployment rate (% labor force 15-24)	27.9	20.9	15.9	12.9	12.0	10.7	10.6	14.0	15.5	9.6
NEET rate (% population aged 15-24)	17.4	15.3	12.8	13.3	14.3	14.0	13.2	14.1	13.2	11.4
Long-term unemployment rate (% labor force 15+)	4.9	3.7	3.1	2.4	1.8	1.5	1.1	1.1	1.3	1.2
Share of long-term unemployed (% of total)	48.5	46.8	44.0	47.3	40.1	36.4	31.7	24.8	30.7	34.9
Unemployment rate, low educated 15+ (ISCED 0-2)	22.7	18.7	18.1	12.7	11.3	10.6	10.1	11.2	11.5	11.4
Unemployment rate, medium educated 15+ (ISCED 3-4)	10.4	7.9	6.9	5.1	4.4	3.8	3.2	4.6	4.5	3.4
Unemployment rate, high educated 15+ (ISCED 5-8)	4.3	3.4	2.6	1.8	1.8	1.7	1.6	2.1	1.8	1.5

Hungary: Earnings and unit labor costs

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Wages										
Average monthly gross wages, NCU th	231	238	248	263	297	330	356	391	426	500
nominal annual growth in %	3.4	3.0	4.3	6.1	12.9	11.3	11.4	9.8	8.9	17.4
real annual growth in % (HICP deflated)	1.7	3.2	4.4	5.7	10.3	8.3	7.6	6.3	3.6	2.5
Average monthly gross wages, EUR	777	770	800	845	961	1,035	1,095	1,114	1,188	1,278
Average monthly gross wages, EUR (PPP)	1,332	1,316	1,345	1,384	1,500	1,608	1,669	1,763	1,824	1,981
Average monthly net wages, NCU th	151	156	162	175	198	219	237	260	283	332
nominal annual growth in %	4.9	3.0	4.3	7.8	12.9	11.3	11.3	9.8	8.9	17.4
real annual growth in % (CPI deflated)	3.1	3.2	4.4	7.4	10.3	8.3	7.6	6.3	3.6	2.5
Average monthly net wages, EUR	509	504	524	562	639	688	728	741	790	850
Average monthly net wages, EUR (PPP)	873	862	881	921	997	1,070	1,110	1,172	1,213	1,317
Minimum wages as of January 1st	.	.	.	.	.	.	.	.	.	.
Monthly gross minimum wages, NCU th	98	102	105	111	128	138	149	161	167	200
Monthly gross minimum wages, EUR (ER)	335	342	333	351	412	445	464	487	460	542
Monthly gross minimum wages, EUR (PPP)	540	545	552	571	625	656	680	692	684	764
Unit labor costs (ULC)										
Nominal ULC in EUR, annual growth in %	0.7	0.1	2.8	6.8	10.8	3.5	5.1	5.3	0.3	4.2
Real ULC in EUR, annual growth in %	-2.1	-3.4	0.1	5.5	6.5	-1.3	0.3	-1.0	-5.8	-9.0

Notes: Data based on a continuous quarterly survey. Population aged 15+ refers to the population 15-74. Census 2011 was applied throughout for LFS data; population data based on census 2011 until 2021 and on census 2021 from 2022 onwards. From 2021, new methodology in line with the Integrated European Social Statistics Regulation (IESS); growth rates are not fully comparable before and after 2021. Education groups refer to ISCED 1997 until 2013, ISCED 2011 from 2014.

Wage data refer to enterprises with 5 and more employees (survey data), from 2019 total economy (based on tax administration data).

Source: SEE Jobs Gateway, based on data provided by national statistical offices and Eurostat.



THE JOBS

GATEWAY

IN SOUTH EASTERN EUROPE

