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# **Monthly Report**

A Case for Balanced Trade

Will Restructuring Yield Acceleration of the Russian Economy?

Problems Calculating Gross Regional Product in Russia



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

# A Case for Balanced Trade

# Will Restructuring Yield Acceleration of the Russian Economy?

**Problems Calculating Gross Regional Product in Russia** 

VASILY ASTROV NIKOLAY KONDRASHOV LIUDMILA KONOVALOVA VALERIY MIRONOV LEON PODKAMINER

# **CONTENTS**

Chart of the month: A lost decade for Russian living standards	1
Opinion Corner: A case for balanced trade	2
Will restructuring yield acceleration of the Russian economy?	4
Problems calculating gross regional product in Russia	. 10
Monthly and quarterly statistics for Central, East and Southeast Europe	15
Index of subjects – February 2019 to February 2020	.39

# Chart of the month: A lost decade for Russian living standards

BY VASILY ASTROV

Russian living standards have been declining for several years. In 2014-2017, real disposable incomes of households (nominal incomes adjusted for CPI and minus mandatory payments, such as those on household utilities, transportation and debt service) declined by 8.3%. This was the combined outcome of the falling oil price, rouble depreciation (and related spike in inflation) and tight fiscal and monetary policies, the latter primarily targeted at ensuring macroeconomic stability at the expense of incomes. It was not until 2018 that real disposable incomes finally started recovering, by 0.1% in 2018. Growth increased further to 0.8% last year, helped by rapid disinflation. However, in 2019 real incomes were still 7.5% lower than in 2013, the last full pre-crisis year. Even assuming that the growth of real incomes in Russia will accelerate in the next few years (not least thanks to the recent initiatives of President Vladimir Putin on increased social spending), they will hardly reach pre-crisis levels before 2022, effectively resulting in a 'lost decade' for Russia in terms of living standards.

#### Real disposable incomes in Russia in 2014-2019

index 2014=100 four-quarter trailing average



Note: From 2016 including Crimea, data for 2019 are preliminary.

Source: Rosstat, wiiw calculations.

# Opinion Corner\*: A case for balanced trade

BY LEON PODKAMINER

It is argued that countries following externally balanced growth paths perform best in the long term. It may be in a country's interest not to indebt itself to others—and not to become a creditor of others.

Persistent and large current-account deficits which normally consist in most part of the trade deficit (in goods and non-factor services) may hinder economic growth. One reason is that a large current-account deficit suppresses domestic production; another is that paying back the foreign debt accumulated in the process weighs heavily on a country's finances. This may bleed a deficit-holding country dry. Of course, if a country runs a deficit as a result of high domestic capital formation and related large imports of investment goods rather than of consumer goods, high long-term growth is still ultimately possible. On the other hand, there are numerous cases of countries with high and persistent current-account deficits that have failed to use the foreign borrowing that drives the deficit productively.

Now consider countries that run persistent and large current-account surpluses. Can such surpluses be synonymous with strong GDP growth in the long term? This is far from certain. Firstly, such surpluses can be engineered by suppressing domestic demand (wages, public consumption and investment)—as has been the case, for instance, in Germany since about 2005. Secondly, countries that run persistent and large surpluses accumulate foreign liabilities that may (and often do) prove unserviceable. Eventually, the inability of deficit-holding countries to service their foreign debt hits the surplus-holding countries themselves.

With the above considerations in mind, it seems worthwhile to have a look at the empirical evidence. Figure 1 is a scatter plot with average long-term GDP growth on the horizontal axis and the average long-term current account/GDP ratio on the vertical axis. The averages have been calculated from World Development Indicators data for a large and diverse set of countries (42 in total). For most countries the period covered in the average GDP rate runs from 1961, although for some it is shorter, going back as far as the data allows.

The dot on the upper-right-hand side, marked SG, represents Singapore (a true outlier in any sense), which has an average GDP growth rate of 6.6% and an average current-account surplus of 9.8% of GDP. The country with the second-largest current-account surplus is Switzerland (CH), whose long-term GDP growth rate is a mere 1.7%. The dot furthest to the right is China (CN), while the extreme southwest dot (EL) is Greece (not surprisingly), with an average current-account deficit of 5.1% and an average GDP growth rate of 1.3%.

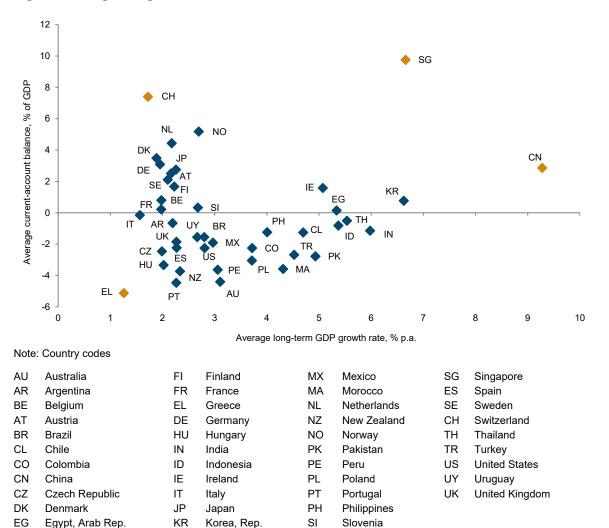
The data above suggest the following:

1. Long-term average GDP growth of around 2% per year has been compatible with reasonably high long-term current-account surpluses and deficits alike for about half of the countries.

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 wiw.

- A large current-account surplus is generally not synonymous with fast long-term GDP growth. It
  is quite likely that countries such as Switzerland would have been better off (in terms of growth)
  with less of an external surplus-provided, of course, that they allowed or stimulated faster
  growth of domestic demand.
- 3. The three countries with consistently high long-term growth (including China) do not have large long-term current-account surpluses. Four further countries, each with roughly balanced current accounts, have also shown quite fast long-term GDP growth, of more than 5% per year.
- 4. In contrast, countries with slower GDP growth (ranging between 3% and 5% per year) have run current-account deficits—some of which have been quite substantial.

Figure 1 / Long-term growth versus current-account balance



Source: World Bank WDI database.

It seems, then, that countries that have followed broadly balanced growth paths (that is, those with low current-account deficits or surpluses) have performed best in the long term. It may be in a country's interest not to indebt itself to others—and not to become a creditor of others. I would also conclude that the global economy would be best served by all (or most) countries ensuring that their current accounts remain balanced.

# Will restructuring yield acceleration of the Russian economy?<sup>1</sup> How the structure of Russian GDP has changed since 2014

BY VALERIY MIRONOV<sup>2</sup> AND LIUDMILA KONOVALOVA<sup>3</sup>

The dynamics of Russian GDP over the past five years have been driven, on the one hand, by the accelerated growth of sectors such as mining, agriculture and some related services, and, on the other, by the decline of the retail and wholesale trade sector, and the slowing dynamics of high-tech industries.

#### FIVE YEARS OF STRUCTURAL ADJUSTMENT IN RUSSIA

Federal Service of State Statistics (Rosstat) data on the sectoral structure of GDP in January-September 2019 allows us to assess the structural changes seen in the Russian economy over the five years since the fall in oil prices at the end of 2014 and the ruble devaluation earlier that year, which dramatically changed the price proportions in the economy. At the same time, it is important to understand how these changes correspond to the goal of productivity growth acceleration, and to the boost to GDP per capita and incomes that ultimately follows increased productivity.

In the first three quarters of 2019 Russian GDP grew by 1.1% in real terms compared with the same period of 2018. At the same time, the economy was divided into two unequal parts: growth has been observed in 11 sectors (their combined share totalled 55.1% of GDP in market prices), while a reduction or stagnation in output has taken place in eight sectors (with a combined share of 33.9% of GDP).<sup>4</sup> Thus, a large part of the economy cut output. However, this was partially provoked by one-off factors, in particular, a one-time increase in the VAT rate in January 2019.

Therefore, it is important to assess the change in the structure of GDP growth over a longer period. The size of the Russian economy over the past five years, compared with the (largely pre-crisis) first three quarters of 2014, increased by only about 2.9%. Nevertheless, the structure of the economy has changed notably since 2014. The highest growth was recorded by large sectors such as mining and quarrying (11.2%), and financial and insurance activities (15.6%), followed by smaller segments such as arts, entertainment and recreational activities (10.6%), and 'other service activities' (23.6%), which includes services not included in other groupings (see Figure 1). Reasonably high growth rates

<sup>&#</sup>x27;Acceleration' (in Russian 'uskoreniye') was a slogan and a policy announced by general secretary of the Communist Party, Mikhail Gorbachev, on 20 April 1985 at a Soviet Party Plenum, aimed at the acceleration of political, social and economic development of the Soviet Union. It was the first slogan of a set of reforms that also included 'perestroika' (restructuring), 'glasnost' (transparency), new political thinking and 'demokratizatsiya' (democratisation).

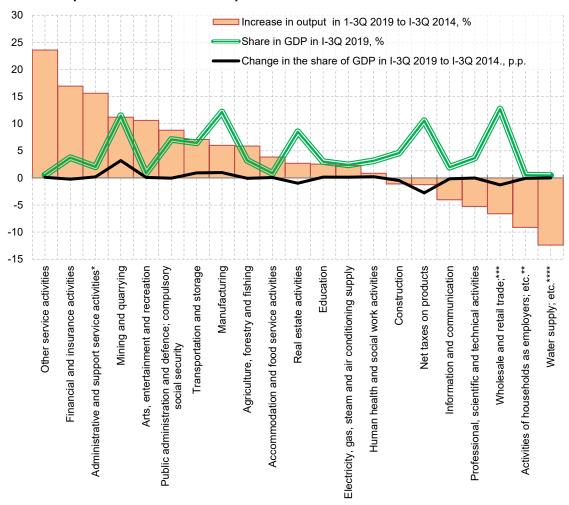
<sup>&</sup>lt;sup>2</sup> Corresponding author. E-mail address: vmironov@hse.ru

Valeriy Mironov and Liudmila Konovalova are respectively deputy director and researcher at the Development Centre Institute of the Higher School of Economics, Moscow (<a href="https://dcenter.hse.ru">https://dcenter.hse.ru</a>).

<sup>&</sup>lt;sup>4</sup> The remaining part of GDP is accounted for by net taxes on products; it increased by 0.5%.

(close to 10% over five years) were demonstrated by public administration and defence, and transportation and storage. Manufacturing grew by 6% over the five-year period.

Figure 1 / Ranking of economic sectors by the dynamics of GDP in the first three quarters of 2019 in comparison to the first three quarters of 2014



#### Notes:

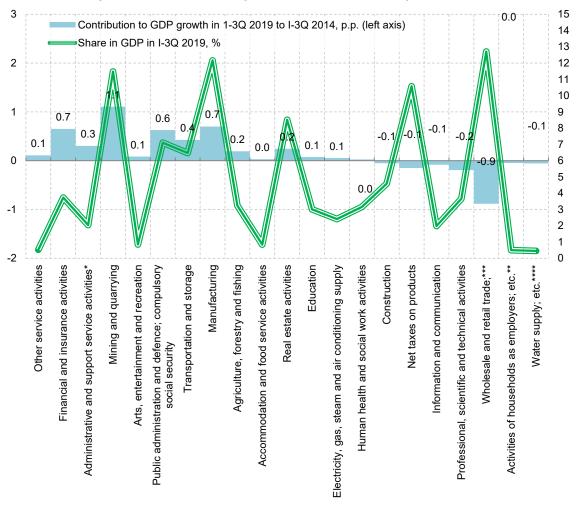
- \* Administrative activities include various kinds of rent, rental and leasing, tourist services, security activities, cleaning of premises, and others.
- \*\* Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use.
- \*\*\* Wholesale and retail trade; repair of motor vehicles and motorcycles.
- \*\*\*\* Water supply; sewerage, waste management and remediation activities.

Source: authors ' calculations based on Federal Service of State Statistics (Rosstat) data.

The strongest decline (of about 9-12% over five years) was recorded in household activities, and the water supply and waste disposal sector, while wholesale and retail trade fell by 7%. Output decreased by 5.3% in professional, scientific and technical activities, which includes research, while a decline of 4% was seen in the information and communications sector.

Another point to mention is the output dynamics of the 'high-tech' sectors of the Russian economy (in this indicator Rosstat includes separate sub-sectors of different industries).<sup>5</sup> Following year-on-year growth of 10.1% in 2016, output in the sector slowed to 5% in 2017 and turned negative in 2018 (-4.9%), before falling even further in January-June 2019, to -11.5%. As a result, between 2015 and 2019, the volume of output of high-tech sectors may have fallen by 2.7% (data for 2014 is not available).

Figure 2 / Contribution of economic sectors to GDP growth, in percentage-point terms, in the first three quarters of 2019 in comparison to the first three quarters of 2014



#### Notes:

- \* Administrative activities include various kinds of rent, rental and leasing, tourist services, security activities, cleaning of premises, and others.
- \*\* Activities of households as employers; u0ndifferentiated goods- and services-producing activities of households for own use.
- \*\*\* Wholesale and retail trade; repair of motor vehicles and motorcycles.
- \*\*\*\* Water supply; sewerage, waste management and remediation activities.

For calculating sector (and net taxes) contributions to GDP, the average shares of sectors (and net taxes) in GDP for the period 2014-2018 were used, resulting in a discrepancy of 0.29 percentage points.

Source: authors ' calculations based on Federal Service of State Statistics (Rosstat) data.

<sup>&</sup>lt;sup>5</sup> URL: http://www.gks.ru/wps/wcm/connect/rosstat main/rosstat/ru/statistics/economydevelopment/#

Taking into account the different shares that individual sectors contributed to GDP over the past five years, their roles as drivers of economic dynamics also varied greatly. The main engines of growth were mining and quarrying, financial services, manufacturing, and public administration and defence, which contributed a combined 3.1 percentage points to overall GDP growth. Administrative services and transportation contributed a further 0.7 percentage points between them (Figure 2). Overall, 3.9 percentage points of GDP growth were contributed by the above-mentioned sectors.

At the same time, trade made a negative contribution of -0.9 of a percentage point, which, combined with smaller positive and negative contributions from other sectors, brought overall economic growth during the five-year period to 2.9%. It is clear that, in terms of growth dynamics, the economy needs a sharp acceleration. But one question arises: will the observed structural changes contribute to the acceleration of economic growth in the future?

# STRUCTURAL CHANGE AND ECONOMIC GROWTH: CROSS-COUNTRY EVIDENCE

To identify the sectors that can boost economic growth, we conducted an econometric analysis of the relationship between industry growth rates of total factor productivity (TFP) and output on the panel data for 43 countries in 2000-14, based on the new (2016) version of the World Input–Output Database Socio-Economic Accounts (WIOD SEA), an industry statistics database, and our own calculations of TFP dynamics for all sectors and countries.<sup>6,7</sup>

The theoretical framework of our study is presented by the model of economic growth elaborated by Nicholas Kaldor, based on a number of empirical laws. In particular, in our study we use the second law, known as the Kaldor-Verdoorn's growth law, which postulates the relationship between the increase in productivity in the sector in question and the growth of its output. This law emphasises the importance of a positive impact on economic growth of static and dynamic effects of scale of production, and technological innovation and learning (learning by doing).

At the time of its creation, the Kaldor model assumed that the dynamic character of the increase in returns to scale is not typical for all industries, but only for manufacturing. Therefore, Kaldor's growth laws initially emphasised the importance of manufacturing to overall economic development. But nowadays these empirical relationships, which could be called Kaldorian, are often used for analysing the contribution of different industries to overall economic growth, as well as identifying industries that contribute to an increase in productivity and economic growth and income of workers at the level of the economy as a whole.

Based on the initial specification, in our study we made the following transformations of the classical form of the empirical law in question. First, as a dependent variable, we took not labour productivity in the sector of the country in question, but TFP; that is, the overall factor (or multifactor) productivity cleared of the influence of labour and capital costs (to some extent this allows us to solve a problem of endogeneity in calculations). In essence, TFP is the 'residual' remaining after the exclusion of labour and capital factors from the production function. Thus, in our specification, we did not introduce the capital

<sup>6</sup> http://www.wiod.org/database/seas16

<sup>&</sup>lt;sup>7</sup> Calculations were made for the preprint by Mironov and Konovalova (forthcoming).

factor as a control variable affecting productivity growth (as is often done in studies on this topic), owing to the 'cleared' nature of the dependent variable (TFP).<sup>8</sup>

Secondly, as independent control variables, we have introduced into the model such factors—calculated on the basis of WIOD SEA—as a) the ratio of the share of salaries of high-paid workers to the share of salaries of low-paid workers within the sector (to take into account the human capital factor), and b) exports for a number of large sectors.<sup>9</sup>

Thus, mathematically, the second Kaldorian law for each sector can be written as follows:

$$TFP_{jt} = \alpha_{jt} + \beta 1_j * q_{jt} + \beta 2_j * \ln(lab)_{jt} + \beta 3_j * exp_{jt} + \varepsilon_{jt}$$

where  $TFP_{jt}$  represents TFP growth of the sector in question in a particular country (j represents the particular country and t the year in question),  $q_{jt}$  is the growth of sectoral output,  $lab_{jt}$  is the ratio of salary shares in a given sector, and  $exp_{jt}$  is the growth of exports of the sector in particular country.  $\varepsilon_{jt}$  is the residual of the model.

The main difference from the classical model specification consists in the new variables that we have added: the specific weight of the labour payment ratio in the estimated industries  $(\ln(lab)_{jt})$  and exports  $(exp_{jt})$ . We believe that the growth of these indicators would directly contribute to the growth of the target variable—TFP—due to the growth of the percentage of skilled workers in the industry, as well as the growth of export demand.

At the same time, we conducted a comparative analysis for groups of countries with different income levels. The 43 countries analysed from the WIOD SEA 2016 database between 2000 and 2014 were divided into high-income countries (33 countries) and middle-income countries (10 countries, including lower-middle and upper-middle income countries) based on the World Bank classification. The number of enlarged sectors was 14 (instead of the original 50).

Our calculations showed that, in general, the coefficient of sectoral output in both groups of countries and across all sectors is positive, and in most cases exceeds 0.6, indicating a pronounced positive relationship between output growth and TFP. This fact demonstrates the high importance of output increase for the growth of TFP in a number of sectors, which is consistent with the Kaldor-Verdoorn law. Accordingly, there are a number of sectors (with high elasticity of productivity growth to output growth) whose accelerated development contributes significantly more to overall productivity growth than the development of sectors with low elasticity. These sectors can be considered as the potential drivers of overall productivity growth (and, thus, in per capita GDP).

The sectors that have been identified as having the most impact on the aggregate productivity growth are the following:

> In high-income countries: manufacturing, transport, agriculture and (oddly enough) mining industries.

See Angeriz, McCombie and Roberts (2009) and Magacho and McCombie (2017).

Given often limited domestic demand, exports may be important for sectoral growth and the impact of the economies of scale on productivity.

In middle-income countries (this group includes Russia): manufacturing, trade, transport and financial services.

It should be taken into consideration that in our analysis the manufacturing industry was included as a single industry. It would be interesting to check the importance of its multiple constituent sectors as drivers of TFP growth at the level of the economy as a whole.

#### IMPLICATIONS FOR RUSSIA

Based on the above analysis, the structural changes in the Russian economy over the past five years can only be partially seen to have favoured the acceleration of labour productivity growth, as a number of important sectors lagged behind. The pros include relatively fast-growing sectors such as financial and transport services. The cons include a sharp drop in trade (which is associated with a fall in real incomes, as well as the spread of internet trade), a relatively slow-growing manufacturing sector and declining output in 'high-tech' industries.

In addition to the sectors as potential drivers of productivity growth on the basis of the above econometric calculations, long-term drivers of growth include sectors associated with the reproduction of human capital and R&D. Measuring productivity in these sectors is difficult, but their role in economic growth cannot be overestimated. However, as is shown in Figure 1, these sectors (in particular, education and health) have not been among the growth leaders in Russia over the past five years. It is possible that this has been due to both weak demand for innovation from the real sector (as can be seen from the slowing down of output in high-tech sectors) and existing government priorities in the allocation of budgetary resources.

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# Problems calculating gross regional product in Russia

BY NIKOLAY KONDRASHOV1

Gross regional product (GRP) statistics have limited practical use in Russia because of a long publication lag (14 months), absence of quarterly data, and biased estimates of volume, structure and real growth. For instance, combined GRP for Russia as a whole significantly differs from the country's GDP, and some components are omitted or grossly underestimated in the country's GRP calculations. However, this can be improved.

# METHODOLOGY OF CALCULATING GROSS REGIONAL PRODUCT (GRP)

The gross regional product (GRP) of each Russian region is calculated using the output approach, i.e. the sum of value added (VA in the equation below) for each type of economic activity (EA below).

The value added for each economic activity (i) is defined as the sum of value added for businesses (j) active in the region that fall under that category of economic activity. If a company carries out activities that fall under several different categories of economic activity, then value added is divided up accordingly. The value added of a business is assessed, based on its statistical reporting, as output minus intermediate consumption (outlay on raw materials, components, production services from third parties, rent and so on).

GRP and all its components are calculated at basic prices, i.e. at market prices, minus taxes on products plus subsidies.

$$GRP = \sum_{i} VA EA^{i}; VA EA^{i} = \sum_{j}^{j \in i} VA^{j},$$

where VA = Output - Intermediate consumption (IC),

where  $IC = Raw \ materials + Components + Services \ purchased + Rent + Other \ IC$ .

Real growth in GRP (as a total, and for each economic activity) is calculated based on evaluating nominal values of GRP for the current and base year (usually the previous year is taken as the base year), and deflators, which describe price rises over the corresponding period.

 $GRP \ growth = GRP_t/GRP_{t-1}/Deflator$ 

<sup>&</sup>lt;sup>1</sup> Research fellow, National Research University Higher School of Economics, Moscow.

#### WHY DO WE NEED GRP AS AN INDICATOR?

The volume of GRP characterises the economic weight of a region. It makes it possible to compare the economy of one region with that of other regions, and of the country as a whole. Numerically, GRP is equal to the total value added created by a region, on the one hand, and with the total income of all economic agents for a particular period, on the other. This is why GRP describes the general income of a region, while GRP per capita describes the approximate average income and indicates the region's development level. GRP in nominal terms is a value relative to which other nominal indicators (such as taxes due) are considered. GRP is also used to calculate the labour productivity of a region, including in terms of individual economic activity.

The extent to which the structure of economic activity with GRP calculations is reliable has great significance for defining a region's specialisation and for advancing policies aimed at raising labour productivity. Having high-quality regional data on labour productivity for each economic activity, calculated by value added and employment levels, makes it possible to identify those areas of economic activity that are most effective at creating value added, and thus further stimulate their development. GRP structured by economic activity is also vital for calculating real indices of GRP and industrial production.

GRP in real terms is the main descriptor for economic trends in a region, on the basis of which success in economic development and economic cycle phase are determined. It largely defines trends in labour productivity, labour market conditions and taxation revenue.

## PROBLEMS CALCULATING GRP IN RUSSIA

- 1. GRP data is published 14 months after the conclusion of the reporting period, and only in annual terms.
- GRP values are published in basic prices (i.e. in market prices minus taxes on products plus subsidies) while GDP is typically published in market prices (although GDP in basic prices is available as well).
- 3. As the GRP value is calculated once a year, there are areas of difference between current methodologies applied to GRP and GDP. This applies to total GDP and to how its specific components are calculated. It is also worth noting that the general schedule for reviewing GRP is very different from that for GDP. As of early 2020, GRP structure by economic activity according to the new All-Russian Classification of Economic Activities harmonised with NACE Rev. 2 is only available from 2016, while the similar structure for GDP is available from 2014.
- 4. The structure of economic activity in the combined GRP differs from the structure of GDP in basic prices, although in theory they should be aligned. For instance, the share of 'financial and insurance activities' in 2016-17 amounted to 0.5% of GRP on average, while accounting for 4.3% of GDP in basic prices (see Table 1). This means that 88% of the sector's value added is missing from GRP statistics. The values for 'public administration and defence' are also consistently underestimated (4.8% of combined GRP versus 7.8% of GDP hence, 39% of the sector's value added is absent in the GRP statistics). Several other categories also display this divergence 36% of the value added

of 'real estate activities' is missing from GRP, for example – while 'activities of households as employers etc' are completely absent from the GRP statistics. As a result, other types of economic activity make up a higher proportion of GRP than of GDP ('manufacturing and wholesale and retail trade', for example).

- 5. The growth rates of combined GRP of all regions differ significantly from the growth rates of GDP in basic prices. For instance, in 2003-17 combined GRP exceeded GDP growth on average by 0.4 of a percentage point per year. The difference between the growth in total GRP and GDP can vary greatly. For example, it was -0.9 of a percentage point in 2009, compared with +1.6 percentage points in 2005 and 2011.
- 6. How value added created by business is assigned to a particular type of economic activity or a particular region is also often quite arbitrary. The issue of differentiating between value added created by vertically or horizontally integrated companies active in several regions also delivers increased value added in regions where the head offices are located. This is particularly visible in Moscow and St Petersburg. Consequently, it is reduced in other regions. This distortion takes place not only in the absolute values, but also in structure and growth rates.

Table 1 / Average contribution to Russian GDP in basic prices and to combined GRP of all regions by economic activity EA in 2016-17, %

		GDP	GRP	Difference, p.p.
Α	Agriculture, forestry and fishing	4.1	4.8	0.7
В	Mining and quarrying	10.2	11.5	1.3
С	Manufacturing	13.4	17.2	3.8
D	Electricity, gas, steam and air conditioning supply	2.9	3.4	0.5
Е	Water supply, sewerage, waste management and remediation activities	0.5	0.6	0.1
F	Construction	6.3	6.5	0.2
G	Wholesale and retail trade; repair of motor vehicles and motorcycles	14.6	16.9	2.3
Н	Transportation and storage	7.2	8.0	0.8
I	Accommodation and food service activities	0.9	1.1	0.1
J	Information and communication	2.5	3.0	0.5
K	Financial and insurance activities	4.3	0.5	-3.8
L	Real estate activities	10.0	6.4	-3.6
M	Professional, scientific and technical activities	4.4	4.6	0.2
N	Administrative and support service activities	2.4	2.6	0.2
0	Public administration and defence; compulsory social security	7.8	4.8	-3.0
Р	Education	3.2	3.0	-0.2
Q	Human health and social work activities	3.2	3.9	0.7
R	Arts, entertainment and recreation	0.9	0.9	-0.1
S	Other service activities	0.6	0.5	-0.1
Т	Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	0.6	0.0	-0.6
A-T	TOTAL	100.0	100.0	0.0

Notes. GDP data is comparable with GRP data: basic prices, SNS 2008 methodology, All-Russian Classification of Economic Activities. The figures in the third column may deviate from the calculated difference between the figures in the first and the second column due to rounding.

Source: Rosstat, Development Center (HSE).

Most of the above problems are rooted in objective difficulties – of the kind faced in any country – in drawing up regional accounts. Where state borders are controlled by customs services and international transactions are clearly tracked, it is possible to clearly define a country's value added, whereas on a regional level those clear borders do not exist.

Allocation of value added created by businesses in terms of region and of economic activity, which is carried out using statistical reports from businesses, is very difficult to perform correctly, for several reasons. Business operations have a complex structure, and often there are no obvious criteria for allocating value added to a particular region or economic activity. In addition, the data on business activities that are provided in statistical reports are compiled by different people, which means an absence of truly standardised approaches. Besides, major companies may see a benefit in inaccurate reporting of performance results from a commercial secrets perspective. When it comes to transfer pricing in integrated companies, there is no formal reason not to use statistical reports data that are sometimes significantly biased. Overall, there is a low level of discipline in how companies compile statistical reports. Moreover, individual regions' statistical services have differing approaches to dealing with observed or possible mistakes in the statistical forms.

Comparably low readings (versus those in GDP) for value added in GRP in individual types of economic activity have their basis in the objective difficulty in differentiating value added where it involves activities that take place in more than one region, especially where federal budget funding is involved. This applies especially to activities in public administration and defence, among others. Similarly, the multiregional nature of 'financial and insurance activities' means that value added from intermediary activities is often not included in GRP statistics.

A similar situation can be seen regarding net taxes. It is difficult to distinguish between regions based on the data that the Federal State Statistics Service (Rosstat) possesses, nor can the Federal Taxation Service provide this data to Rosstat. Information on accrued taxes, not on taxes paid, is required to calculate GRP, otherwise high-value tax returns, for example, cause a problem. Therefore, in order not to introduce distortions, Rosstat took the decision to exclude net taxes from GRP calculation.

The difficulties outlined above create another problem in calculating GRP: it is very labour intensive – the calculation is complex and is carried out at the level of individual companies. The multiple steps that regional Rosstat employees have to take include verifying high volumes of data, seeking clarification from companies, asking company staff to correct data submitted in their statistical reports, and harmonising GRP and GDP calculations, among other things. As a result, GRP is only calculated based on final data, and only in annual terms.

To some extent the problems with GRP are based on the fact that the calculation uses a production method that is carried out 'bottom-up'. In many countries, including the US, GRP is largely calculated through the income method, which is based on GDP income statistics divided 'top down' by region. In Russia it is more difficult to apply this approach due to high variances in development levels between the regions, low quality statistics on per capita income, and the lack of efficient cooperation between Rosstat and the Federal Taxation Service.

Weaknesses in GRP data make it difficult to deliver an adequate evaluation of a region's role in the country's economy or of its specialisation, and this leads to an inaccurate evaluation of labour

productivity and its trends. Regions, in particular Moscow and St. Petersburg, often face the problem of extreme difference between the evaluation by Rosstat and the real structure of the economy, which leads to inaccuracies in GRP. For example, the growth in real terms of value added in the Russian finance sector in 2012-14 averaged 12%, but it had a weak impact on GRP in Moscow, as the share of this type of economic activity was underestimated. As estimates of volume and structure of GRP are biased, they may not reflect the results of economic policy enacted by regional authorities – they may even suggest contradictory trends – which makes it difficult to evaluate the efficiency of policy.

Regions do not have the opportunity to track economic trends in real time and are also forced to make decisions based on operational data in individual sectors, which is then later reviewed and revised significantly.

## POSSIBLE WAYS TO IMPROVE ACCURACY OF GRP CALCULATION

In order to achieve a qualitative improvement in the accuracy of the statistics and enhance the opportunities to apply it, alterations must be made to the methodology applied. The publication cycle must also be shorter, in line with international experience.

First, it would be advisable to return to breaking up net taxes on products by regions. This is common practice in other countries and the relevant recommendations are available. If the problem is weaknesses in cooperation between the Federal Taxation Service and Rosstat or technical difficulties in preparing and transferring the data in formats required by Rosstat, this can be solved.

Second, it would be advisable to use value added data that is not currently used – such as data on value added in the financial sector, public administration and defence, and several others – based on Eurostat recommendations. This could require further development of methodologies that are new to Rosstat, but would represent an absolutely vital step forward. As in other countries, value added for types of economic activity mentioned above could be allocated proportionally to the labour fund (other components of income could also be applied). It would also be valuable to start to evaluate 'activities of households as employers etc' by region, which is not currently done at all.

Third, it would be advisable to start to make preliminary (albeit not harmonised with GDP) estimates of GRP. This would be likely to require additional labour costs. In the US, initial GRP estimates are published less than five months after the reporting period, with a breakdown into quarters and by type of economic activity.

Given the internationally recognised problem of regional-level calculations being highly labour intensive, it would be reasonable to increase the financing of this area of activity within Rosstat, and also, perhaps, to transfer these calculations to a federal level in order to provide more unification of the approach.

It is necessary to achieve as close an alignment as possible between the volume, structure, and growth rates of GRP and GDP, as well as reduce the time taken to publish GRP data. This would be difficult to achieve without the active participation of the expert community, state agencies and other parties involved in producing regional statistics.

# Monthly and quarterly statistics for Central, East and Southeast Europe

The monthly and quarterly statistics cover **22 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: <a href="https://data.wiiw.ac.at/monthly-database.html">https://data.wiiw.ac.at/monthly-database.html</a>. 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	HRK	Croatian kuna	RON	Romanian leu
BAM	Bosnian convertible mark	HUF	Hungarian forint	RSD	Serbian dinar
BGN	Bulgarian lev	KZT	Kazakh tenge	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) 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



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: <a href="https://data.wiiw.ac.at">https://data.wiiw.ac.at</a>.

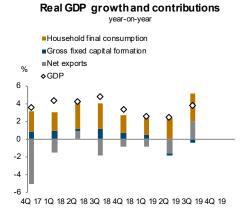
If you have not yet registered, you can do so here: <a href="https://wiiw.ac.at/register.html">https://wiiw.ac.at/register.html</a>.

# Service package available

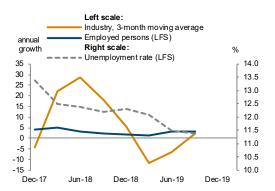
We offer an additional service package that allows you to access all databases – a Premium Membership, at a price of  $\in$  2,300 (instead of  $\in$  2,000 as for the Basic Membership). Your usual package will, of course, remain available as well.

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

MONTHLY AND QUARTERLY STATISTICS

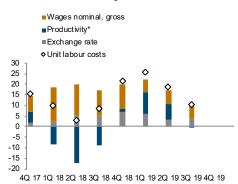


# Real sector development

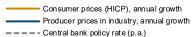


## Unit labour costs in industry





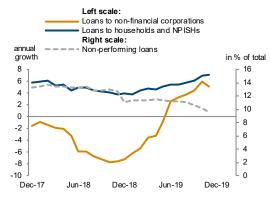
# Inflation and policy rate



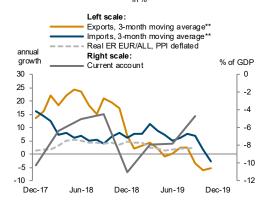


## Financial indicators





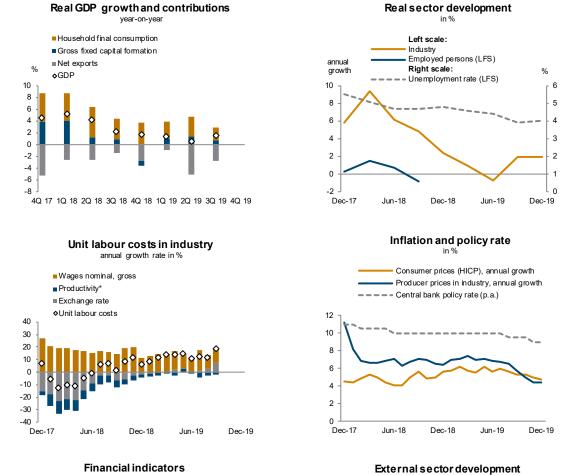
#### External sector development

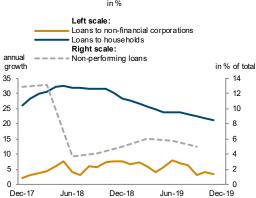


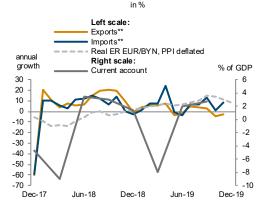
<sup>\*</sup>Positive values of the productivity component on the graph reflect decline in productivity and vice versa.

<sup>\*\*</sup>EUR based.

# **Belarus**



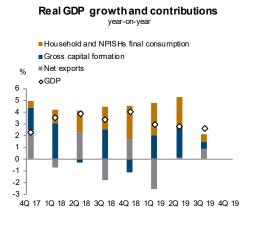


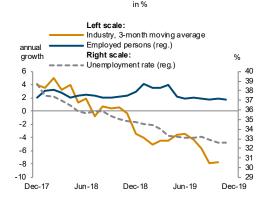


<sup>\*</sup>Positive values of the productivity component on the graph reflect decline in productivity and vice versa.

<sup>\*\*</sup>EUR based.

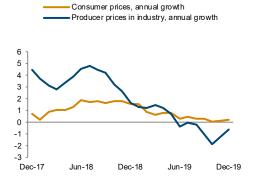
# Bosnia and Herzegovina





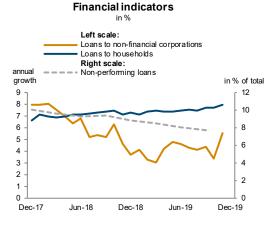
Real sector development

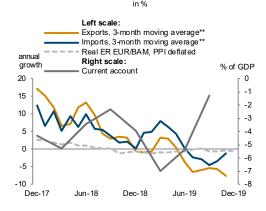




External sector development

Inflation

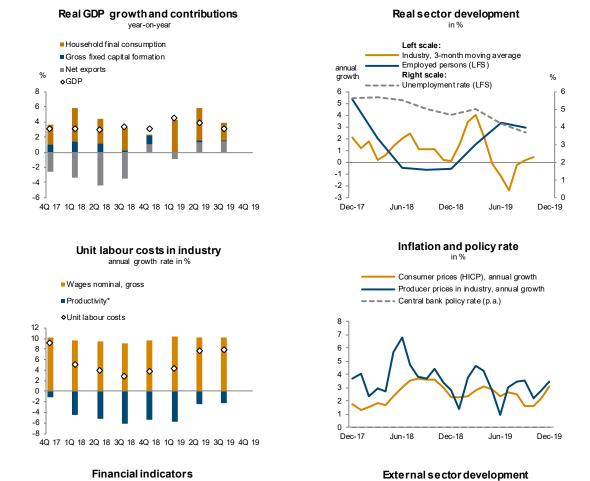


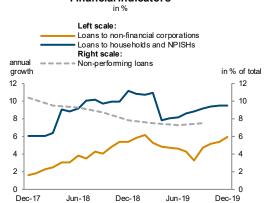


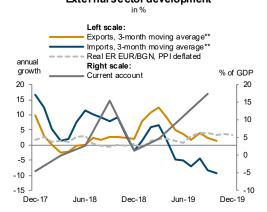
<sup>\*</sup>Positive values of the productivity component on the graph reflect decline in productivity and vice versa.

<sup>\*\*</sup>EUR based.

# Bulgaria





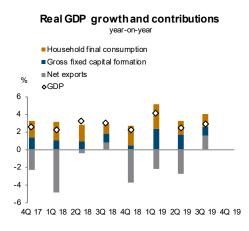


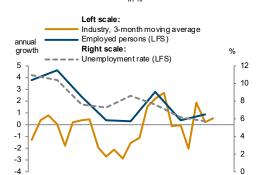
<sup>\*</sup>Positive values of the productivity component on the graph reflect decline in productivity and vice versa.

<sup>\*\*</sup>EUR based.

Dec-19

# Croatia





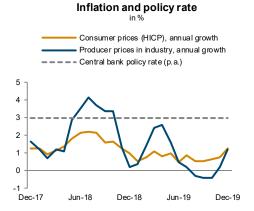
Dec-17

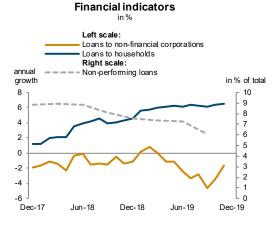
Real sector development

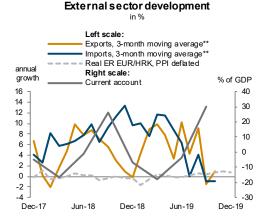
# annual growth rate in % Wages nominal, gross Productivity\* Exchange rate Unit labour costs

4Q 17 1Q 18 2Q 18 3Q 18 4Q 18 1Q 19 2Q 19 3Q 19 4Q 19

Unit labour costs in industry



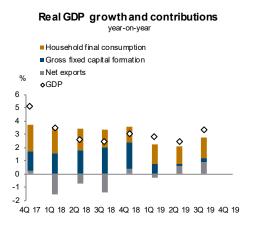




<sup>\*</sup>Positive values of the productivity component on the graph reflect decline in productivity and vice versa.

<sup>\*\*</sup>EUR based.

# Czech Republic

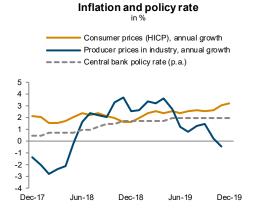


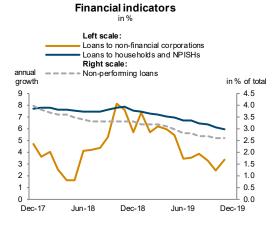


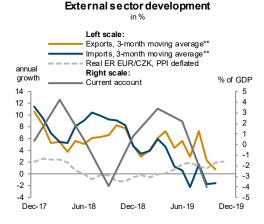
Dec-19

# annual growth rate in % Wages nominal, gross Productivity\* Exchange rate Unit labour costs 40 17 10 18 20 18 30 18 40 18 10 19 20 19 30 19 40 19

Unit labour costs in industry







<sup>\*</sup>Positive values of the productivity component on the graph reflect decline in productivity and vice versa.

<sup>\*\*</sup>EUR based.

Real ER EUR/EUR, PPI deflated

% of GDP

4.0

3.5

3.0

2.5

2.0

1.5

1.0

0.5

0.0

Right scale:

Right scale:

Jun-18

Non-performing loans

Dec-18

Jun-19

annual

8

6

4

2

0

-2

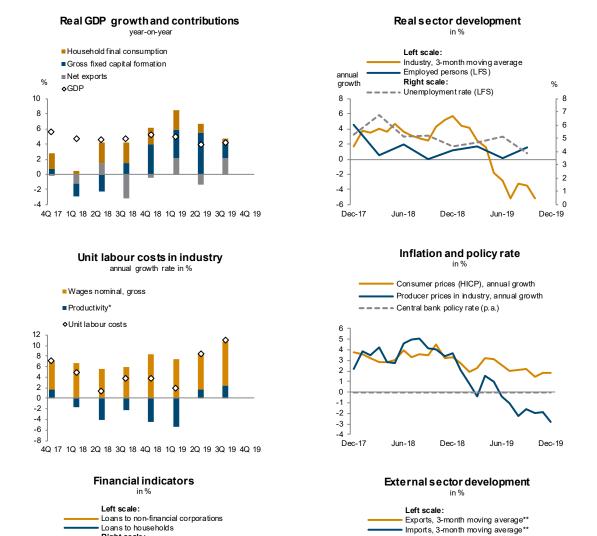
-4

-6

-8

growth

# Estonia



annual

20

15

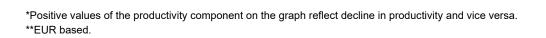
10

5

0

-5

-10



Dec-19

in % of total

0.9

0.8

0.7

0.6

0.5

0.4

0.3

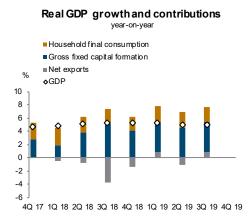
0.2

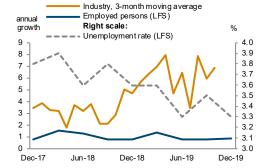
0.1

0.0

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

# Hungary



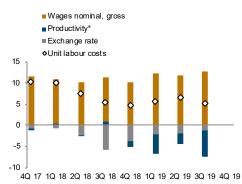


Real sector development

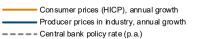
Left scale:

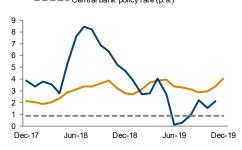
# Unit labour costs in industry





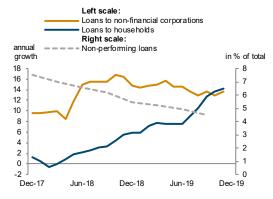




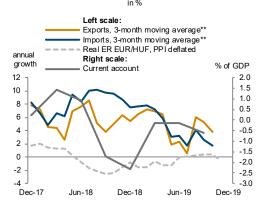


#### Financial indicators





## External sector development

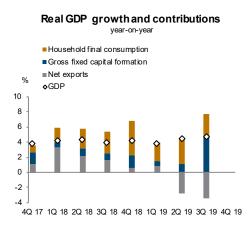


<sup>\*</sup>Positive values of the productivity component on the graph reflect decline in productivity and vice versa.

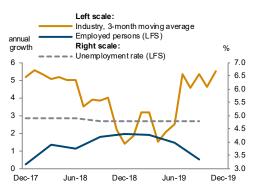
<sup>\*\*</sup>EUR based.

# Kazakhstan

MONTHLY AND QUARTERLY STATISTICS



# Real sector development



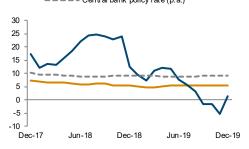
# Unit labour costs in industry





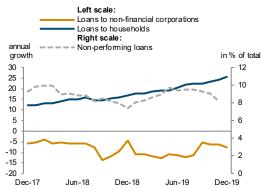
## Inflation and policy rate



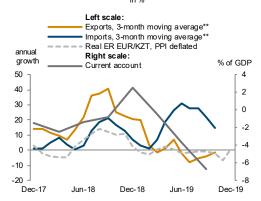


#### Financial indicators





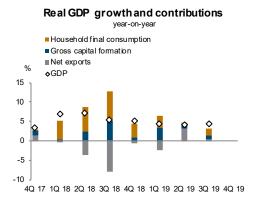
#### External sector development

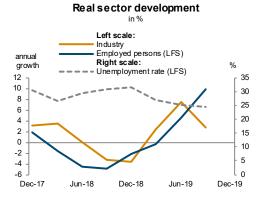


<sup>\*</sup>Positive values of the productivity component on the graph reflect decline in productivity and vice versa.

<sup>\*\*</sup>EUR based.

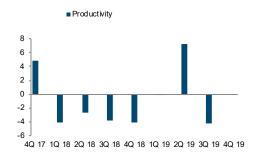
# Kosovo

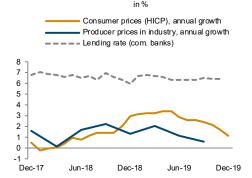


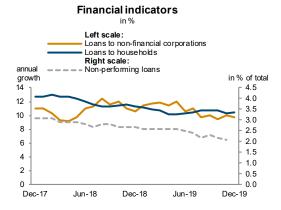


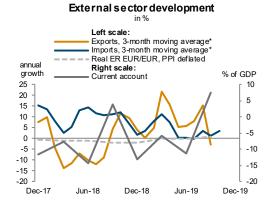
Inflation and lending rate











\*EUR based.

4

3

2

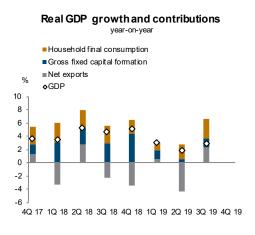
1

0

Dec-19

Jun-19

# Latvia





0

-1

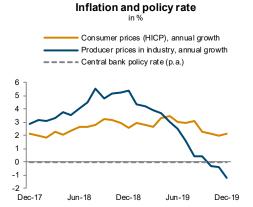
Dec-17

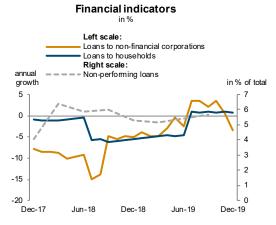
Real sector development

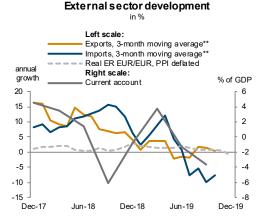
# ■ Wages nominal, gross ■ Productivity\* ◆ Unit labour costs 12 10 8 6 4 2 0 -2 4 -6

4Q 17 1Q 18 2Q 18 3Q 18 4Q 18 1Q 19 2Q 19 3Q 19 4Q 19

Unit labour costs in industry annual growth rate in %



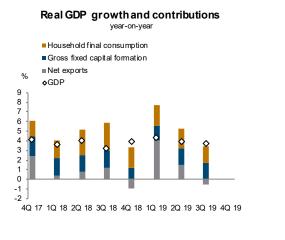


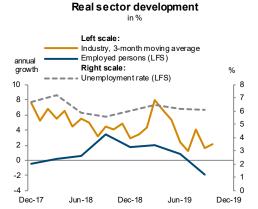


<sup>\*</sup>Positive values of the productivity component on the graph reflect decline in productivity and vice versa.

<sup>\*\*</sup>EUR based.

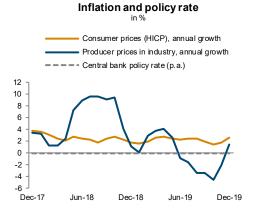
# Lithuania

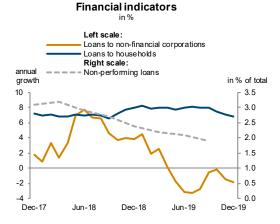


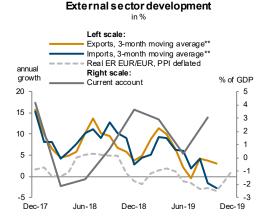




Unit labour costs in industry



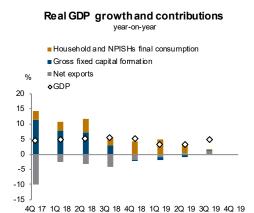




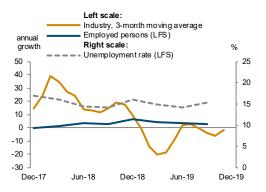
<sup>\*</sup>Positive values of the productivity component on the graph reflect decline in productivity and vice versa.

<sup>\*\*</sup>EUR based.

# Montenegro

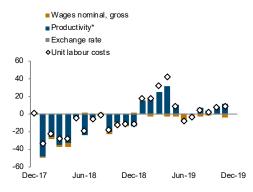


# Real sector development

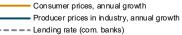


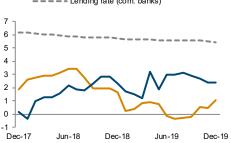
# Unit labour costs in industry



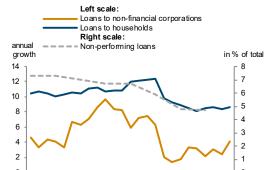


# Inflation and lending rate





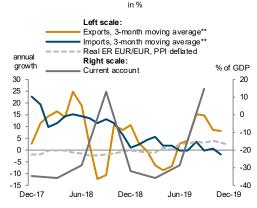
# Financial indicators



Dec-18

Jun-19

## External sector development



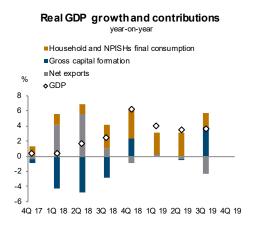
<sup>\*</sup>Positive values of the productivity component on the graph reflect decline in productivity and vice versa.

Dec-19

Dec-17

<sup>\*\*</sup>EUR based.

# North Macedonia



#### Left scale: Industry, 3-month moving average Employed persons (LFS) annual growth Right scale: Unemployment rate (LFS) 10 25 9 8 20 7 6 15 5 10

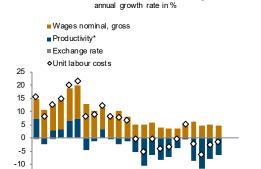
2

Jun-18

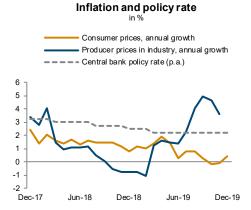
5

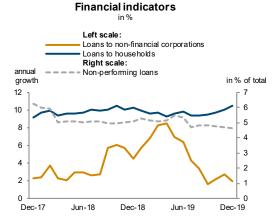
Dec-19

Real sector development

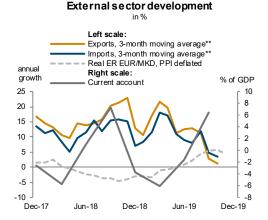


Unit labour costs in industry





Jun-19



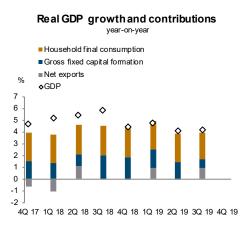
\*Positive values of the productivity component on the graph reflect decline in productivity and vice versa.

-15

Dec-17

<sup>\*\*</sup>EUR based.

# **Poland**

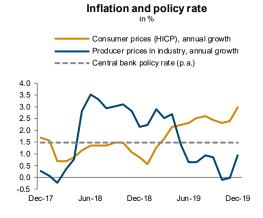


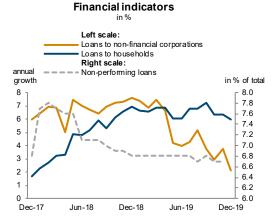


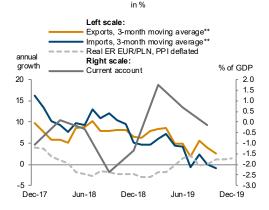
# annual growth rate in % Wages nominal, gross Productivity\* Exchange rate Unit labour costs

4Q 17 1Q 18 2Q 18 3Q 18 4Q 18 1Q 19 2Q 19 3Q 19 4Q 19

Unit labour costs in industry





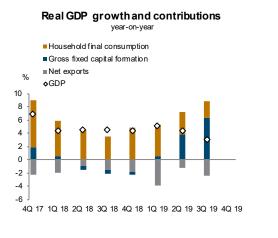


External sector development

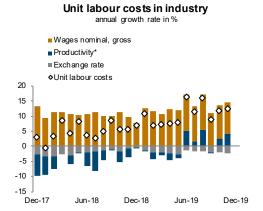
<sup>\*</sup>Positive values of the productivity component on the graph reflect decline in productivity and vice versa.

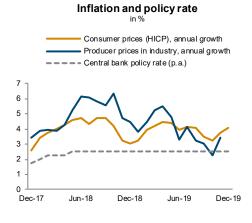
<sup>\*\*</sup>EUR based.

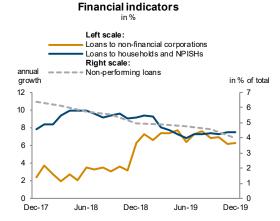
### Romania

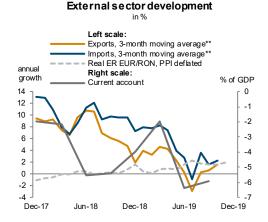








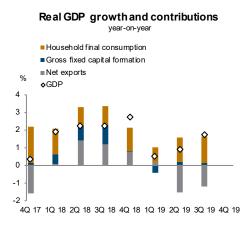




<sup>\*</sup>Positive values of the productivity component on the graph reflect decline in productivity and vice versa.

<sup>\*\*</sup>EUR based.

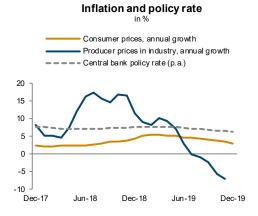
## Russia

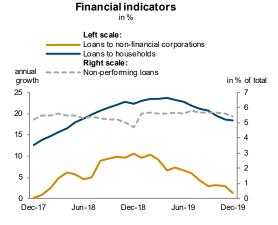


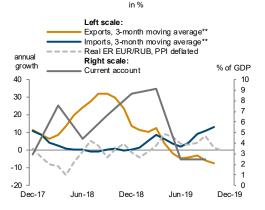


#### 

Unit labour costs in industry





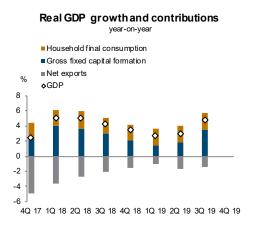


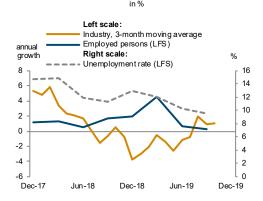
External sector development

<sup>\*</sup>Positive values of the productivity component on the graph reflect decline in productivity and vice versa.

<sup>\*\*</sup>EUR based.

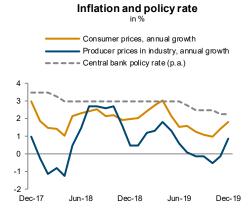
# Serbia

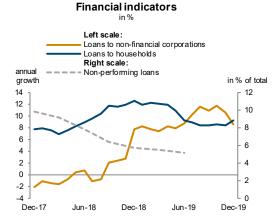


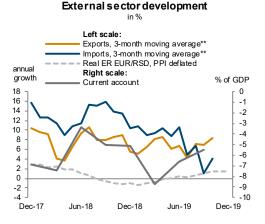


Real sector development





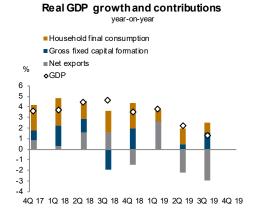




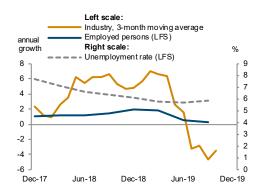
<sup>\*</sup>Positive values of the productivity component on the graph reflect decline in productivity and vice versa.

<sup>\*\*</sup>EUR based.

MONTHLY AND QUARTERLY STATISTICS

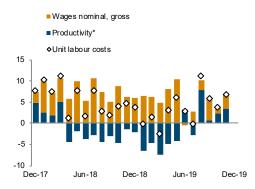


#### Real sector development

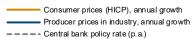


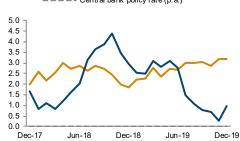
#### Unit labour costs in industry



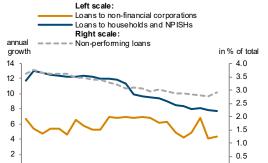


#### Inflation and policy rate





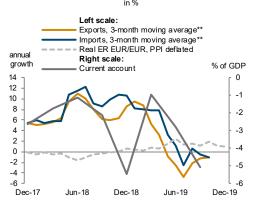
#### Financial indicators



Dec-18

Jun-19

#### External sector development



<sup>\*</sup>Positive values of the productivity component on the graph reflect decline in productivity and vice versa.

Dec-19

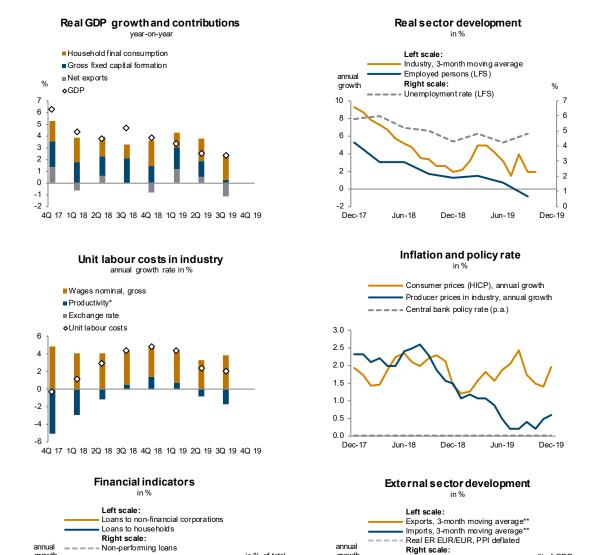
0.0

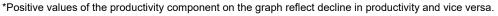
Dec-17

Jun-18

<sup>\*\*</sup>EUR based.

# Slovenia





Dec-19

in % of total

8

6

5

2

growth

20

15

10

0

-5

Current account

% of GDP

8

7

6

5

4 3

2

0

Jun-19

Dec-17

Jun-18

Dec-18

Jun-19

8

6

4

2

0

-2

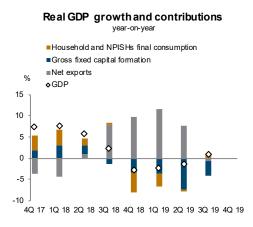
Source: wiiw Monthly Database incorporating Eurostat and national statistics. Baseline data, country-specific definitions and methodological breaks in time series are available under: https://data.wiiw.ac.at/monthly-database.html

<sup>\*\*</sup>EUR based.

2

Dec-19

# **Turkey**





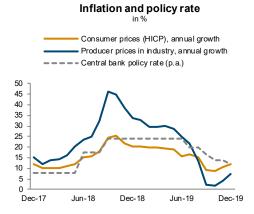
-10

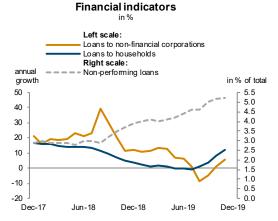
Dec-17

Real sector development

#### annual growth rate in % ■ Wages nominal, gross ■ Productivity\* ■ Exchange rate ♦Unit labour costs 20 10 0 -10 -20 -30 -40 -50 -60 -70 4Q 17 1Q 18 2Q 18 3Q 18 4Q 18 1Q 19 2Q 19 3Q 19 4Q 19

Unit labour costs in industry



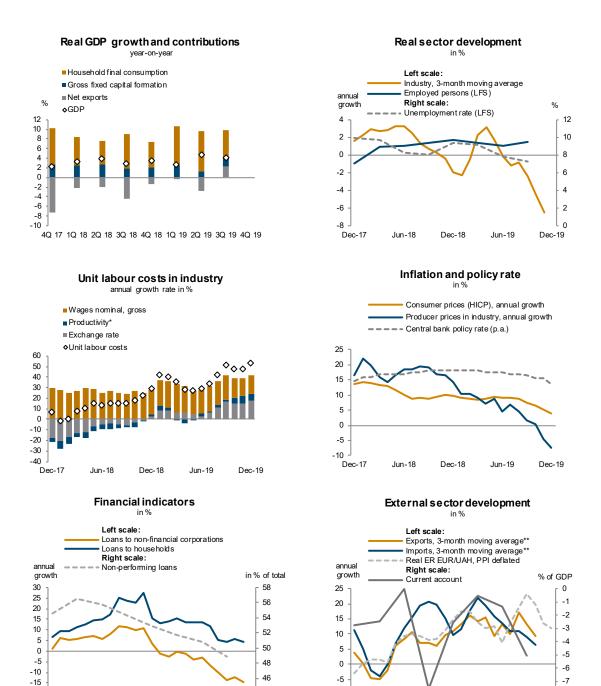




<sup>\*</sup>Positive values of the productivity component on the graph reflect decline in productivity and vice versa.

<sup>\*\*</sup>EUR based.

# Ukraine



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

Dec-19

44

-10

-8

Jun-18

Dec-18

Jun-19

-20

<sup>\*\*</sup>EUR based.

# Index of subjects – February 2019 to February 2020

Albania	economic situation	2019/6
Austria	cross-border cooperation with Slovakia	2019/9
	integration of refugees	2019/7-8
	trade and transport links with CESEE	2019/9
Belarus	economic situation	2019/6
Bosnia and Herzegovina	economic situation	2019/6
Bulgaria	economic situation	2019/6
China	economic development and relations with the US	2019/10
Croatia	economic situation	2019/6
	strategy for euro adoption	2019/6
Czech Republic	economic situation	2019/6
Estonia	economic situation	2019/6
Hungary	economic situation	2019/6
Iran	nuclear programme, negotiations with the US	2019/12
Italy	fiscal policy	2019/12
Kazakhstan	economic situation	2019/6
Kosovo	economic situation	2019/6
Latvia	economic situation	2019/6
Lithuania	economic situation	2019/6
Moldova	economic situation	2019/6
Montenegro	economic situation	2019/6
North Macedonia	economic situation	2019/6
Poland	economic situation	2019/6
	minimum wage	2019/10
Romania	economic situation	2019/6
Russia	economic situation	2019/6
	fiscal rule and foreign exchange market	2019/2
	gross regional product statistics	2020/2
	growth accounting, total factor productivity	2019/2
	oil taxation reforms	2019/2
	structural change	2020/2
Serbia	economic situation	2019/6
Slovakia	economic situation	
	cross-border cooperation with Austria	
Slovenia	economic situation	2019/6
Turkey	economic conundrum	2019/6
Ukraine	economic situation	
United Kingdom	economic model after Brexit	2019/9

(continued on the next page)

# multi-country articles and statistical overviews

Central Asia regional trade integration	2019/4
connectivity in Europe	2019/10
current account imbalances	
digital revolution, robot adoption, and labour market	2019/5
digitisation in CESEE	2019/11
economic integration EU – EAEU	2019/4
economic integration EU – EAEU	2019/4
Eurasian economic integration	2019/4
European investment gap (European Silk Road)	2019/3
globalisation and inequality	2019/12
investment trends in CESEE	2019/3
migration, EU policy	.2019/7-8
migration of medical personnel	.2019/7-8
natural interest rates	2019/5
outward FDI in EU-CEE	2019/3
robot adoption and employment in CESEE	2019/11
West Balkans: EU accession prospects	2020/1
West Balkans, Ukraine and Moldova: social situation	2019/11
West Balkans, Ukraine and Moldova: demographics	2020/1
West Balkans. Ukraine and Moldova: labour market institutions	2020/1

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