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Monthly Report

Is Europe ready for an abrupt halt to Russian gas deliveries via Ukraine?

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Labour taxes in the Western Balkans

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

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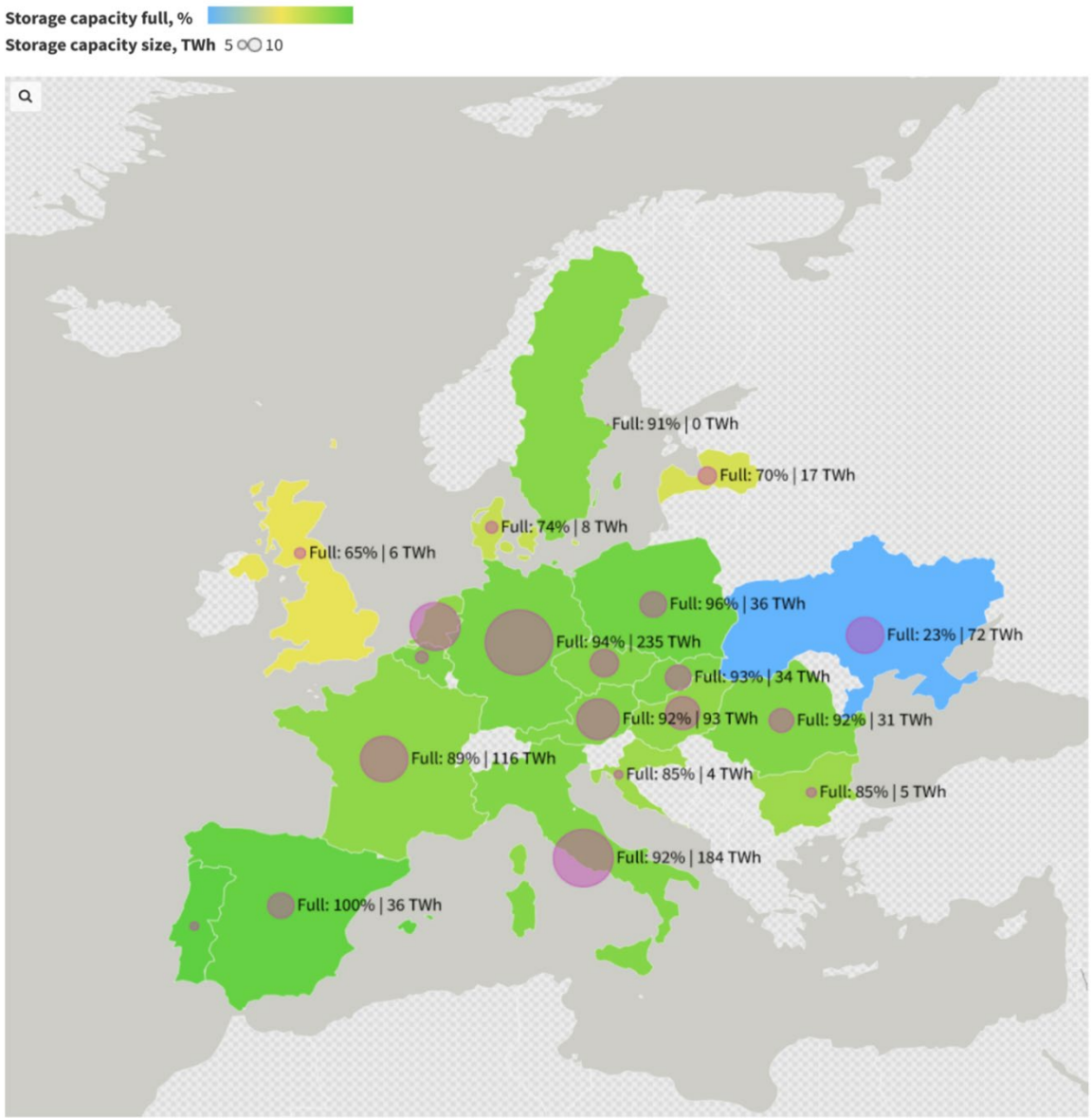
BY ARTEM KOCHNEV AND VASILY ASTROV

Figure 1 / Natural gas storage capacities in August 2024



Note: TWh stands for Terawatt-hour.
Source: Aggregated Gas Storage Inventory, 26 August 2024, https://agsi.gie.eu/

The recent capture by Ukrainian forces of Sudzha, a town in Russia's Kursk region close to the Ukrainian border, and of a stretch of the Brotherhood gas pipeline (also known as the Urengoy-Pomary-Uzhhorod pipeline) on Russian territory, has raised concerns about the security of Russian gas supplies to Europe. Besides, even if the transit of Russian gas continues for now, it is likely to be terminated by the end of the year, when the current gas transit contract between Russia and Ukraine officially expires; at the time of writing, the prospects for its prolongation are poor. The Brotherhood pipeline, which crosses Ukrainian territory, is one of only two remaining functioning pipeline routes for Russian exports to Europe.[1] Although it accounts for only 4% of the EU's total gas imports, it remains a major source of gas for countries such as Austria and Slovakia.

How would these countries fare in the event of a sudden halt to supplies? Looking at the most recent gas storage data (Figure 1), the answer is 'probably quite well'. As of August 2024, Europe appears well prepared for potential disruptions, with most countries, including Austria and Slovakia, as well as major EU economies like Germany, Italy and France, boasting storage capacities that are around (or above) 90% full. Nevertheless, it is clear that in the medium run, both Austria and Slovakia will have to look for alternatives to Russian pipeline gas, such as liquefied natural gas (LNG). In this context, Germany and Italy will be particularly important for these landlocked countries, which cannot import LNG directly and would have to rely on the Italian and German gas pipeline networks.

[1] Transit via the Yamal-Europe pipeline (crossing Belarus and Poland) was cut by Russia back in spring 2022, while Nord Stream 1 (via the Baltic Sea) fell victim to a mysterious explosion in September of that year.

Opinion Corner*: Economics is not doing enough to address the looming ecological disaster

BY JOSEF PÖSCHL

It is often argued that, if individuals compete in the pursuit of maximum profit, this leads to an optimal allocation of resources. In some societies, this principle has indeed generated unprecedented economic prosperity. But up to now, most economists have preferred to ignore the uncomfortable fact that this prosperity – at least partially – relies on the exploitation of nature and is thus not sustainable. They should focus more on environmental issues, devising incentives for people and companies to behave in an environmentally responsible way across a wide range of sectors.

When it comes to environmental issues, a rift has opened up between natural sciences on the one hand, and social and economic sciences on the other. And the gap is widening rather than narrowing.

THE 'ANTHROPOCENE' ERA

In the natural sciences, many people are alarmed about the mounting ecological problems, and some scientists are stating publicly that they believe protests such as those by the 'Last Generation' movement to be justified. Of all the environmental issues, the problem of global warming (or the climate crisis) is probably the one that finds the most space in public debate. The planet's balance of heat input and output has been disrupted. The warming would continue even if greenhouse gas (GHG) emissions were to cease immediately; but more than 1,000 tonnes of CO_2 alone are currently entering the atmosphere every second. At the same time, the term 'climate crisis' does not seem entirely appropriate: a 'crisis' usually occurs suddenly, whereas the (increasingly) unsustainable conditions have been creeping up on us gradually. Indeed, in some places on the planet, the conditions at the moment don't seem unsustainable at all – they are quite acceptable, i.e. hardly 'crisis-like'.

Besides, GHG emissions are only one topic among many. For example, the extensive movement of people and goods currently generates considerable environmental pollution, which is not paid for. We are not fully aware that we are living in the 'anthropocene' era and are in the midst of a process that is already well advanced. Therefore, the expression 'problem of global warming' is an understatement: the overall ecological problem is much bigger – so vast that it doesn't have a name. The depletion of natural resources is now well advanced, and biodiversity has declined.[1] Meanwhile, what gets lost in terms of the latter can never be recovered.

How are people reacting to these mounting ecological challenges? They are focused on getting used to the 'new normal', with temperatures of close to 40 degrees Celsius on more and more days, frequent

* Disclaimer: The views expressed in the Opinion Corner section of the Monthly Report are exclusively those of the authors and do not necessarily represent the official view of wiiw.

1 The latest document of the European Commission from 12 March 2024 'Managing climate risks – protecting people and prosperity' provides an impressive description of the European situation and planning.

floods, hurricanes, droughts and forest fires, the proliferation of contrails in the sky, etc. Many people seem to think there is nothing they can do about it: they do not want to get involved in discussions about the background, and frequently view ‘climate activists’ as a nuisance. Many so-called ‘opinion leaders’ (in politics, the media, business, etc.) acknowledge the problem, but devote far more of their efforts to ‘current’ issues, such as wars.

ACHILLES’ HEEL OF THE MARKET ECONOMY

Pursuit of profit has been the engine of economic activity almost globally, mobilising productive forces in unimagined ways. As a result, part of humanity has achieved an unprecedentedly high standard of living, a high degree of scientific progress and artistic creativity, and military strength. Meanwhile societies that relied on less-dynamic drivers of activity, such as the formerly planned economies, have ultimately failed.

In many sectors, lots of companies – and especially start-ups – are developing new solutions in all sorts of areas, and their responses to the ecological challenges are impressive (e.g. energy-efficient buildings and appliances, the increased use of renewable sources of energy, sustainable forestry, etc.). That is the bright side. At the same time, however, many companies – even those that are the biggest environmental polluters or consumers of resources – are trying to carry on as before, albeit perhaps in a somewhat more ‘green-looking’ way. For them, to consider stopping (or even just reducing) the consumption of natural resources is unthinkable: instead, they dream of tapping into the resources of the moon or burying CO_2 underground – actions that would involve the consumption of far more of our planet’s resources in the short term.

Even if it becomes obvious that certain economic activities will have an adverse – or even catastrophic – ecological impact after several decades, no individual firm would profit from suspending such activities, as its owners could not expect others to follow suit. This is the Achilles’ heel of the market economy – and especially of the financial market: by its very nature, its focus is on the maximisation of profit in the short and medium term. It is capable of unleashing productive forces, but fails completely when it comes to setting limits on the forces that endanger long-term welfare and that may even have fatal long-term consequences. Who would be able and willing to set the necessary limits? The market forces became extremely powerful under Thatcher, Reagan, Clinton and others, and it is hard to see who could rein them in.

WHAT ROLE FOR ECONOMISTS?

Over the last two centuries, the main body of economists have got used to painting a partly misleading picture of profit maximisation as a guiding principle for the development of economy and society. Up to now, only a handful of economists at universities, in the World Bank and the International Monetary Fund, in national banks and at non-university research institutions have specialised in ecological topics. But it is high time adequate attention was paid to the inherent risks related to the destruction of the environment. I reckon that sooner or later – and preferably sooner rather than later – a focus on ecological topics will become the most important discipline within economics.

So, what could be the measures required for a transition to environmentally friendly conditions? Any response will require close cooperation between different disciplines. Economists should focus on developing rules and incentives that will make it more attractive:

› to produce goods in a way that facilitates the recycling of inputs;

› to produce goods from pre-used inputs, instead of drawing on 'virgin' natural resources; and

› to establish production and transport facilities, plus supply chains, which natural sciences identify as being the most favourable from the point of view of the environment and biodiversity.

Besides, economists should be able to identify which of the measures will have an advantage in terms of enforceability.

There are two further questions that economists should deal with: (i) which national and international trade regulations could ensure that environmental and biodiversity friendliness is advantageous for all kinds of goods and services; and (ii) what instruments could be employed to ensure that companies operating internationally do not circumvent environmentally friendly regulations and secure for themselves an unfair advantage? Free-trade models should no longer ignore ecological aspects.

Finally, it is essential to come up with an alternative framework of national accounts that takes the ecological dimension into consideration. So far, economists and businesses alike have relied on a single indicator, GDP, to measure economic output. But this reflects the thinking of a bygone era, when the depletion of resources and the pollution of air and water were regarded as inflicting negligible damage and cost. There have been attempts to change this approach, but so far without much success. Moreover, it will be difficult to come up with an alternative indicator that takes account of the costs of environmental pollution and degradation – and it could yield some rather uncomfortable results. An alternative approach could be to mention a few indicators jointly – for example, GDP together with some measure(s) for pollution and for biodiversity.

Human ingenuity – including that of economists – can propel mankind in many directions; but it depends in large part on funding. For economic research that deals with the environment, this seems to be the main sticking point, at least for the present. Meanwhile, there is not much time left for the necessary environmentally friendly restructuring of the global economy and society.

From the Bretton Woods system to global stagnation

BY LEON PODKAMINER

After the demise of the Bretton Woods system, the world economy entered an era of deepening liberalisation at both the national and the international level. There has been a phenomenal rise in international trade. Surprisingly, this has halved the growth rate of global GDP – and has yielded many other undesirable outcomes. This article argues that this is all the result of excessive trade imbalances emerging under liberalised trade and capital flow arrangements, as well as the 'race to the bottom' with respect to wages.

When describing the Bretton Woods system, one generally recalls its most discernible aspects: the imperative of constancy in the (negotiated) reciprocal exchange rates of national currencies and the fixed US dollar price of gold from US reserves available to the public authorities of those other countries that were participants in the system. For a long time, this arrangement seemed to work quite well, despite periodic tensions. But by the early 1970s it had started to erode. The authorities in up-and-coming Germany and Japan began to emancipate themselves and act less cooperatively vis à vis the US than before. This led to the 'temporary' suspension of the US dollar's convertibility into gold (1971). As a result, the international monetary system lost its previous 'natural anchor'. Under the influence of strengthening 'market forces' (including speculation), exchange rates began to move relatively freely. The first elements of the globalisation process appeared in 1973. Of course, from this point onwards, exchange rate fluctuations became volatile, unpredictable and often excessive.

THE BRETTON WOODS SYSTEM: LIBERALISM UNDER SURVEILLANCE

The fact is often overlooked that, for a long time, the world economy under the Bretton Woods system operated in a specific environment that would have to be regarded as economically fairly illiberal. The mere decreeing of exchange rates was an internationally agreed administrative decision. More significantly, individual partner countries pursued aggressively 'selfish' industrial policies. In most of them, multi-year development strategies requiring the use of protectionist tools – including the subsidisation, or even de facto nationalisation, of individual industries – were seriously pursued.

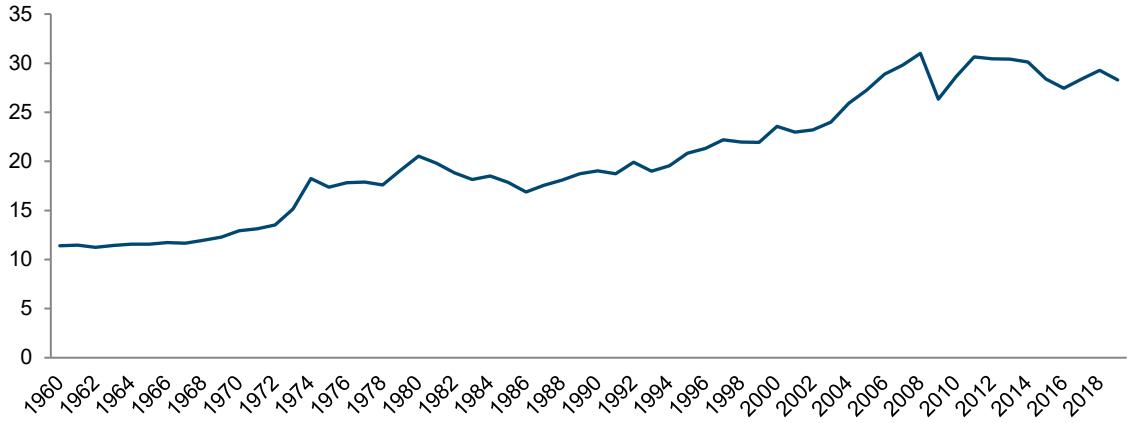
In macroeconomic strategy, fiscal policy – generally minimising the size of deficits – played first fiddle. The rule was a high level of progressiveness of personal taxes and the heavy taxation of corporate profits. Monetary policy played a secondary (if not tertiary) role. Banks and other financial institutions were subject to various regulations and limitations. (Private) capital flows were restricted and controlled, which had the effect of keeping international trade imbalances in check – and maintaining the desired constancy of exchange rates. Significantly, the sheer volume of foreign trade was, in most partner countries, further constrained by extensive systems of (often absurdly high) tariffs and various non-tariff restrictions.

It is also essential to note the role and importance of trade unions, which were generally the active and valued partners of government. Their cooperation was important in controlling inflation and unemployment, both of which were low – far lower than in later periods. Needless to say, levels of income inequality were also incomparably lower than later on.

POST-BRETTON WOODS: THE EXPANSION OF WORLD TRADE

The disintegration of the Bretton Woods system – not only the freeing up of exchange rates, but also the parallel (gradual) liberalisation of trade and international capital flows – contributed to a rapid expansion of world trade (in goods and services). This is illustrated in Figure 1.

Figure 1 / Exports of goods and services, as % of world GDP (1960-2019)



Source: WDI (World Bank).

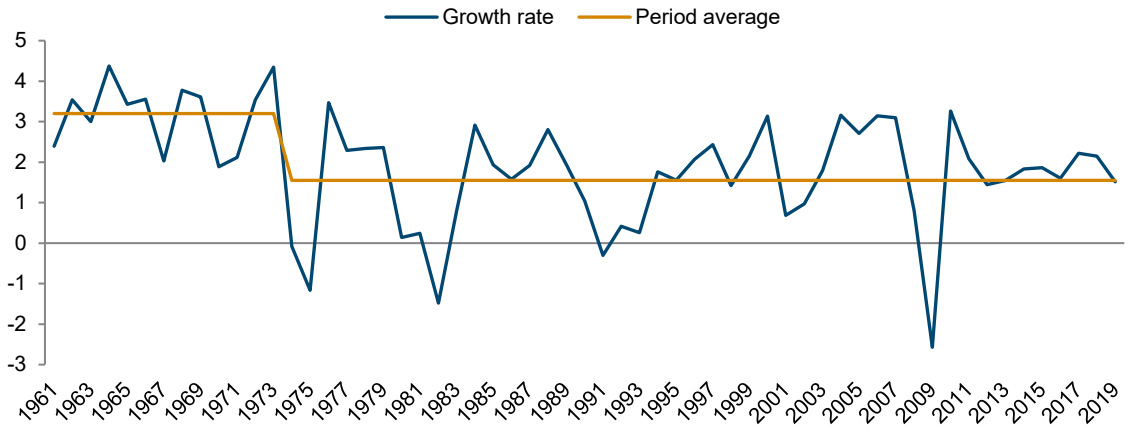
As can be seen, the share of trade in global GDP was fairly low in the 1960s (around 11%). The sharp increase recorded in 1974 and the following few years must be attributed to the progress of liberalisation. Only to an extent can it be said to reflect the effects of the 'oil shocks' of the time. From 1986 (after the disintegration of the OPEC cartel and a strong decline of world oil prices), the trade share increased from close to 17% to over 30% in 2008 (i.e. until the onset of the global financial crisis). After that, up until 2019 it remained at between 27% and 30%.[1]

HAS GROWING TRADE SLOWED GLOBAL ECONOMIC GROWTH?

Any economist whose education begins (and often ends) with the theory of comparative advantage à la David Ricardo would expect such a sharp acceleration in international trade to result in a corresponding acceleration in global GDP growth. But he would be in for a surprise: global GDP growth (per capita) was immeasurably faster and more stable under the Bretton Woods system, as Figure 2 shows.

[1] In our narrative, we do not include data for the pandemic year 2020 and the post-pandemic years thereafter, for obvious reasons.

Figure 2 / Growth rate of global GDP per capita, in % (1961-2019)



Source: WDI (World Bank).

In the final period of the Bretton Woods agreement (1960-1973), for which we have reliable statistics, global GDP per capita grew at an annual average of 3.2%. In the entire subsequent period ('post-Bretton Woods' – 1974-2019), the average annual rate was half that (1.55%). Moreover, whereas growth in the first period was relatively stable, in the second it became extremely volatile, characterised by major fluctuations. Painful recessions (especially for the labour market) were unavoidable during this period. The average unemployment rate under Bretton Woods was 4.9% in the US, 1.3% in Japan and 2.4% in the 12 countries that later formed the core of the euro area. In the post-Bretton Woods period, by contrast, the average unemployment rates were 6.3%, 3.2% and 8.7%, respectively.

The recessions were not the outcome of some 'exogenous shocks': they were the result of systemic economic change post-1973 (liberalisation, deregulation, privatisation and – ultimately – the financialization of economies), as well as of political change: a retreat from friendly cooperation with trade unions; a reduction in the scope of social policy; the restoration of the priority of monetary policy; and a 'fight against inflation' at the cost of rising unemployment. While the 1976 recession can partly be attributed to the effects of the first 'oil shock', the subsequent recessions of 1982, 1991 and 2009 were created by the 'innate' mechanisms of increasingly liberalised national economies and the ever-deeper liberalisation of international economic relations.

WAS DAVID RICARDO WRONG?

Standard economic theories prove mathematically that trade liberalisation must result not only in an increase in the volume of trade, but – above all else – additional benefits for the international community as a whole (i.e. for all, or most, trade participants). And these benefits should grow as trade costs (including, for example, transport costs) fall and as newer and more efficient production technologies become more readily available – as has undoubtedly been the case in recent decades. Why, then, has the liberalisation and expansion of trade after the abandonment of the Bretton Woods system not resulted in accelerated GDP growth for the world?

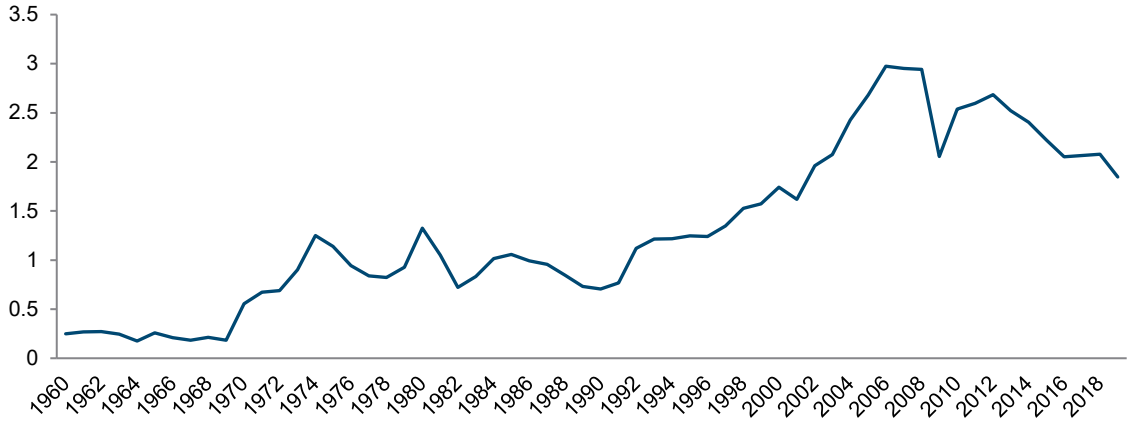
I believe that conventional theories, which argue the benefits of free trade, are out of kilter with economic reality. At their core is the assumption that trade takes place on the basis of barter: in David Ricardo's archetypal model, Portugal and England exchange wine and cloth. The point is that barter is inherently sustainable – it does not lead to trade imbalances. But in reality, not only does trade use just money, but its real purpose is actually to make money, to accumulate financial assets – and not just to exchange 'wine' for 'cloth'.

The alternative theory (yet to be fully articulated), which allows for the emergence of trade imbalances (manifested by the growing indebtedness of some countries to their trade partners), would not justify the thesis of the necessary beneficence of free trade. But it could justify the thesis that the emergence of such imbalances may adversely affect the size (and hence the growth) of world GDP. Note that, at the national level, a trade deficit reduces the size of GDP, while a trade surplus increases it. In the face of a trade imbalance, the GDP of deficit countries falls, while the GDP of countries in surplus rises. The point is that the GDP losses of deficit countries may be greater than the gains of surplus countries. In sum, unbalanced trade would therefore diminish aggregate GDP for the world as a whole.[2]

THE BUILD-UP OF TRADE IMBALANCES AFTER 1973

During the Bretton Woods period, the combined trade deficits of all the countries in the world represented a fraction of 1% of world GDP (see Figure 3). In the post-Bretton Woods period, they initially fluctuated at around 1%. The triumphant liberalisation taking place globally in the 1990s and beyond is reflected in the continued rapid expansion of the combined deficits: on the eve of the global financial and economic crisis of 2008, they had reached 3% of global GDP.

Figure 3 / Combined trade deficits (in goods and services), as a percentage of global GDP (1960-2019)



Source: own calculations based on WDI data (World Bank).

I believe that the progressive imbalance in world trade was one of the direct causes of the weak and erratic growth of world GDP in the post-Bretton Woods period. Recall that trade deficits represent at the

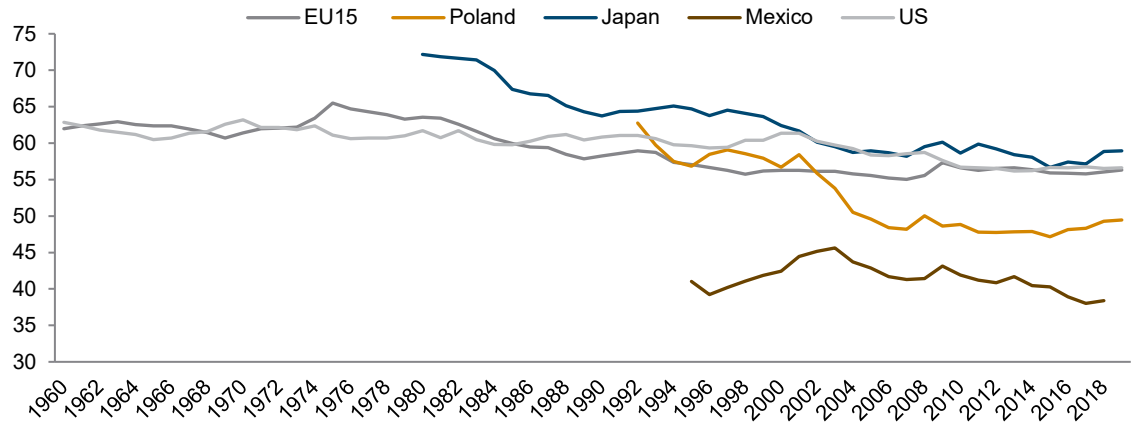
[2] This point can be demonstrated analytically – see Leon Podkaminer, 'Trade imbalances are undesirable: A note', *Real-World Economics Review*, 80 (2017).

same time the emergence of financial liabilities of deficit countries vis à vis surplus countries. In a liberal world economy, accumulating trade deficits can be temporarily financed by 'liquid capital', which abounds during the good times. Sooner or later, however, the credit-inflated 'boom' must come to an end, resulting in a minor crisis, or a major one – or occasionally even a catastrophe. It is therefore obvious that the systematic and massive accumulation of liabilities due to trade deficits usually ends badly – not only for deficit countries, but also for those running a surplus: they are forced to accept the insolvency of over-indebted countries (and in consequence to take a financial hit) and, in addition, are deprived of their export markets.

WAGES: THE 'RACE TO THE BOTTOM'

Under the Bretton Woods system, the share of wages in GDP was (relatively speaking) high (see the trajectories for the US and 15 Western European countries in Figure 4). The high wage share, and thus the relatively low profit share, was evidently no obstacle to high investment rates, low unemployment and inflation, and rapid economic growth. But all that was to come to an end with the disintegration of the Bretton Woods system and the progressive liberalisation of the world economy. Since 1975, the wage share has been falling in the US and Western Europe – as well as in Japan (since 1980) and Poland (since 1992). In Mexico, characterised by a very low wage share, the decline began in 2002 (i.e. already under NAFTA, the North American Free Trade Agreement).

Figure 4 / Wage share of GDP in %, selected economies (1960-2019)



Note: EU15 includes EU member states as of April 2004, including the UK.
Source: AMECO.

The shrinking share of wages in GDP can be explained in several ways. Personally, I am not convinced by the explanation that focuses on the impact of technological change, as it replaces human labour with machines. The fairly widespread relocation of labour-intensive activities to developing countries is, after all, motivated by low labour costs, not by any particular availability of robots.

The declining wage share seems to be a natural consequence of the liberalisation (and deregulation) of market economies. Emerging recessions and weak economic growth after 1973 led to a resurgence of high unemployment and contributed to a decline in the role of trade unions. Economic policy priorities also changed, and monetary policy, guided by the imperative to 'fight inflation', returned to favour – even

at the cost of massive unemployment. Fiscal policy, which was supposed to stabilise growth and limit unemployment, lost its importance. All these phenomena favoured limiting wage growth. Wages ceased to keep pace with rising productivity.

A sharp reduction in the share of wages in GDP (and the concomitant rising income inequality) is conducive to a drop in economic growth. The reason is quite simple: the propensity to consume from wages is higher than the propensity to consume from profits and high incomes.

Weak consumption growth in individual countries creates an incentive to seek outlets (and profits) in foreign markets. This is one of the reasons for the trends in world trade illustrated in Figures 2 and 3. At the same time, success on foreign markets is conditioned, among other things, by low labour costs. What we have here, then, is a veritable vicious cycle: since domestic demand is weak, foreign markets must be sought; in order to win (and keep) them, it is desirable to reduce production costs – i.e. unit labour costs (as a last resort, offering wages that do not compensate for productivity increases). But by reducing unit labour costs, one simultaneously retards the growth of domestic demand...

In addition, under conditions of liberalisation of trade and capital flows, firms minimise (labour) costs by shifting many production activities to poorer countries with even lower labour costs (and often low taxation of profits). The natural consequence becomes a 'race to the bottom' – a race in activities that reduce labour costs, including, of course, wages themselves (even in lower-wage countries, such as Poland and Mexico).

NEED FOR A NEW BRETTON WOODS?

The 'downward' race to the lowest possible wage and cost level is ultimately the source of the weakness of the liberalised world. It would be quite difficult to stop the race without the reintroduction of at least some of the 'illiberal' arrangements that were in place under the Bretton Woods system. In this context, it is worth noting the emergence of some protectionist notes in the political declarations emanating from the US – and even the European Union. On the other hand, the internal economic organisation of the European Union itself (and of the euro area in particular) continues to foster intense wage competition between the member countries. The anaemic and erratic economic growth of the EU as a whole is largely the aftermath of unhealthy wage competition. This weakness will not be cured by even stricter adherence to the various fiscal austerity measures conceived by politicians and economists faithful to the old dogmas. The dynamization of the EU requires an understanding of the need to limit the scope for liberal principles in the policies of individual member states – and especially in their relations with each other. The task would involve some coordination of social/wage policies across the EU. Importantly, individual member countries must be discouraged from running huge and protracted trade surpluses with regard to their partners.[3]

[3] See K. Laski and L. Podkaminer, 'The basic paradigms of the EU economic policy-making need to be changed', *Cambridge Journal of Economics*, 36:1 (2012).

Labour taxes in the Western Balkans

BY BRANIMIR JOVANOVIĆ

Labour tax rates in the Western Balkans are lower than in the nearby EU countries. They are also much less progressive and, in many cases, are even regressive, especially at higher income levels. This is due primarily to the cap on social contributions and the prevalence of low, largely flat personal income taxes. Such a tax structure raises concerns about tax justice and fairness, but it also deprives governments of crucial revenue that could be used for public goods and services. To address this issue, Western Balkan governments could introduce more progressive personal income tax systems and/or raise or eliminate the cap on social contributions.

OVERVIEW OF LABOUR TAXATION IN THE WESTERN BALKANS

This article summarises the main points from a recent piece of research that we published as part of our Labour Market Brief 2022 and that deals with labour taxation in the Western Balkans.[1]
Drawing on a newly compiled dataset, we present the main features of the labour tax systems in the region, compare the nominal and the effective tax rates for different levels of income with other countries, and track the evolution of labour taxes in the region since 2010.

Labour taxation refers to taxes levied on the income that workers earn from their labour. In the economies of the Western Balkans, it refers to personal income tax (PIT) and social security contributions (SSCs). Some of the jurisdictions[2] distinguish between employer and employee SSCs: that is the case in Albania, the Federation of Bosnia and Herzegovina (BiH), Montenegro, Kosovo and Serbia; meanwhile North Macedonia and Republika Srpska do not.[3] Despite the nomenclature, both parts of the SSC are actually paid by employers. However, there is an important difference between the two: employee SSCs are deducted from gross salary to determine the net salary that the worker takes home (with the deduction of PIT as well); employer SSCs are added to the gross salary to compute the total cost of labour for companies. This difference may have practical implications, as changes to the employer SSC should affect the company's labour costs, but not the net wage, while changes to the employee SSCs should affect the net wage, but not the business's labour costs. In reality, of course, this boils down to the tax incidence (i.e. who ultimately pays the tax) and depends on factors such as the bargaining power of labour and market structures.

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1 Branimir Jovanović, Hermine Vidović, Indhira Santos and Cornelius von Lenthe (2024). Western Balkans Labor Market Brief 2022: Special Topic – Labor Taxation in the Western Balkans. Washington, DC: World Bank Group. https://wiiw.ac.at/western-balkans-labor-market-brief-2022-p-6971.html

2 Bosnia and Herzegovina has distinct tax regimes for its three administrative divisions – the Federation of BiH, Republika Srpska and Brčko District. For that reason, when referring to these divisions, we will use the term 'tax jurisdictions'.

3 Because Brčko District does not have its own pension system and pension contributions (the employee can choose whether they want to be insured in the system of the Federation of BiH or Republika Srpska), we exclude it from the analysis on the effective tax rates.

Table 1 shows the nominal PIT rates in the region. One can see that PIT is nominally progressive in four of the six economies – Albania, Kosovo, Montenegro and Serbia – and is flat in Bosnia and Herzegovina and North Macedonia. Even in those economies with progressive PIT, the progressivity is very mild – far milder than in most EU countries. Furthermore, the PIT rates are generally much lower in the Western Balkans than in the EU.

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

Tax jurisdiction	PIT rate
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%
Romania	10%
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.

Three of the Western Balkan economies – Bosnia and Herzegovina, North Macedonia and Serbia – have a personal tax allowance. This means that part of a person's income is exempt from PIT: to all intents and purposes, there is a 0% tax rate on income below the personal tax allowance. The tax allowance may effectively lead to some progressivity in 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. Albania, Kosovo and Montenegro do not have a tax allowance, but have a 0% tax rate on incomes below EUR 250, EUR 80, and EUR 700, respectively.

The SSCs in the region refer to different programmes. In Kosovo there is only a pension contribution. In Albania, there is a contribution for social insurance and health insurance. In Montenegro, there are contributions for pensions, unemployment benefits, the work fund, the chamber of commerce and the labour union. In the Federation of BiH, Brčko District, North Macedonia and Serbia, there are contributions for pensions, health insurance and unemployment insurance. In Republika Srpska, on top of these, there is also a contribution for childcare insurance.

The nominal SSC rates are flat everywhere (i.e. the same for all wage levels). The total SSC rates (i.e. with employer and employee SSCs combined) are higher than the PIT rates in all Western Balkan economies (Table 2). 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 in nearby EU countries such as Austria, Bulgaria and Hungary.

Table 2 / 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.

However, in some of the economies, there are maximum and minimum bases for calculating the SSC, which makes their effective rates regressive. All economies, except Bosnia and Herzegovina and Kosovo, have a maximum base for calculating the contributions, which results in a cap on the SSCs to be paid. This cap reduces the effective SSC rate for wages above this level. Similarly, all the economies, except Montenegro, have a minimum base for calculating contributions, which produces a floor on the SSCs that can be paid. Owing to these caps and floors, higher-income individuals may end up paying lower effective SSC rates than lower-income workers.

TAX WEDGES FOR DIFFERENT LEVELS OF WAGES

To examine the progressivity/regressivity of the labour taxes in the region, we present the effective tax rates for different wage levels, ranging from the minimum wage to a wage equivalent to 50 times the average (Figure 1). We intentionally focus more on the higher end of the income distribution, as top earners are frequently overlooked in similar analyses, and income inequality is relatively high in the Western Balkans.

In **Albania**, one can see that there is a kink in the labour tax schedule: from the minimum wage up until a person earns 167% of the average wage, there is some progressivity – the total tax wedge increases from 25% to 31%, owing to the progressive PIT. After that, though, the system becomes regressive and the total effective tax wedge declines. For wages above 20 times the average, the labour tax is even lower than the tax on the minimum wage (24% vs. 25%). This is owing to the cap on the base for calculating SSCs, which is close to two average monthly wages of EUR 1,186 (in 2022). The effective SSC rate for a wage that is 167% of the average is 24%, while it drops to just 1% for a wage that is 50 times 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 labour tax system in **Kosovo** is progressive throughout the whole wage distribution. The total effective tax wedge for the minimum wage is 12%; it reaches 15% for the average wage; and it converges on 19% for wages around and above 10 times the average. The progressivity is due to the PIT, which increases from an effective 2% on the minimum wage to an effective 9% on wages that are 10 times 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.

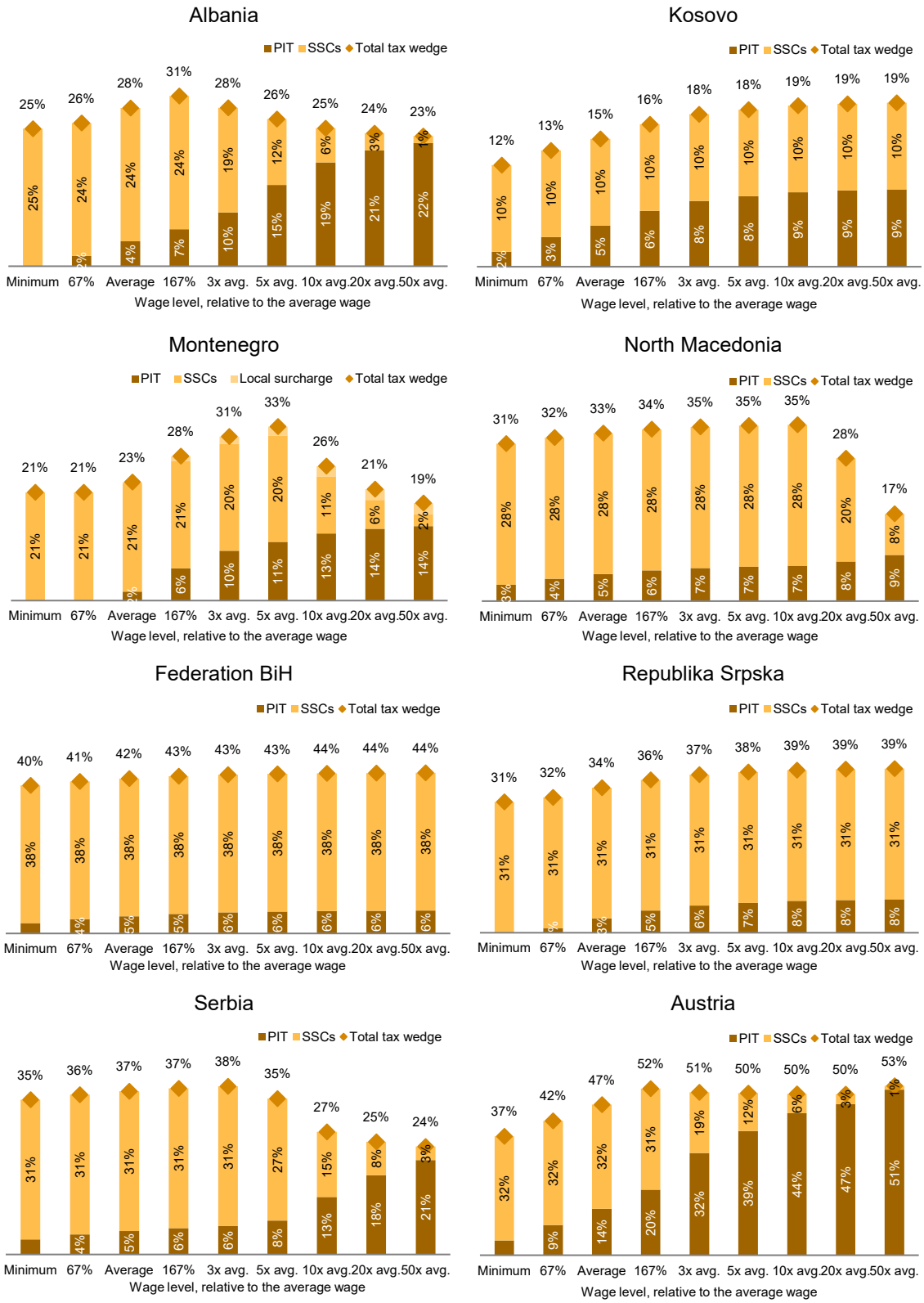
In **Montenegro**, the labour tax system is kinked, just as in Albania – the only difference being that the regressivity kicks in at a higher wage level. The effective labour tax wedge increases progressively from the minimum wage to wages of around five times the average: while minimum wage earners are taxed at a rate of 21%, those earning five times the average wage pay 33%. This is due to the progressive PIT. But 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 five average monthly wages. The total effective labour tax then starts to decline – down to 19% on wages 50 times the average, which is lower than the wedge on the minimum wage. The effective PIT rate increases at the same time, but only marginally – and not enough to compensate for the decline in the effective SSC rate.

North Macedonia also has a kinked labour tax system; however, it differs from Albania and Montenegro in that the progressivity here is much milder, while the regressivity is sharper, despite kicking in at higher wage levels. Despite the flat nominal PIT rates, there is still some effective progressivity in PIT, owing to the personal tax allowance. Because of that, the tax wedge increases from 31% for the minimum wage to 35% for wages that are 3-10 times 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 labour tax system in the **Federation of BiH** is progressive, though only marginally. The total effective tax rate for the minimum wage is 40%, moving gradually to 44% for wages 10 times the average. 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 situation in **Republika Srpska** is very similar to that in the Federation of BiH, although the system is slightly more progressive, while the overall level of labour taxation is slightly lower. The total tax wedge increases from 31% for the minimum wage to 39% for wages 10 times the average wage. Again, as PIT is nominally flat, this is on account of 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%.

Figure 1 / Effective labour tax rates in the Western Balkan economies and Austria in 2022, at different wage levels (% of total labour cost)



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

Serbia has a kinked labour tax system, which to some extent resembles the one in North Macedonia. 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 times the average wage to just 3% at 50 times the average wage. This decline is partially offset by the progressive PIT, which kicks in at around this level; but it is insufficient to prevent a decline in the overall effective labour tax.

For the sake of comparison, we also show the effective tax rates in **Austria**. Here, the tax wedge first increases, then declines, and then increases again. The total effective tax rate at the minimum wage[4] is equal to 37%; with the progressive PIT rates, this gradually increases to 52% for wages of 167% of the average. At around that level, the cap on social contributions becomes effective (it is set at the 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 labour tax wedge declines to 50% for wages of between three and 20 times the average. After that level, the top marginal tax rate of 55% kicks in, raising the effective labour tax to 53% on wages that are in the vicinity of 50 times the country average.

COMPARISON OF THE TAX WEDGES IN THE WESTERN BALKAN ECONOMIES AND SEVERAL EU COUNTRIES

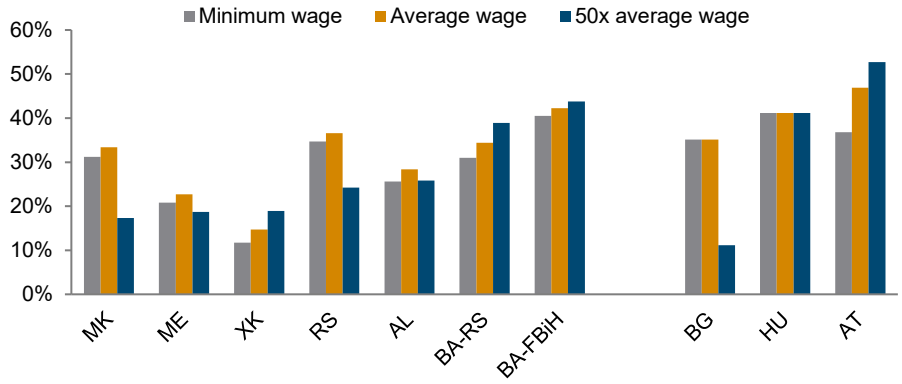
We next compare the labour tax systems in the Western Balkans with those in three nearby EU countries – Bulgaria, Hungary and Austria. We compare the tax wedges for three income levels: the average wage, the minimum wage and a wage equivalent to 50 times the average wage.

One can see that the tax wedge is generally lower in the Western Balkans (Figure 2). This refers to all three wage levels, but is most pronounced at the highest level. Austria has the highest tax wedge in general, followed by Hungary. In the Western Balkans, only the Federation of BiH comes close to them. On the other hand, Kosovo has far and away the lowest labour tax wedge, followed by Montenegro. The reason for the generally lower tax wedges in the Western Balkans is the significantly lower effective rates of PIT there.

Another point to be noted from Figure 2 is that, of the EU comparator countries, only Bulgaria has a regressive tax system, with effective tax rates declining for the highest earners. In the Western Balkans, four of the economies have a regressive system – Albania, Montenegro, North Macedonia and Serbia. Moreover, the progressivity in Kosovo and Bosnia and Herzegovina is also much milder than in Austria.

[4] As Austria does not have a statutory national minimum wage, we use here the minimum monthly wage in the retail sector, which in 2022 was EUR 1,700 (gross).

Figure 2 / Total tax wedge in the Western Balkans and selected EU countries (% of total labour 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: Author's calculations, using data from SEE Jobs Gateway, national statistical offices, OECD Tax Database and national tax legislation.

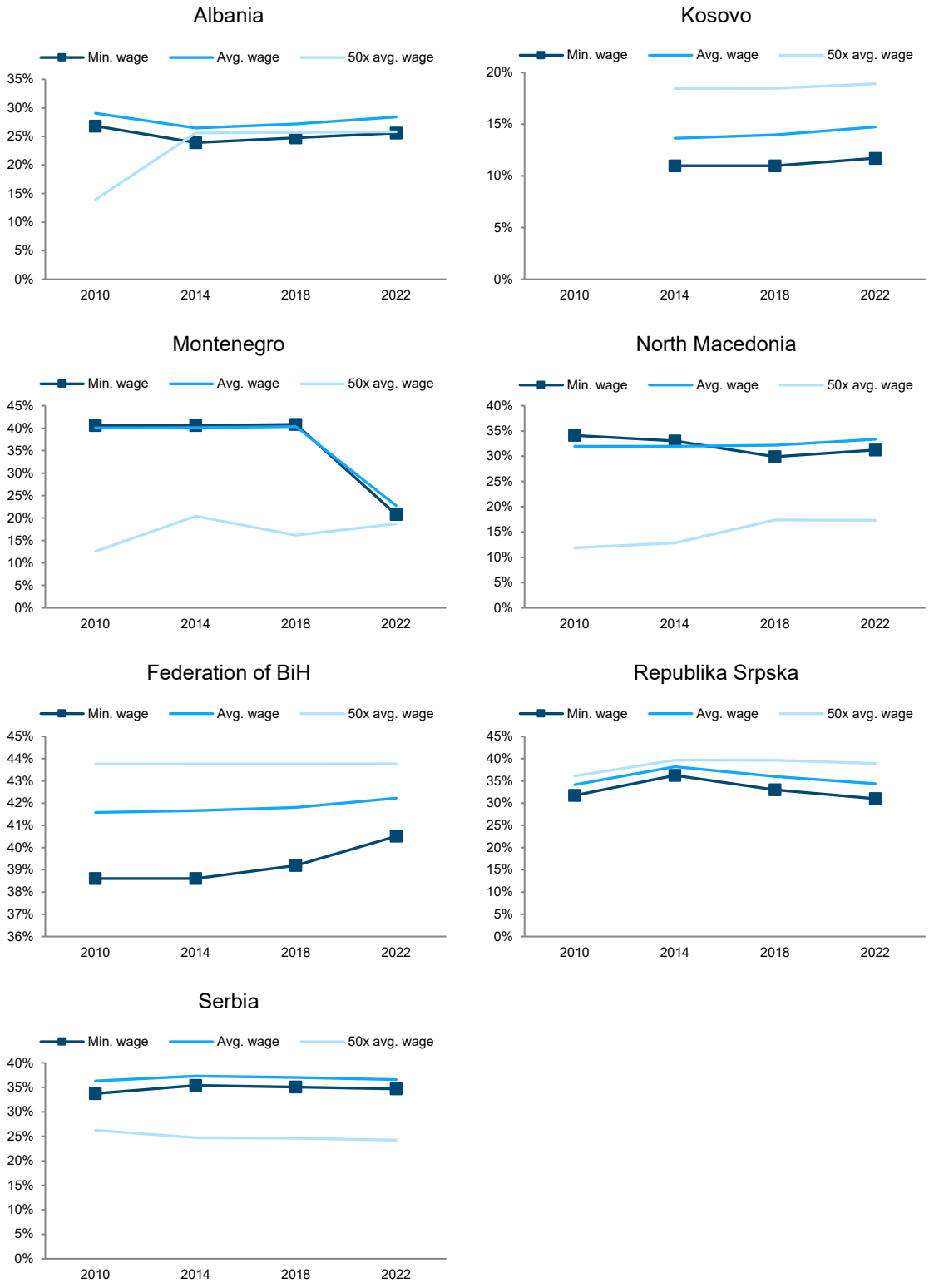
EVOLUTION OF THE LABOUR TAX WEDGE IN THE WESTERN BALKANS

Finally, we examine the changes in the labour tax systems in the Western Balkans from 2010 to 2022 (Figure 3). Overall, there were few changes during this period, with most adjustments aimed at increasing progressivity or reducing regressivity. The most significant changes occurred in Albania in 2014 and Montenegro in 2022. North Macedonia, Republika Srpska and Serbia also carried through some changes, though they were less substantive.

Albania reintroduced a progressive PIT in 2014, which led to a decline in its tax wedge at lower levels and a significant increase in the wedge at highest levels. The country raised the non-taxable part of income from around EUR 70 a month to around EUR 210 a month, which reduced the tax wedge on the minimum and the average wage. At the same time, it introduced a two-tier PIT, with rates of 13% and 23%, instead of the flat-rate PIT of 10% that it had until then. As a result of this change, the total tax wedge on wages of 50 times the average increased from around 14% of the labour cost in 2010 to around 26% in 2014. These changes brought the tax wedge for the highest wages close to the tax wedge for the minimum and the average wage.

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

Figure 3 / Trends in the labour tax wedge in Western Balkan economies in 2010-2022 (% of total labour cost)



Notes: No official data on wages in Kosovo were available before 2012.
Source: Author's calculations, using data from SEE Jobs Gateway, national statistical offices, OECD Tax Database and national tax legislation.

In **North Macedonia**, the tax wedge on the minimum wage declined from 34% in 2010 to 31% in 2022, due to an increase in the minimum wage, which rendered the minimum base for the calculation of SSCs inconsequential (since the minimum wage now exceeded it). In addition, the maximum base for 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 on wages of 50 times the average, from 12% in 2010 to 17% in 2022.

Serbia and Republika Srpska saw a general decline in their labour taxes. In **Serbia**, employer SSCs were gradually reduced by 1 percentage point, leading to a decline in the labour tax wedge of a similar magnitude at all wage levels. In **Republika Srpska**, the decline in the tax wedge was due to a reduction in the PIT rate to 8% in 2021 (from 10%) and a cut in health insurance contributions, from 12% to 10.2%.

CONCLUSIONS AND POLICY RECOMMENDATIONS

The two main findings from our analysis are that (i) labour tax rates are lower in the Western Balkans than in EU comparator countries, in both nominal and effective terms, and (ii) the effective tax schedule is much less progressive and, in most cases, is even regressive, particularly when it comes to the higher wage brackets. The regressivity in the effective tax rates stems from relatively low personal income tax rates and regressive social contributions – a result of the cap on contributions (i.e. the maximum base for calculating contributions). This cap effectively reduces the rate of tax on higher wages. In contrast, the floor on SSCs that stems from the minimum base for calculating the contributions has become largely irrelevant (at least for full-time employees), since recent hikes in the region's minimum wages have led those minimum wages to exceed the minimum contribution bases.

The regressive nature of the labour tax systems implies that governments may be missing out on potential revenue. By increasing the effective tax rates for high earners, governments could boost revenue, which could then be used to increase public spending.

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

The Western Balkan economies have several options available to achieve a more equitable tax system. The first 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 that range from 20% to 55%. It could be challenging to implement such a change in the Western Balkans, as it would represent a significant departure from the systems currently in place, which are mostly flat or only mildly progressive. A second option would be to abolish (or at least significantly raise) the cap on SSCs. This change would eliminate or reduce the preferential tax treatment of the very top earners. A third approach could combine these two measures by raising the cap on social contributions, while simultaneously introducing a progressive personal income tax system.

In some countries of the region, reforms have recently started to move in this direction, with a shift toward greater progressivity (or lower regressivity) in labour taxation. Most notably, Albania reinstated a progressive personal income tax in 2014, and Montenegro followed suit in 2022; meanwhile, North Macedonia has repeatedly raised the cap on SSCs, effectively increasing the labour tax wedge on higher incomes. These changes have also led, at least partially, to increased government revenue in both Albania and North Macedonia. It is still too early to assess the impact in Montenegro. Continuing these efforts may help advance countries' socioeconomic objectives.

Monthly and quarterly statistics for Central, East and Southeast Europe

The monthly and quarterly statistics cover **23 countries** of the CESEE region. The graphical form of presenting statistical data is intended to facilitate the **analysis of short-term macroeconomic developments**. The set of indicators captures trends in the real and monetary sectors of the economy, in the labour market, as well as in the financial and external sectors.

Baseline data and a variety of other monthly and quarterly statistics, **country-specific** definitions of indicators and **methodological information** on particular time series are **available in the wiiw Monthly Database** under: **https://data.wiiw.ac.at/monthly-database.html**. Users regularly interested in a certain set of indicators may create a personalised query which can then be quickly downloaded for updates each month.

Conventional signs and abbreviations used

%	per cent
ER	exchange rate
GDP	Gross Domestic Product
HICP	Harmonised Index of Consumer Prices (for new EU member states)
LFS	Labour Force Survey
NPISHs	Non-profit institutions serving households
p.a.	per annum
PPI	Producer Price Index
reg.	registered
y-o-y	year on year

The following national currencies are used:

ALL	Albanian lek	HUF	Hungarian forint	RON	Romanian leu
BAM	Bosnian convertible mark	KZT	Kazakh tenge	RSD	Serbian dinar
BGN	Bulgarian lev	MDL	Moldovan leu	RUB	Russian rouble
BYN	Belarusian rouble	MKD	Macedonian denar	TRY	Turkish lira
CZK	Czech koruna	PLN	Polish zloty	UAH	Ukrainian hryvnia

EUR euro – national currency for Montenegro, Kosovo and for the euro-area countries Estonia (from January 2011, euro-fixed before), Latvia (from January 2014, euro-fixed before), Lithuania (from January 2015, euro-fixed before), Slovakia (from January 2009, euro-fixed before), Slovenia (from January 2007, euro-fixed before) and Croatia (from January 2023, euro-fixed before).
Sources of statistical data: Eurostat, National Statistical Offices, Central Banks and Public Employment Services; wiiw estimates.

Online database access

wiiw Annual Database

wiiw Monthly Database

wiiw FDI Database

The wiiw databases are accessible via a simple web interface, with only one password needed to access all databases (and all wiiw publications).

You may access the databases here: https://data.wiiw.ac.at.

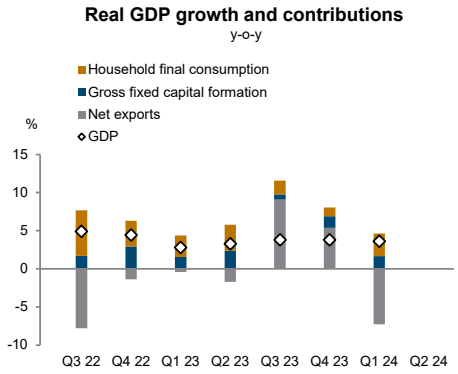
If you have not yet registered, you can do so here: https://wiiw.ac.at/register.html.

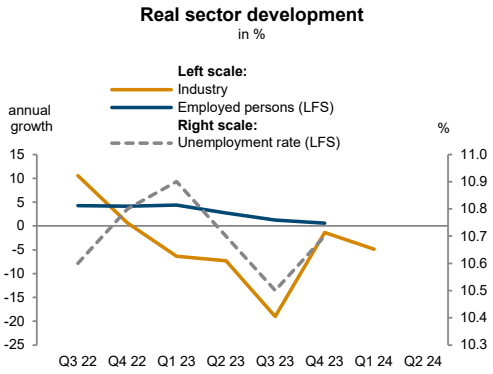
Service package available

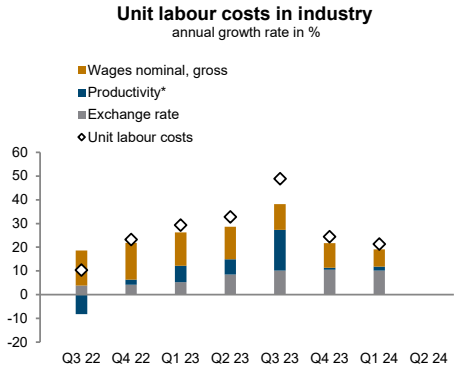
We offer an additional service package that allows you to access all databases – a wiiw Membership, at a price of € 2,700. Your usual package will, of course, remain available as well.

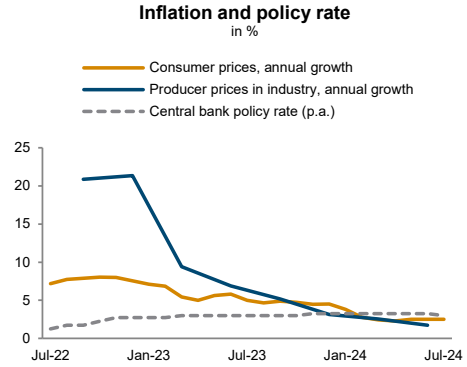
For more information on database access for Members and on Membership conditions, please contact Ms. Monika Potocnik (potocnik@wiiw.ac.at), phone: (+43-1) 533 66 10.

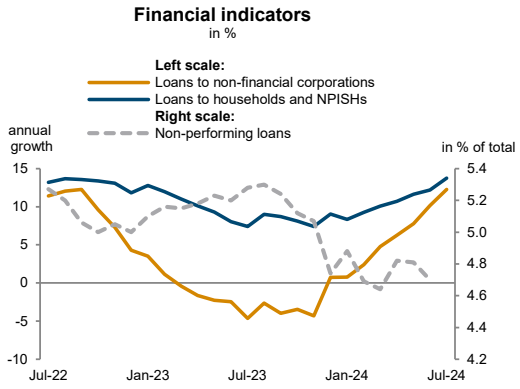
Albania

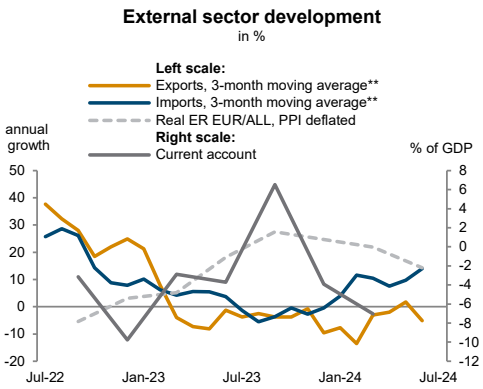












*Positive values of the productivity component on the graph reflect decline in productivity and vice versa.
**EUR based.

Source: wiiw Monthly Database incorporating Eurostat and national statistics.
Baseline data, country-specific definitions and methodological breaks in time series are available under:
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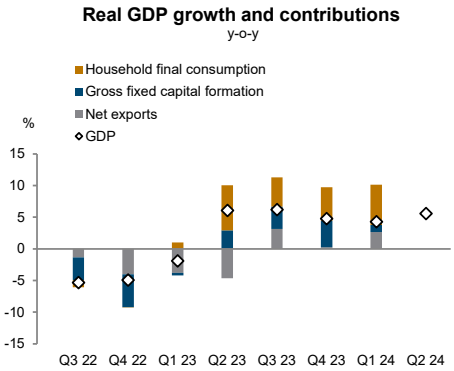
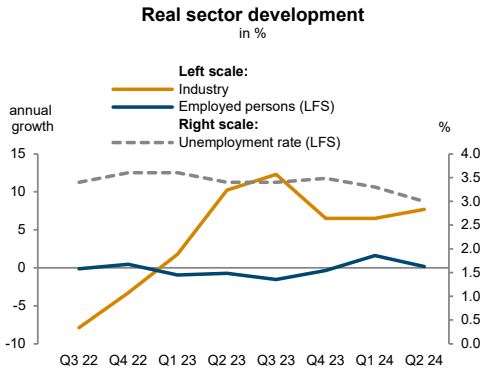
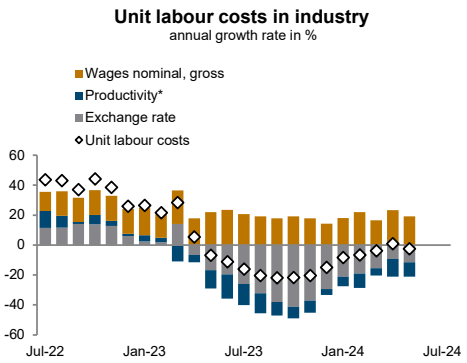
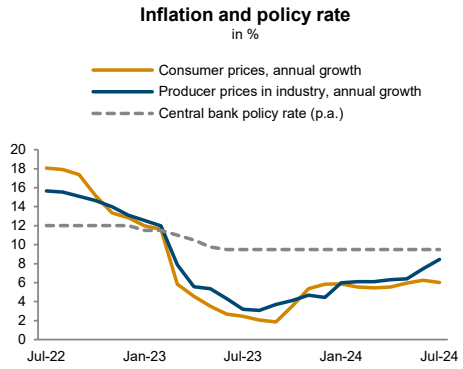
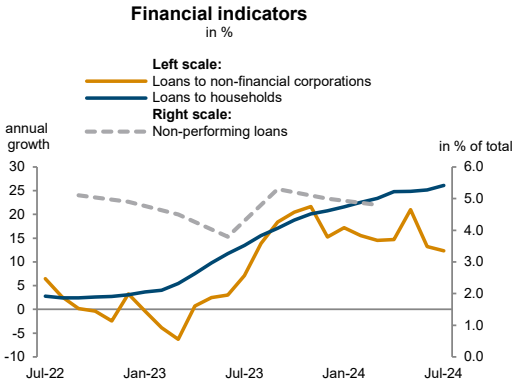
Belarus

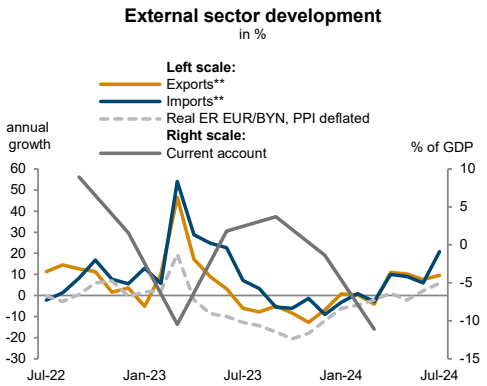












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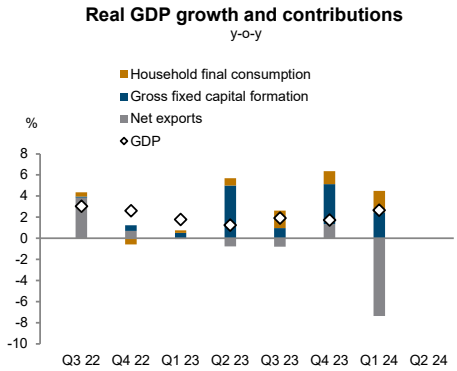
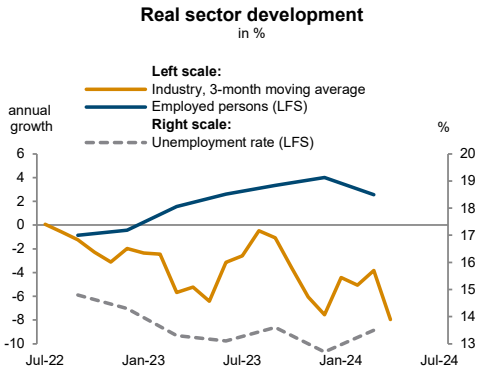
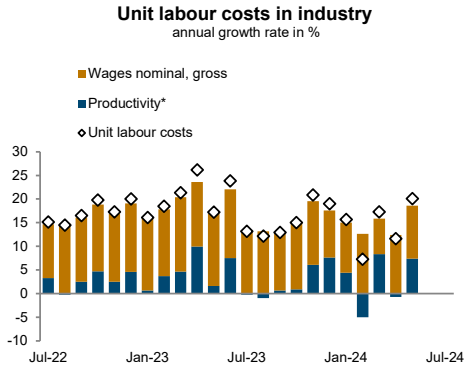
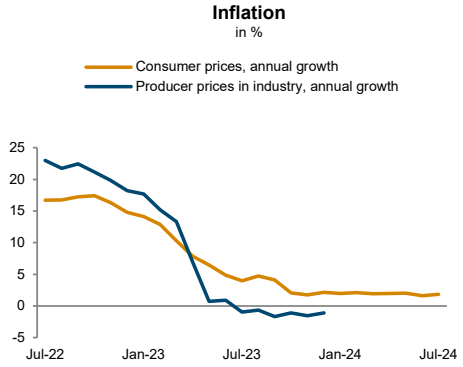
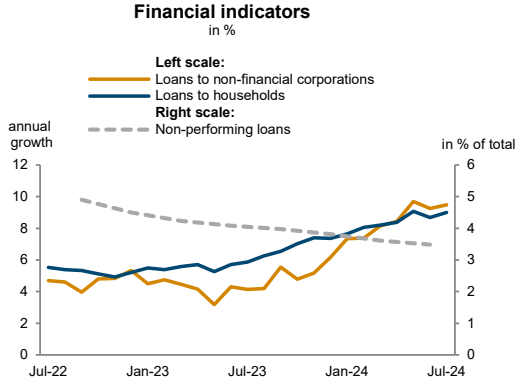
Bosnia and Herzegovina

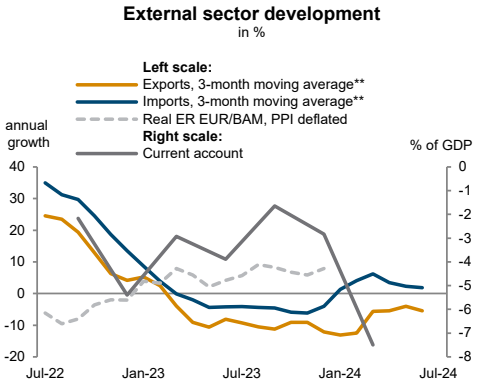












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**EUR based.

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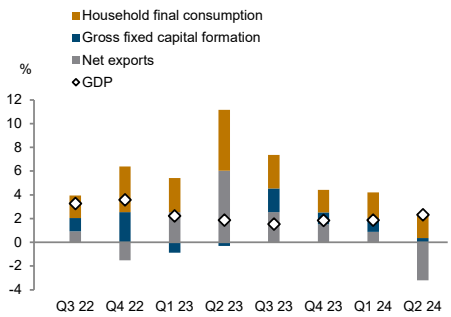
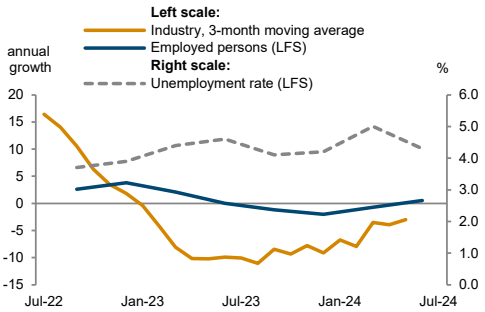
Bulgaria

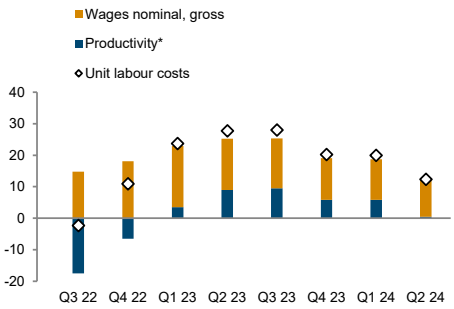
Real GDP growth and contributions
y-o-y



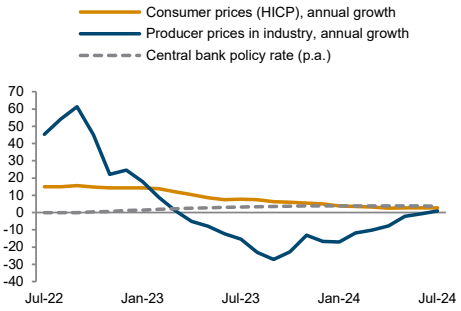
Real sector development
in %



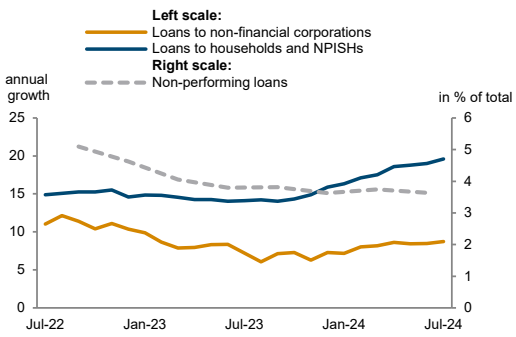
Unit labour costs in industry
annual growth rate in %



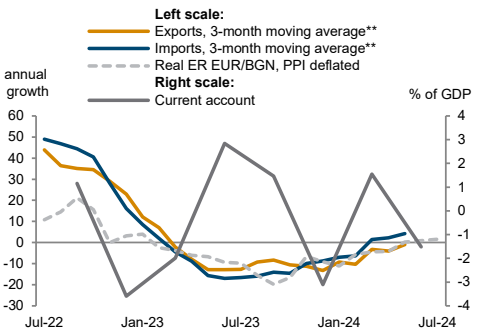
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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**EUR based.

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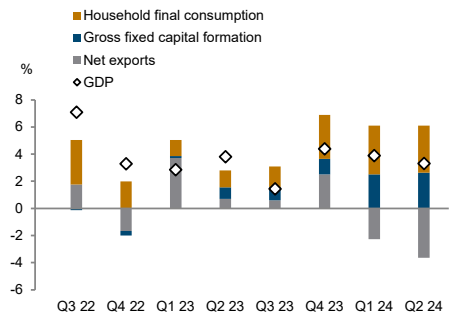
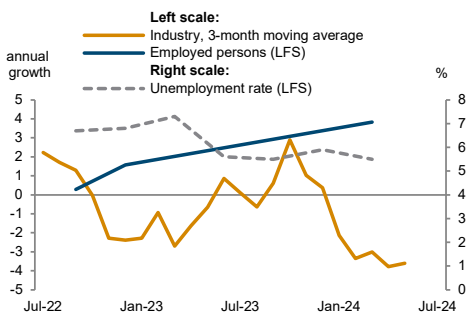
Croatia

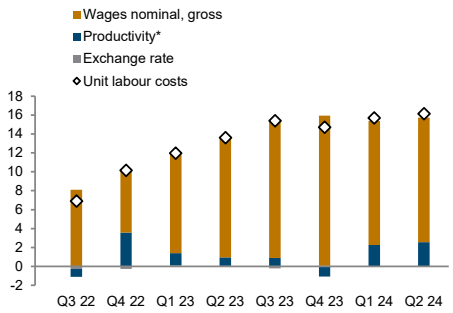
Real GDP growth and contributions
y-o-y



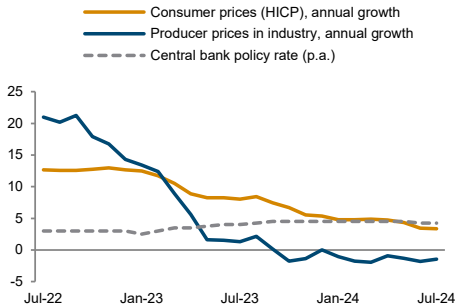
Real sector development
in %



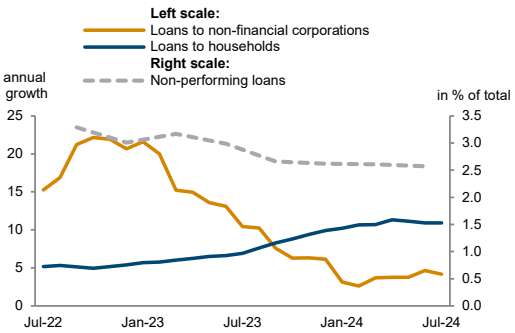
Unit labour costs in industry
annual growth rate in %



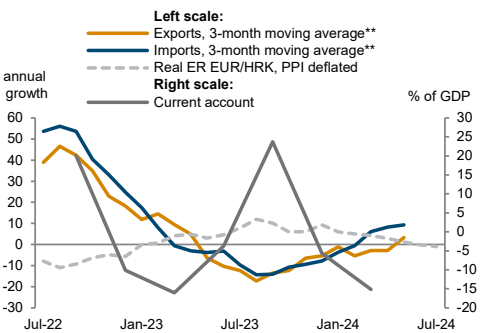
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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**EUR based.

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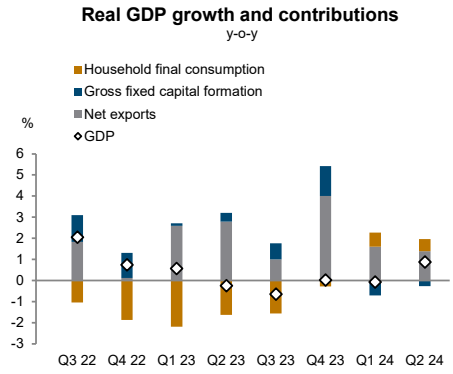
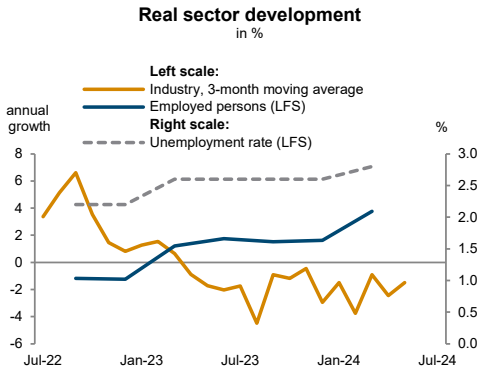
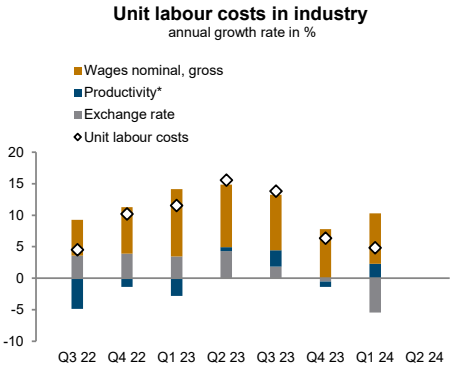
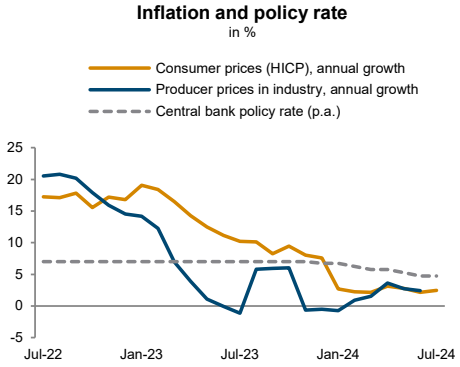
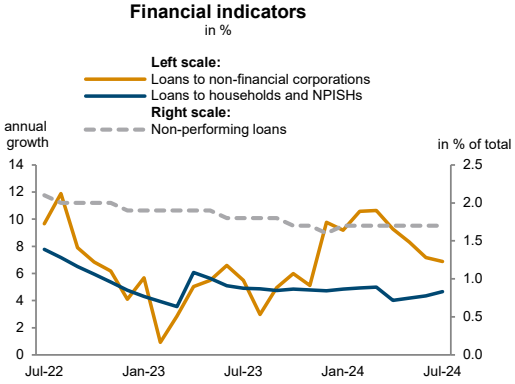
Czechia

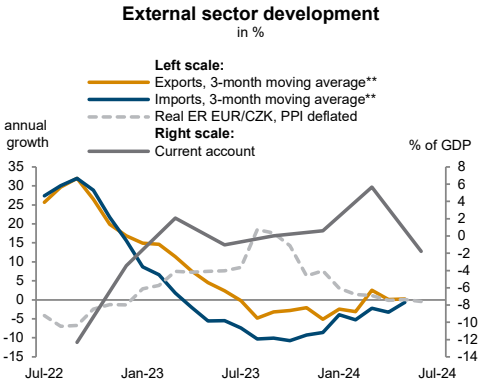












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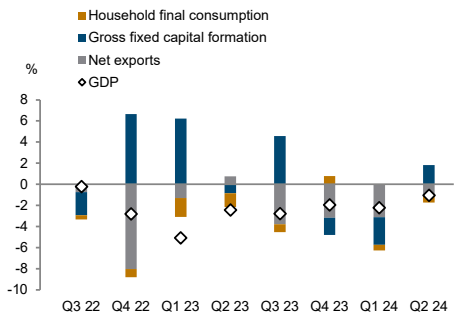
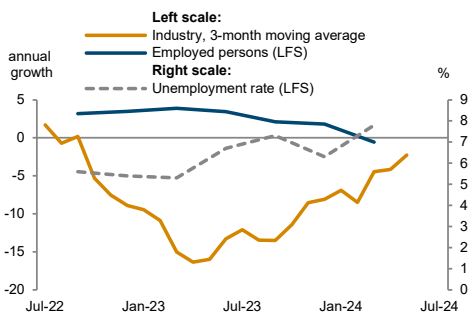
Estonia

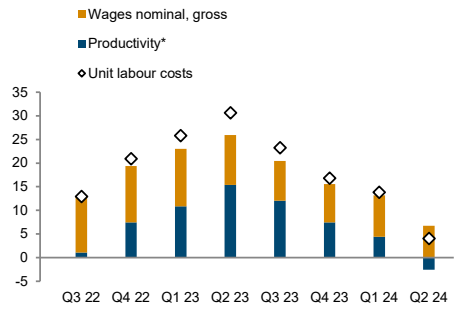
Real GDP growth and contributions
y-o-y



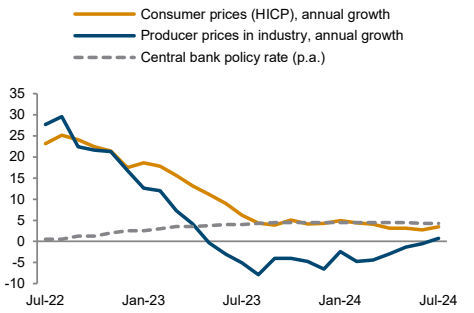
Real sector development
in %



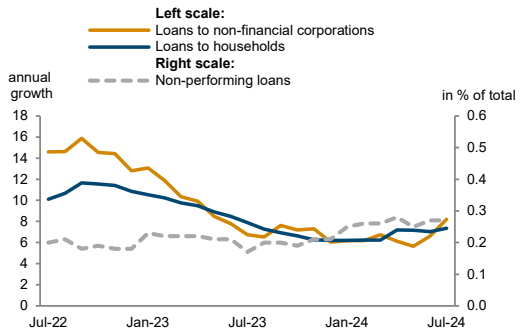
Unit labour costs in industry
annual growth rate in %



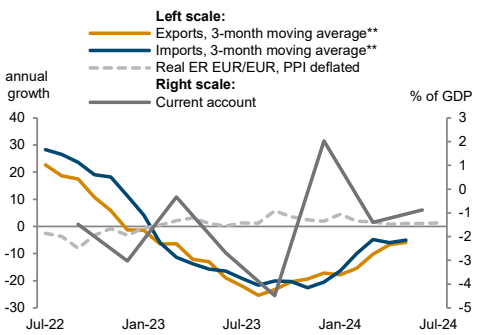
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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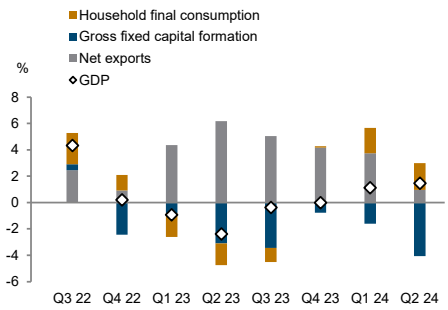
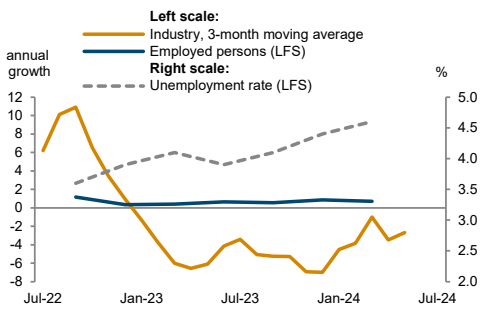
Hungary

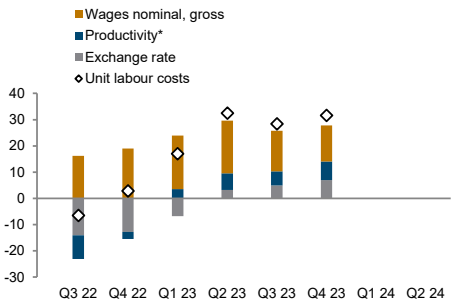
Real GDP growth and contributions
y-o-y



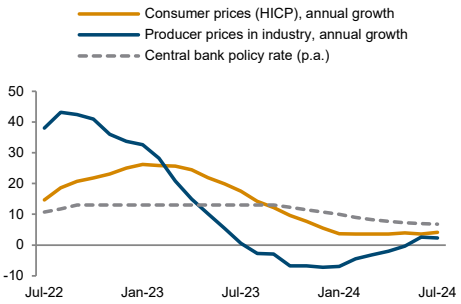
Real sector development
in %



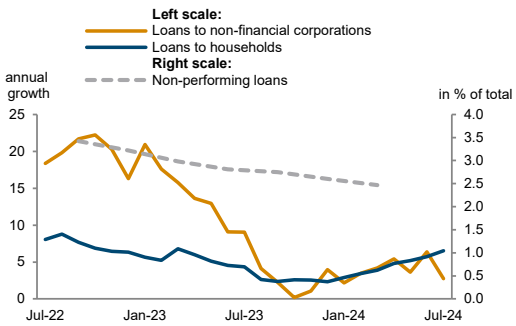
Unit labour costs in industry
annual growth rate in %



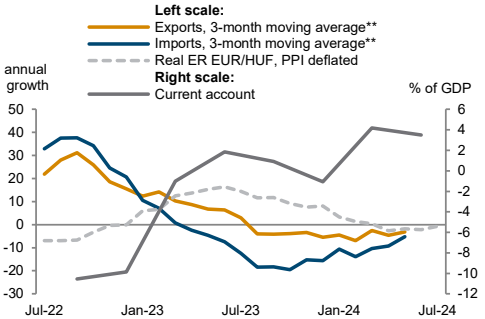
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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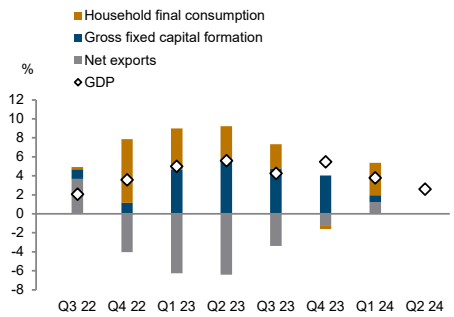
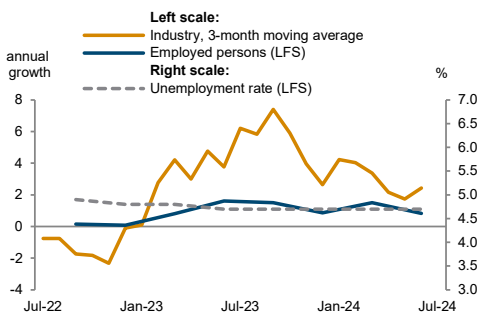
Kazakhstan

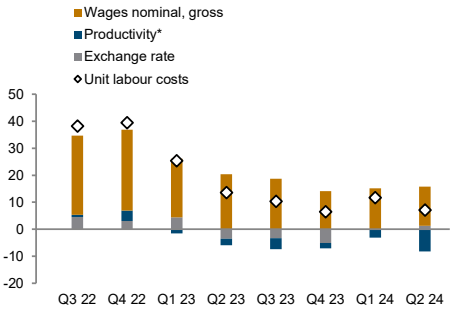
Real GDP growth and contributions
y-o-y



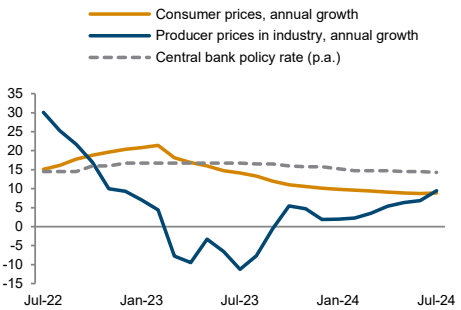
Real sector development
in %



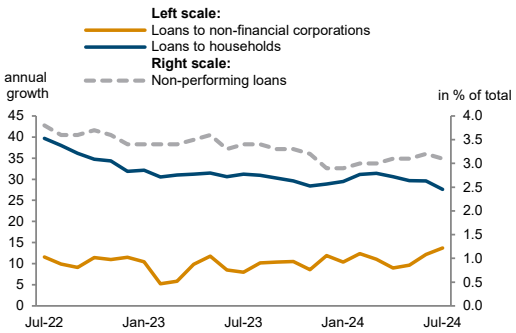
Unit labour costs in industry
annual growth rate in %



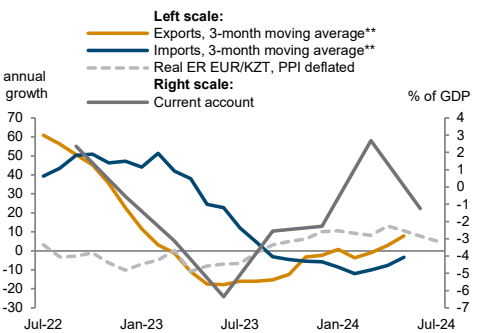
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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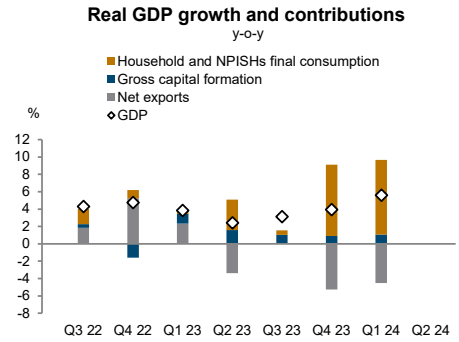
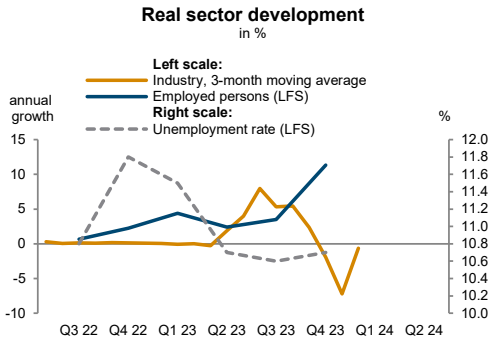
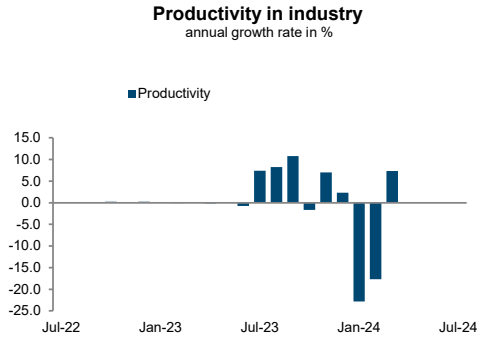
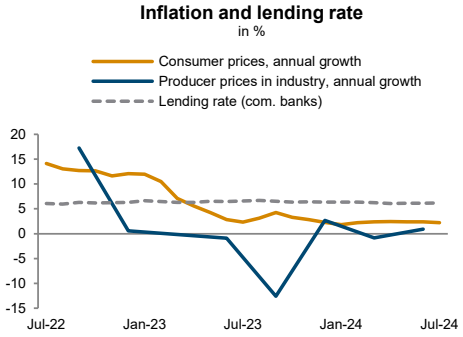
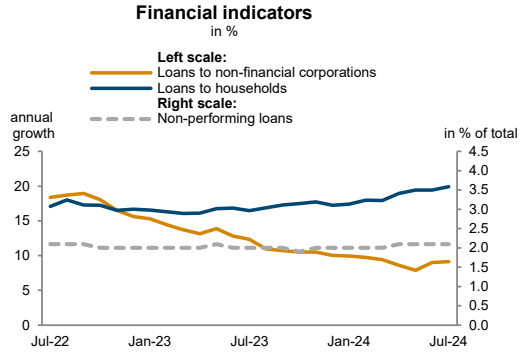
Kosovo

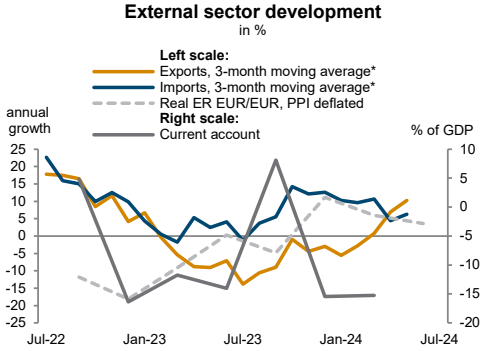












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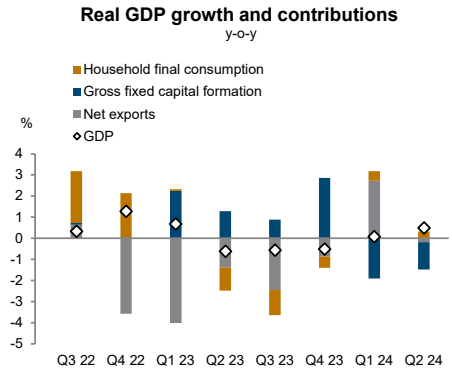
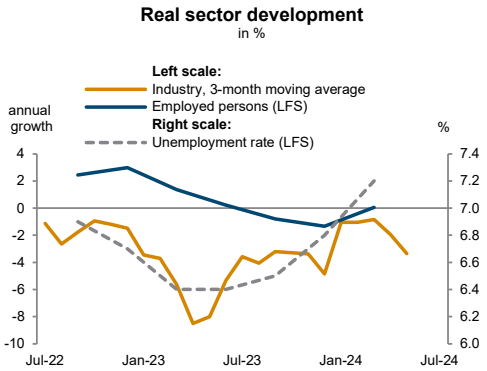
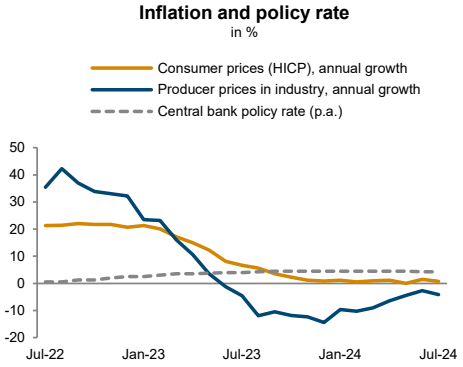
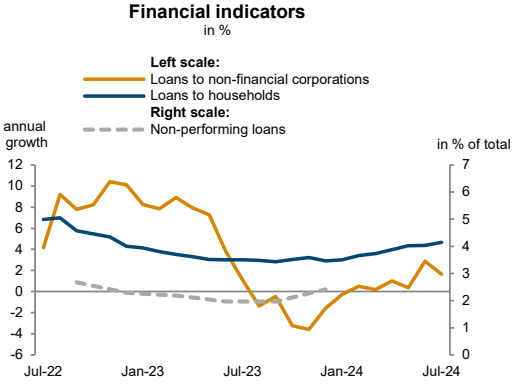
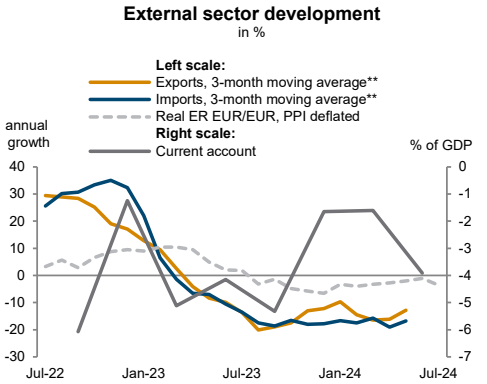
Latvia











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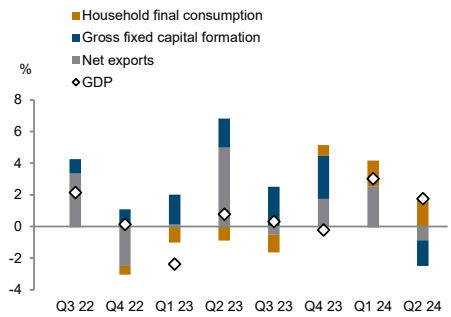
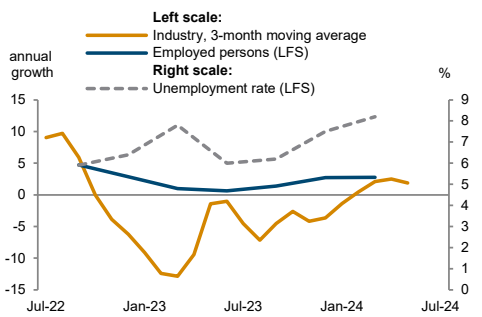
Lithuania

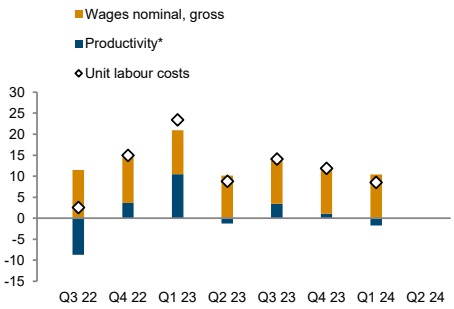
Real GDP growth and contributions
y-o-y



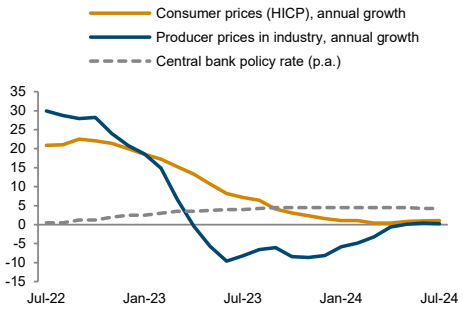
Real sector development
in %



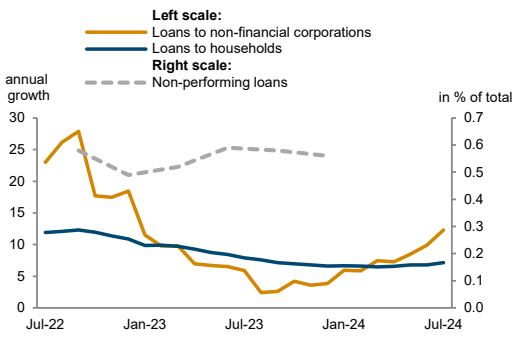
Unit labour costs in industry
annual growth rate in %



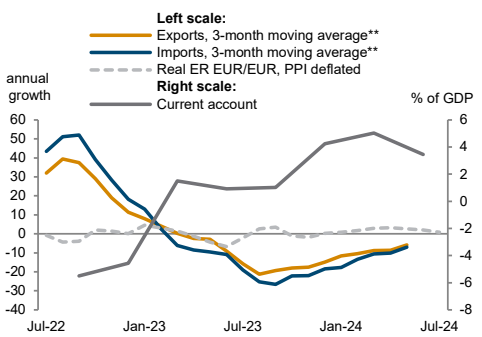
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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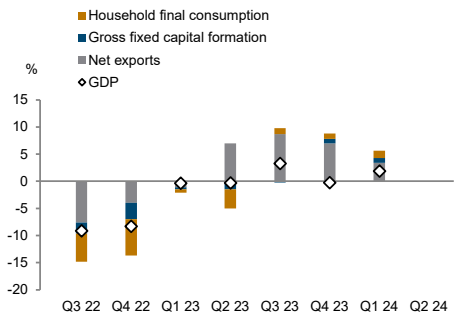
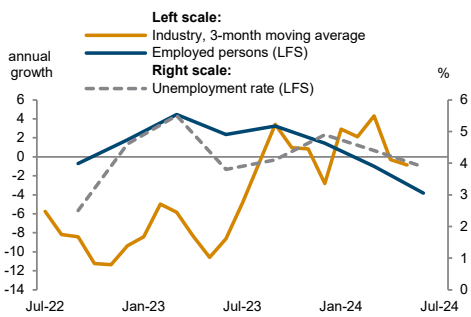
Moldova

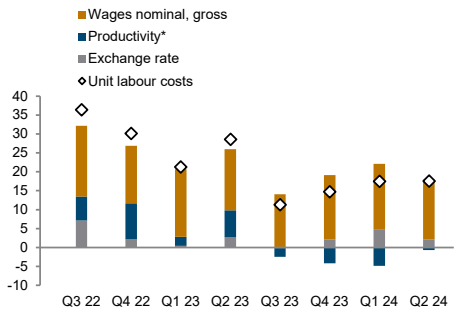
Real GDP growth and contributions
y-o-y



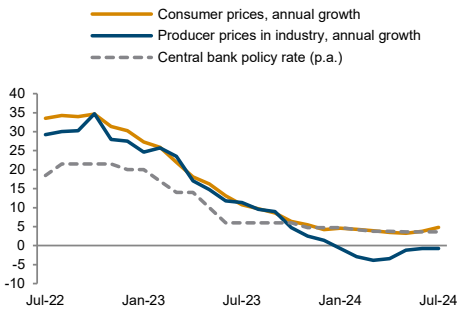
Real sector development
in %



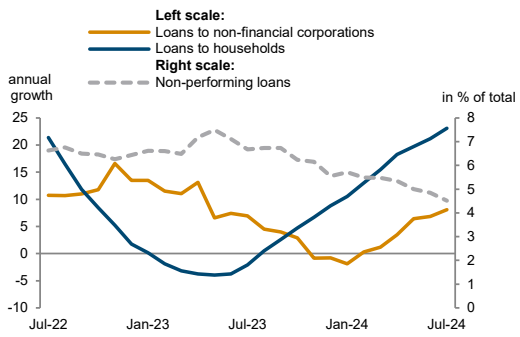
Unit labour costs in industry
annual growth rate in %



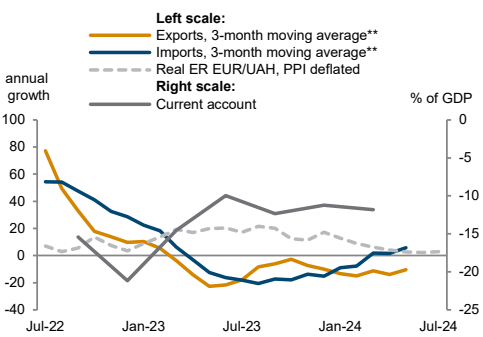
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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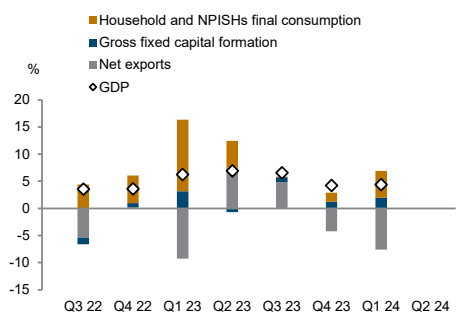
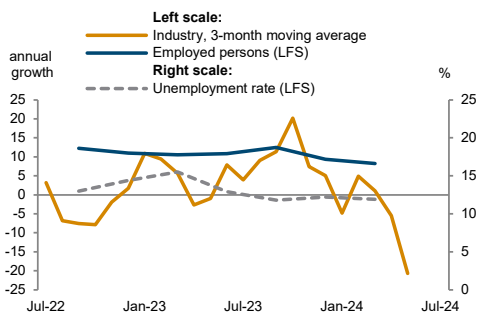
Montenegro

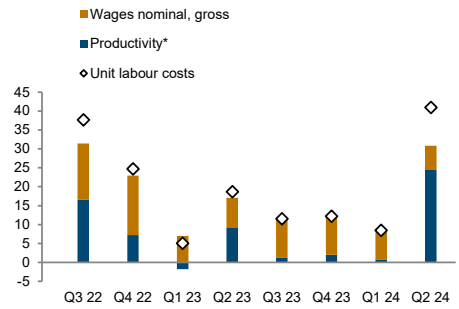
Real GDP growth and contributions
y-o-y



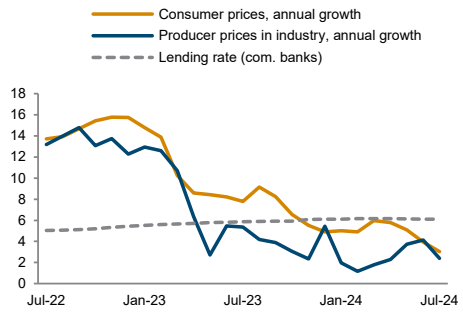
Real sector development
in %



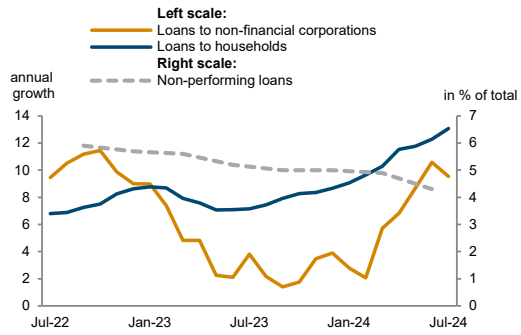
Unit labour costs in industry
annual growth rate in %



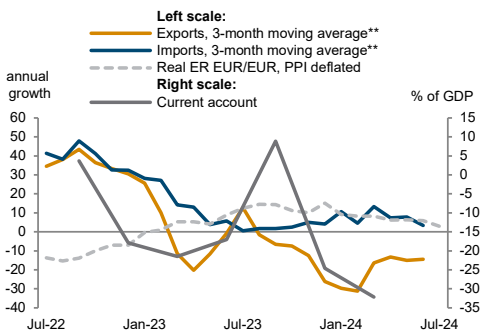
Inflation and lending rate
in %



Financial indicators
in %



External sector development
in %



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**EUR based.

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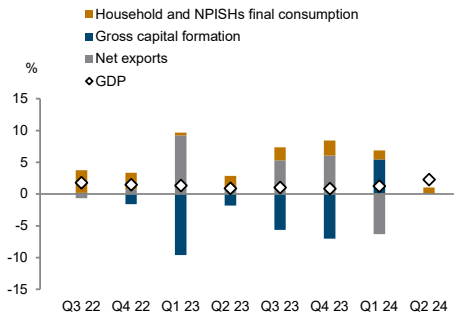
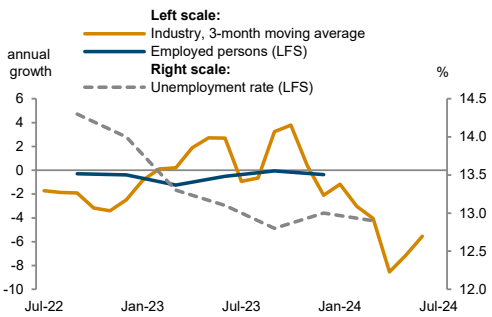
North Macedonia

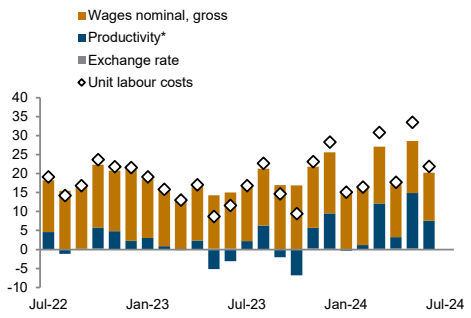
Real GDP growth and contributions
y-o-y



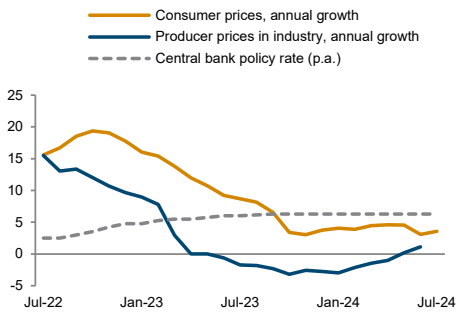
Real sector development
in %



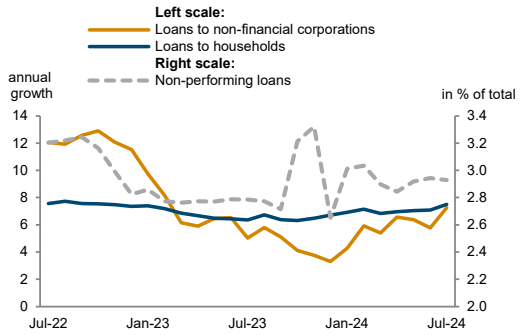
Unit labour costs in industry
annual growth rate in %



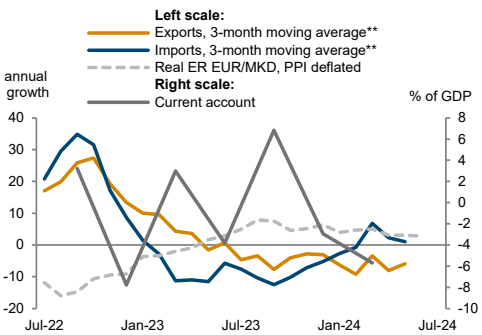
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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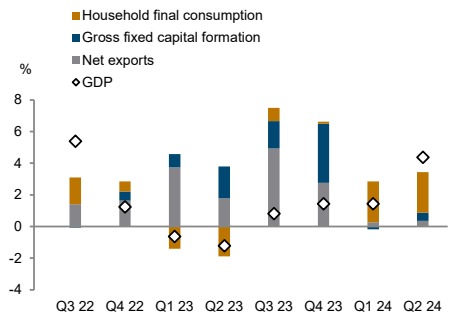
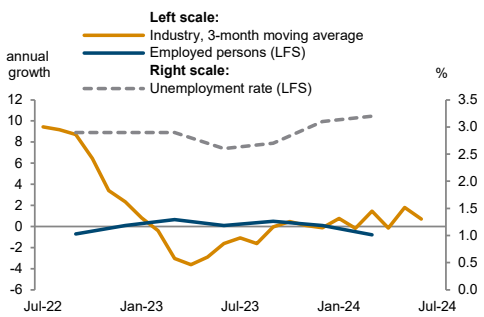
Poland

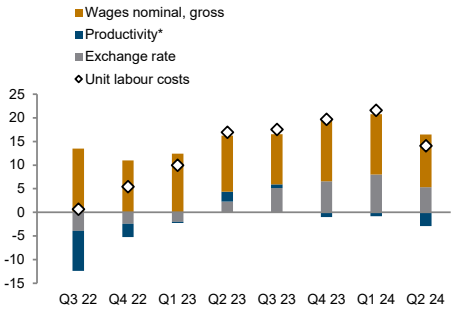
Real GDP growth and contributions
y-o-y



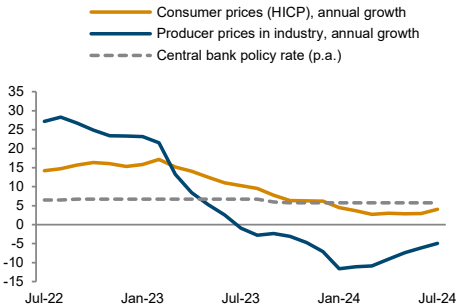
Real sector development
in %



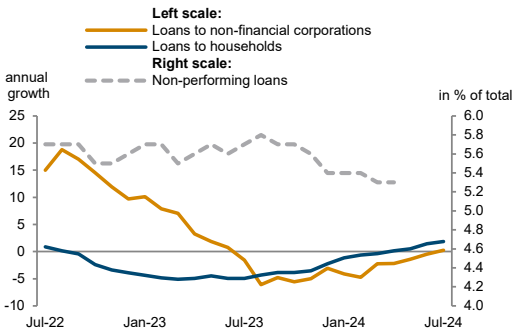
Unit labour costs in industry
annual growth rate in %



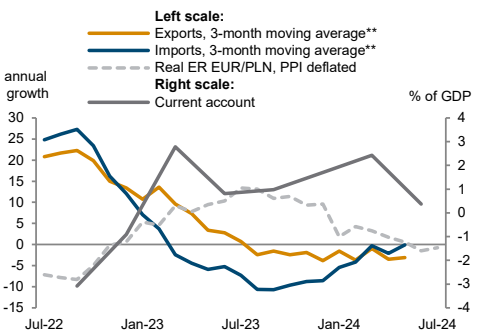
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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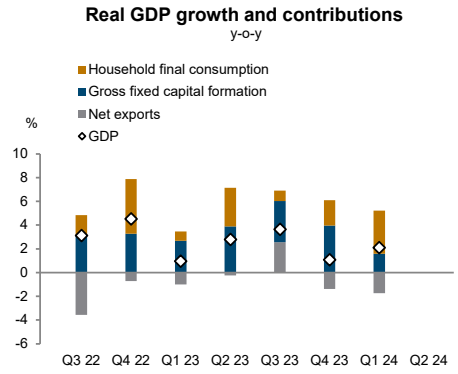
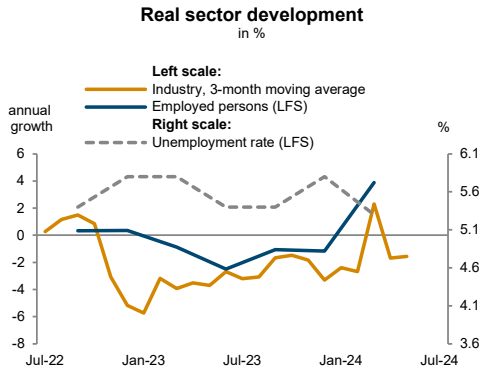
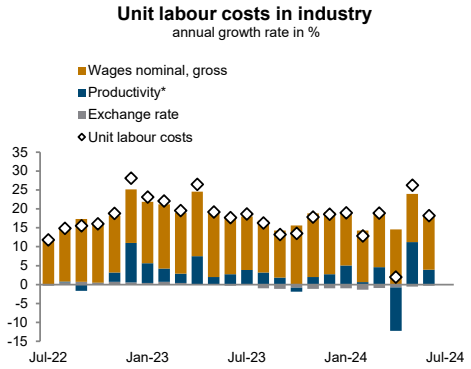
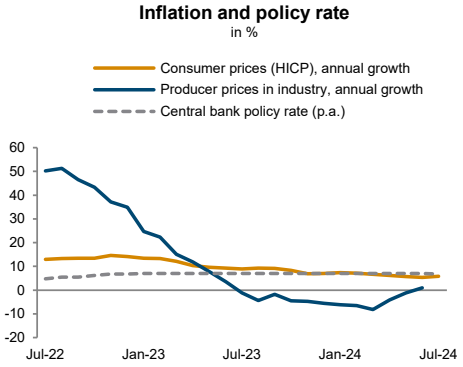
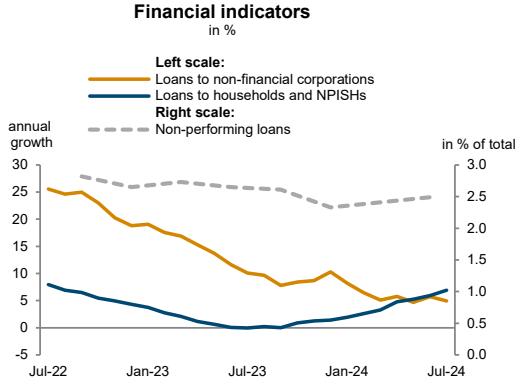
Romania

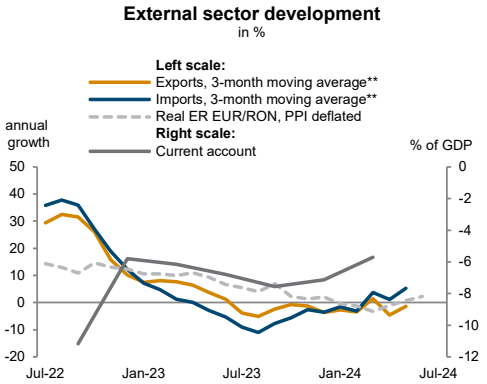












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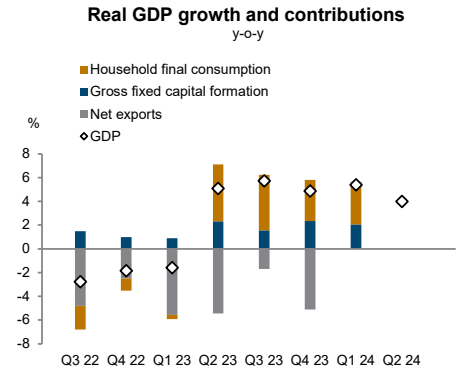
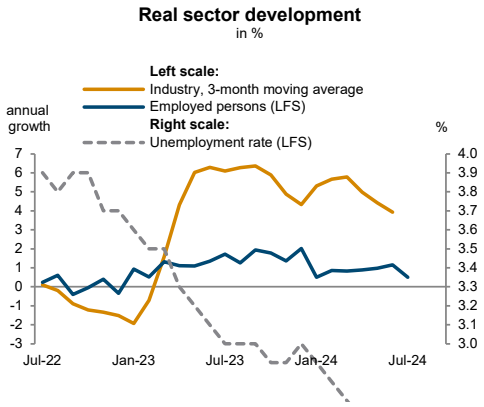
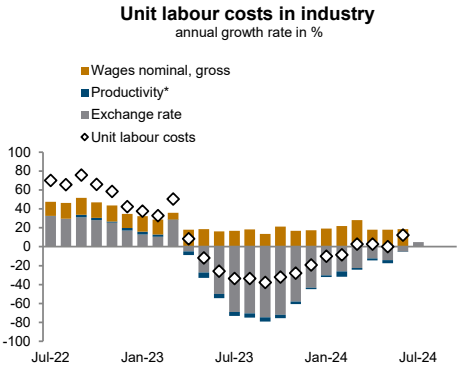
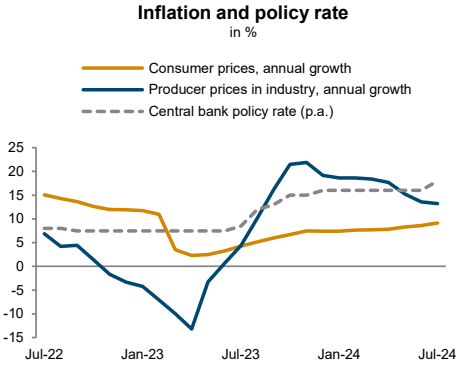
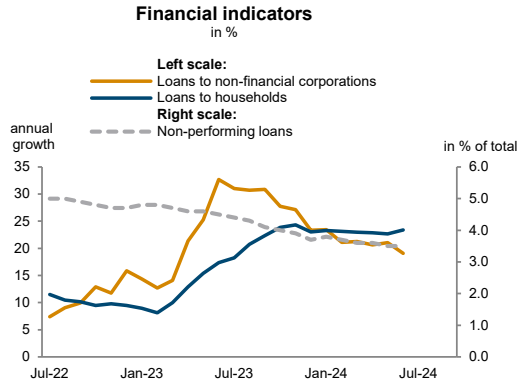
Russia

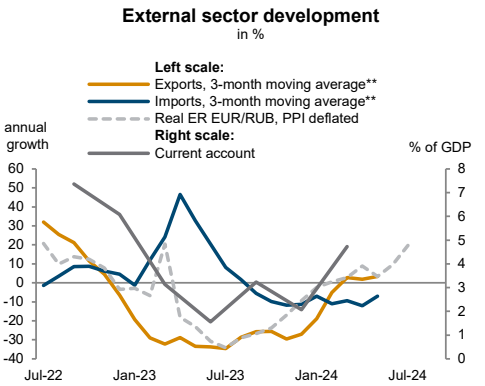












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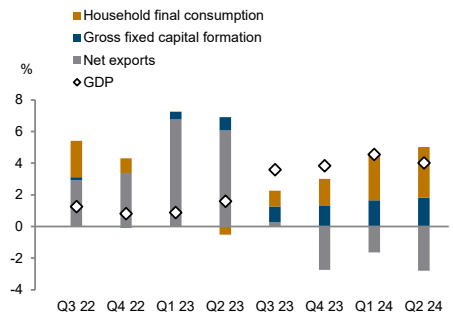
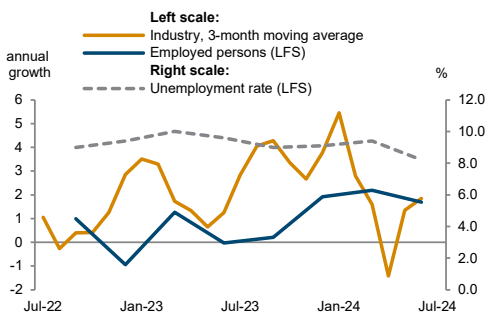
Serbia

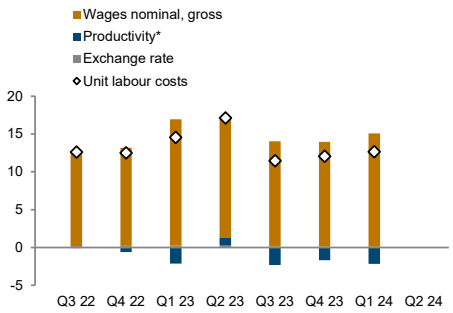
Real GDP growth and contributions
y-o-y



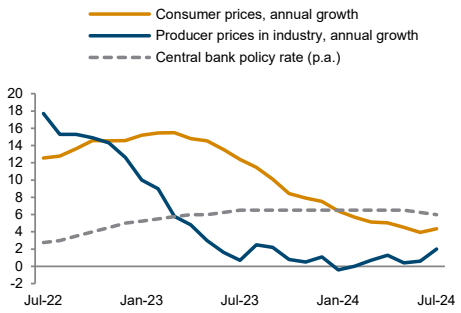
Real sector development
in %



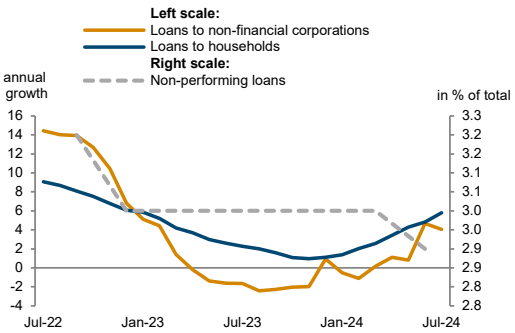
Unit labour costs in industry
annual growth rate in %



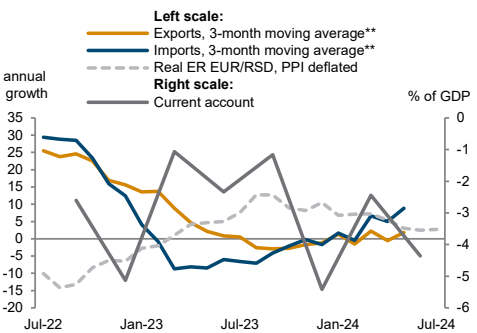
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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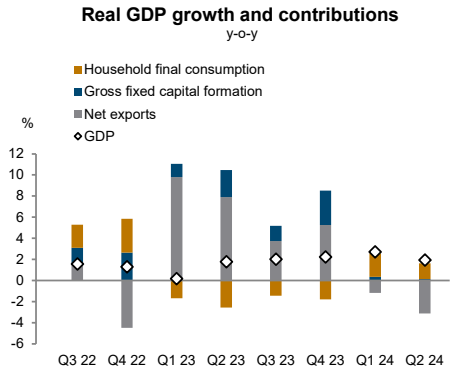
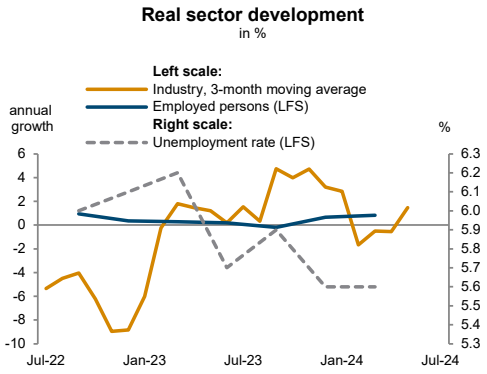
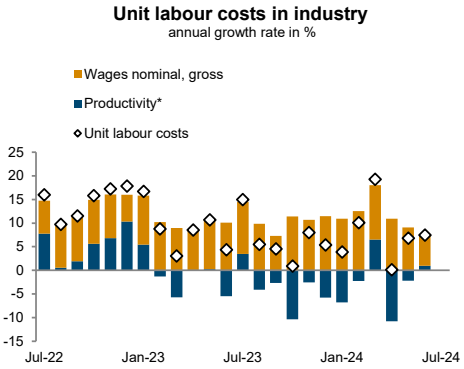
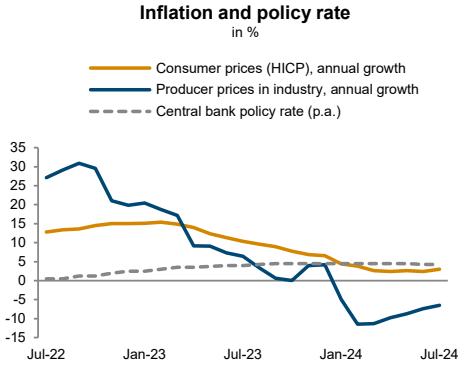
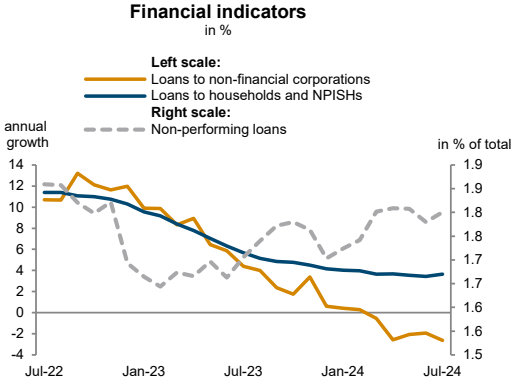
Slovakia

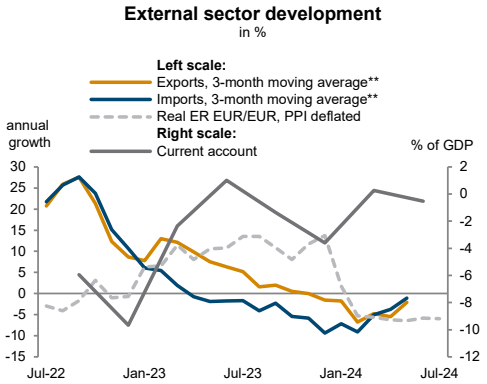












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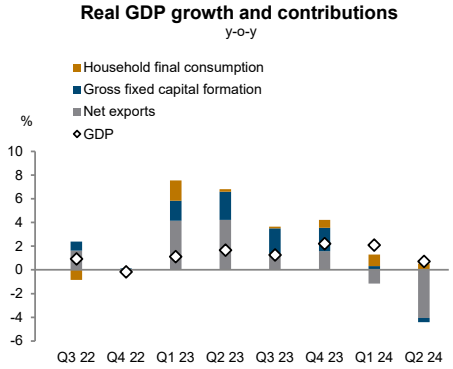
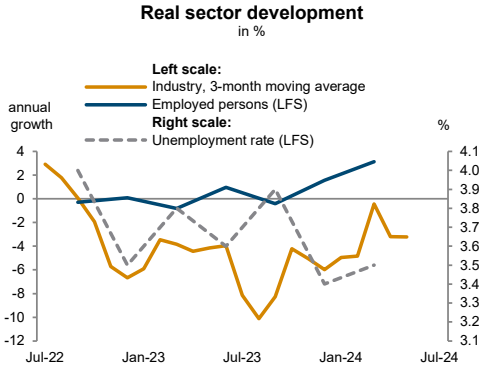
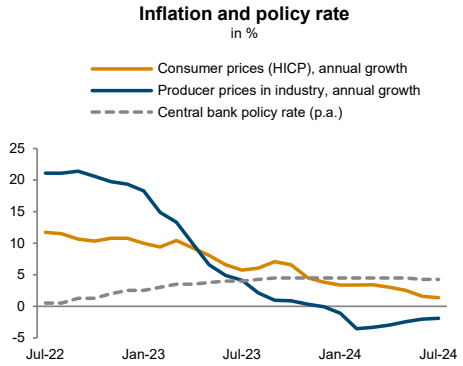
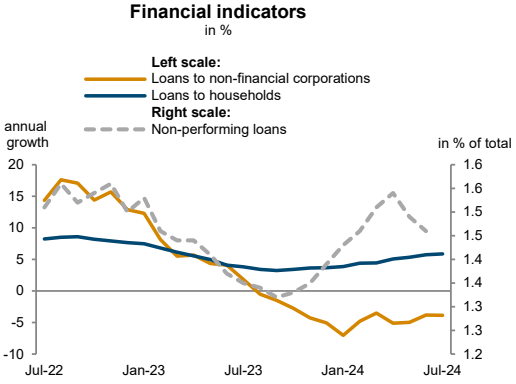
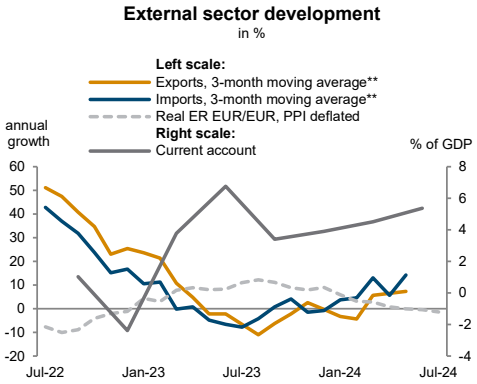
Slovenia











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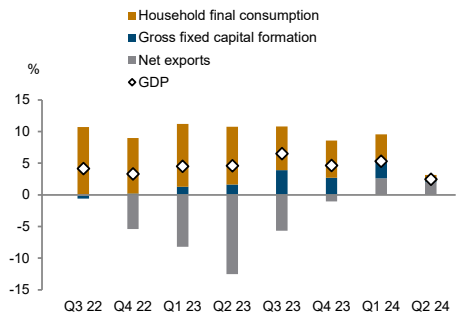
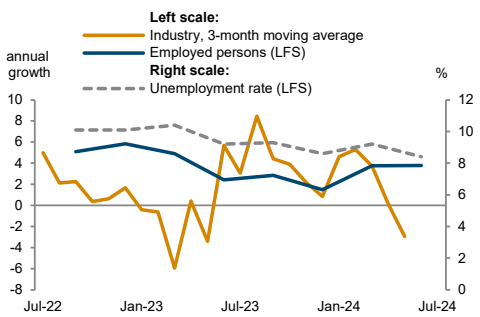
Turkey

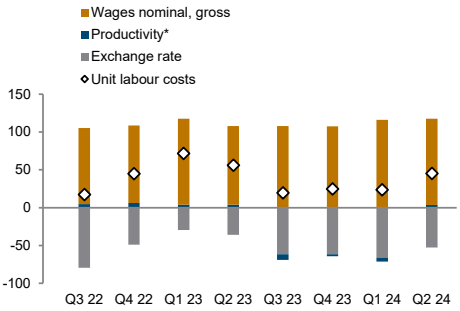
Real GDP growth and contributions
y-o-y



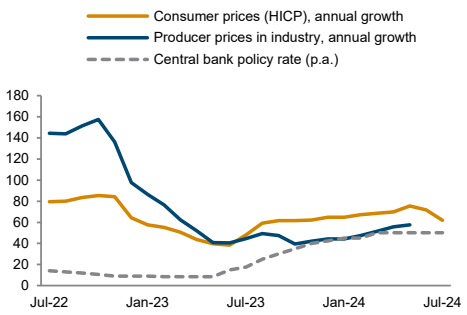
Real sector development
in %



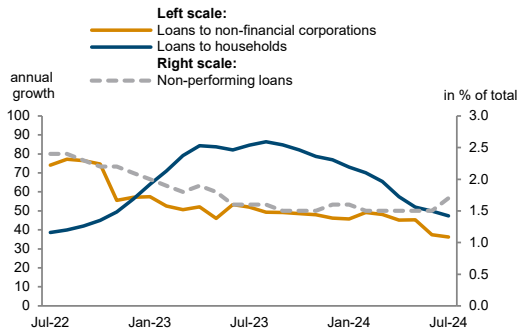
Unit labour costs in industry
annual growth rate in %



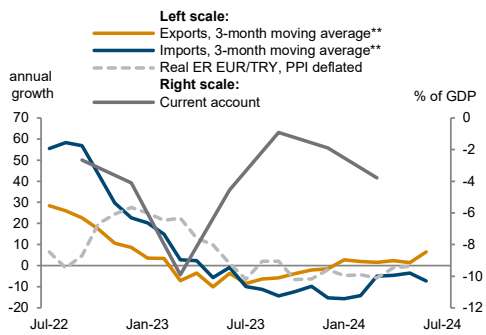
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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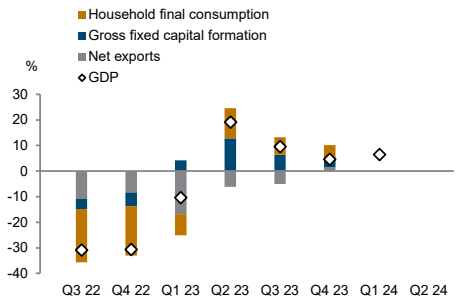
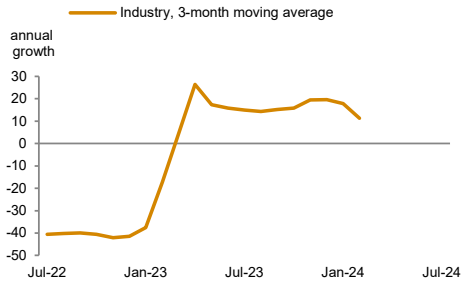
Ukraine

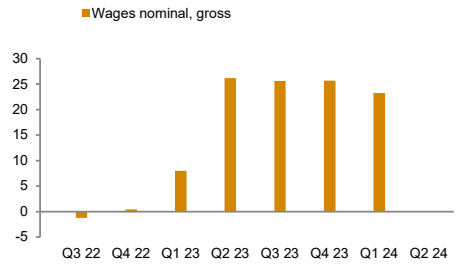
Real GDP growth and contributions
y-o-y



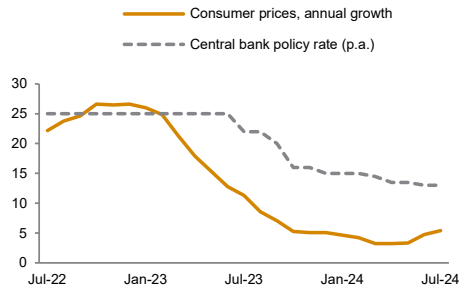
Real sector development
in %



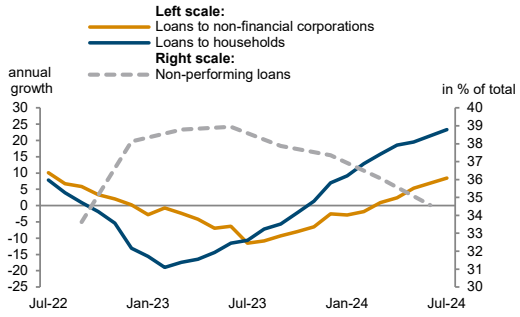
Wages in industry
annual growth rate in %



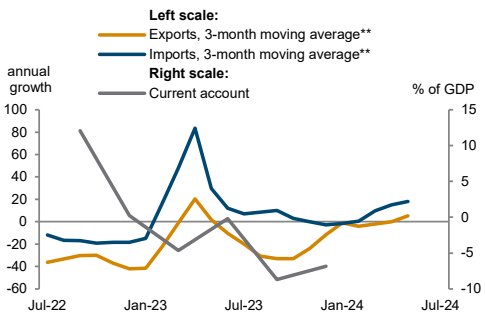
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



*Positive values of the productivity component on the graph reflect decline in productivity and vice versa.
**EUR based.

Source: wiiw Monthly Database incorporating Eurostat and national statistics.
Baseline data, country-specific definitions and methodological breaks in time series are available under:
https://data.wiiw.ac.at/monthly-database.html

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multi-country articles and statistical overviews

Monthly and quarterly statistics for Central, East and Southeast Europe are compiled by the statistics department: Alexandra Bykova (coordination), Beata Borosak, Nadja Heger, Beate Muck, Monika Schwarzhappel, Galina Vasaros and David Zenz.

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