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Monthly Report

Reflections on the US Trade Policy and the Rising Role of China

Minimum Wages Back on the Agenda in Europe

Unemployment Rate and GDP Wage Share in the EU-CEE:
A Dynamic Analysis

Income Inequality and Individuals' and Households' Behaviour

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

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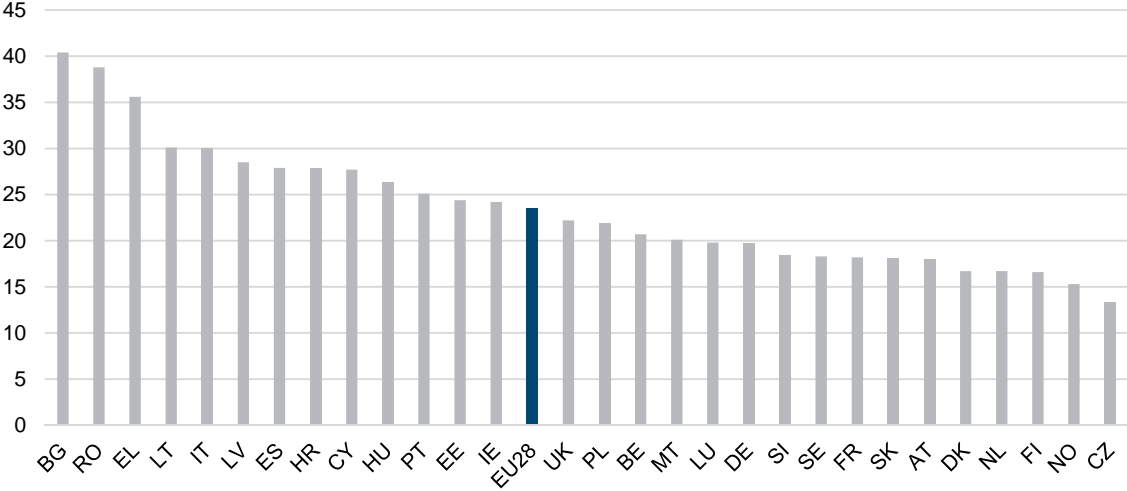
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People at risk of poverty, in % (2016)

Source: Eurostat.

Opinion Corner: Reflections on the US trade policy and the rising role of China

'THE GOOD, THE BAD AND THE UGLY' IN TRUMP'S TRADE POLICY

by Armon Rezai

Like many US presidents before him, Donald Trump took issue with the unbalanced trade between his nation and the rest of the world. Over the past decades the US has developed a sustained trade deficit which currently stands at around 3% of GDP. Two thirds of the deficit stem from trade with China which has disrupted industry in the US and led to large de-industrialisation of the US economy. Economic arguments for whether or not this has been a good development run both ways. (Donald Trump certainly made up his mind about it, as evidenced by the recently announced new import tariffs, directly aiming at China, and had indeed been his key promise during the election campaign.) However, the more important issue is not whether to build 'trade walls' or not but rather who has leadership at the helm of the world economy.

THE GOOD

The current regime of largely free trade builds on the understanding that goods produced under competitive conditions are to compete freely in the world market. Trade deficits therefore imply that domestic industries are simply not competitive enough and countries are themselves to blame for 'missing the boat' and lagging behind economically.

Both these arguments have repeatedly been criticised on the ground that many goods are not produced under competitive conditions because often the prices of goods do not reflect their true costs (both socially and environmentally). Similarly, countries with persistent trade surpluses (think China but much more so Germany whose trade surplus has been hovering around 8% of GDP for over a decade) have been called upon to adjust upwards their real exchange rate to allow everybody to balance their books. Dumping via lowering either prices or the exchange rate violates the assumptions underlying many of the arguments for free trade. In this sense, one can make an argument for why corrective policy measures geared at the trade in specific goods are needed, thus providing theoretical justification for managed trade.

THE BAD

However, when the US administration imposed its tariffs, it did not use the above-mentioned arguments. Instead, it invoked a clause which permits unilateral action for 'national security' reasons. In doing so, it hopes to circumvent the dispute settlement mechanism of the WTO where it would have to argue how exactly China is violating its commitment to WTO obligations. It remains to be seen whether such a strategy will be successful. It certainly leads to a side-stepping of international law and hollowing-out of

institutions which up to now have provided at least some form of multilateral governance of global trade. This little interest in multilateral cooperation can also be seen in the US administration's 'America First' slogan. This rhetoric suggests that the US now believes trade to be a 'zero-sum game': if one gains from it, somebody else necessarily loses.

THE UGLY

This is a shift from the long-running understanding that the US acts as a stabilising force in the world economy. As a stabilising force, the US has for a long time borne much of the brunt of an unbalanced free trade regime because it was convinced that free trade is a 'positive sum game' in which the efficiency and innovation that free markets create benefit all, despite the fact that some benefit more than others.

Charles Kindleberger, in 1973, argued in his book The World in Depression, 1929-1939 that the world economy needs a hegemonic leader to ensure stability and prosperity. A century ago the British Empire fulfilled this role but as it declined the world was left without a nation willing to shepherd the global community into the safety of cooperation, putting the common good and cooperation before direct and immediate national interests. The US as an ascending power was reluctant to take on this role and this is, Kindleberger argues, what made the Great Depression great.

While trade barriers and the threat of a trade war are serious matters, the more important issues over the coming years, however, will be whether the US is still able and willing to fulfil its stabilising role in the world. The last set of announced trade sanctions against China are less about steel dumped on US markets but about protection of high-tech industries in which China is aiming to become world leader. The ascendency of China in economic terms seems inevitable (given its sheer size even if it suffers from a Japanese-style levelling off in income growth) and its projection of power has been causing concerns in the region for a prolonged time.

Global leadership shifted over the North Atlantic 80 years ago and the important question is how it will shift over another ocean yet again. Ideally, China and the US would both take on a stabilising role or cede their hegemony to a supra-national body, thereby establishing truly global governance. A more likely scenario, however, is a protracted struggle for supremacy in which neither power has a decisive edge over the other. This is where things usually get ugly.

ENTERING A MULTIPOLAR WORLD OR THE RISE OF A NEW HEGEMON

by Robert Stehrer

The economic and political weights in the world are nowadays rapidly shifting. This is mostly visible by the rise of China, but also reflected in the larger shares developing economies such as India or Brazil tend to gain over time. This trend will continue over the next decades though maybe at a slightly lower speed than before the crisis.

In terms of purchasing power parities, China has already become the largest economy in the world (the US ranks second), and will do so also in market exchange rates in the next decade. According to recent

estimates (PwC, 2015) China will reach a share in the world economy of about 20% in 2030 (in PPP) and from then on it is expected to hover around that level. India's share is expected to reach about 13.5% in 2050 and thus would overtake both the EU and the US. The share of the US and the EU combined is projected to decrease from about 30% now to around 25% in 2050 (with the US holding a share of about 15% and the EU of about 10%). Though such long-term forecasts are naturally prone to some errors, the general trend seems inexorable.

To give another example of the ongoing shift, recent research suggests that the international monetary system has transitioned from a bi-polar model (the US dollar block with around 40% and the euro block with around 20%) to a tri-polar one, i.e. including the Chinese renminbi with around 30% (Tovar and Nor, 2018).

Such large economic shifts will in the medium to long run inevitably also imply shifts in the structure of political power in the world. This is now, first, mostly visible in Asia where China is also taking over more and more political power, though in a non-aggressive way. The Belt and Road Initiative, which also has a global outreach to India, Africa and European countries (e.g. in the 16+1 initiative), can be seen in this perspective.[1] Second, the US 'America First' strategy adopted by President Trump can be interpreted – even if the individual measures taken or announced often seem to be erratic and inconsistent – as an indication of a retreat from being the global power, which it became after World War II, and particularly after the breakdown of the communist regime about 30 years ago. Third, also the failure of the Doha Round of multilateral trade negotiations is another sign that developing countries defend their interests more strongly.

Obviously, there are three possible outcomes. The Hegemonic Stability Theory (HST) argues that the international system is more likely to be stable when a single nation takes the role of a dominant global power or hegemon which defines, develops and enforces the rules of the global system (see Kindleberger, 1973). Consequently, the question in this respect is (i) whether the US will be able to remain the hegemon despite its declining economic and political power or (ii) whether China will emerge as a new hegemon and is willing to take over this role (e.g. Gulick, 2011). The third possible outcome – and maybe the most likely – could be that the world enters a system of multipolarity. It remains unclear, however, what this could look like and to which extent it could be based on the existing, though reshaped, institutions of global governance (such as the United Nations, IMF, WTO, etc.). In a dynamic sense such a change could also mean that – according to the long-cycle theory (e.g. Modelski, 1987) – the world enters a new 'global system cycle' (Organski, 1958) where a 'hegemonic war' might result in a new hegemon (most likely China) though this will take time and might create a number of tensions.

In either scenario, the strategy of the EU and the US should be to retain the principles of the international governance structure, which have proved to be successful in the after-war period (e.g. the principles for 'rules-based trade' at WTO level[2] or various conflict resolution mechanisms) and are expected to also be so in a multipolar world system.

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[1] For critical views concerning the Chinese expansion see Holslag (2015) and Miller (2017). Also the EU is increasingly concerned about the Chinese Silk Road strategy.

[2] https://www.wto.org/english/thewto_e/whatis_e/tif_e/fact2_e.htm

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Minimum wages back on the agenda in Europe

BY GEORG FISCHER[1]

2017 saw a renewed interest in minimum wages in Europe. The essential purpose of a statutory minimum wage as defined by the International Labour Organisation (ILO) is to protect workers against unduly low pay. Thus, the minimum wage cannot be reduced by collective agreement or an individual contract. Typically the minimum wage is set by the parliament, although in some EU countries social partners themselves establish effective minimum wage floors (see below).

In 2017/2018 minimum wages rose in almost all EU countries but nowhere as substantially as in Central and Eastern Europe: in Romania by 50%, in Bulgaria, the Czech Republic, Hungary, Latvia and Slovakia by 8-10%.

In November 2017 the European Union adopted the Pillar of Social Rights, which consists of 20 principles that the EU and the EU Member States have committed themselves to pursue in labour and social policies. Principle 6b[2] reads: '*Adequate minimum wages shall be ensured, in a way that provide for the satisfaction of the needs of workers and his/her family in the light of national economic and social conditions, whilst safeguarding access to employment and incentives to seek work. In-work poverty shall be prevented.*' In this text there are two strong commitments: one on the minimum wage corresponding to a living wage and the second on the prevention of in-work poverty.

The document does not propose direct EU action in this area that is considered to be under national and social partners' competence. Nevertheless, ideas for EU initiatives to ensure fair minimum wages have been floated not only by the European Trade Union Confederation (ETUC) but also by French President Macron[3] and the new German government in the coalition agreement.[4] Given the wide differences in income levels across EU Member States, proposals for EU level minimum wages typically refer to the minimum wage defined in relation to the national median[5]. In 2012, ETUC suggested a level of 60% as

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[1]   The author thanks Galina Vasaros, wiiw, for statistical assistance.

[2]   The Pillar of Social Rights was formally adopted by the European Commission, Council and Parliament and proclaimed at the Gothenburg Summit in November 2017. See https://ec.europa.eu/commission/sites/beta-political/files/social-summit-european-pillar-social-rights-booklet_en.pdf

[3]   Macron in his programmatic Sorbonne speech*: 'We should establish a minimum wage that takes into account the economic realities of each country, while gradually moving towards convergence.'* He repeated this demand at the Gothenburg Summit, supporting the Pillar of Social Rights.

[4]   The German Coalition agreement: *'Wir wollen einen Rahmen für Mindestlohnregelungen sowie für nationale Grundsicherungssysteme in den EU-Staaten entwickeln.'*

[5]   Note that the popular 60% demand and the living wage concept agreed by the EU are not necessarily coherent. The living wage concept as used in the Pillar of Social Rights has been operationalised by Fabo and Belli (2017). They are using the data set of the WageIndicator Foundation (WI) to estimate the costs of three basic items necessary for life: food, housing and transportation, which is then increased by 10% for other necessary expenditure. It is calculated separately for a single person. The results are interesting as they show that in Western European countries the present levels of minimum wages around 50% of the median would be in line with a moderate definition of a living wage while in CEE and most Southern European countries even higher minimum wages do not meet this standard. One obvious reason for this is the lower level of GDP per capita in these countries; besides, the labour shares in GDP in these economies are generally lower as well.

one element in a strategy to raise wages overall in the EU. This would imply substantial increases in the minimum wages in many EU countries (see Table 1).

MINIMUM WAGES IN EUROPE

Hourly minimum wages in the EU Member States vary between EUR 1.55 in Bulgaria and EUR 11.55 in Luxembourg. Setting these two extremes aside, Table 1 compares hourly minimum wages' nominal value with the one in purchasing power and measures the proportion of the national minimum wage to the national median wage. Not surprisingly, differentials are smaller when using purchasing power. For example, the difference between Germany and Poland almost halves from 3.1 to 1.6. Interesting and less well known is that since 2016, minimum wages have increased relative to the median wage in almost all EU countries (with the notable exception of the Netherlands and Belgium) but in particular in CEE.

Table 1 / Minimum hourly wages in selected EU countries in 2018

Country	Euro	PPS	% of median wage of a full-time worker	
			2000	2016
Belgium	9.47	8.71	55.1	49.5
Czech Republic	2.78	4.15	32.4	39.7
Estonia	2.97	3.92	34.2	41.3
France	9.88	9.18	56.0	60.5
Germany	8.84	8.57	---	46.7
Greece	3.39	3.94	47.1	47.9
Hungary	2.57	4.3	36.5	51.2
Latvia	2.54	3.6	35.5	50.7
Lithuania	2.45	3.87	49.6	53.6
Netherlands	9.68	8.79	52.3	49.5
Poland	2.85	5.28	39.6	54.2
Portugal	3.49	4.16	45.6	58.3
Romania	2.5	4.92	25.3	56.5
Slovakia	2.7	4.08	42.0	47.7
Slovenia	4.84	5.96	---	58.7
Spain	4.46	4.89	36.5	37.3
United Kingdom	8.56	7.62	40.9	49.0

Source: WSI Minimum wage report 2018, WSI report No. 39e, March.

The reader will notice that the Nordic countries and Austria as well as Italy do not appear in Table 1. Indeed these countries do not have statutory minimum wages. Figure 1 on the share of workers earning less than two thirds of the national median wage shows that in these countries, the low-wage segment in the economy is comparatively small. This suggests that social partners have the capacity to determine effectively a lower wage floor through collective negotiations.

Figure 1 uses the share of those earning less than two thirds of the median wage to estimate the prevalence of low wages in the EU economies. Results refer to the year 2014 and thus do not reflect potential impacts of recent increases in minimum wages or their introduction in Germany. Nevertheless, they might shed light on why CEE countries and the UK raised their minimum wages substantially and Germany introduced one: all these countries had rather large low-wage sectors. In six CEE countries as

well as in Germany, the UK and Ireland, more than 20% of employees earned less than two thirds of the median wage.

Figure 1 / Low-wage earners in % of total employees, 2014
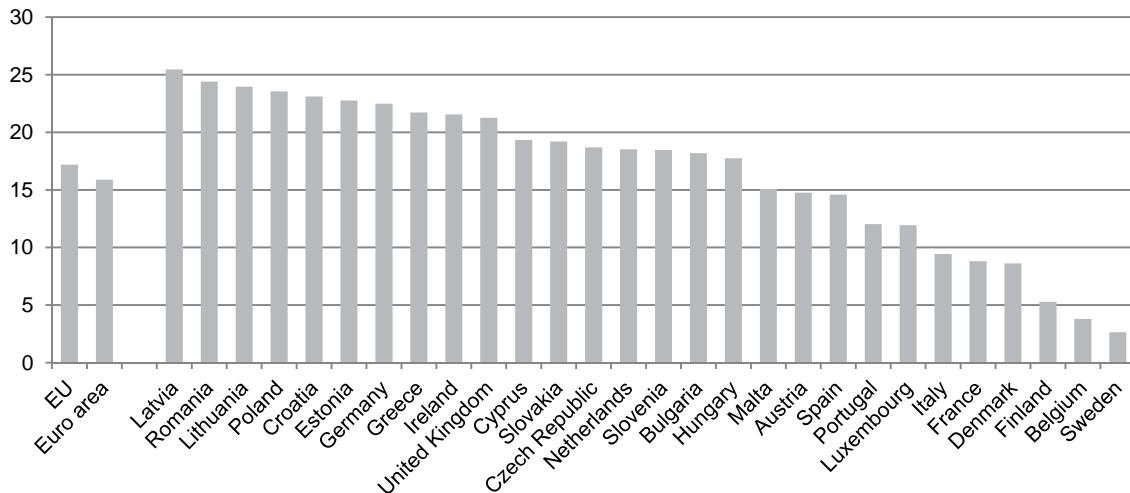
Notes: Employees (excluding apprentices) earning less than two thirds of the median gross hourly earnings; enterprises with 10 or more employees.
Source: Eurostat.

Figure 1 is useful also in another respect as it informs about the relevance of fixing higher minimum wages for different countries. Given that minimum wages in many countries are around 50% of the median, the low-wage sector (defined as two thirds of the median and below) captures well the wider range of low wages that would be impacted by a change in the minimum wage as they have strong spill-over effects on wages above but close to the minimum. The information provided in Table 1 and Figure 1 together suggests that a step-by-step rise in minimum wages towards a higher level such as 60% of the median would impact the situation of low-wage earners fairly strongly in most CEE countries, the UK and Ireland as well as in Germany but far less so in Nordic and other Western European countries. So, the recent increases in minimum wages in exactly these countries might be an interesting case in point for further changes.

Two policy issues are usually considered when reviewing minimum wages: the impact on poverty and on jobs.

MINIMUM WAGE AND POVERTY

Minimum wages are often justified on the ground that they reduce in-work poverty. Figure 2 shows that in many EU countries in-work poverty is a relevant policy challenge. In the CEE region, only the Czech Republic, Slovakia and Slovenia display levels as low as the better performers in North and Western Europe. The other CEE countries show high levels of in-work poverty, with Hungary, Lithuania and Estonia particularly standing out: in-work poverty in these countries was in 2016 still above the 2008 level, while in other CEE countries it has been on a clear declining trend. Similarly, there is a serious

issue with in-work poverty in Southern Europe, with the exception of Portugal where in-work poverty is on a declining trend.

Figure 2 / In-work poverty: employed persons (aged 18-64) at risk of poverty or social exclusion, in % of total employed
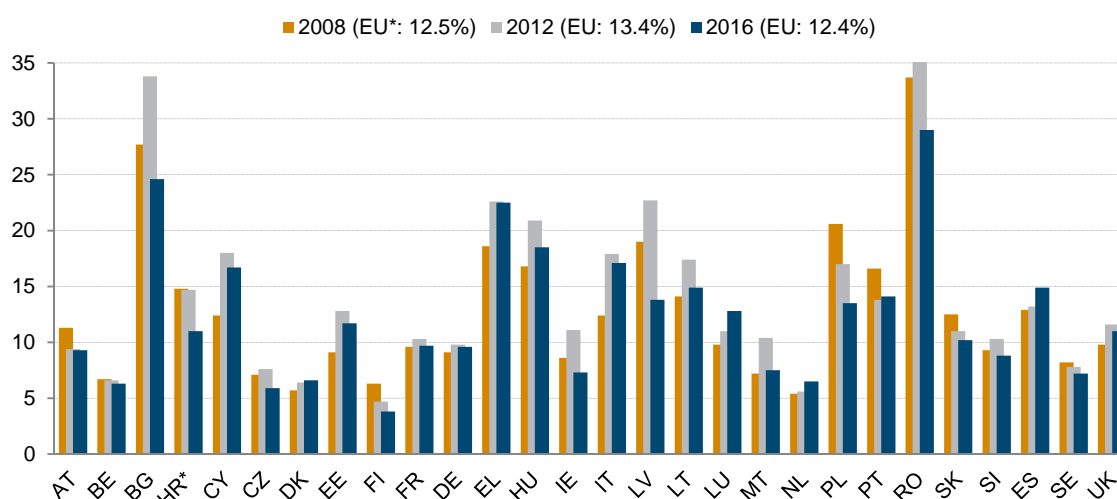
Notes: HR*: 2010 instead of 2008; EU*: value for 2008 refers to EU-17.
Source: Eurostat.

It is, however, an open question whether increases in minimum wages contribute much to reducing in-work poverty. Poverty at household level depends on many factors among which individual earnings are only one. The number of non-working and working household members and, for the latter, how many hours they (can) work, and the availability of social transfers are all essential factors of poverty as well. Earnings in such households are often already above the minimum wage, and they would rather benefit from overall wage rises. In-work poverty would decline in case an additional person in the household were to start a job or a working household member were to extend hours of work if, for example, affordable care services were available. Thus, reducing in-work poverty as stipulated in the Pillar of Social Rights requires a broad set of measures[6] such as tax credits, housing support, upgrading of skills and the development of care services.

MINIMUM WAGE AND EMPLOYMENT

Substantial increases in minimum wages as observed recently could have had impacts on the availability of jobs for low-skilled workers and unemployed. Up to now, however, there is little evidence suggesting that this has been the case in CEE. This is not surprising as the minimum wage hikes took place in a period of economic recovery and in economies with declining and relatively low levels of unemployment. Note that the European Commission's recent Country Reports[7] expressed in contrast to earlier reports little concern about the job impacts of the quite substantial minimum wage increases in CEE. Given the very recent introduction of a minimum wage, the assessment in the country report on

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[6]   See Marchal et al. (2017).

[7]   See https://ec.europa.eu/info/publications/2018-european-semester-country-reports_en

Germany is interesting: '*Fears that the introduction of the minimum wage would lead to significant employment losses have not materialised. Helped by the expansion phase of the business cycle, employment creation remained strongly positive, even in East Germany where wage increases were particularly pronounced due to the low initial wage level. Only so-called mini-jobs (marginal part-time employment) declined noticeably at the start of 2015. Many of these lost mini-jobs were upgraded to regular, socially insured employment.*'

This recent experience suggests that, if the minimum wage is set at moderate levels, net employment effects are roughly neutral: the increase in the minimum wage might reduce employment in some quarters but might stabilise and even increase jobs in others as workers are more readily available and more motivated.

CONCLUSIONS

To conclude, recent experiences with minimum wages in EU countries do not give rise to concern regarding negative job effects but give hope for low-earning individuals who have benefited. This is encouraging in view of the renewed initiatives for action on minimum wages at European level. At the same time, reducing in-work poverty will require a broader set of measures coupled with stronger pay rises in general.

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Unemployment rate and GDP wage share in the EU-CEE: a dynamic analysis

BY LEON PODKAMINER

INTRODUCTION

Recently one observes fairly uniform tendencies for falling unemployment rates and also for strongly rising wage rates in the EU-CEE countries. This carries a promise of continuing rise in private consumption – but also of less reassuring developments such as faster inflation and/or business investment possibly depressed on account of lower profitability. It is quite clear that a simultaneous rise in the employment level (i.e. falling unemployment) and in the average wage must raise, momentarily, the wage bill (that is, the sum of wages). Whether this would translate to an immediate increase in the share of wages in GDP is not ascertained though. With prices rising sufficiently faster than wages and/or labour productivity rising faster than average wage, the rising wage bill need not raise the GDP wage share. Moreover, even if a falling unemployment rate combines with rising wage rates to result in an increased labour share in a given year, it is not clear whether such a labour gain will not be eroded afterwards.

An econometric examination of data from AMECO (the European Commission's annual macroeconomic database) on GDP wage shares (AMECO item ALCD0) and the unemployment rate (AMECO item ZUTN) for the years 2000-2017 sheds some light on the dynamic interactions between the rate of unemployment and the GDP wage share in the EU-CEE countries (plus Austria and Germany).

The econometric method used is Vector Auto Regression (VAR) with two variables: the yearly increase in the unemployment rate and the yearly increase in the wage share (denoted as D(U) and D(S) respectively). According to the principles of VAR, each variable (D(U) and D(S)) is regressed on the lagged values of both variables (D(U(-1)), D(S(-1)), D(U(-2)), D(S(-2)), ... and, eventually, a constant). The number of lags eventually selected is based on additional optimality criteria. For the sample of countries considered, the optimal lags range between 1 and 4. Besides, the eventual VARs selected are checked for additional properties, such as their stability.

VAR ESTIMATIONS FOR LATVIA

Table 1 illustrates the type of outcomes of VAR estimations for Latvia. (For Latvia the lag length is 1, the constant can be omitted, and thus the resulting estimation output is very short.)

Table 1 / VAR estimation output for Latvia

Sample (adjusted): 2002 2017
Included observations: 16 after adjustments
Standard errors in ( ) & t-statistics in [ ]

	D(U	D(S)
D(U(-1))	0.398904	-0.514393
	(0.21475)	(0.11292)
	[1.85751]	[-4.55518]
D(S(-1))	0.612551	0.523986
	(0.26342)	(0.13852)
	[2.32534]	[3.78280]
R-squared	0.357607	0.725484
Adj. R-squared	0.311721	0.705876
Sum sq. resids	90.56742	25.04231
S.E. equation	2.543443	1.337436
F-statistic	7.793501	36.99884
Log likelihood	-36.57106	-26.28684
Akaike AIC	4.821383	3.535855
Schwarz SC	4.917957	3.632429
Mean dependent	-0.318750	0.481685
S.D. dependent	3.065772	2.466083

Determinant resid covariance (dof adj.)	10.00259
Determinant resid covariance	7.658232
Log likelihood	-61.69228
Akaike information criterion	8.211535
Schwarz criterion	8.404682

Source: Own calculations.

According to Table 1, a 1 percentage point increase in Latvia's wage share is followed, ceteris paribus, by a rise in the unemployment rate the next year. A mid-value of the effect in question is 0.6 percentage points. That effect is highly significant statistically. On the same principle, a 1 percentage point increase in Latvia's unemployment rate is likely to depress the wage share on average by 0.5 percentage points the next year.

A more precise description of the dynamic effects of one-time 'innovations' (or shocks) to both variables is given by Figure 1.

Figure 1 / The dynamic responses of D(S) and D(U) to the (mutually correlated) one-time shocks to D(S) and D(U) for Latvia

Response to generalised one S.D. innovations ± 2 S.E.

Response of D(U6) to D(U6)

Response of D(U6) to D(S6)

Response of D(S6) to D(U6)

Response of D(S6) to D(S6)
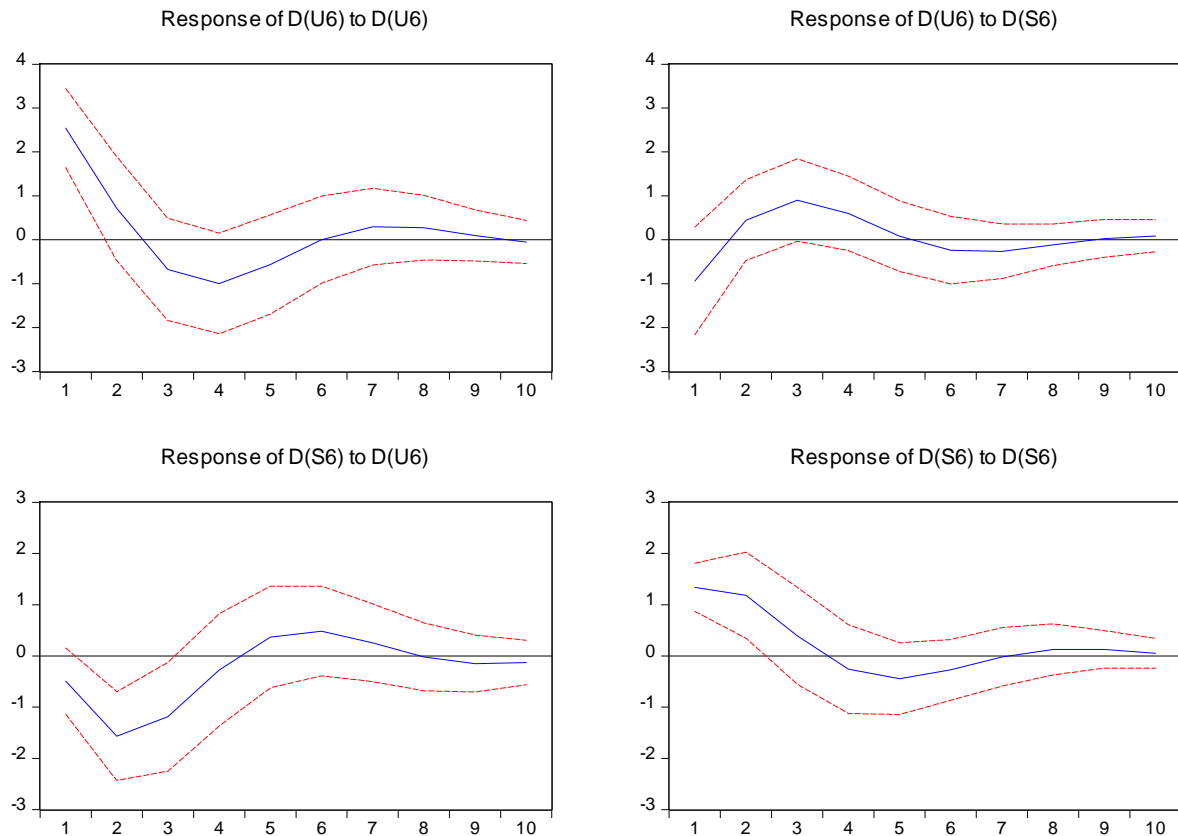
Note: U6 and S6 stand for the unemployment rate and the wage share, respectively, for Latvia.
Source: Own calculations.

For the current analysis two panels in Figure 1 are relevant: the upper right-hand one and the bottom left-hand one. The former panel suggests that a one-time positive shock to the wage share is likely to depress the unemployment rate momentarily – but definitely raise it later on (with a maximum magnitude by the third year). The latter panel indicates that a positive shock to the unemployment rate depresses the wage share all along (with the maximum effect in the second year). All responses in question 'die' out eventually.

SUMMARY OF THE VAR ESTIMATES FOR THE REMAINING EU-CEE COUNTRIES, GERMANY AND AUSTRIA

For Latvia the estimated regression coefficients measuring the cross-impacts (from $D(S(-1))$ to $D(U)$ and from $D(U(-1))$ to $D(S)$) equal 0.613 and -0.514 respectively (see Table 1). Table 2 reports the same coefficients for other countries (the former coefficient, denoted as 'a', is in the first column, the latter, 'c', in the second).

Table 2 / Cross-impact coefficients from VARs for 2000-2017

	a	c
Latvia	**0.613**	**-0.514**
Estonia	**1.193**	**-0.499**
Lithuania	**-0.753**	**-0.452**
Bulgaria	0.302	-0.083
Croatia	**0.347**	-0.222
Czech Republic	**0.637**	-0.169
Poland	**0.698**	-0.225
Romania	**0.206**	**-0.549***
Slovenia	**0.345**	-0.480
Slovakia	0.494	-0.148
Hungary	0.361	-0.075
Austria	0.102	**-0.856**
Germany	0.472	**-1.276****

Notes: The coefficients in bold are statistically significant at 5% level. * The sum of the two most significant coefficients (for the second and fourth lags). ** The coefficient for the second lag (which is the most significant statistically).
Source: Own calculations.

As can be seen, the 'c' parameter measuring the lagged responses of the change in the wage share to a change in the unemployment rate is uniformly negative (though statistically significant only for Austria, Germany, Romania, as well as the Baltic countries), which may reflect the weakening of the bargaining power of wage earners in response to the deteriorating labour market conditions (the mechanism underlying the infamous 'Phillips curve'). The 'a' parameter measuring the lagged responses of the change in the unemployment rate to a change in the wage share is positive for all countries, except Lithuania. The 'a' coefficients are statistically significant for the three Baltic countries and five EU-CEE countries: Croatia, the Czech Republic, Poland, Romania and Slovenia.

However, qualitatively Lithuania differs from Estonia and Latvia (as well as from all remaining countries considered): in that country a rise in the wage share is followed, quite unequivocally, by a *fall* in the unemployment rate. The exceptional results for Lithuania may suggest a problem with the unemployment or wage share data (or both) for that country. Alternatively, the complex impacts of outmigration, not allowed for in the simple VAR models considered, may be much more significant in Lithuania than elsewhere. These impacts may disturb the regularity apparent in the data for all remaining countries.

GRANGER-CAUSALITY RESULTS

VAR outcomes can also be summarised compactly by the so-called Granger causality probabilities.[1] For instance, for Latvia the hypothesis that D(S) does not Granger-cause D(U) is 0.0201. The probability that D(U) does not Granger-cause D(S) is lower than 0.0001. Both probabilities are very small and justify the rejection of the absence of Granger causality. One concludes is that for Latvia D(U) Granger-causes D(S) and D(S) Granger-causes D(U).

For Bulgaria, Slovakia and Hungary the non-causality running either way (from D(U) to D(S) and from D(S) to D(U)) cannot be rejected. In other words, no Granger causality between D(U) and D(S) can be detected in the data for these three countries. This is consistent with the fact that the 'a' and 'c' parameters for these countries are statistically insignificant (see Table 2).

For the three Baltic countries the opposite conclusion obtains. The evidence is quite strong that in the Baltic countries causality is mutual (just as in the case of Latvia, see above).

Table 3 / Probabilities of Granger non-causality for EU-CEE, Germany and Austria

	Probability D(S) does not cause D(U)	Probability D(U) does not cause D(S)
Bulgaria	0.2583	0.7383
Slovakia	0.1713	0.3488
Hungary	0.1913	0.7422
Estonia	0.0000	0.0000
Latvia	0.0201	0.0000
Lithuania	0.0020	0.0351
Czech Rep.	0.0323	0.4303
Croatia	0.0133	0.3048
Poland	0.0000	0.2292
Romania	0.0000	0.1032
Slovenia	0.0454	0.1358
Germany	0.4047	0.0000
Austria	0.5083	0.0044

Source: Own calculations.

For the remaining five EU-CEE countries the causality runs from the change in the GDP wage share to the change in the unemployment rate – but not in the opposite direction. The rise in the wage share in these countries is followed by a rise in the unemployment rate (as is also the case for Latvia and Estonia).

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[1]   Granger causality is understood as follows: Assume one considers two *stationary* time series X and Z. X is said to Granger-cause Z if Z can be better predicted using the histories of both X and Z than it can by using the history of Z alone. The same applies to X being Granger-caused by Z. Absence of Granger causality can be tested by estimating the Vector Autoregression (VAR) model with two equations:
$Z_t = a_0 + a_1 Z_{t-1} + ... + a_p Z_{t-p} + b_1 X_{t-1} + ... + b_p X_{t-p} + u_t$
$X_t = c_0 + c_1 Z_{t-1} + ... + c_p Z_{t-p} + d_1 X_{t-1} + ... + d_p X_{t-p} + v_t$
The parameters 'a' and 'b' remain to be estimated; u and v are error terms. H_o: $b_1 = b_2 = ... b_p = 0$ is a hypothesis that X does *not* Granger-cause Z. Similarly, H_o: $c_1 = c_2 = ... c_p = 0$ is a hypothesis that Z does *not* Granger-cause X. Testing H_o is in terms of the usual Wald test statistics.

Finally, it appears that Germany and Austria are radically different from most EU-CEE countries. In these two countries a change in the GDP wage share does not Granger-cause a change in the unemployment rate – but a change in the unemployment rate Granger-causes a change in the wage share, which can be seen as empirical confirmation of the 'Phillips curve'.

CONCLUDING REMARKS

In the EU-CEE countries the rising wage share seems to lead to a rising unemployment rate. Presumably the rising wage shares reflect rising average wages or/and unit labour costs. Firms may tend to respond to the rising wage shares (and thus to falling profit shares) by reducing employment.

In Germany and Austria a rise in the unemployment rate contributes to a decline in the wage shares. Conversely, rising GDP wage shares in these countries do not seem to affect the unemployment rates. Unlike in the EU-CEE countries, profitability may be a less essential constraint on activities than aggregate demand.

More extensive analyses are needed for gaining some understanding of the complex factors behind the revealed response patterns for the above groups of countries. The most striking difference between Germany and Austria, on the one hand, and the bulk of EU-CEE, on the other, may perhaps reflect the differences in the institutional set-ups of these two groups of countries.

Income inequality and individuals' and households' behaviour

BY STEFAN JESTL

Research on inequality, after being neglected at the end of the 20th century (see Atkinson, 1997), has more recently experienced a renaissance. The mainstream started afresh to discuss the causes of widened income and wealth inequality in the 2000s. In addition to that, economic research began to analyse the impact of income and wealth inequality on equality of opportunities, health and the distribution of political influence as well as social and political instability more intensively (see Burtless and Jencks, 2003). According to Rodrik (2017) income inequality has shaped the voters' fields of interest and contributed to an increase of populism. Moreover, strands in the economic and social literature argue that income inequality can have an impact on the behaviour of individuals and households.

THEORETICAL CONCEPTS

The theoretical and empirical literature on the linkage between income inequality and individuals' and households' behaviour is vast. In this respect, two of the most famous and influential theoretical approaches constitute the 'relative income hypothesis' and the concept of 'relative deprivation'. Although the two concepts focus on similar issues, there exist two separate strands in the literature (see Verme, 2013).

Both approaches are based on the assumption that individuals make comparisons with other individuals, including neighbours, relatives or work colleagues. This implies that individuals derive their utility not only, as commonly defined, from their own absolute income, but also from the income of a certain reference group (see Verme, 2013). That reference group can be the total population of a country or a sub-sample of the population, defined for instance by geographical units. Since individuals are assumed to be characterised by a status-seeking behaviour, these concepts presume that individuals compare themselves particularly with individuals who are ranked higher across the social ladder within a society. When individuals have a lower income as compared to other individuals of a reference group, then according to these concepts, they feel relatively deprived and lagging behind. Individuals therefore have a feeling of discontent with respect to income inequality. In order to change their self-perceived position, they can basically change either their own income level or their reference group. Income inequality can thus induce harder work or it can increase the propensity to migrate (see Stark, 2006).

Van Treeck (2014) distinguishes between three mechanisms that allow to cope with a lower relative income by increasing the own absolute income. First, individuals can increase their working hours. Second, households may enhance their labour supply by increasing the households' participation rate in the labour market. And third, individuals can reduce savings and increase debt. These coping mechanisms can also be understood in a hierarchical sequence, where dissaving is followed by taking out debt as a last step.

More specifically, the relative income hypothesis, as formalised by Duesenberry (1949), assumes that the individual's savings rate is not influenced by the absolute level of income but represents an increasing function of the individual's position in an income distribution within a reference group (see Van Treeck, 2014).[1] This argument implies that preferences are not independent from individuals of a reference group, as initially proposed by Veblen (1899). The hypothesis primarily predicts effects on consumption, since it is conspicuous consumption that is eventually visible for individuals. In this perspective, consumption might be seen as a social status, where low- and middle-income individuals want to keep up with higher-income individuals (see Bazillier and Hericourt, 2017).

The concept of relative deprivation is based on the notion of Runciman (1966), where an individual is defined to be relatively deprived when she does not have a certain good but sees another person who has it and wishes to have it as well. Some authors argue that this definition constitutes a more general notion of social status (see Verme, 2013). The idea of relative deprivation was later formalised by Yitzhaki (1979), who defines the relative deprivation for an individual as the sum of incomes of the people richer than the individual observed. The empirical literature in the context of relative deprivation is mainly focused on its impact on the propensity to migrate. Stark (2006) further provides an analytical explanation for the positive relationship between relative deprivation and migration.

RELATIVE DEPRIVATION AND INTERNAL MIGRATION IN AUSTRIA

A recent empirical study[2] provides insights into the nexus between relative deprivation and internal migration for Austria. A comprehensive dataset on Austrian municipalities for 2011 and 2012 allows to explore the role of relative deprivation as a push factor for internal migration, as it is argued in the approach by Stark (2006). In a first step, the relative deprivation for each individual as defined by Yitzhaki (1979) is computed for all geographical units in Austria. The average over all individual relative deprivation measures within a municipality captures then the levels of the local income inequality. Migration is defined as a movement from one municipality to another municipality within Austria.

Figure 1 sheds light on the unconditional correlation between the average relative deprivation and emigration rates of Austrian municipalities, separated into the nine federal states of Austria. In addition, a distinction is made between rural, suburban and urban municipalities. In general, Figure 1 depicts a positive relationship between the average relative deprivation and the emigration rates. This suggests that relative deprivation constitutes a push factor for internal migration.

This relationship is also tested in an econometric analysis, additionally taking into account the effect of the absolute income level, the unemployment rate, the poverty rate, the household structure as well as educational and demographic characteristics of Austrian municipalities. In the econometric estimations, average relative deprivation still points to a positive effect on emigration rates. In addition, the absolute income level reveals a weak negative effect that indicates a pull factor for migration. Moreover, as predicted by the economic literature, there is a positive correlation between emigration flows and education and a negative with respect to age. Thus, younger and more educated individuals are generally characterised by higher mobility.

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[1]   The hypothesis further states that there exists a relation of the individual's current to past income (see Brown, 2008).

[2]   See Jestl, Moser and Raggl (2017).

Figure 1 / Emigration rate and relative deprivation, means 2011-2012
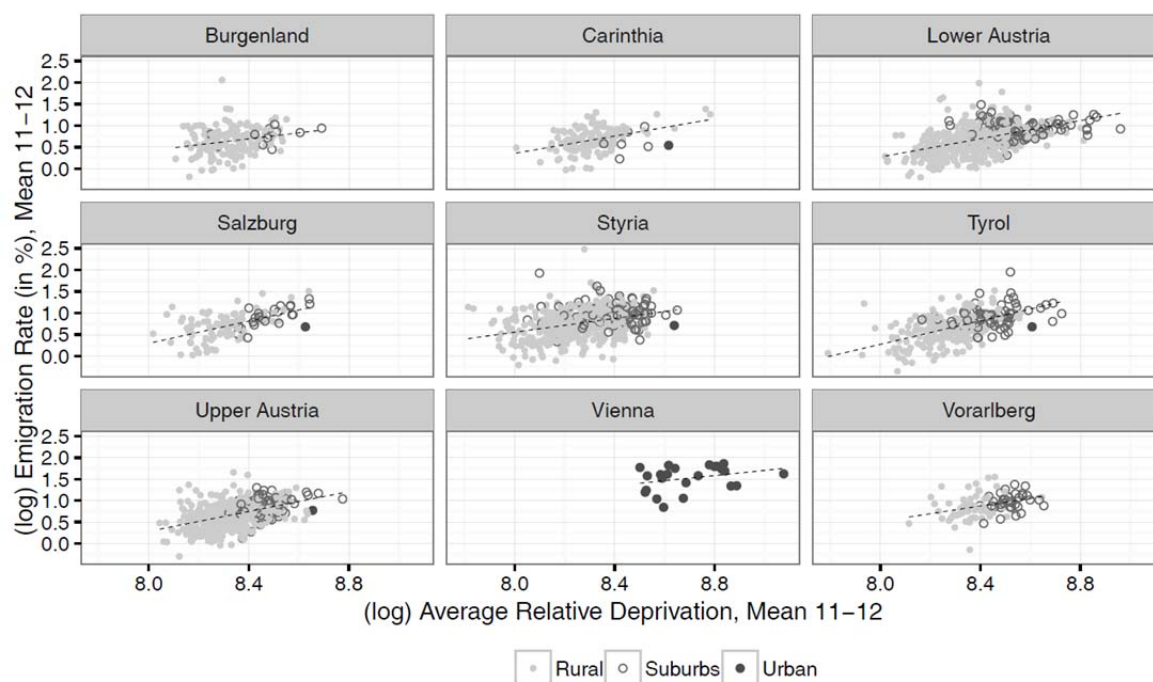
Source: Jestl, Moser und Raggl (2017); Statistik Austria.

Controlling for this set of municipality characteristics, including the absolute income level, average relative deprivation is found to be a robust push factor for internal migration. The findings further indicate that this effect is higher in more urban than rural areas. This might result from higher social and local ties in rural areas. Moreover, the determinants of the emigration flows of specific social groups with respect to income, education and age are analysed. The results suggest an even stronger effect among those with comparably low levels of income, and among low-skilled and young individuals.

As stated by Stark (2006), income inequality may increase the propensity to migrate, however – as outlined above – it may also induce harder work, dissaving or taking out debt. The different coping strategies of the two approaches should therefore be understood as being interrelated, with migration representing the option of 'last resort' (that is, once other options are exhausted). This suggests considering the two strands combined in one empirical analysis. So, further research needs to be done to fill this gap.

CONCLUSION

The relative income hypothesis and the concept of relative deprivation basically address the same issue. Individuals and households make decisions in a certain environment: they are status-seeking and make comparisons with other individuals. In doing so, they want to keep up with richer individuals.

The concept of relative deprivation is often applied to analyse the impact on migration, as for example illustrated in the analysis on Austria above. The results underline the robust role of relative deprivation as a push factor for internal migration in Austria. This effect is, however, heterogeneous across specific

social groups. Especially the mobility of low-income, low-skilled and young individuals is affected by higher income inequality.

By contrast, the relative income hypothesis would predict a higher indebtedness of lower-income individuals in order to keep up with richer individuals. To combine the two approaches in an empirical analysis, one has to take into account the sets of coping strategies simultaneously. Migration might be only the last resort to respond to income inequality.

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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.

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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).

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Albania

Real GDP growth and contributions
year-on-year
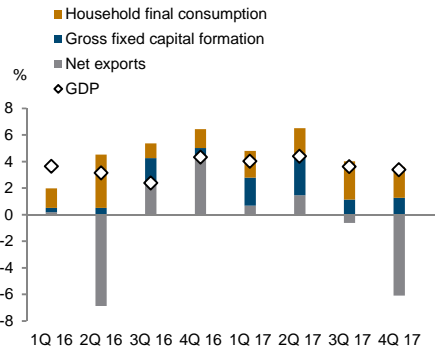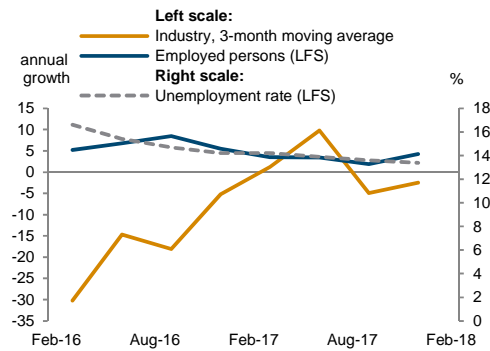
- Household final consumption
- Gross fixed capital formation
- Net exports
- GDP

Real sector development
in %

Left scale:
- Industry, 3-month moving average
- Employed persons (LFS)

Right scale:
- Unemployment rate (LFS)

Unit labour costs in industry
annual growth rate in %

- Wages nominal, gross
- Productivity*
- Exchange rate
- Unit labour costs

Inflation and policy rate
in %

- Consumer prices (HICP), annual growth
- Producer prices in industry, annual growth
- Central bank policy rate (p.a.)

Financial indicators
in %

Left scale:
- Loans to non-financial corporations
- Loans to households and NPISHs

Right scale:
- Non-performing loans

External sector development
in %

Left scale:
- Exports, 3-month moving average**
- Imports, 3-month moving average**
- Real ER EUR/ALL, PPI deflated

Right scale:
- Current account
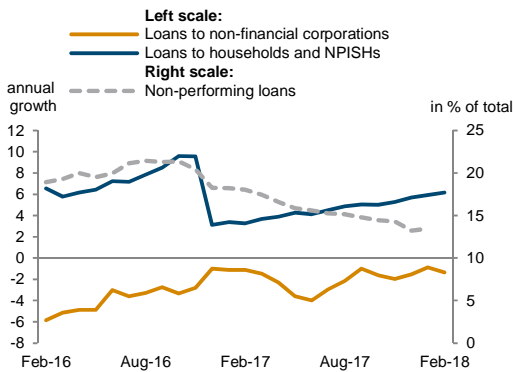
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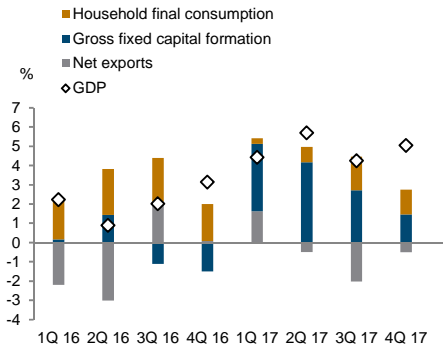**EUR based.
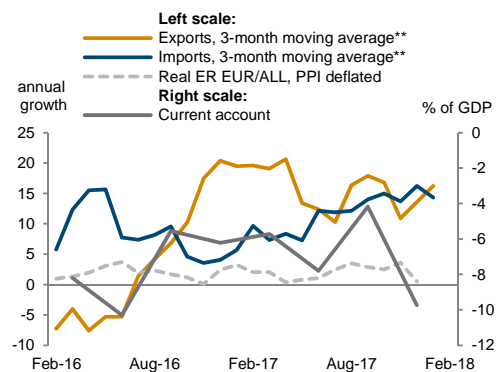
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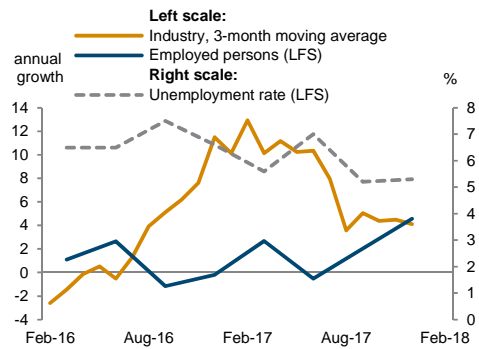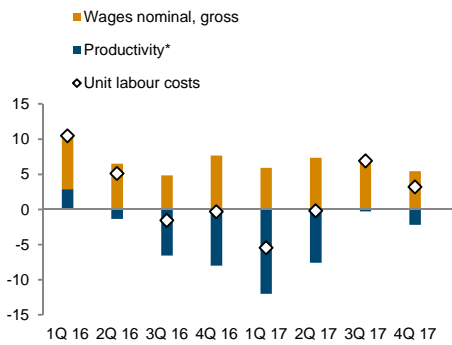https://data.wiiw.ac.at/monthly-database.html

Bosnia and Herzegovina

Real GDP growth and contributions
year-on-year
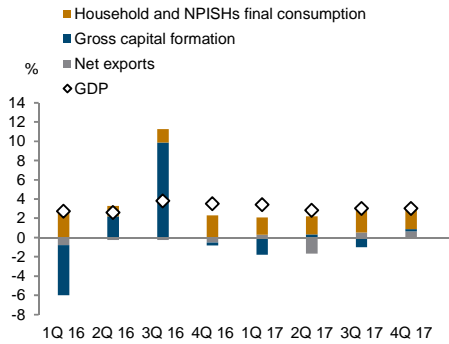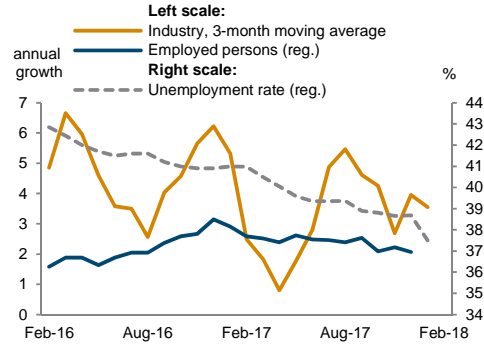
- Household and NPISHs final consumption
- Gross capital formation
- Net exports
- ◇ GDP

Real sector development
in %

Left scale:
- Industry, 3-month moving average
- Employed persons (reg.)

Right scale:
- Unemployment rate (reg.)

Unit labour costs in industry
annual growth rate in %

- Wages nominal, gross
- Productivity*
- Exchange rate
- ◇ Unit labour costs

Inflation
in %

- Consumer prices, annual growth
- Producer prices in industry, annual growth

Financial indicators
in %

Left scale:
- Loans to non-financial corporations
- Loans to households

Right scale:
- Non-performing loans

External sector development
in %

Left scale:
- Exports, 3-month moving average**
- Imports, 3-month moving average**
- Real ER EUR/BAM, PPI deflated

Right scale:
- Current account
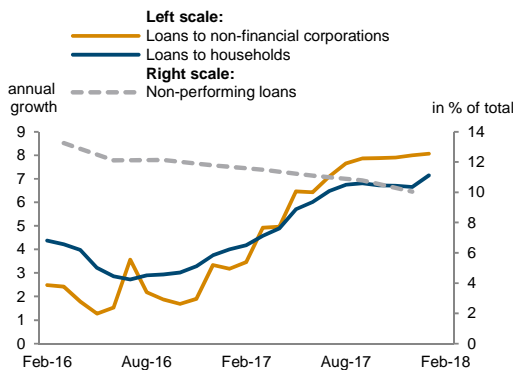
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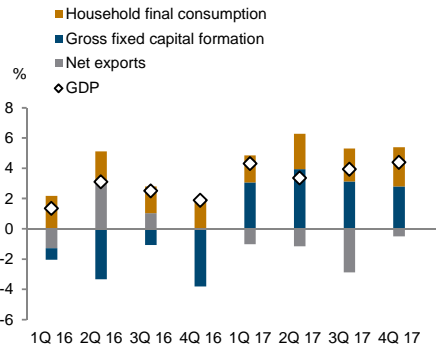**EUR based.
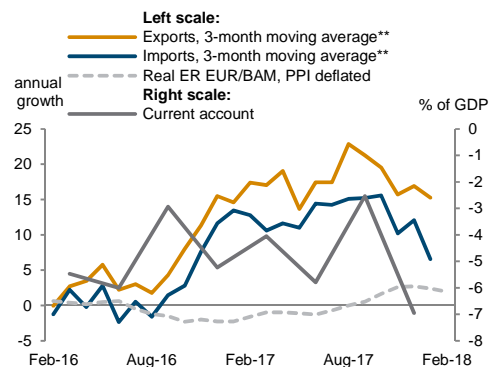
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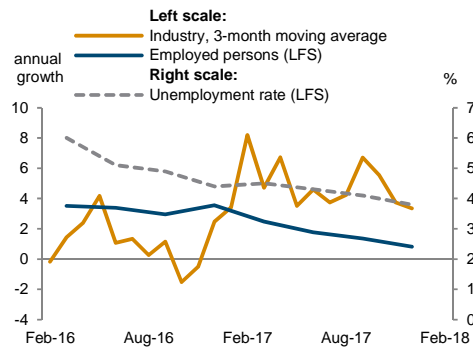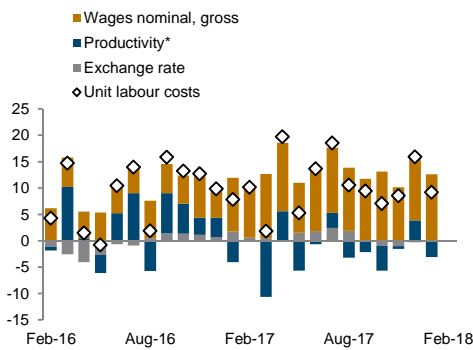https://data.wiiw.ac.at/monthly-database.html

Bulgaria

Real GDP growth and contributions
year-on-year

- Household final consumption
- Gross fixed capital formation
- Net exports
- ◇ GDP

Real sector development
in %

Left scale:
- Industry, 3-month moving average
- Employed persons (LFS)

Right scale:
- Unemployment rate (LFS)

annual growth

Unit labour costs in industry
annual growth rate in %

- Wages nominal, gross
- Productivity*
- ◇ Unit labour costs

Inflation and policy rate
in %

- Consumer prices (HICP), annual growth
- Producer prices in industry, annual growth
- Central bank policy rate (p.a.)

Financial indicators
in %

Left scale:
- Loans to non-financial corporations
- Loans to households and NPISHs

Right scale:
- Non-performing loans

annual growth

in % of total

External sector development
in %

Left scale:
- Exports, 3-month moving average**
- Imports, 3-month moving average**
- Real ER EUR/BGN, PPI deflated

Right scale:
- Current account

annual growth

% of GDP

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

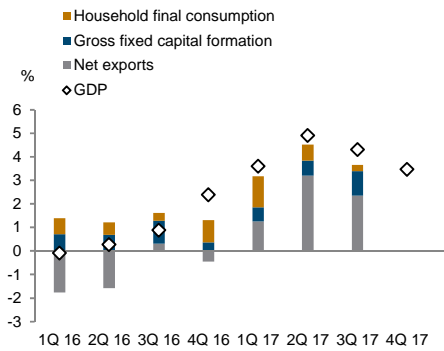Source: wiiw Monthly Database incorporating Eurostat and national statistics.
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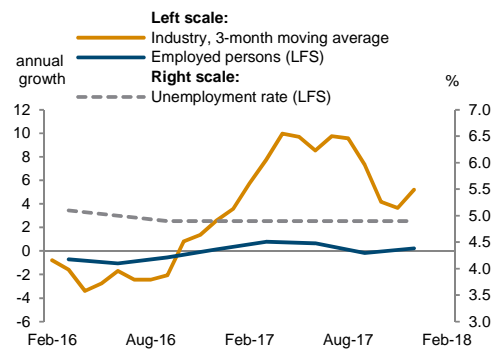https://data.wiiw.ac.at/monthly-database.html

Croatia

Real GDP growth and contributions
year-on-year

- Household final consumption
- Gross fixed capital formation
- Net exports
- ◇ GDP

Real sector development
in %

Left scale:
- Industry, 3-month moving average
- Employed persons (LFS)

Right scale:
- Unemployment rate (LFS)

Unit labour costs in industry
annual growth rate in %

- Wages nominal, gross
- Productivity*
- Exchange rate
- ◇ Unit labour costs

Inflation and policy rate
in %

- Consumer prices (HICP), annual growth
- Producer prices in industry, annual growth
- Central bank policy rate (p.a.)

Financial indicators
in %

Left scale:
- Loans to non-financial corporations
- Loans to households

Right scale:
- Non-performing loans

External sector development
in %

Left scale:
- Exports, 3-month moving average**
- Imports, 3-month moving average**
- Real ER EUR/HRK, PPI deflated

Right scale:
- Current account

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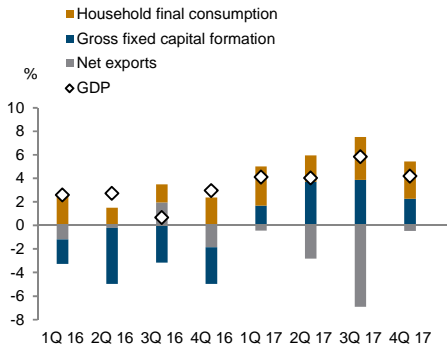**EUR based.

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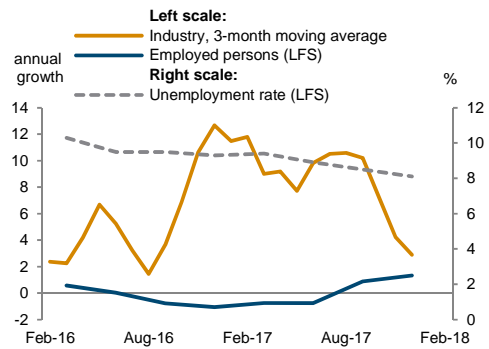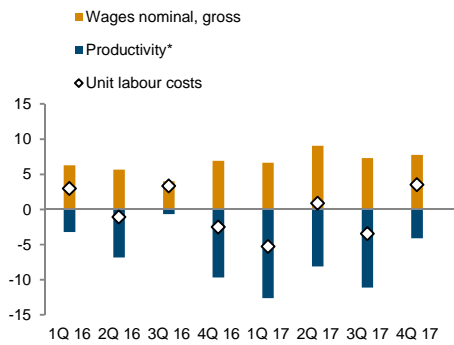https://data.wiiw.ac.at/monthly-database.html

Czech Republic

Real GDP growth and contributions
year-on-year

- Household final consumption
- Gross fixed capital formation
- Net exports
- ◇ GDP

Real sector development
in %

Left scale:
- Industry, 3-month moving average
- Employed persons (LFS)

Right scale:
- Unemployment rate (LFS)

Unit labour costs in industry
annual growth rate in %

- Wages nominal, gross
- Productivity*
- Exchange rate
- ◇ Unit labour costs

Inflation and policy rate
in %

- Consumer prices (HICP), annual growth
- Producer prices in industry, annual growth
- Central bank policy rate (p.a.)

Financial indicators
in %

Left scale:
- Loans to non-financial corporations
- Loans to households and NPISHs

Right scale:
- Non-performing loans

External sector development
in %

Left scale:
- Exports, 3-month moving average**
- Imports, 3-month moving average**
- Real ER EUR/CZK, PPI deflated

Right scale:
- Current account

*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.
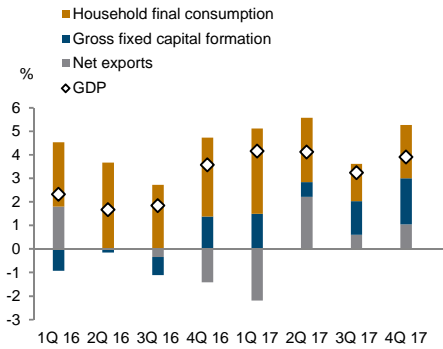Baseline data, country-specific definitions and methodological breaks in time series are available under:
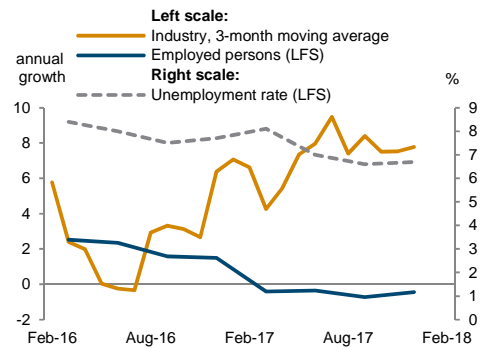https://data.wiiw.ac.at/monthly-database.html

Estonia

Real GDP growth and contributions
year-on-year

- Household final consumption
- Gross fixed capital formation
- Net exports
- ◇ GDP

Unit labour costs in industry
annual growth rate in %

- Wages nominal, gross
- Productivity*
- ◇ Unit labour costs

Financial indicators
in %

Left scale:
- Loans to non-financial corporations
- Loans to households

Right scale:
- Non-performing loans

Real sector development
in %

Left scale:
- Industry, 3-month moving average
- Employed persons (LFS)

Right scale:
- Unemployment rate (LFS)

Inflation and policy rate
in %

- Consumer prices (HICP), annual growth
- Producer prices in industry, annual growth
- Central bank policy rate (p.a.)

External sector development
in %

Left scale:
- Exports, 3-month moving average**
- Imports, 3-month moving average**
- Real ER EUR/EUR, PPI deflated

Right scale:
- Current account

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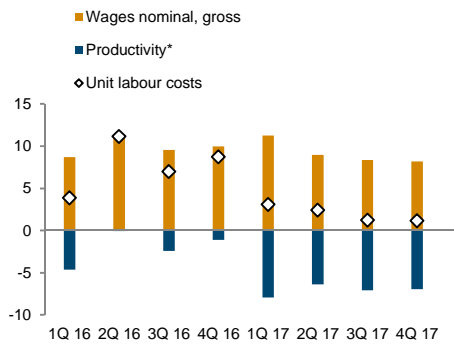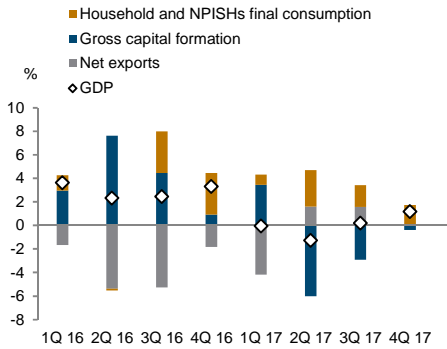https://data.wiiw.ac.at/monthly-database.html

Hungary

Real GDP growth and contributions
year-on-year

- Household final consumption
- Gross fixed capital formation
- Net exports
- ◇ GDP

Real sector development
in %

Left scale:
- Industry, 3-month moving average
- Employed persons (LFS)

Right scale:
- Unemployment rate (LFS)

Unit labour costs in industry
annual growth rate in %

- Wages nominal, gross
- Productivity*
- Exchange rate
- ◇ Unit labour costs

Inflation and policy rate
in %

- Consumer prices (HICP), annual growth
- Producer prices in industry, annual growth
- Central bank policy rate (p.a.)

Financial indicators
in %

Left scale:
- Loans to non-financial corporations
- Loans to households

Right scale:
- Non-performing loans

External sector development
in %

Left scale:
- Exports, 3-month moving average**
- Imports, 3-month moving average**
- Real ER EUR/HUF, PPI deflated

Right scale:
- Current account
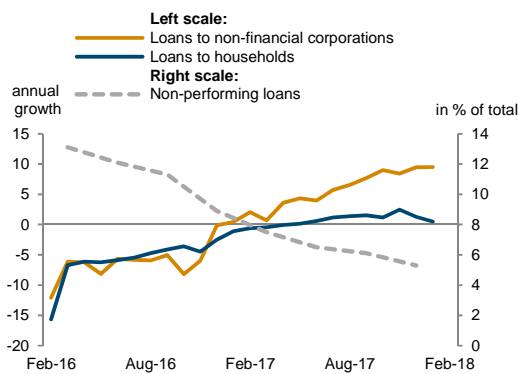
*Positive values of the productivity component on the graph reflect decline in productivity and vice versa.
**EUR based.
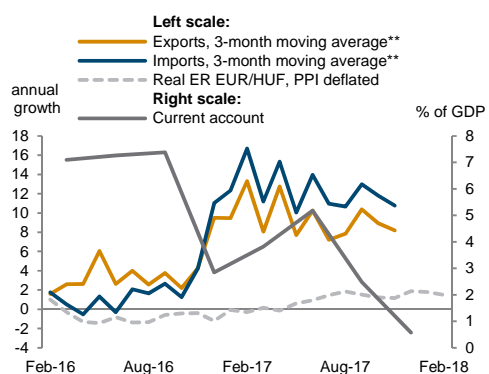
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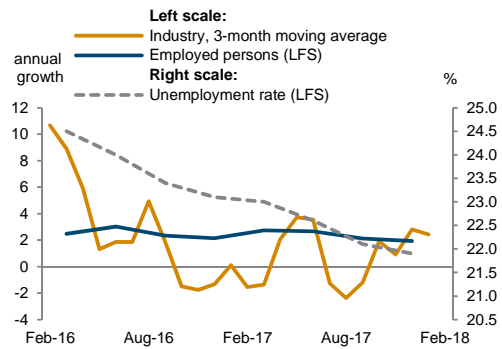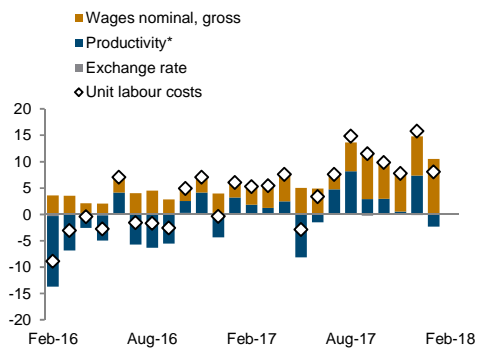https://data.wiiw.ac.at/monthly-database.html
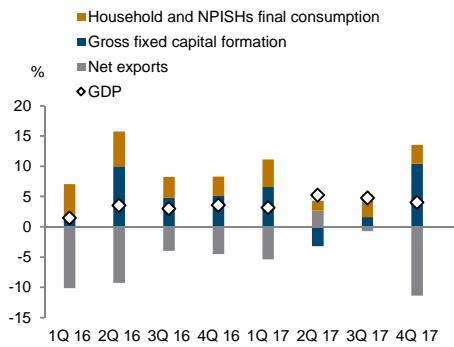
Kazakhstan

Real GDP growth and contributions
year-on-year

- Household final consumption
- Gross fixed capital formation
- Net exports
- ◇ GDP

Real sector development
in %

Left scale:
- Industry, 3-month moving average
- Employed persons (LFS)

Right scale:
- Unemployment rate (LFS)

Unit labour costs in industry
annual growth rate in %

- Wages nominal, gross
- Productivity*
- Exchange rate
- ◇ Unit labour costs

Inflation and policy rate
in %

- Consumer prices, annual growth
- Producer prices in industry, annual growth
- Central bank policy rate (p.a.)

Financial indicators
in %

Left scale:
- Loans to non-financial corporations
- Loans to households

Right scale:
- Non-performing loans

External sector development
in %

Left scale:
- Exports, 3-month moving average**
- Imports, 3-month moving average**
- Real ER EUR/KZT, PPI deflated

Right scale:
- Current account

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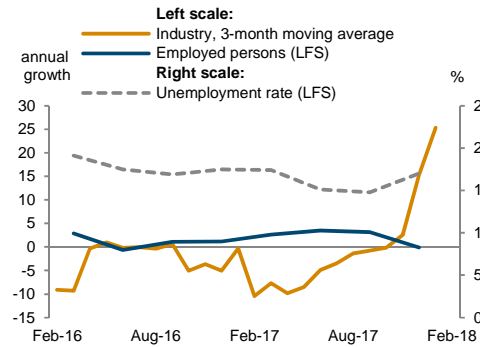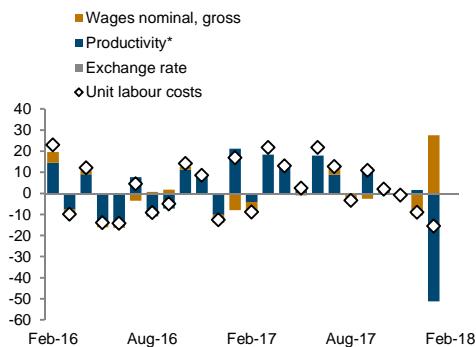https://data.wiiw.ac.at/monthly-database.html

Latvia

Real GDP growth and contributions
year-on-year

- Household final consumption
- Gross fixed capital formation
- Net exports
- ◇ GDP

Real sector development
in %

Left scale:
- Industry, 3-month moving average
- Employed persons (LFS)

Right scale:
- Unemployment rate (LFS)

Unit labour costs in industry
annual growth rate in %

- Wages nominal, gross
- Productivity*
- ◇ Unit labour costs

Inflation and policy rate
in %

- Consumer prices (HICP), annual growth
- Producer prices in industry, annual growth
- Central bank policy rate (p.a.)

Financial indicators
in %

Left scale:
- Loans to non-financial corporations
- Loans to households

Right scale:
- Non-performing loans

External sector development
in %

Left scale:
- Exports, 3-month moving average**
- Imports, 3-month moving average**
- Real ER EUR/EUR, PPI deflated

Right scale:
- Current account

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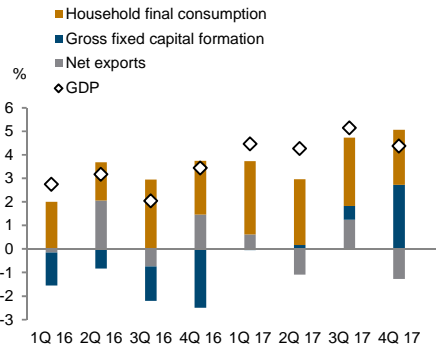**EUR based.

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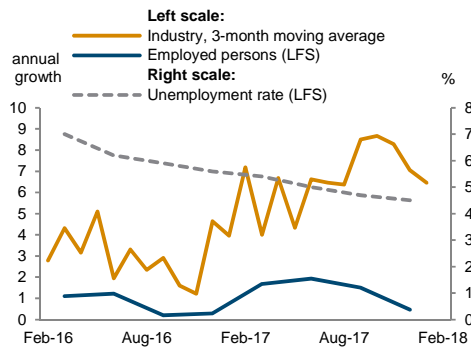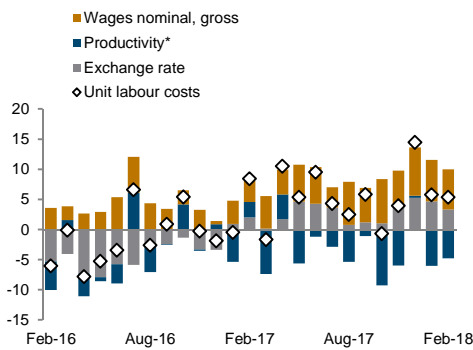https://data.wiiw.ac.at/monthly-database.html

Lithuania

Real GDP growth and contributions
year-on-year

- Household final consumption
- Gross fixed capital formation
- Net exports
- ◇ GDP

Real sector development
in %

Left scale:
- Industry, 3-month moving average
- Employed persons (LFS)

Right scale:
- Unemployment rate (LFS)

Unit labour costs in industry
annual growth rate in %

- Wages nominal, gross
- Productivity*
- ◇ Unit labour costs

Inflation and policy rate
in %

- Consumer prices (HICP), annual growth
- Producer prices in industry, annual growth
- Central bank policy rate (p.a.)

Financial indicators
in %

Left scale:
- Loans to non-financial corporations
- Loans to households

Right scale:
- Non-performing loans

External sector development
in %

Left scale:
- Exports, 3-month moving average**
- Imports, 3-month moving average**
- Real ER EUR/EUR, PPI deflated

Right scale:
- Current account

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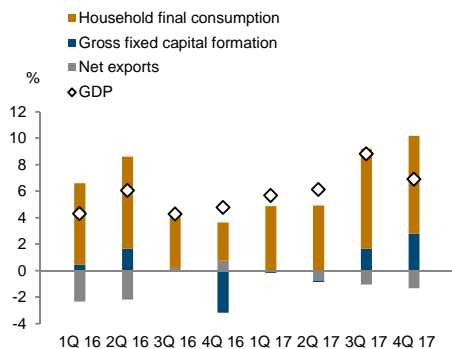**EUR based.

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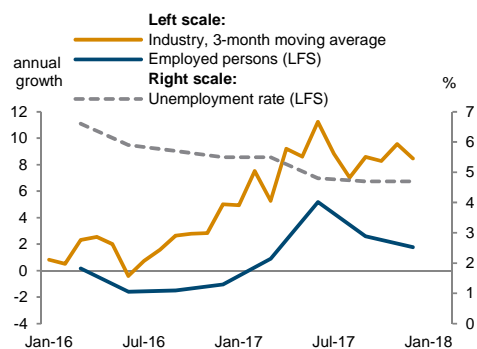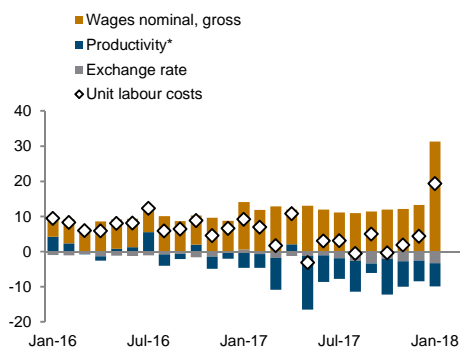https://data.wiiw.ac.at/monthly-database.html

Macedonia

Real GDP growth and contributions
year-on-year

- Household and NPISHs final consumption
- Gross capital formation
- Net exports
- ◇ GDP

Real sector development
in %

Left scale:
- Industry, 3-month moving average
- Employed persons (LFS)

Right scale:
- Unemployment rate (LFS)

annual growth

Unit labour costs in industry
annual growth rate in %

- Wages nominal, gross
- Productivity*
- Exchange rate
- ◇ Unit labour costs

Inflation and policy rate
in %

- Consumer prices, annual growth
- Producer prices in industry, annual growth
- Central bank policy rate (p.a.)

Financial indicators
in %

Left scale:
- Loans to non-financial corporations
- Loans to households

Right scale:
- Non-performing loans

annual growth

in % of total

External sector development
in %

Left scale:
- Exports, 3-month moving average**
- Imports, 3-month moving average**
- Real ER EUR/MKD, PPI deflated

Right scale:
- Current account

annual growth

% of GDP

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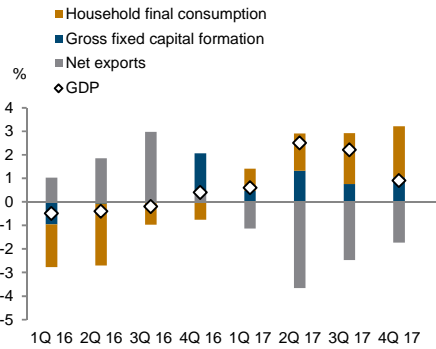**EUR based.

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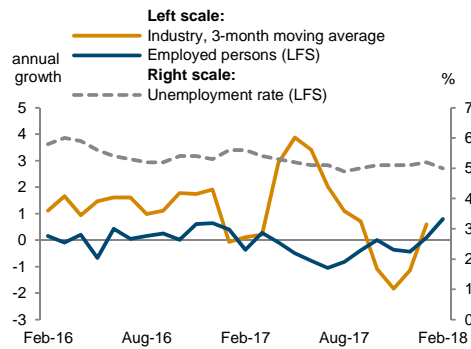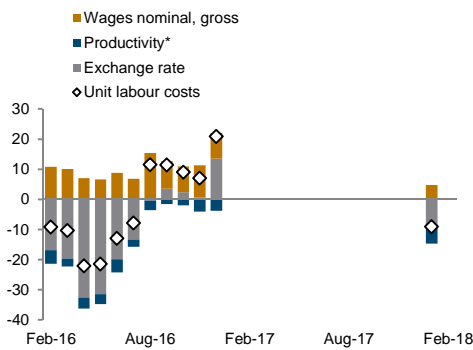https://data.wiiw.ac.at/monthly-database.html

Montenegro

Real GDP growth and contributions
year-on-year

- Household and NPISHs final consumption
- Gross fixed capital formation
- Net exports
- ◇ GDP

Real sector development
in %

Left scale:
- Industry, 3-month moving average
- Employed persons (LFS)

Right scale:
- Unemployment rate (LFS)

Unit labour costs in industry
annual growth rate in %

- Wages nominal, gross
- Productivity*
- Exchange rate
- ◇ Unit labour costs

Inflation and lending rate
in %
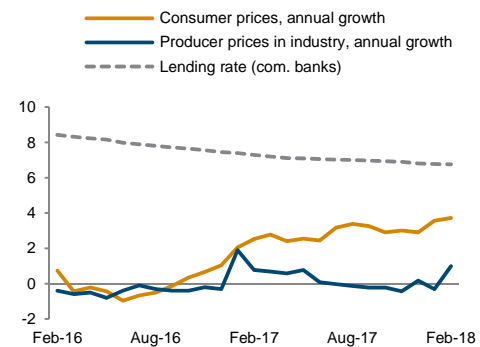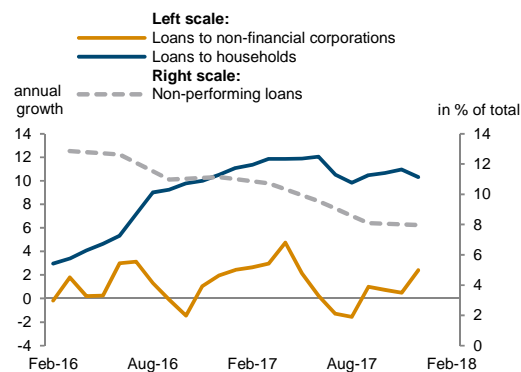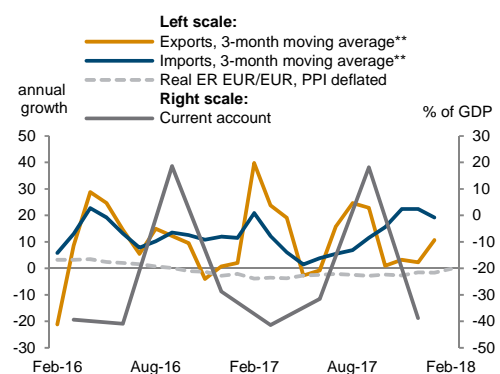
- Consumer prices, annual growth
- Producer prices in industry, annual growth
- Lending rate (com. banks)

Financial indicators
in %

Left scale:
- Loans to non-financial corporations
- Loans to households

Right scale:
- Non-performing loans

External sector development
in %

Left scale:
- Exports, 3-month moving average**
- Imports, 3-month moving average**
- Real ER EUR/EUR, PPI deflated

Right scale:
- Current account

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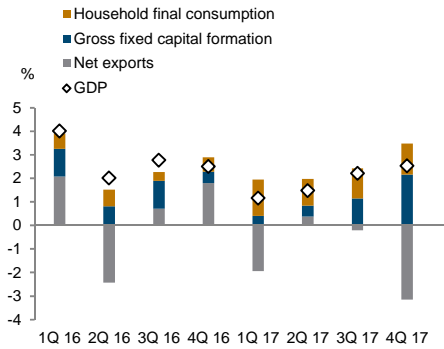**EUR based.

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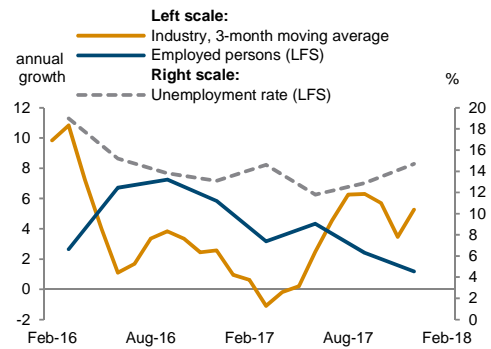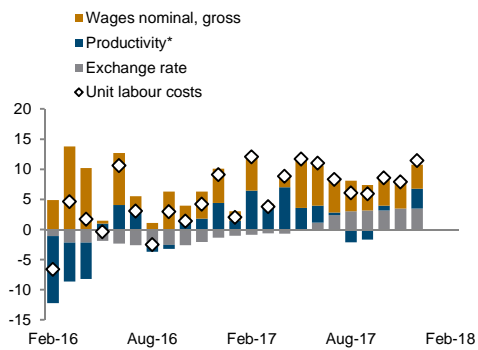https://data.wiiw.ac.at/monthly-database.html

Poland

Real GDP growth and contributions
year-on-year

- Household final consumption
- Gross fixed capital formation
- Net exports
- ◇ GDP

Real sector development
in %

Left scale:
- Industry, 3-month moving average
- Employed persons (LFS)

Right scale:
- Unemployment rate (LFS)

annual growth

Unit labour costs in industry
annual growth rate in %

- Wages nominal, gross
- Productivity*
- Exchange rate
- ◇ Unit labour costs

Inflation and policy rate
in %

- Consumer prices (HICP), annual growth
- Producer prices in industry, annual growth
- Central bank policy rate (p.a.)

Financial indicators
in %

Left scale:
- Loans to non-financial corporations
- Loans to households

Right scale:
- Non-performing loans

annual growth

in % of total

External sector development
in %

Left scale:
- Exports, 3-month moving average**
- Imports, 3-month moving average**
- Real ER EUR/PLN, PPI deflated

Right scale:
- Current account

annual growth

% of GDP

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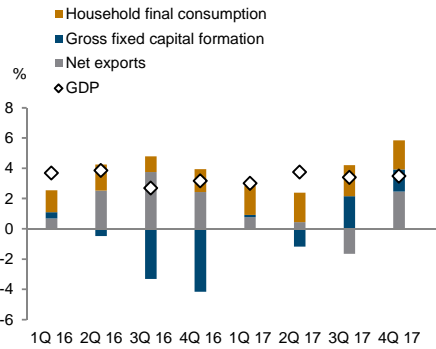**EUR based.

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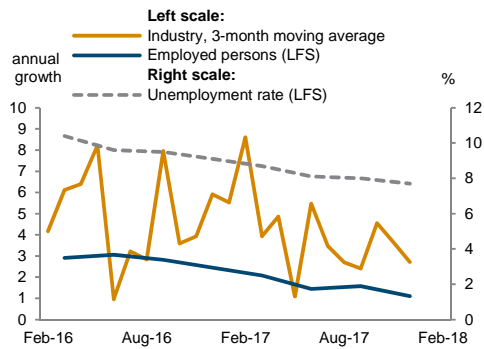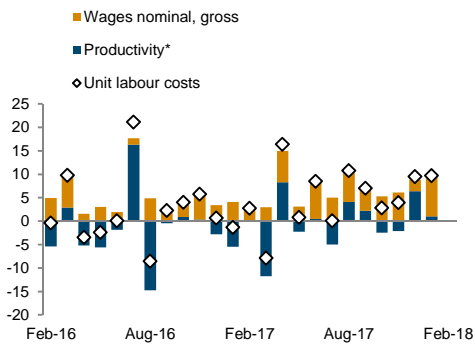https://data.wiiw.ac.at/monthly-database.html

Romania

Real GDP growth and contributions
year-on-year

- Household final consumption
- Gross fixed capital formation
- Net exports
- ◇ GDP

Real sector development
in %

Left scale:
- Industry, 3-month moving average
- Employed persons (LFS)

Right scale:
- Unemployment rate (LFS)

Unit labour costs in industry
annual growth rate in %

- Wages nominal, gross
- Productivity*
- Exchange rate
- ◇ Unit labour costs

Inflation and policy rate
in %

- Consumer prices (HICP), annual growth
- Producer prices in industry, annual growth
- Central bank policy rate (p.a.)

Financial indicators
in %

Left scale:
- Loans to non-financial corporations
- Loans to households and NPISHs

Right scale:
- Non-performing loans

External sector development
in %

Left scale:
- Exports, 3-month moving average**
- Imports, 3-month moving average**
- Real ER EUR/RON, PPI deflated

Right scale:
- Current account

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

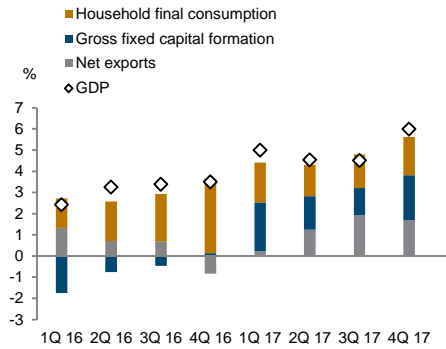Source: wiiw Monthly Database incorporating Eurostat and national statistics.
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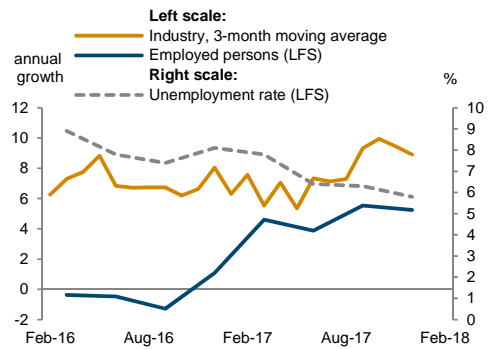https://data.wiiw.ac.at/monthly-database.html

Russia

Real GDP growth and contributions
year-on-year

- Household final consumption
- Gross fixed capital formation
- Net exports
- ◇ GDP

Real sector development
in %

Left scale:
- Industry, 3-month moving average
- Employed persons (LFS)

Right scale:
- Unemployment rate (LFS)

Unit labour costs in industry
annual growth rate in %

- Wages nominal, gross
- Productivity*
- Exchange rate
- ◇ Unit labour costs

Inflation and policy rate
in %

- Consumer prices, annual growth
- Producer prices in industry, annual growth
- Central bank policy rate (p.a.)

Financial indicators
in %

Left scale:
- Loans to non-financial corporations
- Loans to households

Right scale:
- Non-performing loans

External sector development
in %

Left scale:
- Exports, 3-month moving average**
- Imports, 3-month moving average**
- Real ER EUR/RUB, PPI deflated

Right scale:
- Current account

*Positive values of the productivity component on the graph reflect decline in productivity and vice versa.
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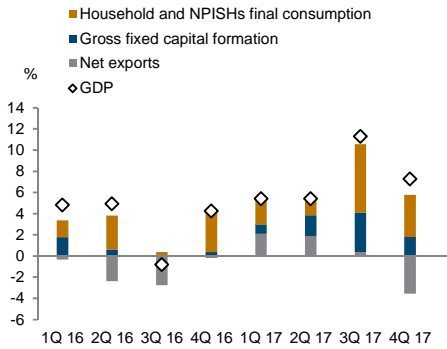Baseline data, country-specific definitions and methodological breaks in time series are available under:
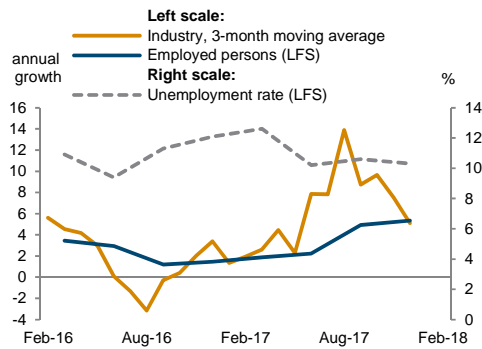https://data.wiiw.ac.at/monthly-database.html

Serbia

Real GDP growth and contributions
year-on-year

- Household final consumption
- Gross fixed capital formation
- Net exports
- ◇ GDP

Real sector development
in %

Left scale:
- Industry, 3-month moving average
- Employed persons (LFS)

Right scale:
- Unemployment rate (LFS)

Unit labour costs in industry
annual growth rate in %

- Wages nominal, gross
- Productivity*
- Exchange rate
- ◇ Unit labour costs

Inflation and policy rate
in %

- Consumer prices, annual growth
- Producer prices in industry, annual growth
- Central bank policy rate (p.a.)

Financial indicators
in %

Left scale:
- Loans to non-financial corporations
- Loans to households

Right scale:
- Non-performing loans

External sector development
in %

Left scale:
- Exports, 3-month moving average**
- Imports, 3-month moving average**
- Real ER EUR/RSD, PPI deflated

Right scale:
- Current account

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

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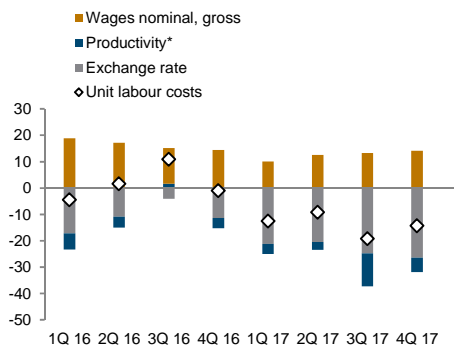Baseline data, country-specific definitions and methodological breaks in time series are available under:
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Slovakia
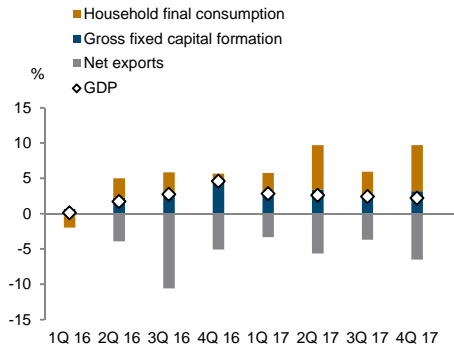
Real GDP growth and contributions
year-on-year

- Household final consumption
- Gross fixed capital formation
- Net exports
- ◇ GDP

Real sector development
in %

Left scale:
- Industry, 3-month moving average
- Employed persons (LFS)

Right scale:
- Unemployment rate (LFS)

Unit labour costs in industry
annual growth rate in %

- Wages nominal, gross
- Productivity*
- ◇ Unit labour costs

Inflation and policy rate
in %

- Consumer prices (HICP), annual growth
- Producer prices in industry, annual growth
- Central bank policy rate (p.a.)

Financial indicators
in %

Left scale:
- Loans to non-financial corporations
- Loans to households and NPISHs

Right scale:
- Non-performing loans

External sector development
in %

Left scale:
- Exports, 3-month moving average**
- Imports, 3-month moving average**
- Real ER EUR/EUR, PPI deflated

Right scale:
- Current account

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

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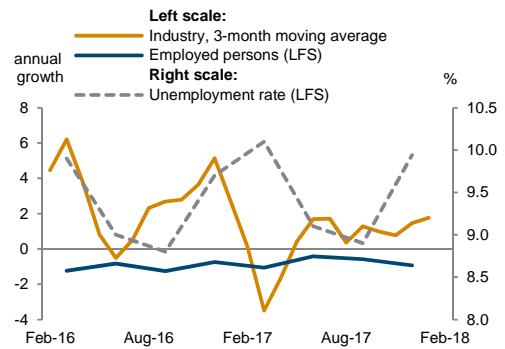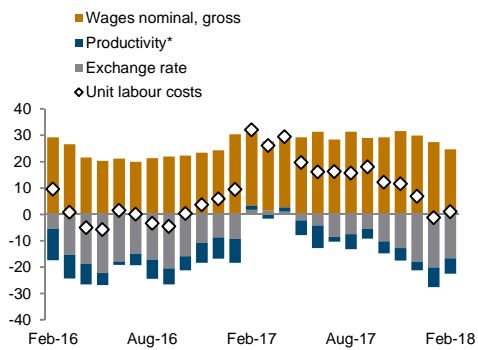https://data.wiiw.ac.at/monthly-database.html

Slovenia

Real GDP growth and contributions
year-on-year

- ■ Household final consumption
- ■ Gross fixed capital formation
- ■ Net exports
- ◇ GDP

Real sector development
in %

Left scale:
- Industry, 3-month moving average
- Employed persons (LFS)

Right scale:
- Unemployment rate (LFS)

Unit labour costs in industry
annual growth rate in %

- ■ Wages nominal, gross
- ■ Productivity*
- ■ Exchange rate
- ◇ Unit labour costs

Inflation and policy rate
in %

- Consumer prices (HICP), annual growth
- Producer prices in industry, annual growth
- Central bank policy rate (p.a.)

Financial indicators
in %

Left scale:
- Loans to non-financial corporations
- Loans to households

Right scale:
- Non-performing loans

External sector development
in %

Left scale:
- Exports, 3-month moving average**
- Imports, 3-month moving average**
- Real ER EUR/EUR, PPI deflated

Right scale:
- Current account

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

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Turkey

Real GDP growth and contributions
year-on-year

■ Household and NPISHs final consumption
■ Gross fixed capital formation
■ Net exports
◇ GDP

Real sector development
in %

Left scale:
— Industry, 3-month moving average
— Employed persons (LFS)
Right scale:
- - - Unemployment rate (LFS)

Unit labour costs in industry
annual growth rate in %

■ Wages nominal, gross
■ Productivity*
■ Exchange rate
◇ Unit labour costs

Inflation and policy rate
in %

— Consumer prices (HICP), annual growth
— Producer prices in industry, annual growth
- - - Central bank policy rate (p.a.)

Financial indicators
in %

Left scale:
— Loans to non-financial corporations
— Loans to households
Right scale:
- - - Non-performing loans

External sector development
in %

Left scale:
— Exports, 3-month moving average**
— Imports, 3-month moving average**
- - - Real ER EUR/TRY, PPI deflated
Right scale:
— Current account

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

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Ukraine

Real GDP growth and contributions
year-on-year

- Household final consumption
- Gross fixed capital formation
- Net exports
- ◇ GDP

Real sector development
in %

Left scale:
- Industry, 3-month moving average
- Employed persons (LFS)

Right scale:
- Unemployment rate (LFS)

Unit labour costs in industry
annual growth rate in %

- Wages nominal, gross
- Productivity*
- Exchange rate
- ◇ Unit labour costs

Inflation and policy rate
in %

- Consumer prices (HICP), annual growth
- Producer prices in industry, annual growth
- Central bank policy rate (p.a.)

Financial indicators
in %

Left scale:
- Loans to non-financial corporations
- Loans to households

Right scale:
- Non-performing loans

External sector development
in %

Left scale:
- Exports, 3-month moving average**
- Imports, 3-month moving average**
- Real ER EUR/UAH, PPI deflated

Right scale:
- Current account
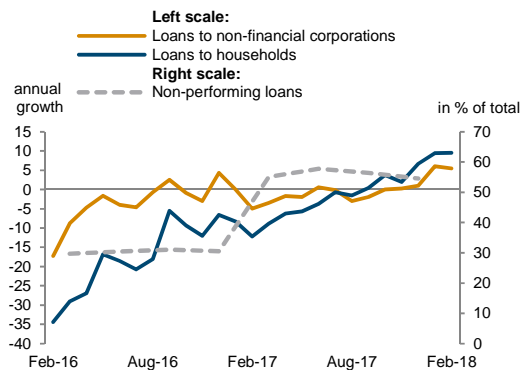
*Positive values of the productivity component on the graph reflect decline in productivity and vice versa.
**EUR based.
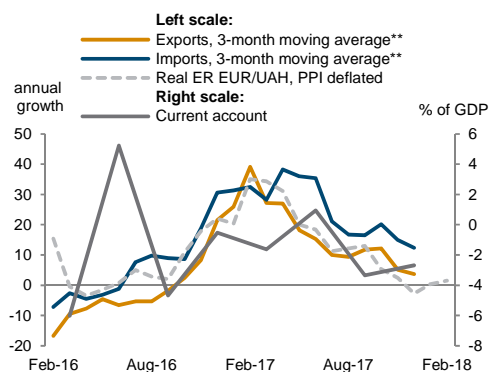
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Index of subjects – April 2017 to April 2018

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Economics editors: Vasily Astrov, Sándor Richter