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Estimating the Effects of Commuting on Regional GDP in Austria

Austria's Investment in its Eastern Neighbourhood

Main Austrian Export Destinations: The Role of CESEE Re-examined



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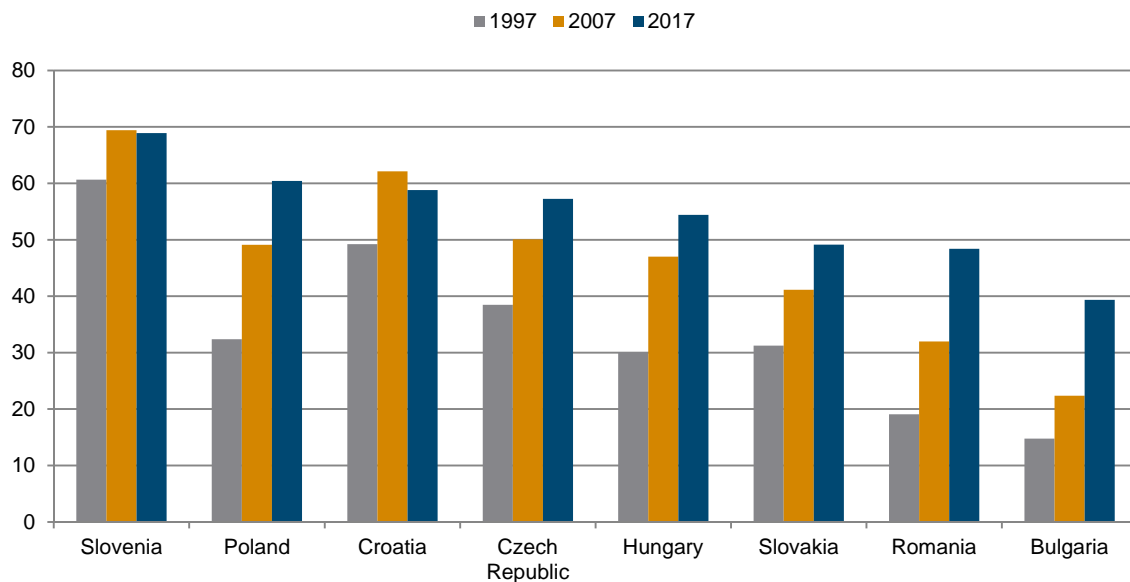
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Average gross monthly wages in Central and East European countries, at purchasing power parity, Austria = 100



Note: Registration data.

Source: wiiw Annual Database.

Opinion Corner^{*}: How can wages in Central and Eastern Europe be sustainably increased and the pressure to emigrate dampened?¹

ANSWERED BY VASILY ASTROV AND ARMON REZAI

Until recently, the growth of real gross hourly wages in eight Central and Eastern European (CEE) countries of the EU which are relevant for Austria (Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia) was very subdued. This is all the more astonishing because the strong emigration to Western Europe, including Austria, massively reduced the local supply of available labour force. What should be done to achieve sustainable wage growth in CEE and thus reduce the incentives for the local population to look for a job abroad? This would require industrial policy measures, on the one hand, and institutional reforms which would strengthen the bargaining position of workers, on the other.

WHY IS ROBUST WAGE GROWTH IMPORTANT?

Wage levels in all CEE countries are still far below those in Austria. Converted at purchasing power parities (i.e. adjusted for price differences), they range from about 70 per cent of the Austrian level in Slovenia to less than 40 per cent in Bulgaria. At exchange rates, the wage gap between these countries and Austria is even greater.

Only since 2016, after several years of near-stagnation, has it been possible to observe a significant acceleration in real wage growth in CEE countries. Macroeconomically, this has had exclusively positive effects, at least so far. Wage growth strengthens consumer demand and thus improves companies' sales expectations, which is reflected in higher investments. For their part, investments raise labour productivity, which enables further wage increases. This creates a virtuous circle of positive supply and demand shocks, resulting in sustainable economic growth.

Wage growth could become problematic only when it exceeds growth in labour productivity, as this leads to higher unit labour costs and jeopardises competitiveness. This is not (yet) the case in the CEE countries: they have strong export industries and mostly current account surpluses. Nevertheless, it is important that competitiveness is maintained also in the future. The promotion of export capacity is of central importance for this. For historical reasons, export industries in CEE countries represent mainly upstream segments of production in Western Europe. This subcontracting function has enabled rapid integration into global production networks, but at the same time the rigid structure of these networks

^{*} 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 original version of this text (in German) was published in the online blog of the Vienna Chamber of Labour: <https://awblog.at/loehne-mittel-und-osteuropa/>

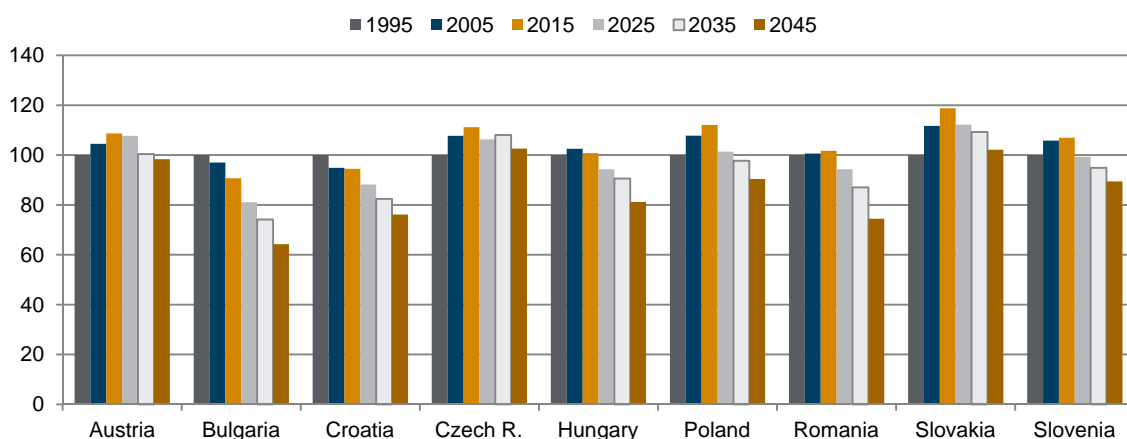
limits their upgrade to higher value-added activities such as research and development, headquarters services, marketing, etc. In order to achieve such upgrade, the EU's current industrial policy, which largely targets already highly specialised regions at the 'technology frontier', should be reconsidered. Above all, it is important to realise the development potential of peripheral countries and regions. The industrial policy measures to be implemented in this vein could include the following measures:

- › promote upstream and downstream industries;
- › train the skills of young people and the unemployed with poorer or obsolete qualifications;
- › intensify public and business innovation;
- › improve infrastructure in remote regions;
- › avoid abrupt fluctuations in capital flows and ensure broad exchange rate stability.

EMIGRATION IS NOT A LONG-TERM SOLUTION

Employment and wage growth in CEE are strongly determined by population trends. The working-age population is either stagnating or falling, in Bulgaria and Romania dramatically. This is due, on the one hand, to low birth rates and, on the other hand, to the massive emigration of recent decades, primarily to Western Europe (including Austria). A brief look at population forecasts (Figure 1) shows that this dramatic development is likely to continue in the coming decades. Compared to 2015, a decline is forecast in all CEE countries, by up to one third in the case of Bulgaria and Romania. Austria is also expected to see a certain decline in the working-age population, albeit not as dramatic.

Figure 1 / Working-age population (20-64), 1995=100



Source: UN, forecast: basis scenario of the Wittgenstein Centre for Demography and Global Human Capital.

CEE has been the main source of emigration of 18-30-year-olds with relatively high levels of education, leading to an ageing population. Over time, this has reduced the oversupply of labour and thus contributed to faster wage growth. Nevertheless, this development must also be viewed critically. The emigration of younger, better educated workers reduces the growth potential of these countries and their chances of advancement in global production networks. The missing qualifications of the existing labour force also diminish the attractiveness for foreign direct investment.

The supply of labour in CEE is expected to decline further in the coming years. There is therefore a need for coordinated economic and social policies aimed at keeping as many workers in these economies as possible and for as long as possible. This includes prolonging the professional life of older workers, a broader involvement of pensioners and measures that make it easier to reconcile work and family life. Above all, employees should be given the opportunity to upgrade their education. Otherwise, there is a danger that labour productivity will stagnate, while increasing wage pressure (due to shrinking labour supply) will lead to a loss of competitiveness.

WAGE GROWTH SLOWED BY LABOUR MARKET LIBERALISATION

The measures mentioned above – export promotion and further training – are important to maintain the position of CEE as an investment location and thus to create the basis for sustainable economic growth. However, they alone provide no guarantee that workers will also benefit from this and will have fewer incentives to look for a job abroad. The latter would above all require the centralisation or coordination of wage negotiations.

In the years since the global financial crisis, wage-setting mechanisms in CEE have been increasingly decentralised, shifting from the macroeconomic and sectoral to the company level. The share of employees whose employment relationship is subject to a valid collective agreement has fallen everywhere, to between 15% in Poland and 65% in Slovenia. It is true that in many CEE countries there is pronounced protection against dismissal for certain employment relationships; in addition, minimum wages have been raised, sometimes massively, in recent years. Nevertheless, labour markets have been generally liberalised and wages are therefore subject to greater fluctuations between supply and demand than in Austria, for example. The resulting spread of wages across sectors and skill levels is additionally reinforced by the low level and short period of unemployment benefits.

Overall, the important macroeconomic stabilisation functions of labour market institutions in CEE are largely lacking. Meanwhile, such functions would be particularly important in view of the region's specific problems of emigration, population ageing and strong dependence on foreign demand. Wage developments in these countries are increasingly shaped by the free interplay of supply and demand in the labour market. Given the demographic trends, this will pose even greater social and labour market challenges for the countries of Central and Eastern Europe.

Estimating the effects of commuting on regional GDP in Austria

BY ROMAN RÖMISCH

The article asks whether regional GDP is a good measure of the level of economic and social development of a region. It adjusts traditional GDP by commuting, estimating the inflow and outflow of wages in the Austrian regions. It finds that commuting-adjusted GDP in Vienna is lower, while in Lower Austria and especially Burgenland it is much higher than official GDP. This should lead to a rethinking of the regions' social position, potentially including a redistribution of EU Structural Funds.

INTRODUCTION

Regional Gross Domestic Product (GDP) is the single most important indicator for evaluating the economic status of a region¹. It is supposed to be indicative of both a region's level of economic development as well as the inhabitants' standards of living. Given this, it is also the main indicator for the distribution of EU Structural Funds across regions, with the regions with lowest GDP (per capita at Purchasing Power Standards) receiving the highest support in order to speed up their development and convergence. This article asks whether regional GDP is a good measure for the level of economic as well as social development of a region.

Conceptually, regional GDP can be defined from the production and the income perspective². In the first approach, GDP is defined as the sum of the gross value added produced in a region (or the difference between the region's output and intermediate consumption)³. In the second approach, GDP is roughly defined as the sum of wages and salaries as well as profits.

From a different perspective, the first approach may be interpreted to represent the economic capacity of a region as it measures the amount and value of goods and services produced. That is, the higher this amount is, the higher the level of economic development can be assumed for a region, especially if GDP is put a) in per capita terms to make it comparable across regions of different sizes, or b) in terms of employment to measure the region's productivity.⁴

¹ Here, regions refer to geographically, administrative sub-units of countries. More specifically, regions are understood as EU NUTS-2 regions, which in the case of Austria corresponds to the "Bundesländer".

² National GDP can also be determined via the expenditure method, i.e. as the sum of consumption and investment expenditures including exports minus imports. This is not possible at the regional levels due to the lack of regional external trade data in most countries.

³ Plus taxes on products and less subsidies on products.

⁴ See Eurostat (2013), Manual on regional accounts methods.

The second approach may be interpreted from a social or standards of living point of view as it shows the income that is available in the region. Correspondingly, the higher the income (per capita) of a region is, the higher the standards of living can be assumed to be.

Thus, from a conceptual point of view, regional GDP should simultaneously be indicative of a region's level of economic as well as social development. This however only holds if it is implicitly assumed that all regions are independent entities with no connections (e.g. trade or commuting) between them. In practice this is not the case, though, and there are at least three reasons for this.

First, there are so-called "headquarter-effects". These arise if a company's production is geographically disbursed over many regions, yet much of it is, for accounting reasons, attributed to the headquarters, and correspondingly to the region where the headquarters are located instead of to the regions where actual production took place. This effect is well known to exist and also in practical terms it is quite difficult to estimate as it requires highly detailed data.

Second, when comparing GDP across regions, it is assumed that all regions have the same price level. Typically in the EU, regional GDP is put in purchasing power standards (PPS) to make it comparable across countries. The weakness of this approach is that one, country-average price level is applied to all regions, irrespective of whether they are rural or highly urbanised. Usually though, price levels (e.g. for rents, services etc.) are higher in cities than in the country-side. This induces a certain bias to the comparison of regional GDPs, making the GDP of highly urbanised regions higher and the GDP of rural regions lower than it is in reality.

Third, regional GDP does not account for commuting effects. That is, the output of workers commuting from region A to region B is attributed to region B (place of work), rather than where they live (region A). At the same time, the workers receive wages which presumably will be spent for the most part in their place of living. From this it follows that regional GDP might not adequately reflect the regions' standards of living, as it underestimates it for the home regions of the commuters and overestimates it for the regions where they work⁵.

It is this last point, i.e. the commuting effect, on which this article focuses. Taking the Austrian perspective, it will provide a quick estimate of the commuting effect for the nine Austrian regions, identifying the "winners" and "losers" from commuting.

METHODOLOGY

The method to estimate commuting effects for Austria uses the following data ingredients:

- a) Commuting data for the nine Austrian regions, split into employees and self-employed. No sectoral details are available for these data, only commuting within Austria is considered, commuting from and to other countries is not covered,

⁵ Adjusting for commuting effects at the regional level partly corresponds to the difference between GDP and Gross National Income (GNI) at the country level. Here, GNI basically corresponds to GDP plus wages, salaries, profits and other income received by residents working abroad but mostly live in the home county and minus wages, salaries, profits etc. earned in the domestic economy by foreigners. Commuting adjusted GDP only looks at wages and salaries, though, and disregards (for data reasons) other forms of income.

- b) Aggregate wages by broad sectors in each region,
- c) Employees by broad sectors in each region.

On this basis, we first calculated the average yearly wage per employee in each sector and region, by dividing the corresponding aggregate wage by the respective number of employees. Second, we used these average yearly wages to estimate the total wage sum of commuters. Since we did not know the distribution of commuters across sectors, i.e. in which sectors they are working, we assumed three scenarios:

- › Average effect scenario: The total wage sum of commuters was estimated under the assumption that their employment structure over sectors is identical to the aggregate employment structure by sectors of the region where they work. Hence the wage sum of commuters is estimated as the number of commuters by sector times the yearly average wage in this sector in the destination region.
- › Minimum effect scenario: The total wage sum of commuters was estimated under the assumption that they are employed in the lowest wage sectors only.
- › Maximum effect scenario: The total wage sum of commuters was estimated under the assumption that they are employed in the highest wage sectors only.⁶

All estimated wage sums are then put in relation to the commuters' home and host regions' GDP in order to evaluate the potential size of commuting effects. Due to reasons of data availability, all analysis is done for the year 2015 only.

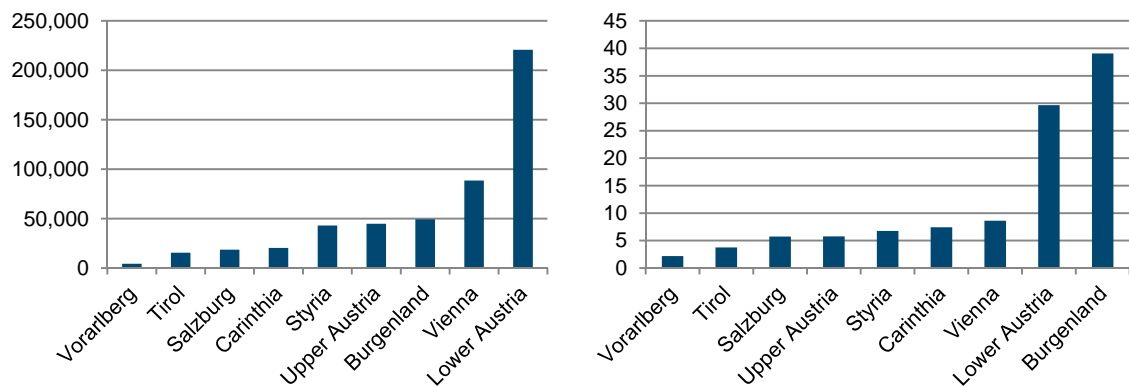
RESULTS

In 2015 more than 500,000 people in Austria commuted from one region to another for work reasons; this corresponded to 11.2% of total Austrian employment. The highest absolute number of outward commuters (see Figure 1 left graph) came from Lower Austria (more than 220,000), followed at some distance by Vienna (more than 88,000) and Burgenland (around 50,000).

In relative terms, i.e. in terms of the home region's employment, outward commuting was most pronounced (see Figure 1 right graph) in Burgenland, from which around 39% of the region's total employment commuted to other regions. In Lower Austria this share was slightly less than 30% in 2015, while in all other regions it was considerably lower (i.e. under 10%).

⁶ For both the minimum and maximum effect scenarios, commuters were assumed to be distributed such that they do not exceed the total number of employment in a specific sector in the destination region. For example, if in region B the lowest wage sector is agriculture with 1,000 employees, but 3,000 come from region A to region B, only the first thousand commuters were attributed to agriculture, while the rest were allocated to the sectors with the next lowest wages.

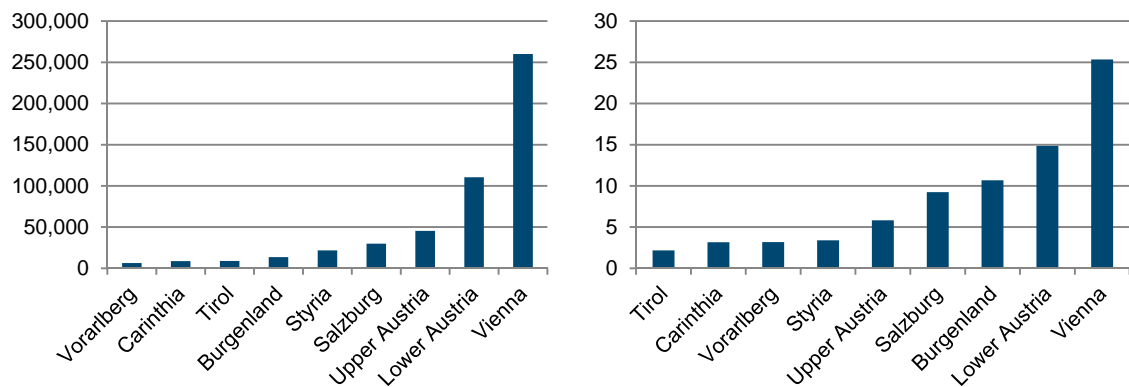
Figure 1 / Number of outward commuters (left graph), share of outward commuters in regional employment in percent (right graph), Austrian regions, 2015



Source: Statistik Austria, Eurostat, wiiw

In terms of inward commuting, the most popular region was Vienna. In 2015, more than 250,000 people from other Austrian regions commuted to Vienna for work. This corresponded to more than a quarter of total Viennese employment (see Figure 2, left and right graphs). The second most important destination was Lower Austria with more than 100,000 inward commuters (i.e. around 15% of regional employment).

Figure 2 / Number of inward commuters (left graph), share of inward commuters in regional employment in percent (right graph), Austrian regions, 2015

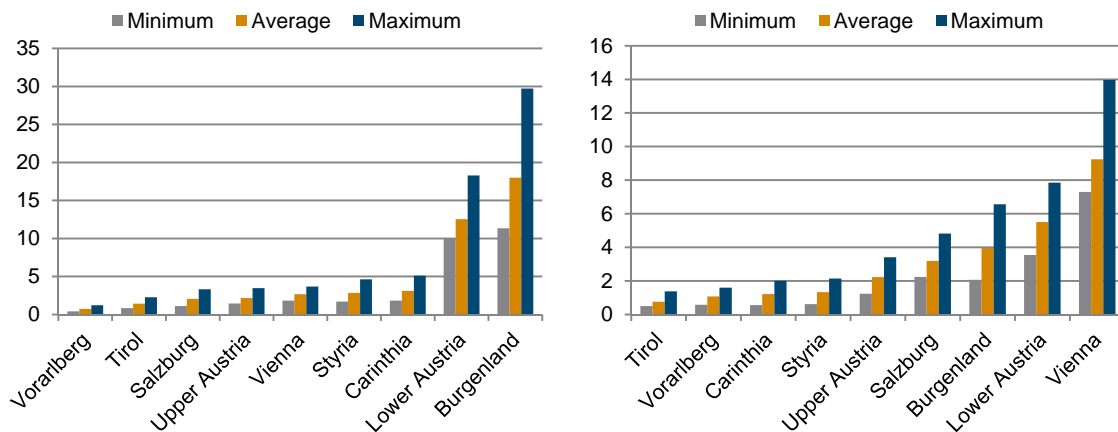


Source: Statistik Austria, Eurostat, wiiw

Turning to the GDP effects of commuting, Figure 3 shows the estimated wage inflows (left graph) and outflows (right graph) due to commuting for the minimum, average and maximum effect scenarios, all as a share of the respective region's GDP. That is, commuters from Burgenland to other regions generate wages estimated at between 11.3% (minimum scenario) and almost 30% (maximum scenario) of Burgenland's GDP (left graph). Likewise commuters from Lower Austria generate wages estimated between 10% and 18% of the region's GDP. In other Austrian regions, the gross gains from commuting are much lower.

As far as wage outflows are concerned (right graph), Vienna has the by far highest, amounting to between an estimated 7% (minimum scenario) and 14% (maximum scenario) of its GDP in 2015. Estimated wage outflows are also fairly high in Lower Austria (between 5% and 8%) and Burgenland (between 4% and 6.5%).

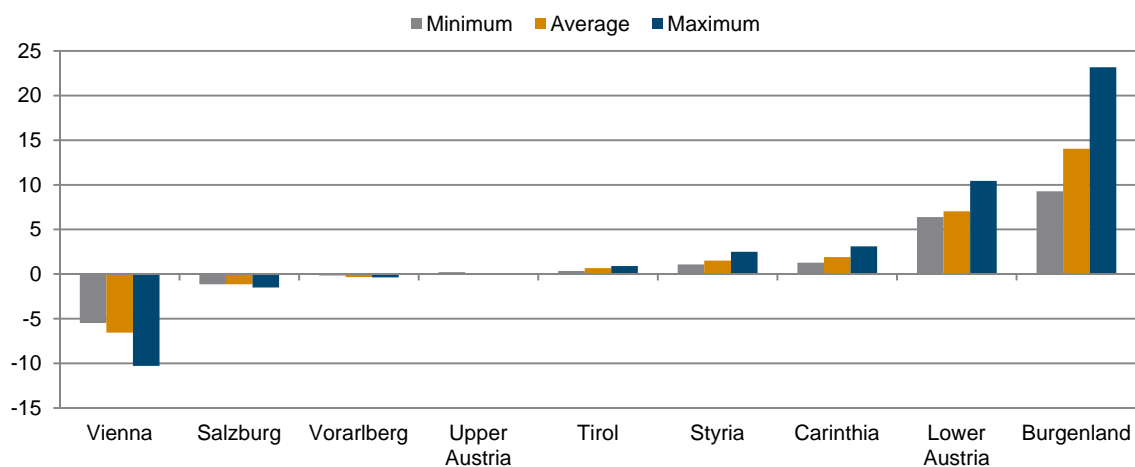
Figure 3 / Wage inflows (left graph) and outflows (right graph) due to commuting, in % of the regions' GDP, 2015



Source: wiiw estimates

In net terms (i.e. wage inflows minus outflows), Figure 4 shows that Burgenland benefits most from commuting, with estimated net gains ranging between 9% (minimum scenario) and 23% (maximum scenario) of its GDP. Lower Austria would also gain significantly on a net basis, with commuters' wages increasing regional GDP by an estimated 6 to 10 percent. In contrast, Vienna's GDP is lowered by around 5 to 10 percent due to the net outflow of wages. In all other Austrian regions commuting has no major effect on GDP and regional income.

Figure 4 / Net wage gains and losses through commuting, in % of regional GDP, 2015



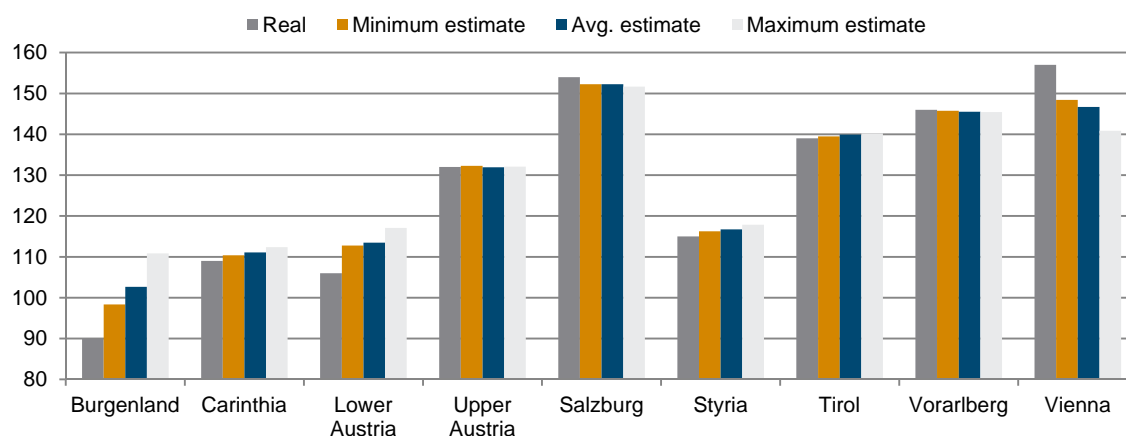
Source: wiiw estimates

Given the strong commuting effects in some cases, adjusting for these effects may have significant consequences on how the level of economic and social development of the regions is or should be perceived. To illustrate this, Figure 5 shows the regions' actual GDP per capita at PPS in percent of the EU-28 average, as well as the commuting-adjusted GDPs per capita for each region.

In particular with respect to Burgenland, commuting adjustment may have strong consequences. Without adjustments it is perceived to be a region with a GDP per capita 10 percentage points below the EU average. This makes Burgenland one of the lesser developed regions in the EU-15. However adjusting for commuting would, depending on the assumed scenario, bring Burgenland either close to the EU average or even 10% above it, making it one of the more developed regions. A similar situation holds for Lower Austria, which would also improve its position (from an actual 106% to a maximum of 117% of the EU average) considerably, once its GDP is adjusted for commuting.

Again, the opposite is to be reported for Vienna. If adjusted for commuting, its GDP per capita in percent of the EU average would drop by between 9 and 17 percentage points, depending on the scenario that is assumed.

Figure 5 / Actual and commuting-adjusted GDP per capita at PPS, in percent of the EU-28 average, 2015



Source: wiiw estimates, Eurostat

CONCLUSIONS

For most Austrian regions GDP (per capita) seems to be a decent indicator for their level of economic development as well as for the average social situation of their inhabitants, i.e. their standards of living. For some regions, though, especially for the urban centres and their neighbouring regions this may not be the case. For them regional GDP still remains a good indicator for their economic potential, as it is a measure of the value added produced in each region. However, it might fail when it comes to giving an appropriate assessment of the welfare situation, as the available income might differ significantly because of commuting effects⁷.

⁷ Available income might differ even more if headquarters and price level effects are taken into account as well.

As a consequence, it is necessary to

- a) Re-assess the position of large urban centres and their neighbouring regions, as the income level of the centres might be highly overestimated while the income of the neighbouring regions might be underestimated. This could, and potentially should, induce some changes in policy making, at least in the context of EU Structural Funds.
- b) It is doubted that GDP (per capita) is a good indicator for the distribution of Structural Funds in the upcoming period 2021-2027⁸. It might be adequate for the distribution of the European Regional Development Fund (ERDF) because it targets economic development, but the distribution of the European Social Fund+ (ESF+) might ideally be based on additional indicators (e.g. unemployment, poverty rates, etc.)
- c) Improve the data situation to allow for more accurate and encompassing adjustments of regional GDP data.

⁸ See the recent Common Provisions proposal, EU Commission COM(2018) 375 final.

Austria's investment in its Eastern neighbourhood

BY JULIA GRÜBLER

Being a small economy in the heart of Europe, Austria's significance as a foreign investor in Central, East and Southeast Europe (CESEE) is often overlooked. For all fifteen countries under consideration, Austria ranks among the top 10 investors, dwarfing global players such as the United States or China. Likewise, investments in immediate neighbouring countries feature prominently in Austria's outward FDI stocks and appear overproportionately profitable.

Investment in Europe is again high on the agenda, not least because of the European Commission's announcement of flagship initiatives in the Western Balkans in May (EC, 2018a), its proposal of the InvestEU Programme in June (EC, 2018b), the Chinese investment initiatives in Southeast Europe¹ and consequent discussions about the substitutability or complementarity of EU funds and Chinese loans. With Austria being a relatively small country in the heart of Europe, its leading position as an investor in CESEE is often overlooked. This article gives a sense of the importance of Austrian investment in its Eastern neighbourhood from different angles.²

NEIGHBOURING ECONOMIES CONTINUE TO ATTRACT AUSTRIAN INVESTMENT

Austrian outward FDI stocks reached a record high of more than EUR 200 billion in 2017. More than two thirds of these were located within the European Union. Among the top 10 destinations of Austrian FDI were four CESEE countries: the Czech Republic (with a share of 7.1%), Romania (3.8%), Hungary (3.5%) and Russia (3.5%). With a share of 2.9%, Slovakia ranked 12th. (Figure 1, left panel).

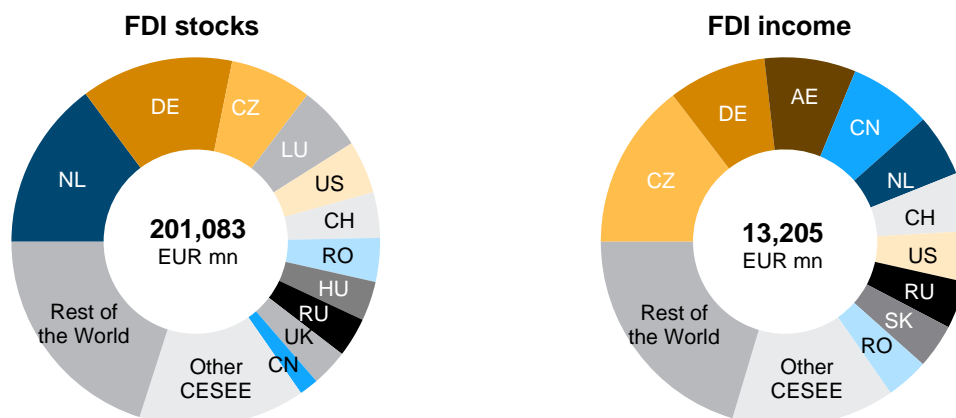
However, in 2017 Slovakia joined the group of top 10 countries from which most of the Austrian FDI income was generated, while Hungary fell behind. Last year income generated from Austrian investments worldwide totalled EUR 13 billion. With a share of 14.6% of all generated FDI income, the Czech Republic took the first place, followed by Germany, the United Arab Emirates and China (Figure 1, right panel).

¹ Croatia will host the next '16+1' summit of China and sixteen countries in CESEE. For further information, see e.g. Grübler et al. (2018), or Heimerberger et al. (2018).

² Since summer 2018, wiiw provides a visualisation tool for three aspects of economic ties between Austria and CESEE – trade, investment and migration – on its webpage free of charge. It is accompanied by data of the statistical annex of the wiiw Summer Forecast Report: <https://wiiw.ac.at/austria-and-cesee.html>

Figure 1 / Austrian FDI in 2017

Top 10 plus China



Notes: Data according to BPM6 methodology.

Source: Oesterreichische Nationalbank (OeNB).

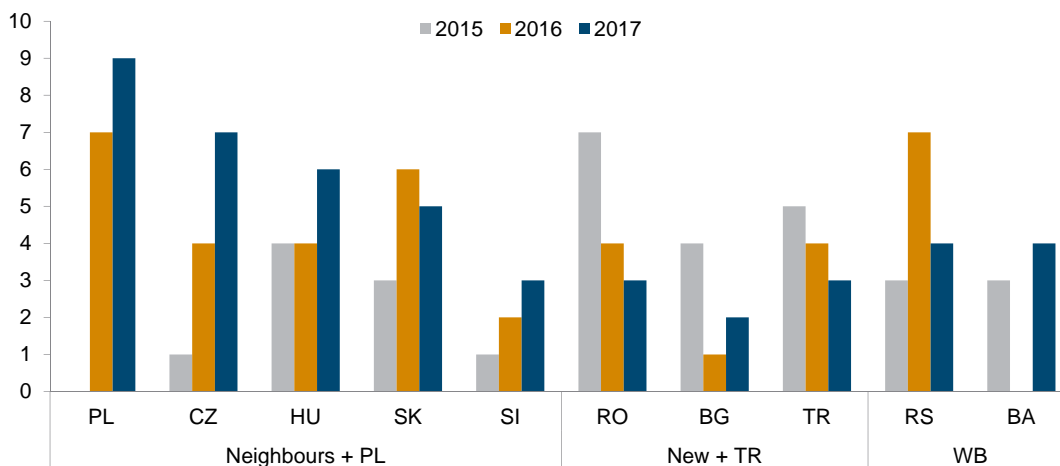
The remainder of the article focuses on fifteen countries within Central, East and Southeast Europe: (i) Austria's immediate neighbours (the Czech Republic, Hungary, Slovakia and Slovenia) plus Poland to cover the entire Visegrád group, (ii) the most recent members of the European Union (Bulgaria, Croatia and Romania) plus Turkey, and finally (iii) the Western Balkan countries.

The shares of Austrian FDI stocks in these three country groupings amounted to 18.1% for its immediate neighbourhood, 8.0% for the new EU members and 2.5% for the Western Balkan countries. These figures can be contrasted with the shares of FDI income of 25.8%, 7.6% and 2.5% respectively. Thus, Austrian investors benefit overproportionately from their activities in their neighbourhood, foremost in the Czech Republic and Slovakia.

Hunya and Schwarzhappel (2018) argue that a large proportion of cohesion policy transfers for the Central and East European EU members (EU-CEE) from the EU budget was used to improve the business environment there and has helped companies – in particular Austrian companies, which were among the first to enter this region³ – to earn profits from their investments.

In addition to acquiring existing assets in the region, Austrian companies also set up new businesses or expanded their business through greenfield investment. Austrian greenfield projects have been on the rise in the neighbourhood group, but stagnating in other CESEE economies (Figure 2). Six out of eight greenfield projects in the Western Balkans concern the manufacturing sector. For the newest Member States and Turkey, the transport and logistics sector registered almost the same number of projects as the manufacturing sector. With 14 out of 30 projects, the manufacturing industry is still at the core of Austria's greenfield investments in the neighbourhood country group. However, they appear more diverse than in other CESEE economies: we also find investments in the construction sector, business services, sales and marketing or transport and logistics.

³ After the fall of Communism, 90% of Austrian FDI outflows were directed towards Eastern Europe, compared to only 4% of German FDI outflows (Marin, 2016).

Figure 2 / Austrian announced greenfield investment projects in CESEE

Source: fDi Markets.

ROUGHLY ONE OUT OF EVERY TEN EUROS INVESTED IN CESEE STEMS FROM AUSTRIA

From the recipient countries' viewpoint, Austria remains the third largest investor in the EU-CEE and the second largest in the Western Balkan region. However, Austrian FDI stocks in the region have been declining due to restructuring, particularly in the banking sector (Hunya and Schwarzhappel, 2018).

Figure 3 depicts the information on the latest Austrian investment stock per CESEE country in three different ways.

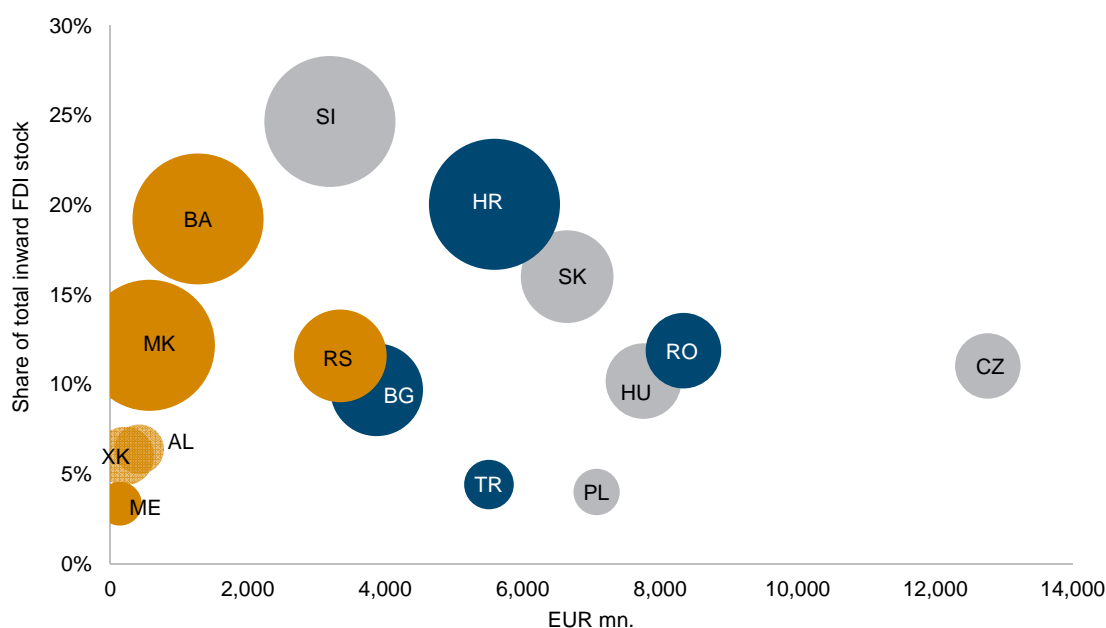
- › The horizontal axis shows the Austrian investment stock in million euro. As one would expect, smaller economies – such as the Western Balkan countries – tend to receive less investment in absolute terms. The three largest economies measured in terms of GDP (but also in terms of total inward FDI stocks) are Turkey, Poland, and the Czech Republic. However, Austrian FDI stocks in Turkey are comparable to stocks in Croatia. Austrian FDI in Poland fits in size between investments to Hungary and Slovakia. As highlighted at the very beginning, the position of the Czech Republic as a prime destination for Austrian investment is striking.
- › The vertical axis additionally puts Austrian investments in relation to total inward FDI in the country and therefore indicates the relative importance of Austria as an investor. The graph illustrates the diversity within each sub-group. Shares for Western Balkan countries range between 3.4% for Montenegro to 19.2% for Bosnia and Herzegovina. Among the new EU Member States, Austria is much more significant in Croatia with a share of 20.0% than in Bulgaria (9.7%) and Romania (11.9%), where it is still the second and third largest investor, respectively. Austrian investments to Turkey are comparable in size to Austrian FDI stocks in Croatia, but amount only to 4.4% of the Turkish total inward FDI stocks. Shares for Austria's immediate neighbours range between 10.2% for Hungary to 24.7% for Slovenia. The lowest share among the Visegrád group of 4% is found for Poland.

Over all 15 CESEE economies, the highest shares of Austria in total foreign investment are observable for Slovenia and Croatia, the two economies having the highest proportion of high-productivity firms in CESEE (EIB, 2017).

- › Finally, the bubble size is proportional to Austria's ranking among each country's foreign investors. For all fifteen economies, Austria is among the top 10 investors. It ranks first in Slovenia, Croatia, Bosnia and Herzegovina, as well as in Macedonia. It takes the second place in Slovakia, Bulgaria and Serbia. In Hungary and Romania, it still ranks third. It is of comparatively little importance in Albania (7th), Montenegro (9th), Poland (8th), and Turkey (7th). Though the correlation between Austria's ranking and its share in total FDI stocks is strong, it is imperfect. For example, in Slovakia FDI is strongly concentrated on a few foreign investors, with Austria ranking second with a share of 16%, while for Macedonia shares of investors are somewhat more evenly spread so that Austria is the largest foreign investor despite a share of 'only' 12%.

Figure 3 / Austrian investment stock, by CESEE economy

In EUR million and as a share of each country's total inward FDI stock, latest available year (2016/2017)



Notes: Bubble size proportional to Austria's ranking in each country's total inward FDI stock.

Source: wiiw FDI Database.

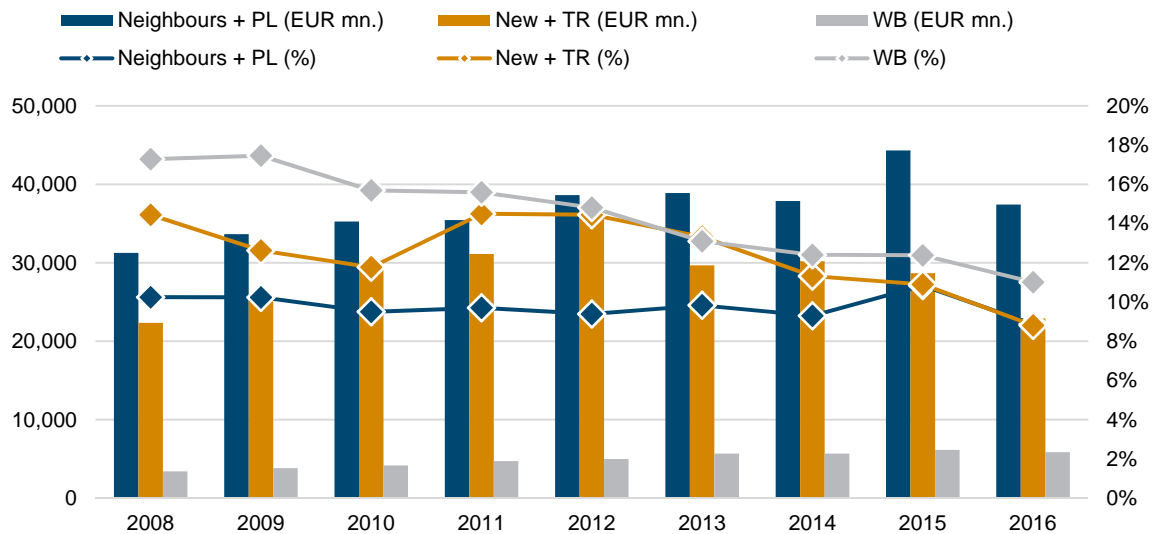
As can be seen from Figure 4, the nine-year trend for Austrian FDI stocks has been positive for its neighbours (plus Poland). For the newest EU Member States (plus Turkey), the increase up to the year 2012 was more dynamic, but the drop after 2012 was also more severe. For the Western Balkan countries, an almost continuous increase was observed, yet on a much lower level.

Surprisingly, however, the shares of Austrian FDI in each region's total inward FDI stock have been most stable at around 9-10% for its immediate neighbourhood. For the newest EU members group they fell from 14.5% in 2011 to 8.8% in 2016. For the Western Balkans the severe drop in shares from 17.5%

in 2009 to 11% in 2016 in combination with increasing investment stocks points towards more competition from other investors in the region.

Figure 4 / Evolution of Austrian FDI in CESEE

Inward stock of Austrian FDI in CESEE economies in million EUR (left-hand scale) and as a share of the total stock (right-hand scale)



Source: wiiw FDI Database.

HOW DOES AUSTRIA COMPARE TO GLOBAL PLAYERS?

In the context of the EU's revival of investment strategies in the Western Balkans and intra-EU tensions on the topic of investment (e.g. regarding funding of investment⁴ and associated risks of political influence⁵), Table 1 summarises FDI stocks for each recipient country/region⁶, distinguishing six investors: (1) Austria, (2) Germany, (3) the remaining 25 EU Member States (i.e. excluding the recipient economy), (4) Russia, (5) the United States and (6) China.

Chinese investments in the form of FDI are so far negligible in the region. The United States and Russia show – with the exception of Turkey – a different geographical focus. US firms are targeting Turkey, Poland, Romania and the Czech Republic. Meanwhile, the prime FDI destination for Russia is Turkey, followed by Bulgaria and Serbia. In general, Russia is remarkably active in the Western Balkan region.

Both Austria and Germany dwarf investments of Russia, the United States and China in Austria's neighbourhood. Furthermore, it is worth noting that Austrian investment exceeds Germany's in nine out

⁴ See the vivid discussions within the EU following statements by Hungary's Prime Minister Viktor Orbán e.g. at the WELT Economic Summit in Berlin in January 2018: 'If the European Union cannot provide financial support, we will turn to China'; https://bbj.hu/economy/orban-if-eu-doesnt-pay-hungary-will-turn-to-china_143836

⁵ For instance, Greece was blocking an EU statement criticising China's human rights record in June 2017, shortly after COSCO acquired the majority share of the port in Piraeus.

⁶ The wiiw Summer Forecast Report (Astrov and Grübler, 2018), as well as the wiiw Open Data section (wiiw, 2018) provide time series of information on the top 10 investors per recipient country with shares and rankings.

of 15 countries under consideration: For four economies (Albania, Bosnia and Herzegovina, Serbia and Slovakia), Austrian FDI stocks are more than three times those of German FDI stocks. Partly, however, this is due to Austrian investors being subsidiaries of other foreign firms, making use of Austria's geographic position and historical ties with Eastern Europe to enter its neighbouring markets.⁷

**Table 1 / FDI stock by recipient and investing country, latest available year 2017/16
(EUR million)**

	AT	DE	Rest of EU-28	RU	US	CN	RoW	WORLD
CZ	12,764	16,328	73,300	714	1,312	631	10,578	115,627
HU	7,756	20,284	32,629	40	-1,588	255	16,688	76,062
PL	7,074	29,240	125,938	270	4,434	123	8,927	176,005
SI	3,193	1,108	6,667	73	54	11	1,844	12,950
SK	6,644	2,162	29,611	-204	-68	33	3,320	41,496
Neighbours + PL	37,430	69,121	268,145	892	4,142	1,053	41,356	422,139
BG	3,873	2,786	24,432	1,914	904	108	5,872	39,889
HR	5,588	2,145	16,529	326	222	8	3,064	27,880
RO	8,336	9,257	35,852	139	1,346	57	15,128	70,113
TR	5,507	12,708	62,386	9,903	4,123	542	29,089	124,258
New + TR	23,304	26,895	139,199	12,281	6,594	714	53,153	262,140
AL	419	116	3,224	0	71	8	2,709	6,547
BA	1,274	286	2,650	417	39	1	1,961	6,629
ME	138	91	1,580	470	71	0	1,767	4,118
MK	568	248	2,780	39	79	37	907	4,657
RS	3,673	1,219	16,918	1,562	232	139	2,725	26,467
XK	212	375	602	0	140	0	2,192	3,521
WB	6,285	2,335	27,754	2,488	630	185	12,261	51,938

Notes: Austria (AT), Germany (DE), Russia (RU), United States of America (US), China (CN), Rest of the world (RoW). – Negative FDI positions largely result when the loans from the affiliate to its parent exceed the loans and equity capital given by the parent to the affiliate. This is most likely to occur when FDI statistics are presented by partner country;

<https://www.oecd.org/daf/inv/FDI-statistics-explanatory-notes.pdf>.

Source: wiiw FDI Database.

THREE MAIN LESSONS LEARNED FROM FDI STATISTICS

First, a significant share of Austrian FDI is directed towards its immediate neighbourhood (Visegrád countries and Slovenia), and these projects turn out to be overproportionately profitable. Second, Austria represents a prime investor in these countries, which is reinforced by firms from third countries with subsidiaries in Austria to enter Eastern European markets, (still) dwarfing major global players such as the United States, Russia or China. Finally, first signs of stronger investment competition are observable in the smaller Western Balkan economies, accelerated by recent investment initiatives of the EU and China.

⁷ See e.g. Marin (2016). In Grübler et al. (2018), wiiw FDI expert Gábor Hunya highlights that statistical reporting typically overestimates the role of Austrian firms as investors. For the year 2015, an Austrian FDI stock of EUR 12,913 million was reported (excluding special purpose entities), while the FDI stock of Austrian firms defined as ultimate controlling parents amounted to less than half (EUR 5,304 million).

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Main Austrian export destinations: the role of CESEE re-examined¹

BY MAHDI GHODSI AND DORIS HANZL-WEISS

For Austria, the CESEE region is an important export destination, expanding over time and accounting for 21% of Austria's exports in 2015. Nevertheless, while losing market shares, Germany remains the largest Austrian partner, with 30% of Austrian exports heading there.

INTRODUCTION

It is well known that Austria has benefited from the opening up of the formerly centrally planned economies in Central, East and Southeast Europe (CESEE) after the fall of communism and their integration into the European Union. As a consequence, there has been a shift of Austrian trade partners in the last 20 years from the traditional ones in the West towards the East (Holzner, 2015). Particularly Germany, which accounted for more than one third of Austrian exports, has lost weight during that time period, even if it has largely kept its leading role (Fenz et al., 2015). This article re-examines the role of Austria's export destinations: which role do immediate neighbours, other new EU Member States or the whole of CESEE play for Austrian exports? Are there differences between the commodity structures of exports between these three regions?

AUSTRIAN EXPORTS BY REGION

In 2015 about 21% of Austrian exports went to the CESEE region. 50% of it was heading towards the nearest neighbours – the Czech Republic, Slovakia, Hungary and Slovenia. An additional one third was going to Poland, Bulgaria, Romania, Estonia, Latvia, Lithuania and Croatia, while about 20% were delivered to the Western Balkan countries, Russia, Ukraine, Moldova and Turkey.

Over the long run, between 1995 and 2015, there was a general increase in Austria's export share going to the CESEE20 countries (see Figure 1.1). Especially during the boom period 2000-2008, the export share increased strongly and finally peaked in 2008, although it flattened out thereafter. Towards 2015, a slight decrease can be seen due to the strong devaluation of the Russian rouble and the Ukrainian hryvnia and a corresponding decline of Austrian exports to this region. This decrease cannot be seen when looking at the CEE-4 and CEE-11 region, where the share slightly went up in 2015.² Interestingly, the export share to the CEE-4 remained rather constant over time at around 10%. Thus, there was a slight eastward shift in exports over time, in particular towards the remaining CEE-11 countries.

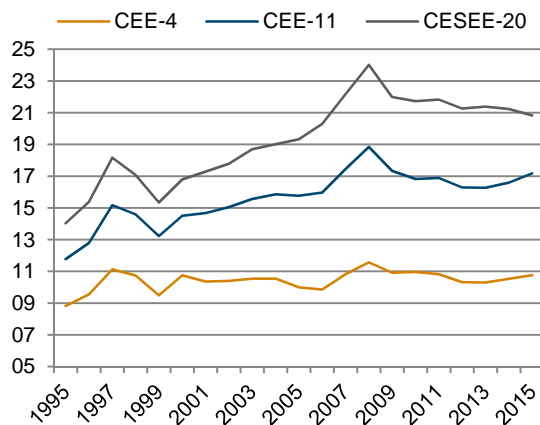
¹ This article is based on the results from the OeNB Anniversary Fund project 'Austria's Economic Competitiveness in a Neighbourhood Context', wiiw Research Report forthcoming.

² For the definition of regional CESEE groups see the Note to Figure 1.

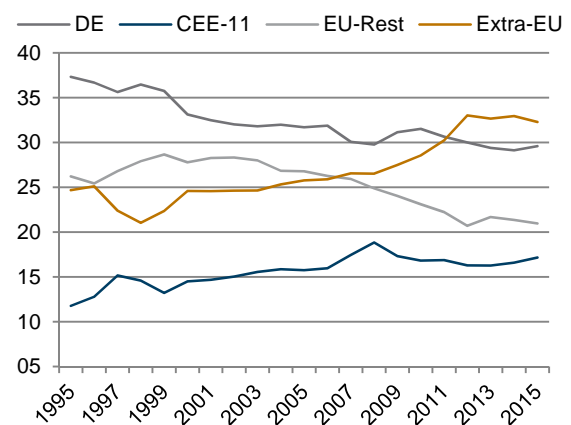
While the shares of exports going to the CESEE-20 countries and the CEE-11 expanded over time, what happened to other major Austrian trade destinations? Which regions lost out while the CESEE region gained in importance? Overall, there was a strong decline in Germany's share in Austrian exports. That applies to other 'old' EU Member States as well (see Figure 1.2). Together with the CEE-11 countries, also the extra-EU's export share increased, especially after the global crisis in 2008. However, as already mentioned above, in 2015 Germany was still the main Austrian export destination, accounting for 30% of exports. About 21% of exports were going towards other old EU Member States (EU-Rest in Figure 1.2) and 32% towards extra-EU countries.

Figure 1 / Main Austrian export destinations, in % of total goods exports

1.1 Austrian export share to CESEE regions



1.2 Austrian export share to main partners



Note: CEE-4: Czech Republic, Hungary, Slovakia, Slovenia.

CEE-11: CEE-4 plus Poland, Bulgaria, Romania, Estonia, Latvia, Lithuania, Croatia.

CESEE-20: CEE-11 plus Albania, Bosnia and Herzegovina, Macedonia, Moldova, Montenegro, Russia, Serbia, Turkey, Ukraine.

Source: UN Comtrade database, wiiw calculation.

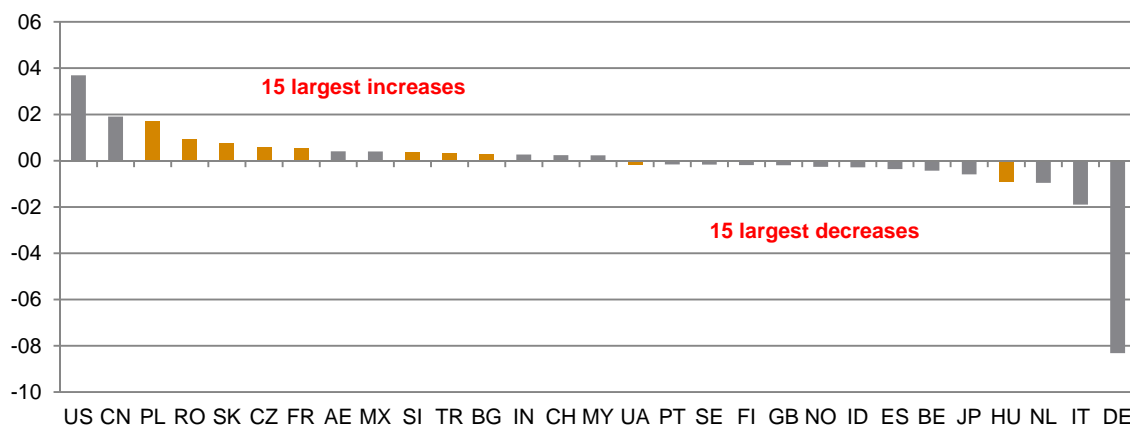
AUSTRIAN EXPORTS BY COUNTRY

Quite interesting results emerge when looking at long-run trends in the shares of Austrian export destinations by country (see Figure 2). During the last 20 years, the largest increase in Austria's export share was registered for the United States and China, followed by Poland, Romania, Slovakia and the Czech Republic. Also Slovenia, Turkey and Bulgaria gained shares in Austrian exports. Among the old EU Member States it was France which became an important export destination.

Looking at the countries which recorded the largest export share decrease, we find Germany with a minus of 8 percentage points, followed by a large number of other old EU Member States: Italy, the Netherlands, Belgium, Spain, the UK, Finland, Sweden, and Portugal. Among the CESEE countries, Ukraine and Hungary saw a fall in Austrian export shares. The latter explains the rather flat line for CEE-

4 shares in Figure 1.1: while export shares to the neighbours Czech Republic, Slovakia and Slovenia increased, this was offset by a fall in the export share to Hungary.³

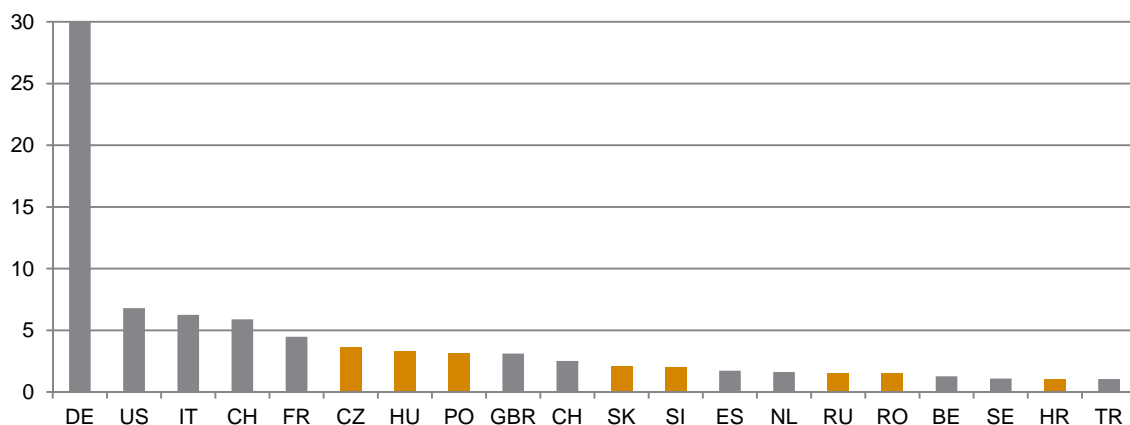
Figure 2 / Change in share of Austrian exports to main partners, 1996 to 2015, in percentage points, total goods



Source: UN Comtrade, wiiw calculation.

Still, Germany remains the leading export destination, followed by the United States with quite a lag; then Italy, Switzerland and France follow with 7% to 4% of Austria's export share (see Figure 3). The CEE economies Czech Republic, Hungary and Poland each take a 3% share of Austrian exports. Altogether nine countries of the CESEE region are among the top 20 Austrian export destinations.

Figure 3 / Twenty main Austrian export destinations in 2015, in % of total



Source: UN Comtrade, wiiw calculation.

³ A brief investigation of the structure of Austrian exports to Hungary found that exports of computer, electronic and optical products halved between 2001 and 2015.

COMMODITY STRUCTURE OF EXPORTS BY CESEE REGION

What have been the main Austrian export products going to the CESEE countries? Is there a different export focus by region and has it been changing over time? In order to answer this question, we analyse the manufacturing export structure at the NACE Rev. 2 2-digit level for the years 2004 and 2015 (see Figure 4). We selected the year 2004 as eleven countries of the CESEE-20 became members of the EU in 2004.

There are major differences in the export focus among CESEE regions, and significant changes occurred over time. In 2015, the most important Austrian exports heading towards the CEE-4 countries were motor vehicles. Also machinery, basic metals, as well as electrical equipment and computer, electronic & optical products were among the main export sectors. Towards the rest of the CEE-11 countries, the major export sector was machinery, followed by computer, electronic & optical products and motor vehicles. Interestingly, towards the CESEE-20 rest machinery and pharmaceuticals were the main export sectors.

Over time, the most important change that took place was the increase in motor vehicle exports to the CEE-4 countries. This can be explained by the re-emergence of the automotive industry in these countries after the collapse of communism, the strong inflow of FDI into this sector and the emergence of 'German-Central European Supply Chains' (see IMF, 2013, also termed 'Central European Manufacturing Core' in Stehrer and Stöllinger, 2015). In addition, exports of food and basic metals saw a major surge in the deliveries to these countries. What concerns the CEE-11 rest (i.e. CEE-11 less CEE-4) it was exports of pharmaceuticals as well as basic metals which increased the most. Going towards the CESEE-20 rest, pharmaceutical exports as well as machinery exports expanded most.

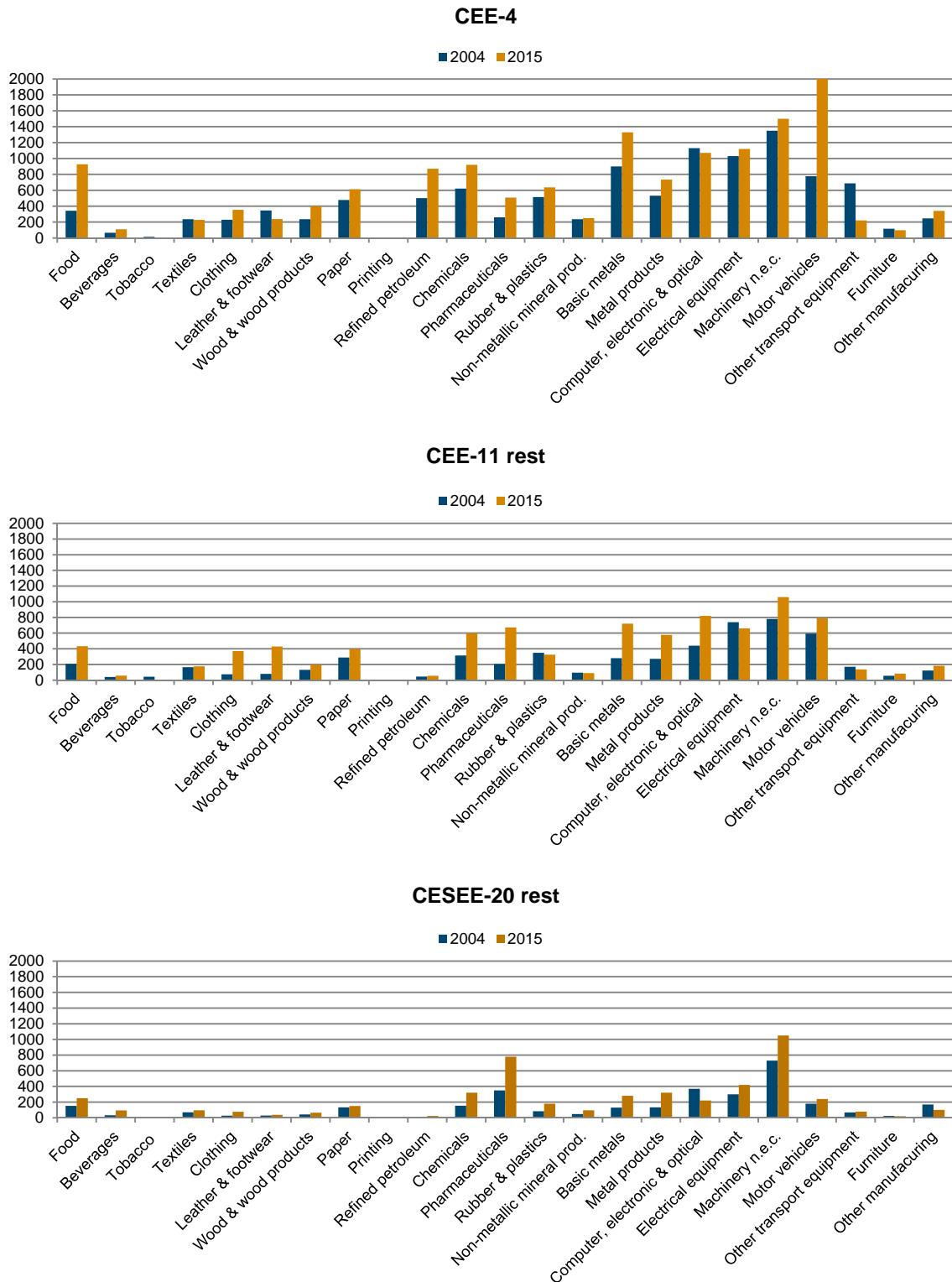
SUMMARY

For Austria, the CESEE region is an important export destination, expanding over time and accounting for 21% of Austria's exports in 2015. About 50% of these exports are heading towards the immediate neighbours Czech Republic, Slovakia, Hungary, and Slovenia (CEE-4). However, the CEE-4 export share remained rather flat due to a decline of the Hungarian export share. Export patterns differ quite a lot by CESEE region: motor vehicles dominate Austrian exports to CEE-4, the export structure towards the remaining CEE-11 countries is more mixed, while exports to the non-EU CESEE countries are dominated by machinery and pharmaceuticals.

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Figure 4 / Austrian export structure to the CESEE regions, NACE Rev. 2, in USD million



Notes: CEE-4: Czech Republic, Hungary, Slovakia, Slovenia.

CEE-11 rest: Poland, Bulgaria, Romania, Estonia, Latvia, Lithuania, Croatia

CESEE-20 rest: Albania, Bosnia and Herzegovina, Macedonia, Moldova, Montenegro, Russia, Serbia, Turkey, Ukraine.

Source: UN Comtrade, wiiw calculation.

Monthly and quarterly statistics for Central, East and Southeast Europe

The monthly and quarterly statistics cover **20 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	Harmonized 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

The following national currencies are used:

ALL	Albanian lek	HUF	Hungarian forint	RSD	Serbian dinar
BAM	Bosnian convertible mark	KZT	Kazakh tenge	RUB	Russian rouble
BGN	Bulgarian lev	MKD	Macedonian denar	TRY	Turkish lira
CZK	Czech koruna	PLN	Polish zloty	UAH	Ukrainian hryvnia
HRK	Croatian kuna	RON	Romanian leu		
EUR	euro – national currency for Montenegro 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) and Slovenia (from January 2007, 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

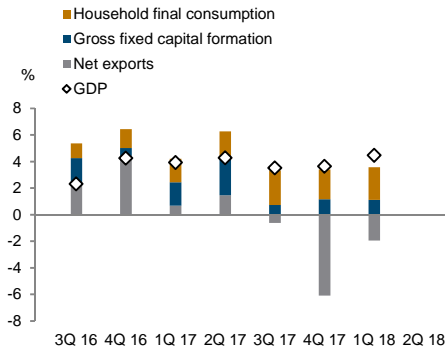
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For more information on database access for Members and on Membership conditions, please contact Ms. Gabriele Stanek (stanek@wiiw.ac.at), phone: (+43-1) 533 66 10-10.

Albania

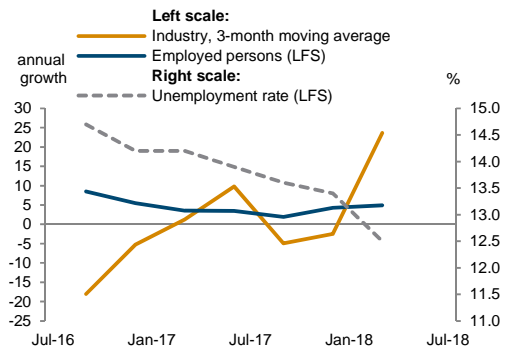
Real GDP growth and contributions

year-on-year



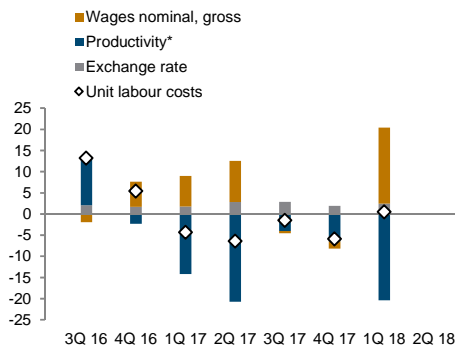
Real sector development

in %



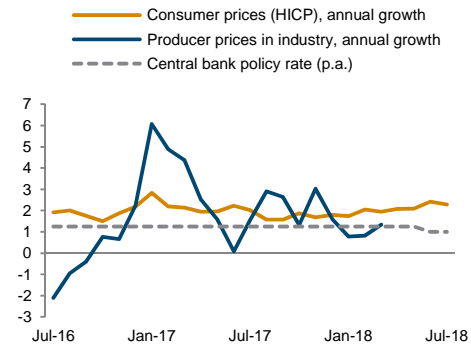
Unit labour costs in industry

annual growth rate in %



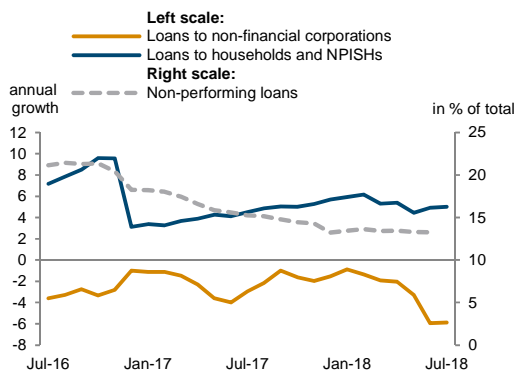
Inflation and policy rate

in %



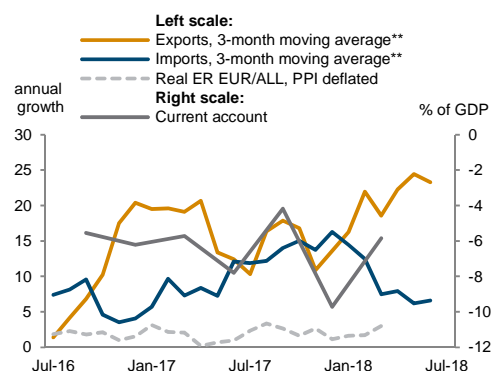
Financial indicators

in %



External sector development

in %



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

**EUR based.

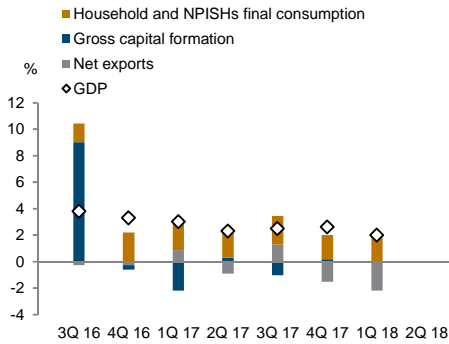
Source: wiiw Monthly Database incorporating Eurostat and national statistics.

Baseline data, country-specific definitions and methodological breaks in time series are available under:

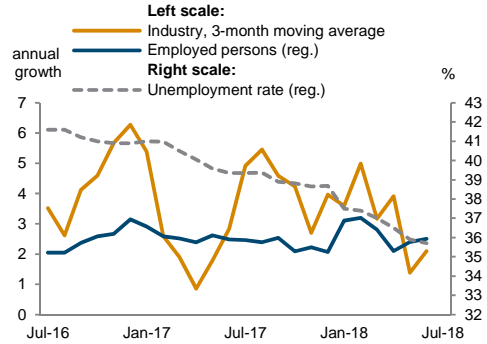
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Bosnia and Herzegovina

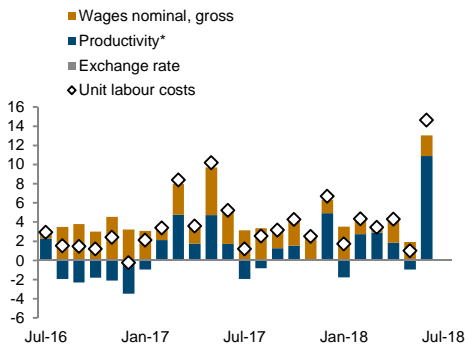
Real GDP growth and contributions
year-on-year



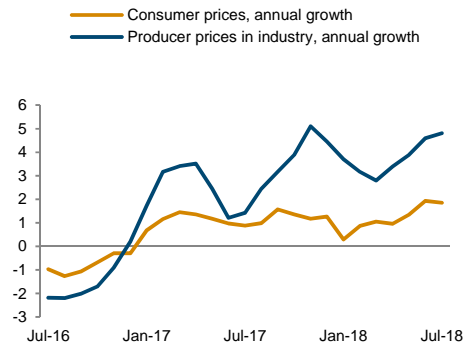
Real sector development
in %



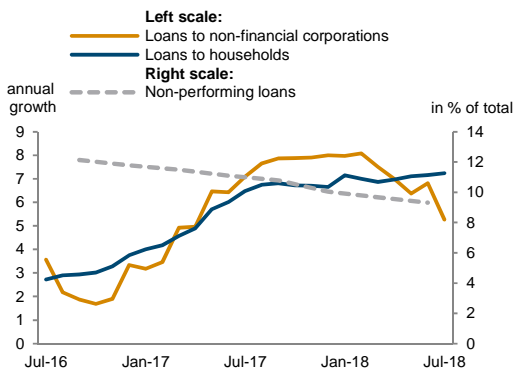
Unit labour costs in industry
annual growth rate in %



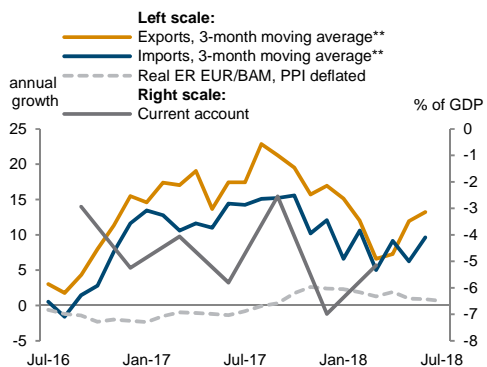
Inflation
in %



Financial indicators
in %



External sector development
in %



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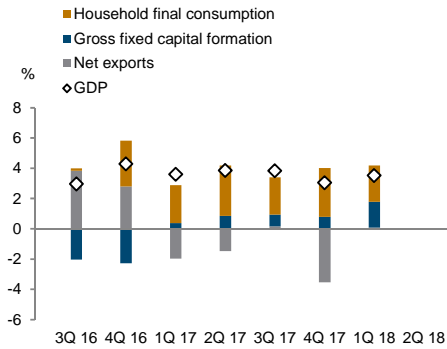
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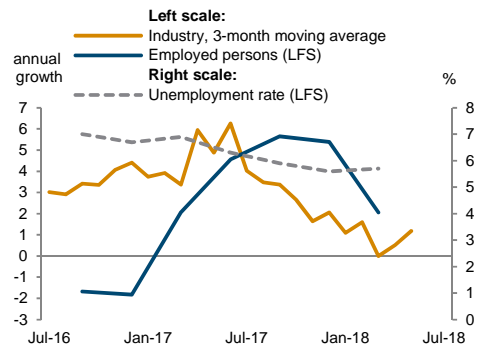
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Bulgaria

Real GDP growth and contributions
year-on-year



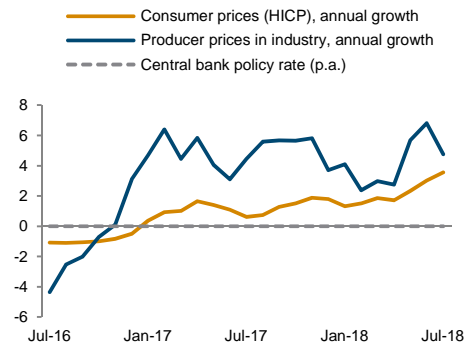
Real sector development
in %



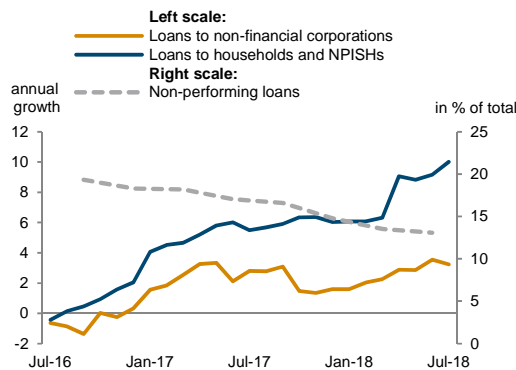
Unit labour costs in industry
annual growth rate in %



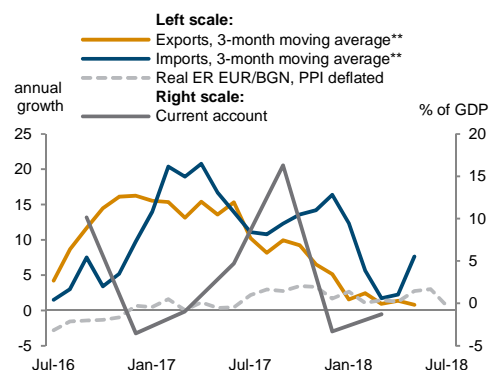
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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**EUR based.

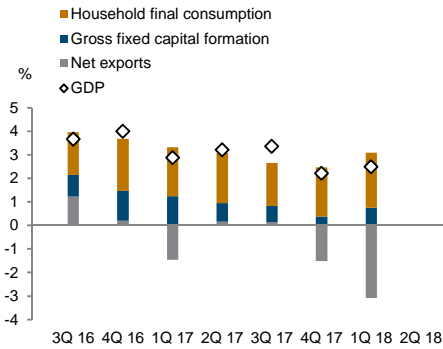
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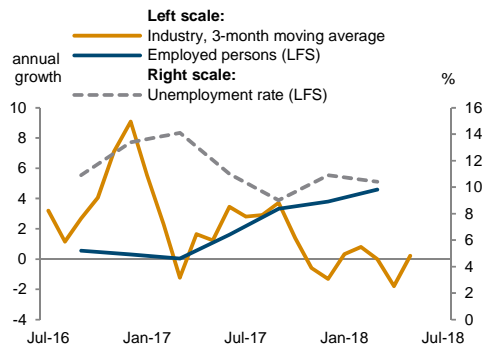
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Croatia

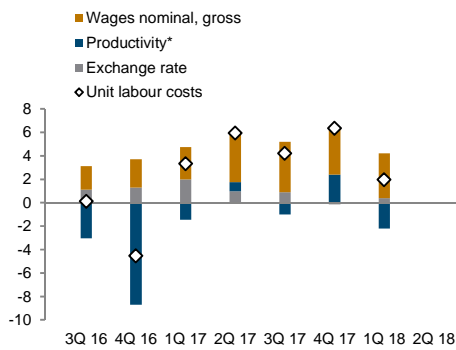
Real GDP growth and contributions
year-on-year



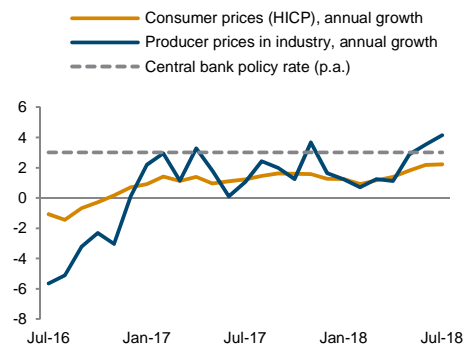
Real sector development
in %



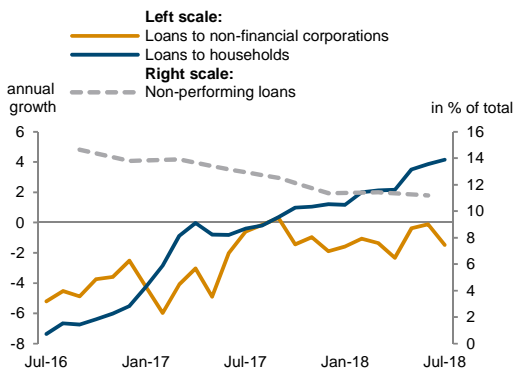
Unit labour costs in industry
annual growth rate in %



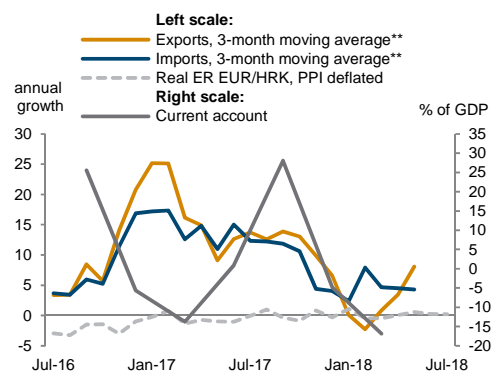
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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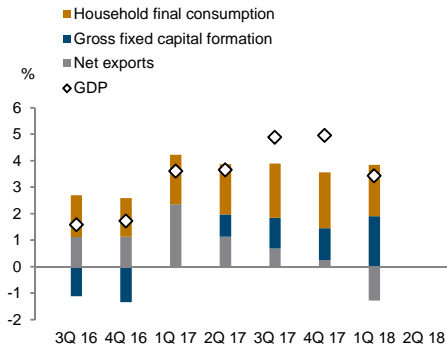
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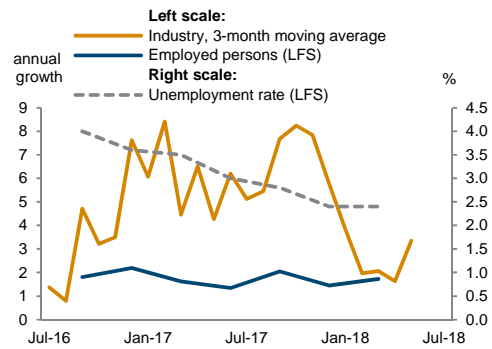
<https://data.wiiw.ac.at/monthly-database.html>

Czech Republic

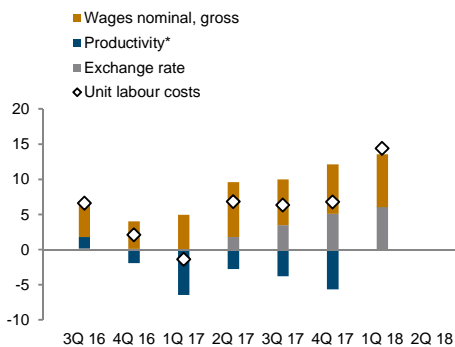
Real GDP growth and contributions
year-on-year



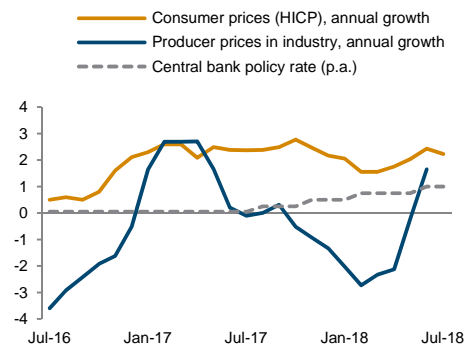
Real sector development
in %



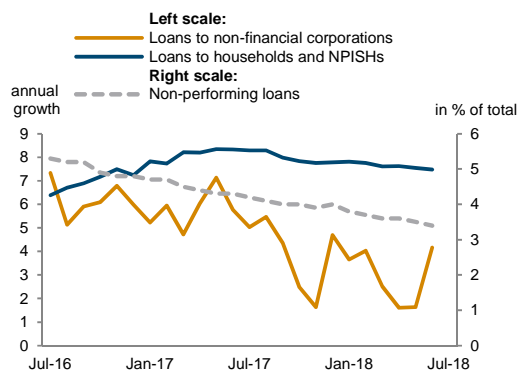
Unit labour costs in industry
annual growth rate in %



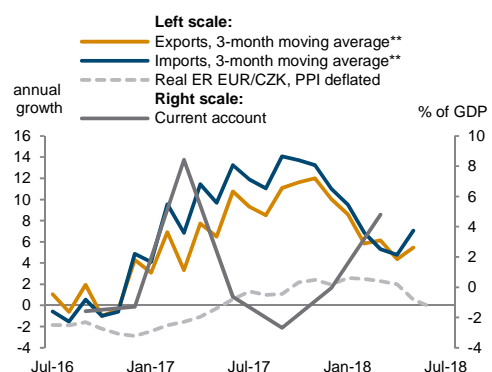
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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

**EUR based.

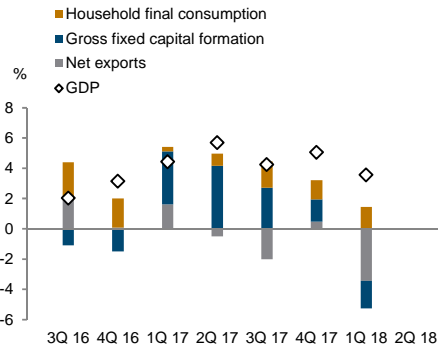
Source: wiiw Monthly Database incorporating Eurostat and national statistics.

Baseline data, country-specific definitions and methodological breaks in time series are available under:

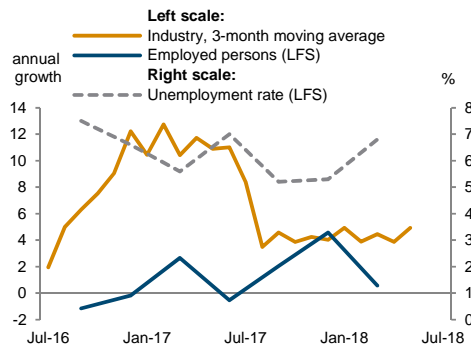
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Estonia

Real GDP growth and contributions
year-on-year



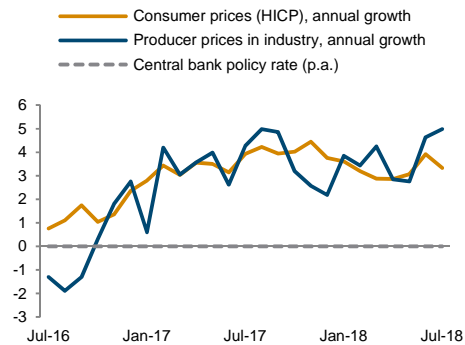
Real sector development
in %



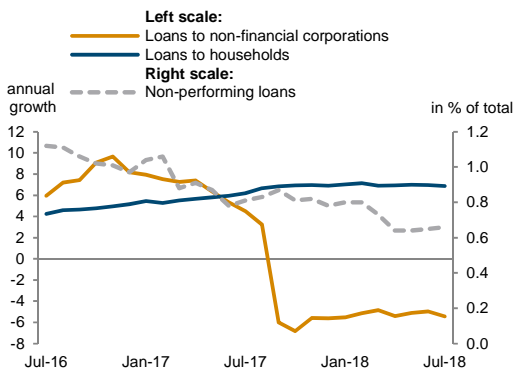
Unit labour costs in industry
annual growth rate in %



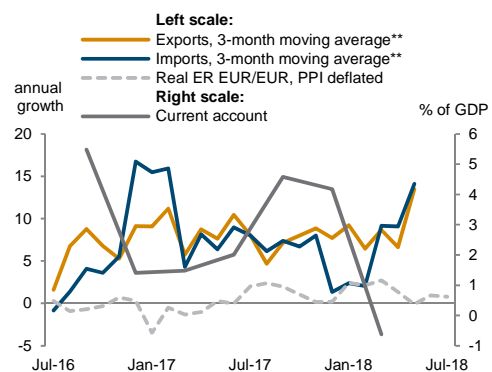
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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

**EUR based.

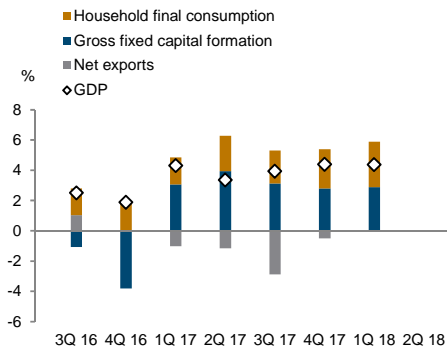
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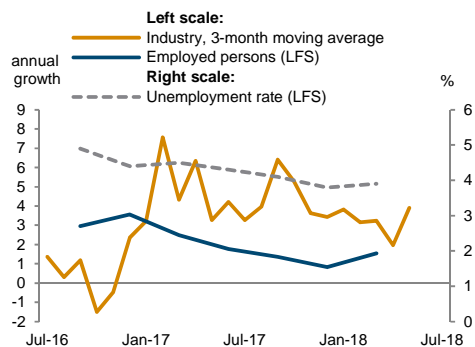
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Hungary

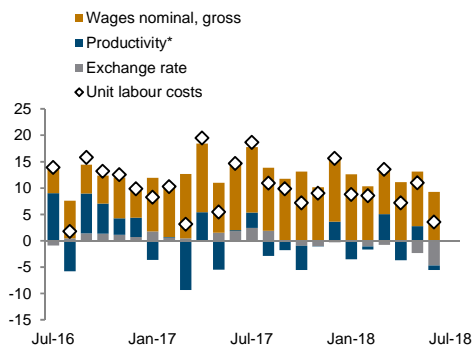
Real GDP growth and contributions
year-on-year



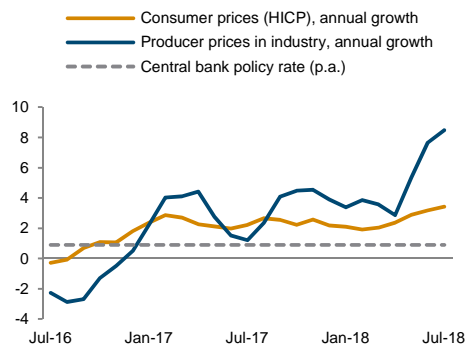
Real sector development
in %



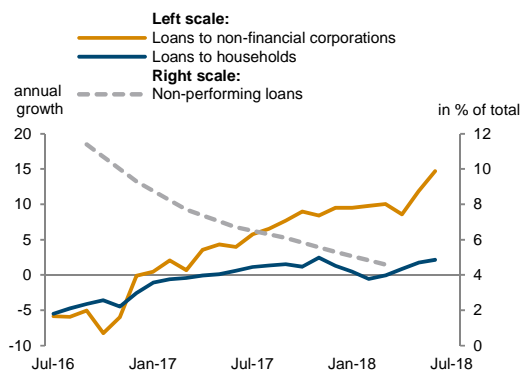
Unit labour costs in industry
annual growth rate in %



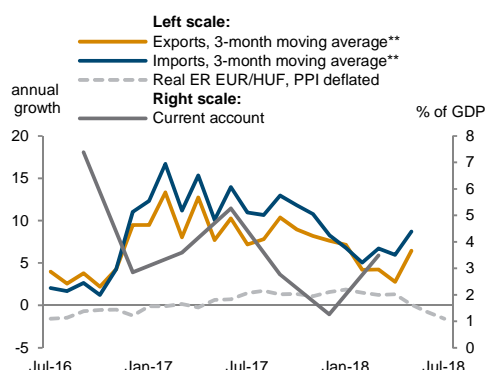
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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**EUR based.

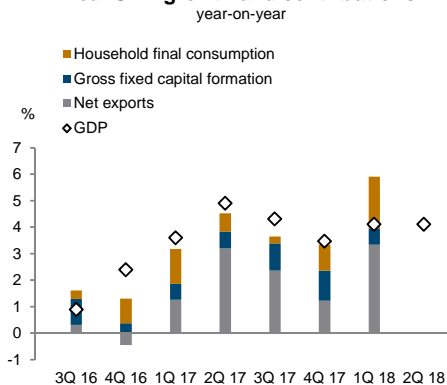
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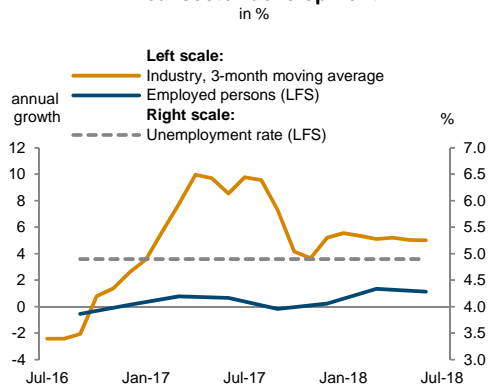
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Kazakhstan

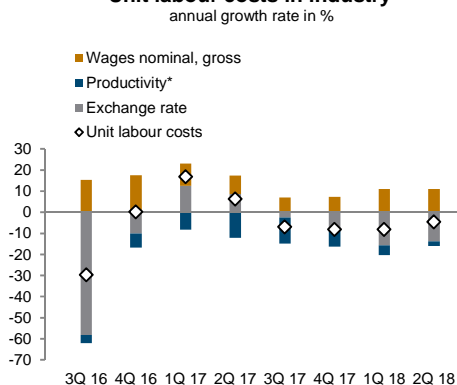
Real GDP growth and contributions



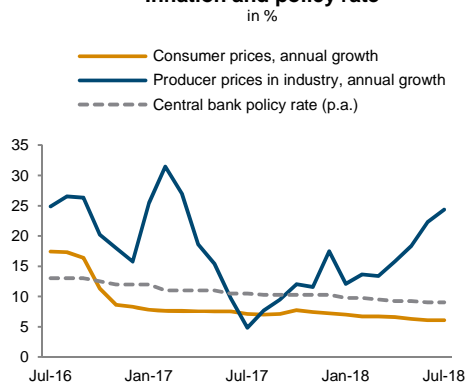
Real sector development



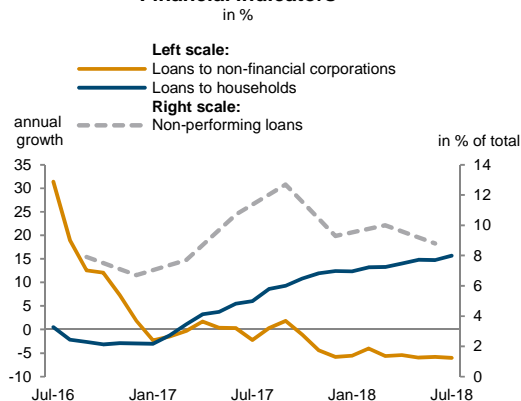
Unit labour costs in industry



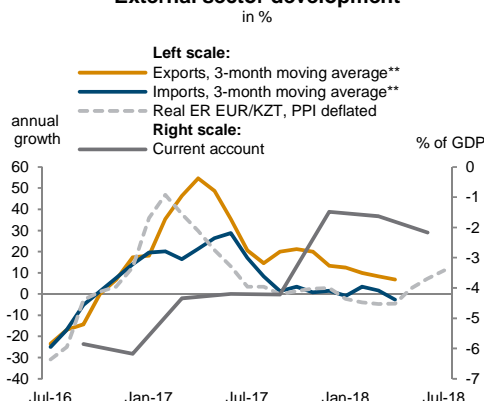
Inflation and policy rate



Financial indicators



External sector development



*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.

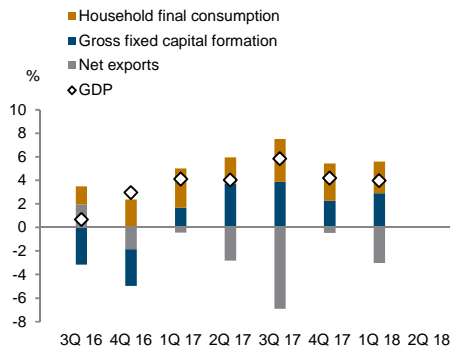
Baseline data, country-specific definitions and methodological breaks in time series are available under:

<https://data.wiiw.ac.at/monthly-database.html>

Latvia

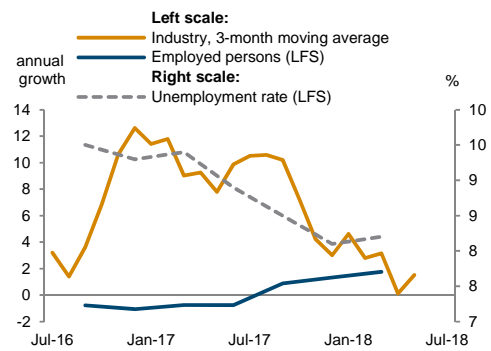
Real GDP growth and contributions

year-on-year



Real sector development

in %



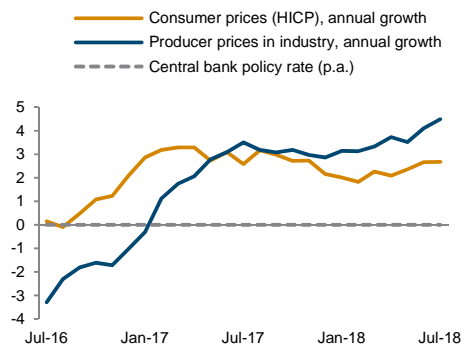
Unit labour costs in industry

annual growth rate in %



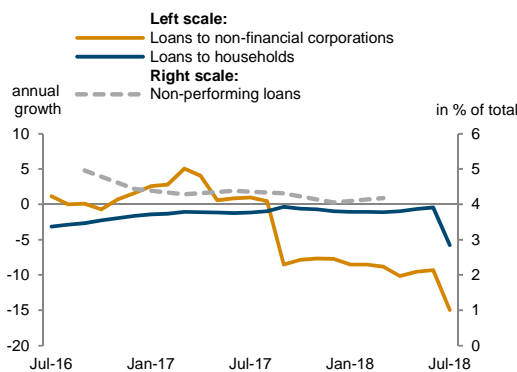
Inflation and policy rate

in %



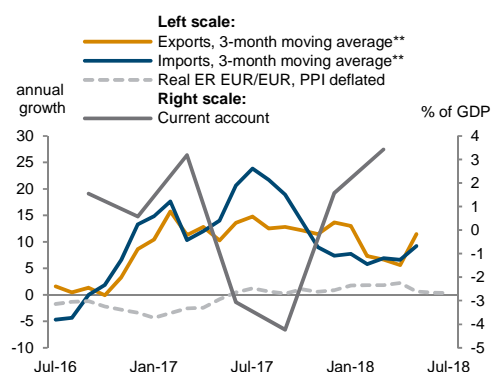
Financial indicators

in %



External sector development

in %



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**EUR based.

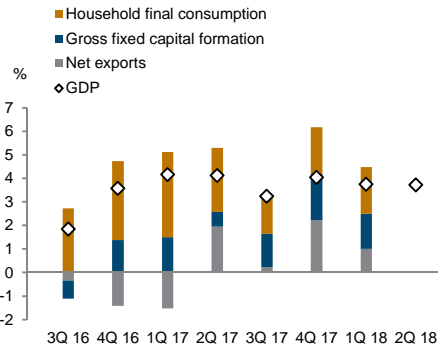
Source: wiiw Monthly Database incorporating Eurostat and national statistics.

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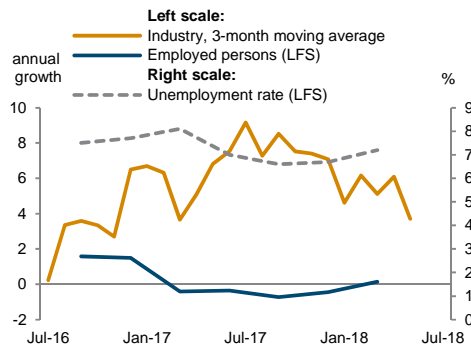
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Lithuania

Real GDP growth and contributions
year-on-year



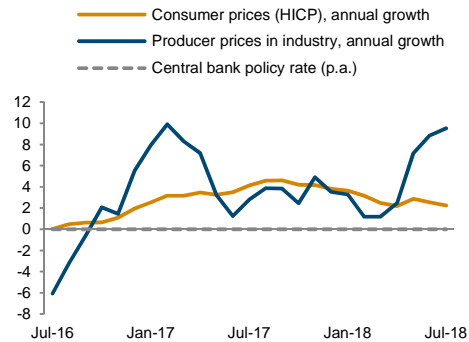
Real sector development
in %



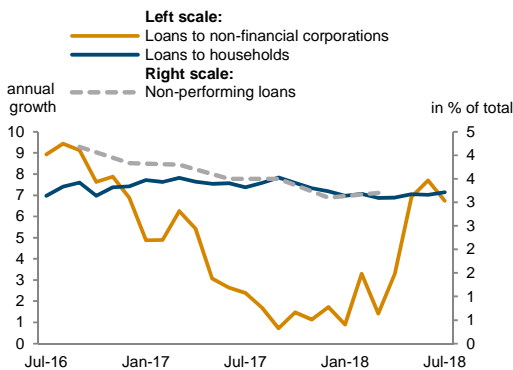
Unit labour costs in industry
annual growth rate in %



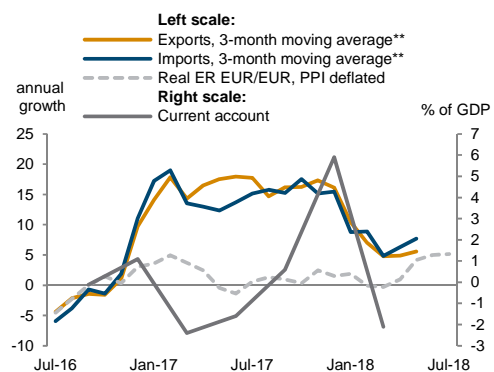
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



*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.

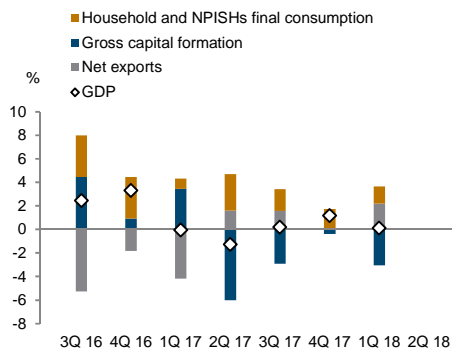
Baseline data, country-specific definitions and methodological breaks in time series are available under:

<https://data.wiiw.ac.at/monthly-database.html>

Macedonia

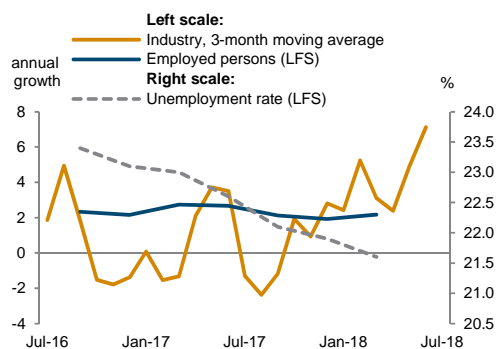
Real GDP growth and contributions

year-on-year



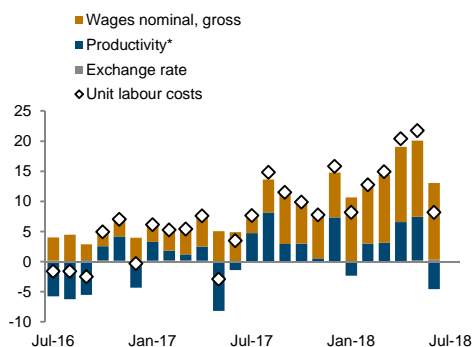
Real sector development

in %



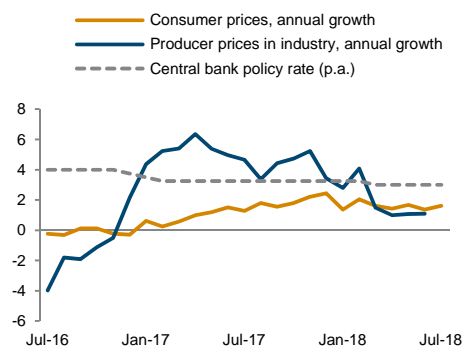
Unit labour costs in industry

annual growth rate in %



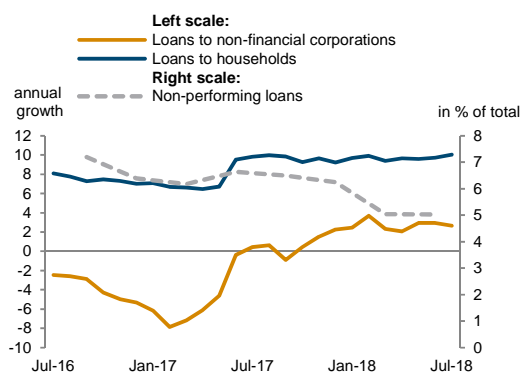
Inflation and policy rate

in %



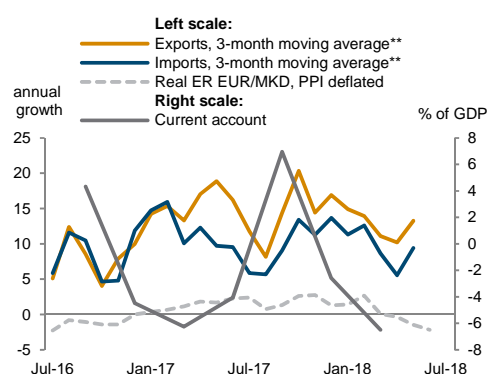
Financial indicators

in %



External sector development

in %



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**EUR based.

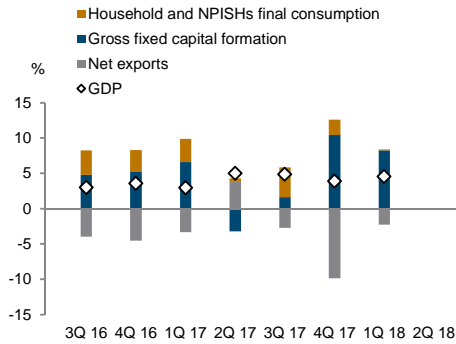
Source: wiiw Monthly Database incorporating Eurostat and national statistics.

Baseline data, country-specific definitions and methodological breaks in time series are available under:

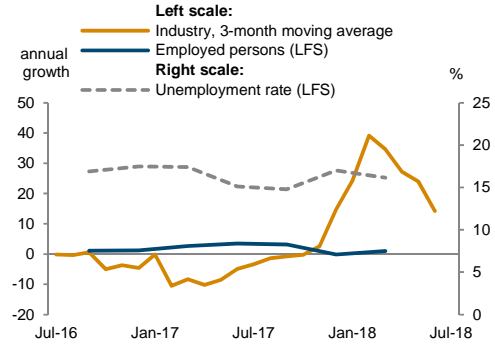
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Montenegro

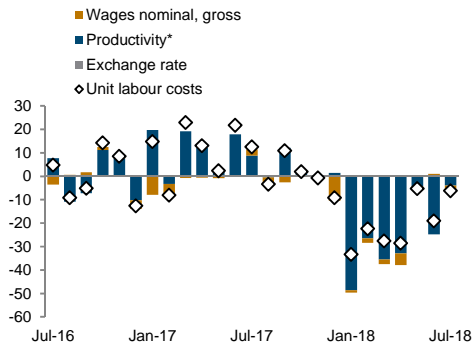
Real GDP growth and contributions
year-on-year



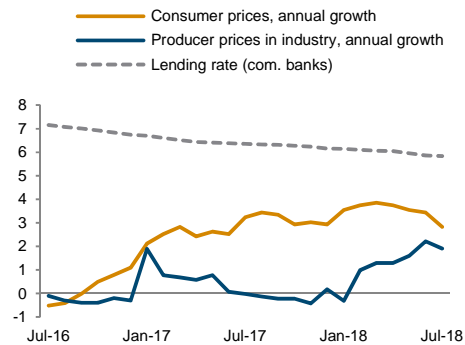
Real sector development
in %



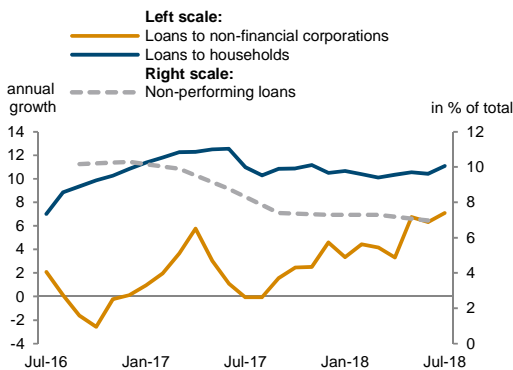
Unit labour costs in industry
annual growth rate in %



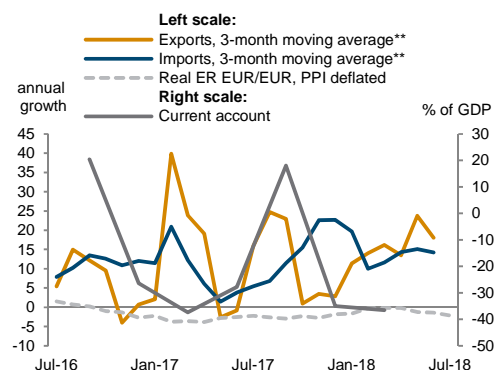
Inflation and lending rate
in %



Financial indicators
in %



External sector development
in %



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**EUR based.

Source: wiiw Monthly Database incorporating Eurostat and national statistics.

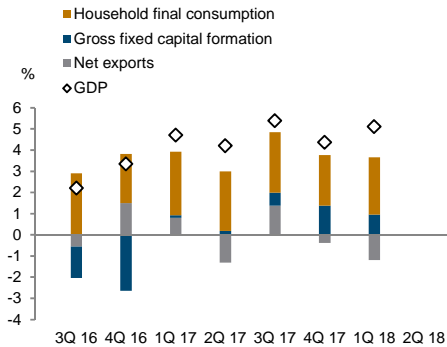
Baseline data, country-specific definitions and methodological breaks in time series are available under:

<https://data.wiiw.ac.at/monthly-database.html>

Poland

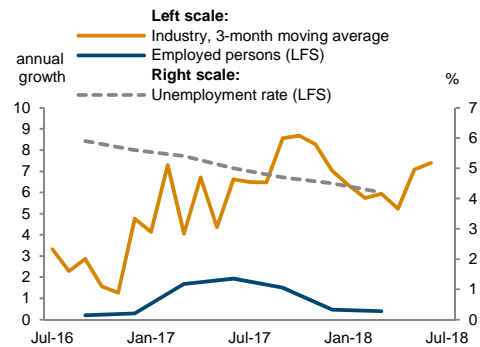
Real GDP growth and contributions

year-on-year



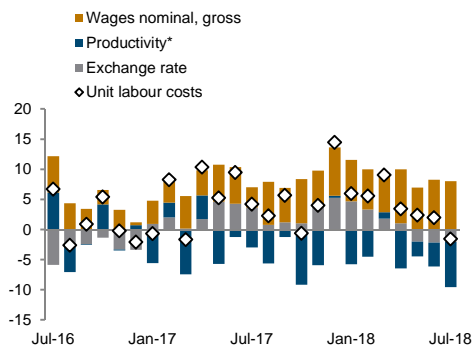
Real sector development

in %



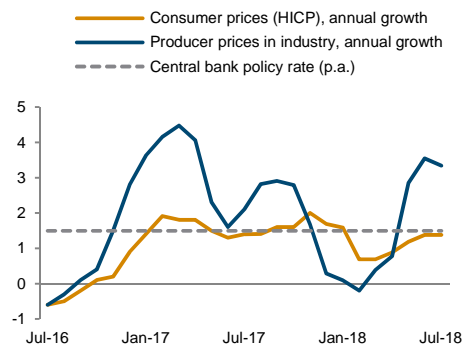
Unit labour costs in industry

annual growth rate in %



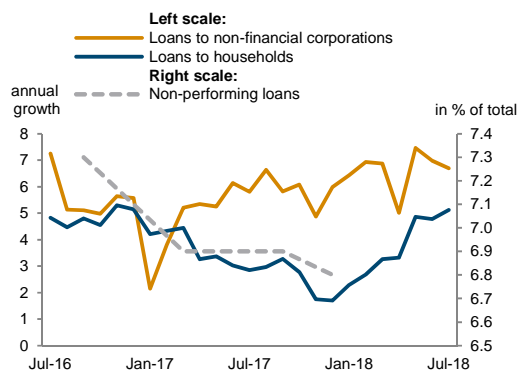
Inflation and policy rate

in %



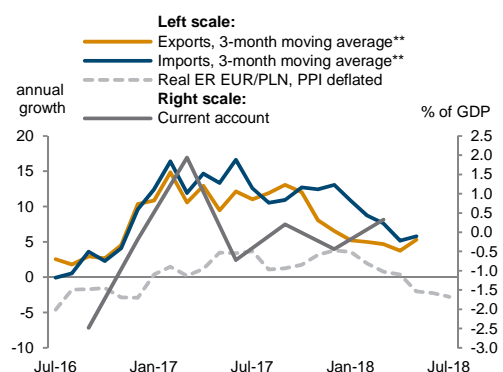
Financial indicators

in %



External sector development

in %



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**EUR based.

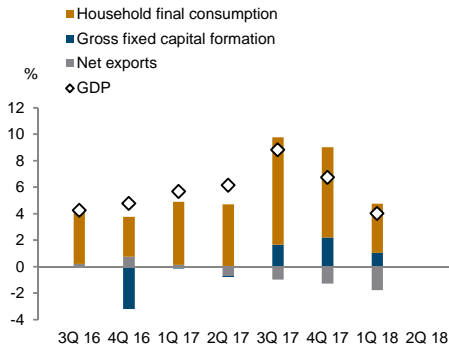
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Baseline data, country-specific definitions and methodological breaks in time series are available under:

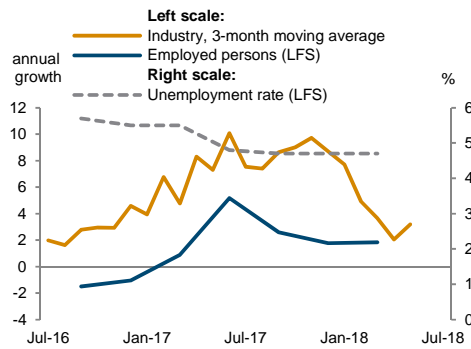
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Romania

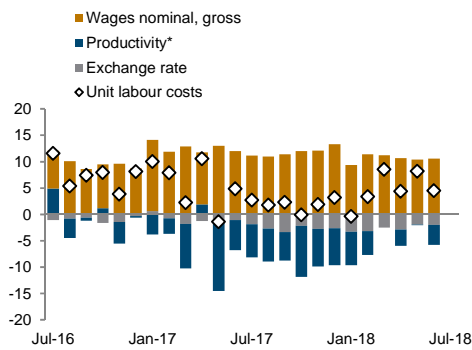
Real GDP growth and contributions
year-on-year



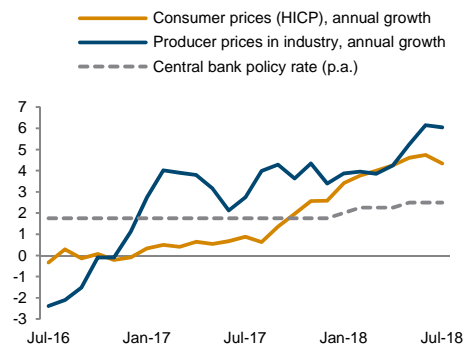
Real sector development
in %



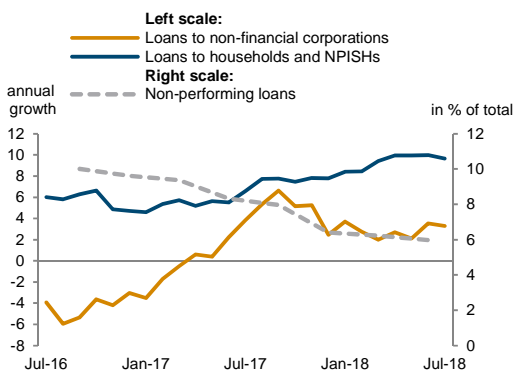
Unit labour costs in industry
annual growth rate in %



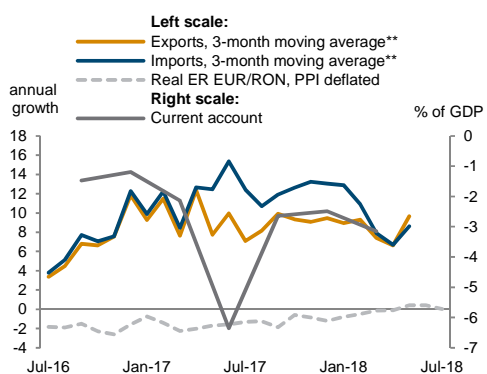
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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**EUR based.

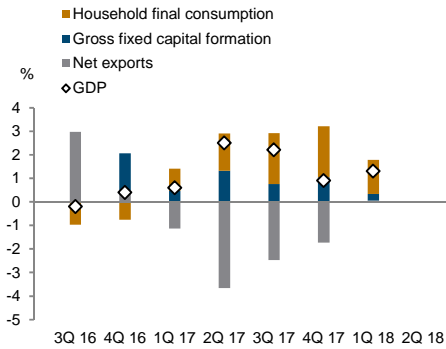
Source: wiiw Monthly Database incorporating Eurostat and national statistics.

Baseline data, country-specific definitions and methodological breaks in time series are available under:

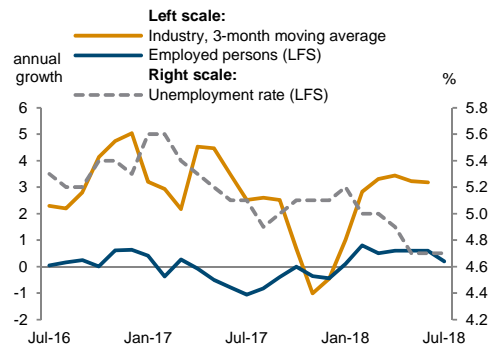
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Russia

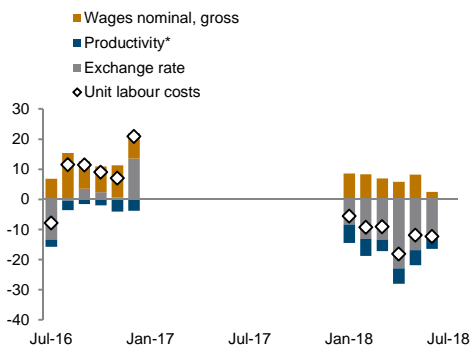
Real GDP growth and contributions
year-on-year



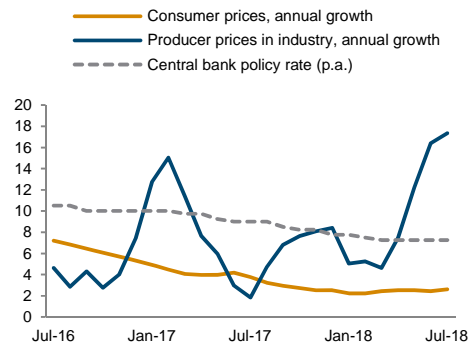
Real sector development
in %



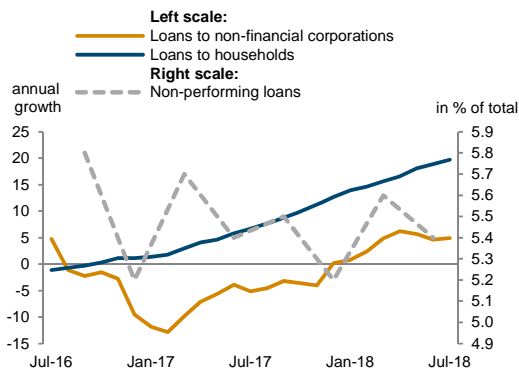
Unit labour costs in industry
annual growth rate in %



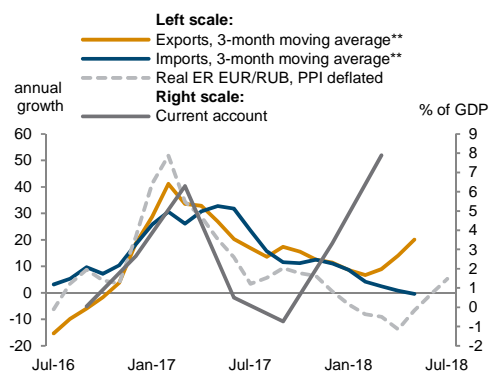
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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**EUR based.

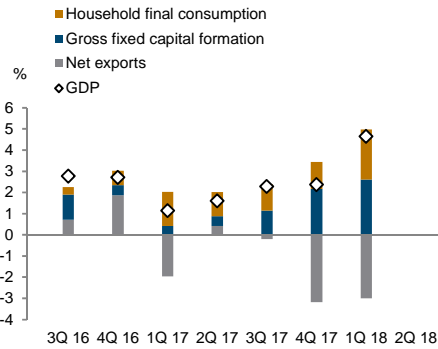
Source: wiiw Monthly Database incorporating Eurostat and national statistics.

Baseline data, country-specific definitions and methodological breaks in time series are available under:

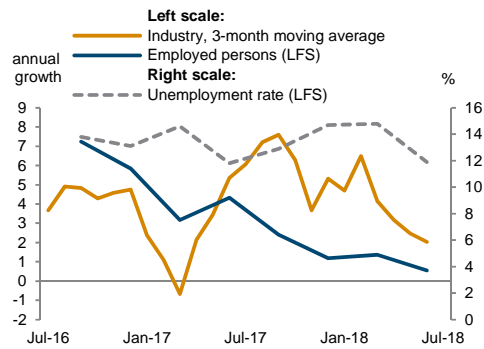
<https://data.wiiw.ac.at/monthly-database.html>

Serbia

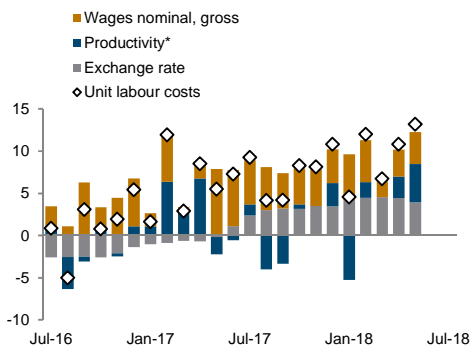
Real GDP growth and contributions
year-on-year



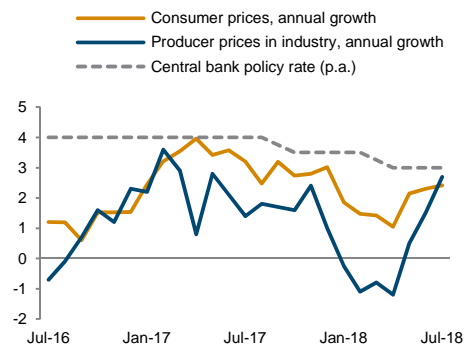
Real sector development
in %



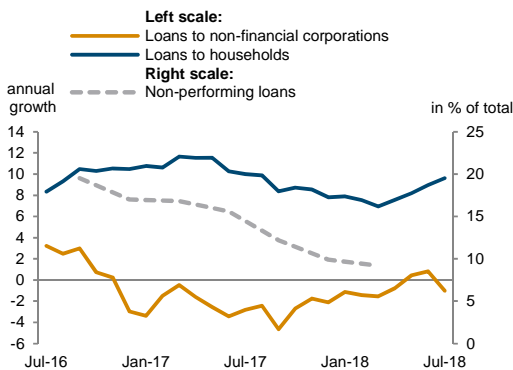
Unit labour costs in industry
annual growth rate in %



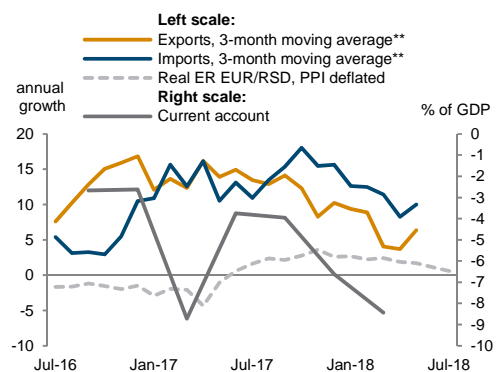
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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**EUR based.

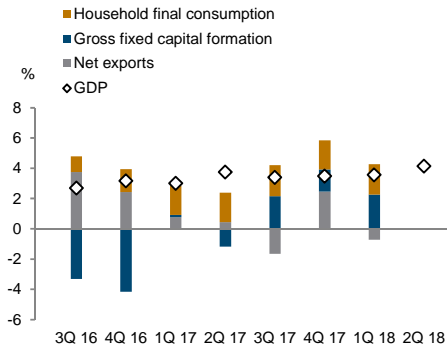
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Baseline data, country-specific definitions and methodological breaks in time series are available under:

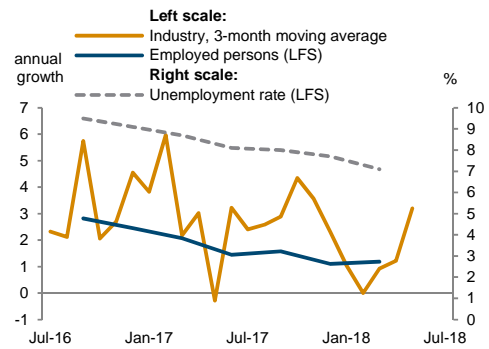
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Slovakia

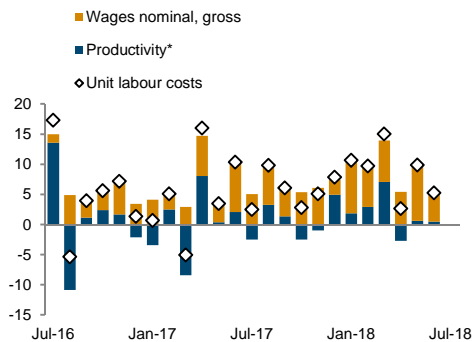
Real GDP growth and contributions
year-on-year



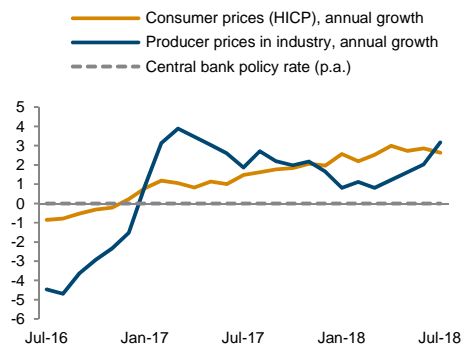
Real sector development
in %



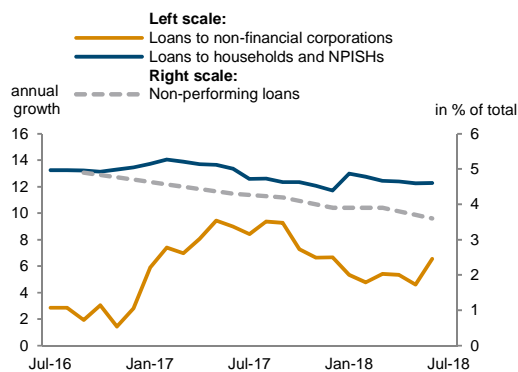
Unit labour costs in industry
annual growth rate in %



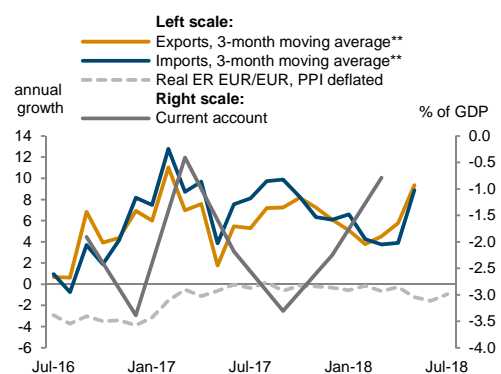
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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

**EUR based.

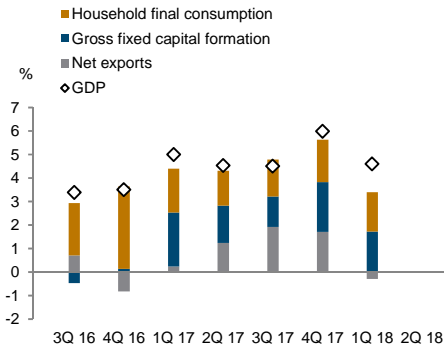
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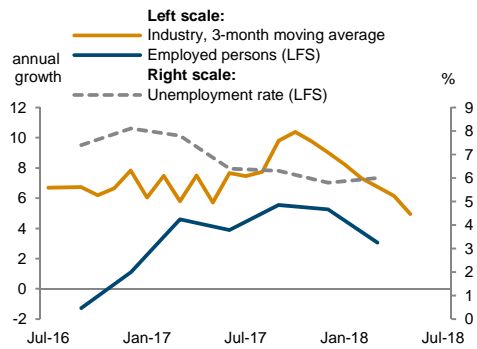
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Slovenia

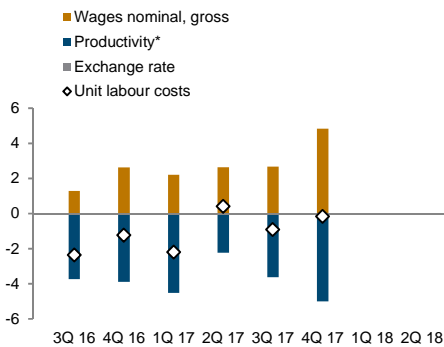
Real GDP growth and contributions
year-on-year



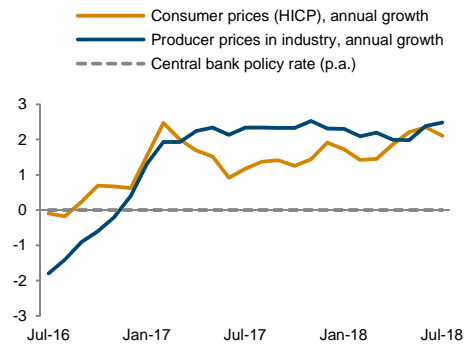
Real sector development
in %



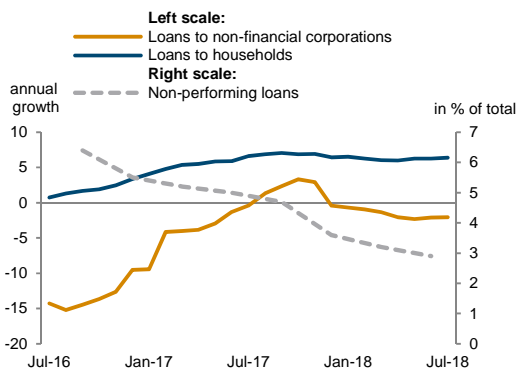
Unit labour costs in industry
annual growth rate in %



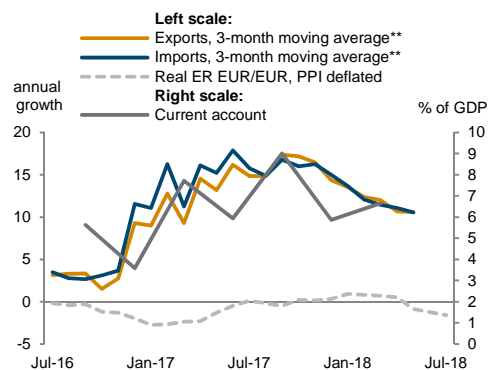
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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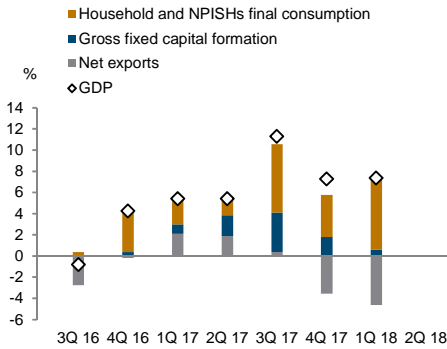
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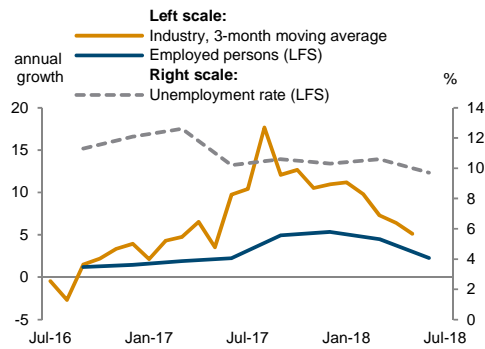
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Turkey

Real GDP growth and contributions
year-on-year



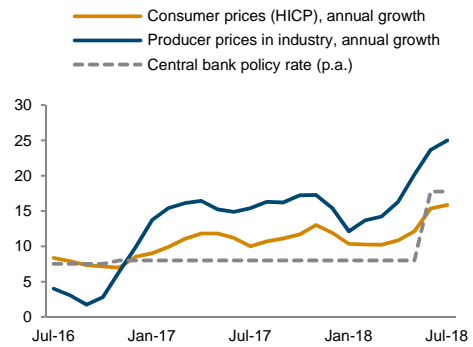
Real sector development
in %



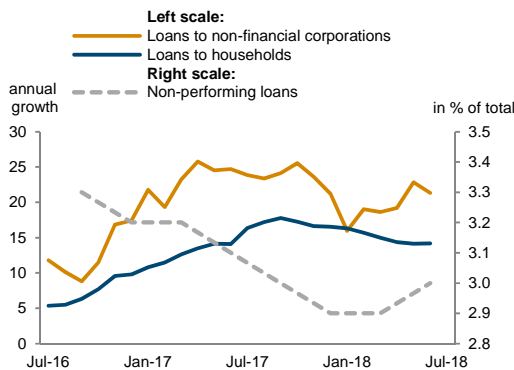
Unit labour costs in industry
annual growth rate in %



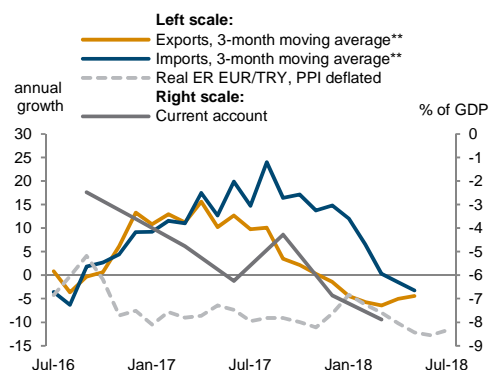
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %

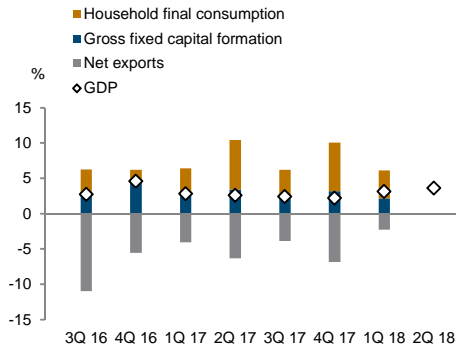


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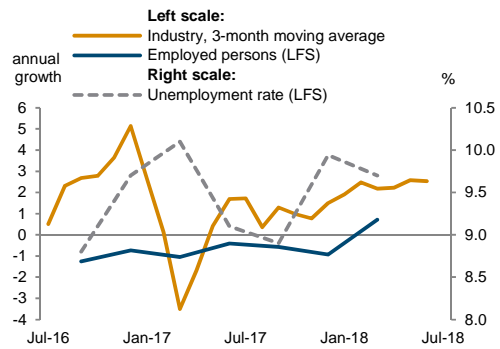
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Ukraine

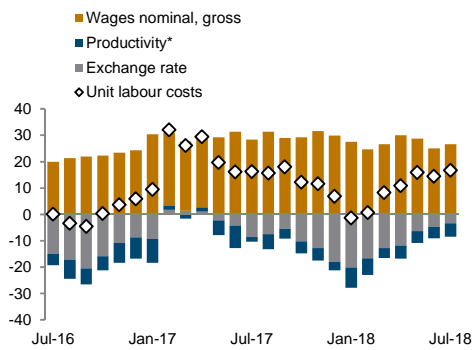
Real GDP growth and contributions
year-on-year



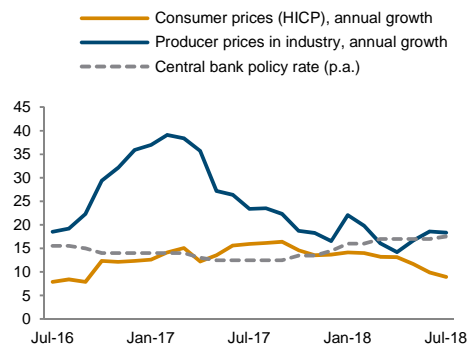
Real sector development
in %



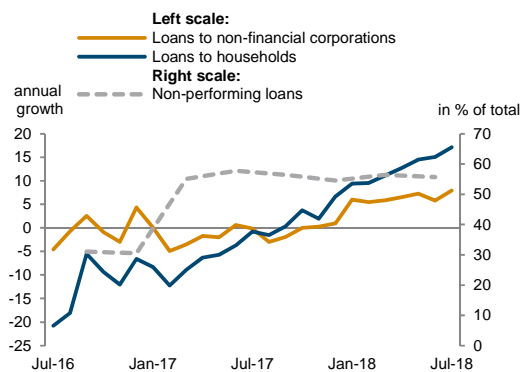
Unit labour costs in industry
annual growth rate in %



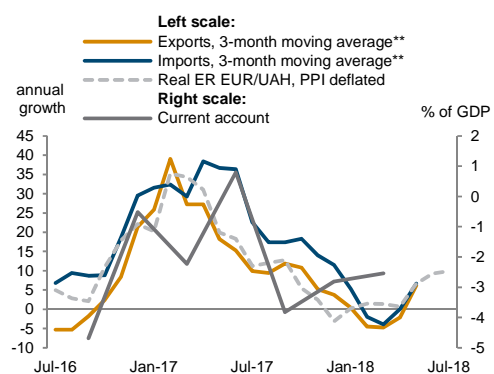
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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