

**What Can be Said about the Status of Brexit in
September 2017?**

Cohesion Policy Meets Heterogeneous Firms

**On the Use of Different Public Innovation
Commercialisation Measures in the EU-28**

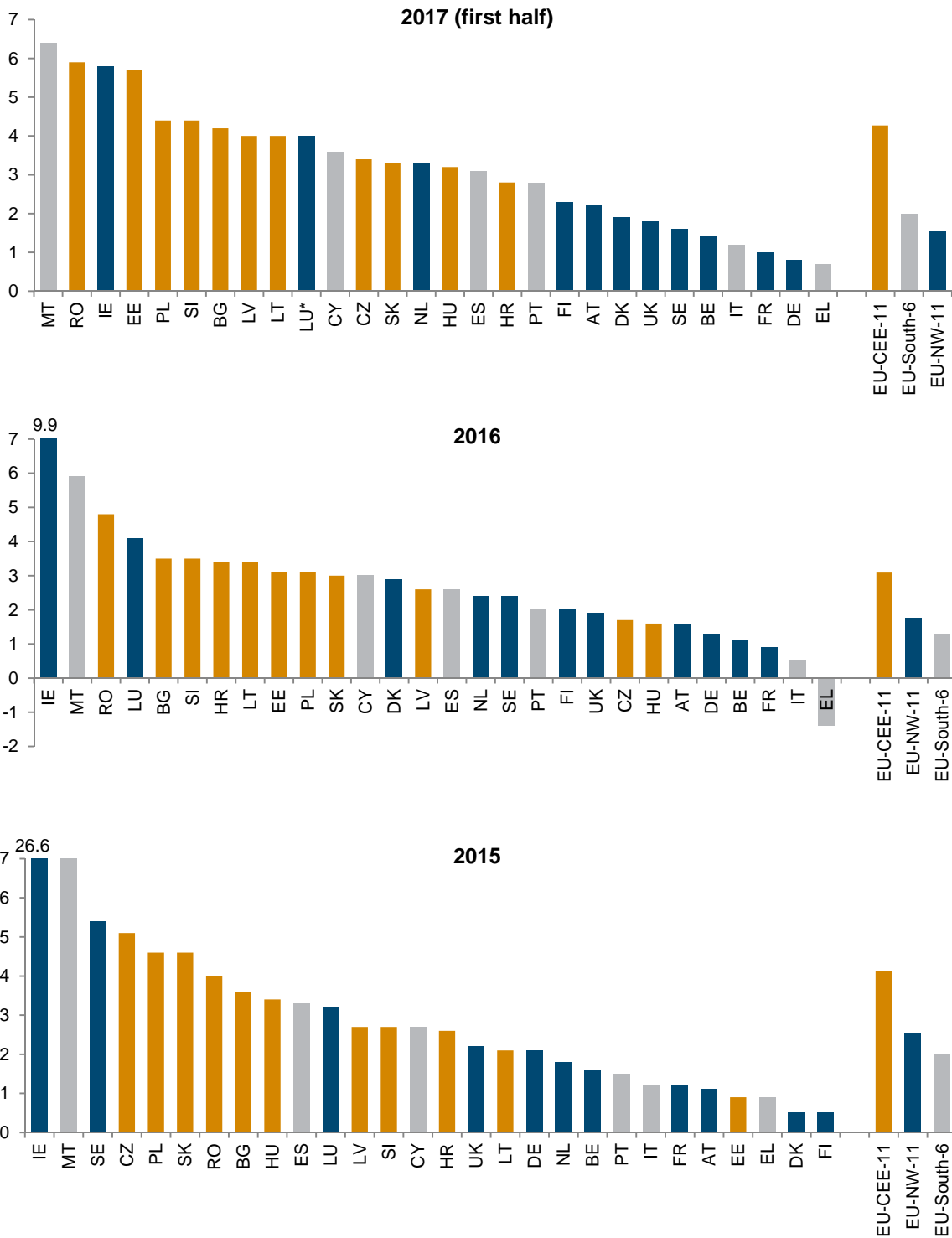
**Choosing the Right Partner: R&D Cooperations and
Innovation Success in CESEE and CIS Economies**

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CONTENTS

Graph of the month: Real GDP growth in 2015, 2016 and first half of 2017 by major groups of countries of the European Union.....	1
Opinion Corner: What can be said about the status of Brexit in September 2017?	2
Cohesion policy meets heterogeneous firms	6
On the use of different public innovation commercialisation measures in the EU-28	12
Choosing the right partner: R&D cooperations and innovation success in CESEE and CIS economies.....	17
The editors recommend for further reading	22
Monthly and quarterly statistics for Central, East and Southeast Europe.....	23
Index of subjects – September 2016 to September 2017	45

Real GDP growth in 2015, 2016 and first half of 2017 by major groups of countries of the European Union



Remark: EU-NW(North and West)-11: AT, BE, DE, DK, FI, FR, IE, LU, NL, SE, UK.

EU-CEE-11: BG, CZ, EE, HR, HU, LT, LV, PL, RO, SI, SK.

EU-South-6: CY, EL, ES, IT, MT, PT.

Source: Eurostat, wiiw calculations.

Opinion Corner: What can be said about the status of Brexit in September 2017?

ANSWERED BY RICHARD GRIEVESON

The Brexit process is overwhelming. The UK is currently producing way more news than it can consume. For those caught on the wrong side (EU27 citizens in the UK, and UK citizens in the EU27), the Brexit negotiations are nail biting. As political theatre, however, the whole process is fascinating. There should be some good books and films about this in the future.

The UK has had the bad luck to be landed with a particularly disastrous political class at a crucial moment in the country's history. Complacency on the part of David Cameron launched the UK into a vote that it was not prepared for. Meanwhile Prime Minister Theresa May compounded the recklessness of Mr Cameron by interpreting what people had voted for in a very narrow and specific way, and launching the UK into a hard Brexit. In addition, she has appointed ministers such as Boris Johnson who do not even appear to be taking it seriously.

This kind of radical departure from normal 'stay-on-the-safe-side' political behaviour does not happen very often, especially in supposedly stable and conservative countries such as the UK. It therefore provides a rare opportunity to look inside the Westminster machine and the UK's political culture more generally. The lessons from observing this are fascinating, and go way beyond Brexit. Some of them are also relevant for the EU27. Ten features of political life in the UK have become apparent since June 2016:

First, the UK is a highly divided country. *The referendum and its aftermath have brought many conflicting views out into the open which effectively have nothing to do with the EU. These include very different attitudes towards immigration, regional splits, and a huge generational divide. One interesting way of categorising these splits is the 'somewheres' and 'anywheres' division proposed by David Goodhart.¹ Mr Goodhart's conclusions are centred on where people live, how educated they are, and their age, although he also leaves room for conservative or liberal values which people can hold irrespective of any of these other factors. The Brexit vote certainly supports this conclusion. 72% of people with no educational qualifications voted to leave the EU; only 35% of people with a university degree did the same. Young voters were strongly in favour of remain, while older voters favoured leave. Cities tended to vote for remain, while rural areas were more likely to support leave.²*

Mr Goodhart is not right on everything, but his distinction summarises the situation quite well; in both 'somewhere' and 'anywhere' land, there are things that you cannot say, or be known to even think. These sides do not talk to each other. Many 'anywheres' in London are much more comfortable in the

¹ David Goodhart, *The Road to Somewhere: The Populist Revolt and the Future of Politics*, 2017.

² In this sense the UK is not unique. Recent votes including the Turkish referendum, Polish parliamentary election, and Austrian presidential election revealed splits along similar lines.

company of their equivalents in Paris or Brussels than they are with 'somewheres' living just a few kilometres away in Kent or Essex.

Yet this isn't the whole truth, as Mr Goodhart himself acknowledges. He thinks around 25% of the UK population are in between the two categories. One major point that he focuses on less is the generational divide, which is ever more visible and will increasingly become a political issue in the future. Rocketing property prices³ which prevent young people buying a house or flat, and the distortions in the tax system (which mean poorer younger workers subsidise rich pensioners⁴) are particular issues.

Second, mass immigration matters a lot to a great many people. This has become a huge issue in the UK, and was the single most important factor in driving the vote for Brexit. In the 2013 British Social Attitudes survey, 56% of respondents said that immigration should be 'reduced a lot', and a total of 77% said it should be reduced. A recent YouGov survey found that 62% of British people agree with the view that 'Britain has changed in recent times beyond recognition, it sometimes feels like a foreign country and this makes me feel uncomfortable'. Regaining control of immigration is the British public's top priority in Brexit negotiations.⁵

As Paul Collier, an economist from Oxford University and authority on global migration, has noted, immigration to the UK surged after 1997.⁶ Gross immigration averaged 305,000 per year in 1991-1997, and 542,000 in 1998-2015. Net immigration was 41,000 per year on average in 1991-1997, and 223,000 on average in 1998-2015.⁷ This speed of change appears to have been particularly important. One study after the Brexit vote showed that the rate of change in the foreign-born population, rather than absolute levels of immigration, was key in driving the vote for leave.⁸ Mr Collier notes that by focusing on the impact on wages and living standards, economists miss the real point: the main impact of mass immigration over a short space of time is cultural.

Third, industrial decline since the 1970s has left some deep wounds. The structure of the UK labour market has changed materially since the 1970s, primarily (but not only) as a result of policies introduced by the Margaret Thatcher government in the 1980s. Mr Goodhart shows persuasively how the 'middle' has disappeared from the UK labour market over the last four decades, leaving a bulge at the top and the bottom. He argues that in the UK 25-40% of all jobs are now 'low skill', and that between 1996 and 2008, 55% of new jobs created were in this category. Manufacturing fell from 30% of GDP in the 1970s to 9% now, while formal apprenticeships dropped from 250,000 per year in the early 1970s to 50,000 by 1990. Like English Premier League football teams, many British employers have taken the option of importing skilled labour rather than using resources to train and develop staff domestically. Other big Western European countries have experienced some of these changes as well, but in places like France and (especially) Germany, the pace of change has been much slower.

³ Which reflects a dearth of housebuilding enforced by the older, property-owning political class.

⁴ Philip Inman, 'The baby boomers have enjoyed the good times – now a tax hike is due', *The Guardian*, 13 February 2017.

⁵ Immigration is Brits' top Brexit priority, but French and Germans focus on 'divorce bill', *YouGov*, 15 August 2017.

⁶ Paul Collier, *Exodus: Immigration and multiculturalism in the 21st century*, 2015.

⁷ UK Office for National Statistics data.

⁸ 'Britain's immigration paradox', *The Economist*, 8 July 2016.

Mr Goodhart puts this down to 'Britain's flexible labour market, privatisation, the contracting out of so many jobs by big companies, the disappearance of a high wage floor in some sectors once sustained by unions and wage councils ...'. One consequence of all of this is that inequality has risen: the gap between rich and poor in the UK is much higher than in other big Western European EU members.⁹ Wealth is highly concentrated in London, the South-East of England, and the main oil-producing area of Scotland; most regions in the UK are poorer than the EU average according to Eurostat data. One of the reasons for the success of Jeremy Corbyn, the Labour leader, in the recent parliamentary elections has been his determination to talk loudly and often about inequality.

Fourth, there is suddenly a greater awareness in London and the national media of what is happening in the regions, not just Scotland and Northern Ireland (which voted remain) but also Wales and the English regions (most of which voted to leave). In that sense, if Brexit really was a 'cry for attention' from areas of the UK that have been socially and economically ravaged over the last few decades, it may have worked. Regions that were effectively abandoned in the 1980s have forced themselves back onto the political agenda.

Fifth, the UK has the political class it deserves. The Brexit negotiations in Brussels have gone badly, and at times disastrously, so far. As Simon Kuper, a journalist and author, points out, the Brexit negotiations have demonstrated that the political class has the same weaknesses as the country as a whole: imprecision, an aversion to detail, a reliance on rhetoric and positive thinking, insularity, and delusions of grandeur which do not last long once they come into contact with the outside world.¹⁰

Sixth, the so-called 'professionalisation' of politics in recent decades is a problem. One of the reasons that Mr Corbyn is so popular is because he comes across as being straightforward and down to earth. He does not talk in the forced, overly-earnest, on-message way that almost all UK politicians do.¹¹ Many politicians start out at Westminster as special advisors in their early 20s and rarely if ever leave. This is a problem because London is so different from the rest of the UK. Politicians end up talking in a different way to most voters, and often about the wrong topics.

Seventh, the two-party system is still strong. In the 2017 general election, both main parties took their highest share of the vote for decades.¹² Both parties played to their base, moving away from the focus group-driven attempt to win centrist votes, and it appears to have worked. Interestingly, the Labour vote seems to be particularly sticky, and I doubt this is only because of the (undoubted) popularity of Mr Corbyn. Even if the old industries have mostly died, there are still many people who identify themselves as 'working class', and will never vote Conservative because of the memory of the 1980s. Meanwhile Labour is dominant among ethnic minorities, who are growing quickly as a share of the total population. Over the long run, I am sceptical that Labour will be able to navigate between its 'somewhere' and

⁹ The UK Gini Coefficient of income inequality in 2014 was 0.356 according to the OECD, compared with 0.297 for France and 0.289 for Germany.

¹⁰ Simon Kuper, 'Brexit Reveals Britain's Enduring Flaws', *Financial Times*, 3 August 2017. Delusions of grandeur which do not last long after contact with the outside world are certainly not unique to the UK; France and Russia are other obvious examples.

¹¹ Theresa May is also not a 'typical' slick Westminster politician in the style of David Cameron or Tony Blair. However, she struggles with the fact that she looks uncomfortable in almost every social situation.

¹² The Conservatives won 42.4% of the vote, and Labour 40.1%. Not since the early 1980s had the two parties taken a combined share over 80%.

'anywhere' voters, but for now it seems to be managing quite well. The same probably applies to the Conservatives.

Eighth, the internet has changed a lot about how campaigns are fought. Labour harnessed this very successfully during the most recent campaign, making extensive use of Facebook and Twitter to reach new voters and motivate existing ones. Stephen Bush, a journalist, also noted the importance of Labour having short, clear messages that played well to most voters' brief attention spans when it comes to politics. Mr Bush argued that 'most voters only think about politics for four minutes a week. Elections are won and lost in the news that people can't escape – the beginning of the six o'clock or the ten o'clock news, before people switch off or switch over ... The few minutes of news at the top of the hour on music radio.'¹³

Ninth, referendums are no way to make such far-reaching and categorical decisions, at least not in the UK. Irrespective of whether you think Brexit is a good or bad idea, you have to be dismayed by the quality of the debate and the startling ignorance of the issues revealed since. It is clear that many people (on both sides) didn't know what they were voting for and based their decision entirely on irrelevant factors. It is remarkable how even the most basic things about the EU – such as the difference between the Council, Commission and Parliament, or between the Single Market and Customs Union – were understood by only a small share of the population. Very few people in the UK understand what the EU is (the UK is probably not alone in this).

Real life is complicated, difficult and, ultimately for most people, apolitical. That is one of the main reasons why representative democracy is a good idea. People have a check on power, but they elect specialists to examine the issues for them. Winston Churchill famously said that the best argument against democracy is a five-minute conversation with the average voter. He was wrong, but only by one word; democracy makes sense, but referendums do not.

Tenth, UK soft power has taken quite a hit. The UK is one of the global leaders in soft power, thanks to factors such as its respected diplomatic service, the English language, London, several of its universities, pop music, the BBC (criminally underappreciated within the UK itself), the legal system, and Premier League football.¹⁴ This will remain the case, but it is clear that the last 15 months have changed outside perceptions of the country. If the UK backtracks on Brexit, it will be humiliating; if it pursues this nonsensical path, it is likely to be even more so.

¹³ Stephen Bush, 'There is one place where Labour's campaign is strong: radio', *New Statesman*, 3 May 2017.

¹⁴ In Monocle's 2016/17 Soft Power survey, the UK came fourth, behind the US, Germany and Japan. In 2012 it had come first.

Cohesion policy meets heterogeneous firms

BY LOREDANA FATTORINI, MAHDI GHODSI AND ARMANDO RUNGI¹

WHAT IS 'COHESION POLICY' AND HOW IT WORKS, IN A NUTSHELL

In parallel with the European integration, a 'cohesion policy' has been developed to offset the imbalances that could benefit some regions in the core of the continent at the expense of regions at its periphery.² In the running financial period 2014-2020, regional policy spending amounts to almost a third of the EU budget (EUR 351.8 billion out of a total EUR 1,082 billion) and is the second largest expenditure item after the Common Agriculture Policy (CAP). Its aim is to reduce regional economic disparities resulting from geographic remoteness, as different levels of prosperity and opportunity may exist both between and within Member States. In this respect, mutual support through transfers from richer to poorer regions aims to benefit economically and socially deprived regions and close the gap to the EU average. In broader terms, the overall goal is 'economic, social and territorial cohesion', which translates into boosting competitiveness and economic growth, providing people with better services, job opportunities and better quality of life, and connecting regions.

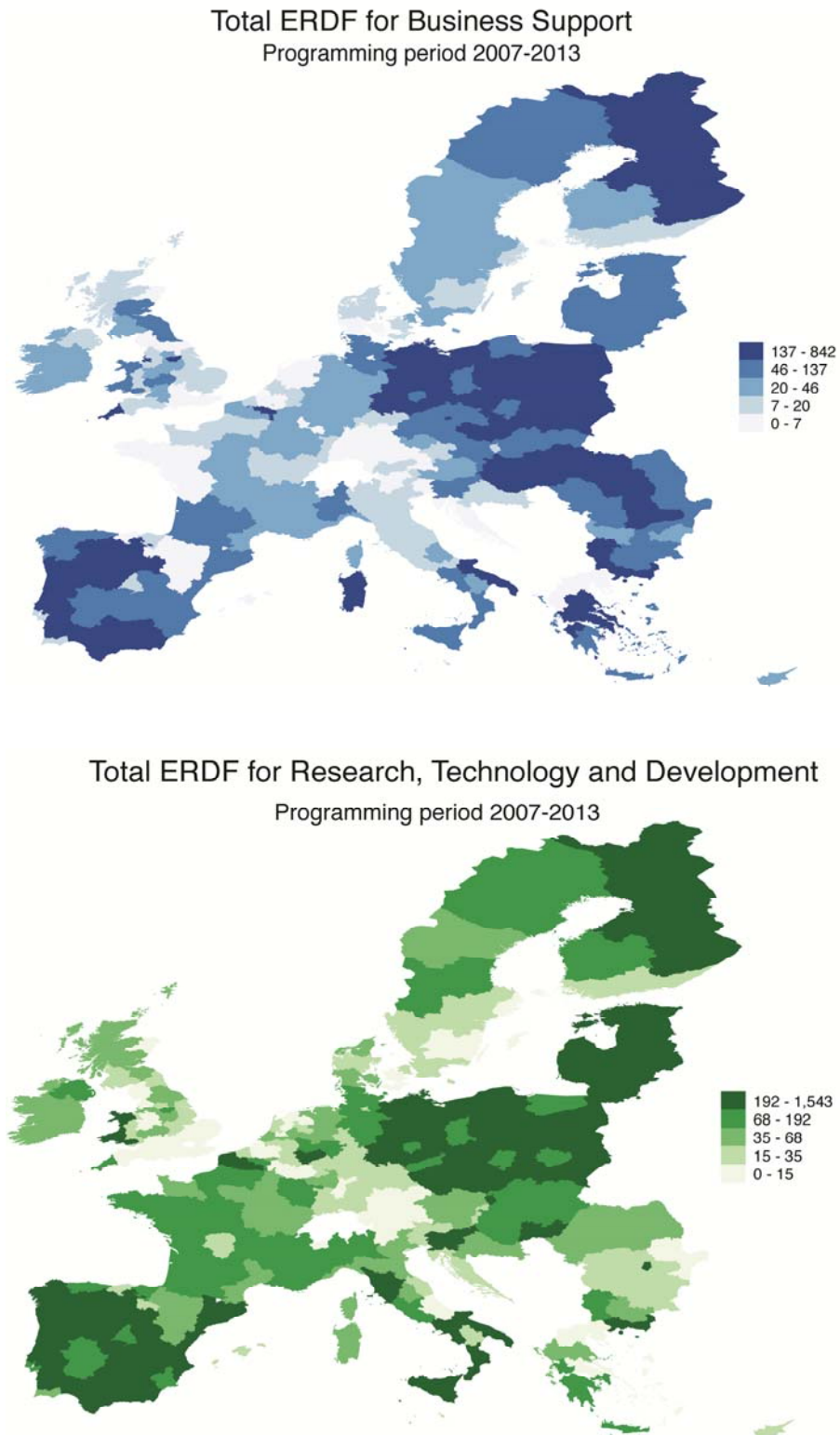
EU regional policy is implemented through a range of European Structural and Investment Funds (ESI) in a shared management system, carried out by each Member State in partnership with the European Commission. First, the Commission negotiates and approves the National Strategic Reference Framework (NSRF), setting out the main priorities for spending provided by the EU, and the Operational Programme (OP), establishing specific regions' priorities, objectives, and concrete actions to manage individual projects. Then, managing authorities in each country and/or region select, monitor, and evaluate individual projects submitted by firms, institutions or other entities. The geographical coverage and allocation of transfers are usually based on the level of GDP per capita in PPP compared to the EU average.

SUPPORTING FIRMS WITH THE EUROPEAN REGIONAL DEVELOPMENT FUND

One of the main financial tools of EU regional policy is the European Regional Development Fund (ERDF). Resources are allocated to regional operational programmes that have specified thematic priorities. For instance, the ERDF for *Business support* has been established to help firms or groups of firms, in particular SMEs, with services and investments in innovation and sustainable production. Complementary to the latter, the ERDF for *Research, Technology and Development* (RTD) stimulates research and innovation activities through investments in research centres, promoting technology transfers and cooperation between businesses and the scientific environment.

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² For details on the core-periphery model and its consequences, see the seminal work by Krugman (1991).

Figure 1 / Payments by NUTS-2 region from the European Regional Development Fund

Note: Values in EUR million.

Source: 'Geography of Expenditure – Final Report, Work Package 13', wiiw and ISMERI EUROPA, 2015, own elaboration.

Figure 1 provides insights on the distribution of payments across NUTS-2 regions for the two priorities mentioned above. The total value of projects subsidised over the whole programming period 2007-2013 by the ERDF *Business support* summed up to roughly EUR 21 billion, compared to EUR 35 billion from the ERDF *RTD*. In a regional approach, the amount of transfers for *Business support* varied from EUR 53,987 in Schwaben (Germany) to over EUR 842 million in Andalusia (Spain), with an average of about EUR 82 million per region. Financial aid for research, technology and development ranges from EUR 295,576 in South East England to more than EUR 1.5 billion in the Warsaw region (Poland). On average, every region received EUR 132 million for projects involved in innovation and development activity. In the populous and usually rich regions such as those in England, Belgium, the Netherlands, parts of Germany, Austria and Northern Italy, ERDF payments usually do not exceed 0.1% of the regional GDP over the entire period of financing. The regions with the highest ERDF payments as a share of regional GDP are Észak-Magyarország in Hungary with 0.54% (ERDF *Business support*) and Alentejo in Portugal with 0.47% (ERDF *RTD*), respectively.

DOES THE PROVISION OF EU FUNDS HAVE AN EFFECT ON THE PRODUCTIVITY OF FIRMS?

The impacts of regional policies are usually evaluated at aggregated levels, by country or by region. Among others, Boldrin and Canova (2001) found little evidence that regional policies of the EU-15 were effective in terms of promoting economic growth and fast convergence in per capita income during the period until 1997. They concluded that transfers towards poorer regions had mostly a redistribution purpose. Conversely, Cappelen et al. (2003) found a significant and positive impact of EU regional support on the growth of the European regions after the major reform of structural funds in 1988. Nevertheless, their results show that the impact of the funds was stronger in regions with a favourable industrial structure and with an emphasis put on R&D. Broadly speaking, there is no consensus regarding the outcome of regional policy, and research still focuses on aggregate statistics.

However, increasing availability of detailed firm-level data allows a more in-depth investigation of the direct and indirect impact of these policies on their immediate beneficiaries, i.e. the firms, in treated and non-treated regions. Firm-level evidence reveals some facts that are unobservable at the aggregate level, e.g. a large heterogeneity in the competitiveness of firms within the same industry. Heterogeneity of firms and varying capacity of absorption of resources by region through firms can also explain the observed heterogeneity in the regional policy effects.

In a recent joint study by wiiw and IMT Lucca, we assess the impact of the ‘cohesion policy’ on the performance of more than 500,000 firms³, after estimating their total factor productivities (TFPs) according to the most recent semi-parametric econometric technique proposed by Akerberg et al. (2015). Our purpose is to assess the short-term impact of both the *Business support* and the *Research, Technology and Development* (RTD) financing from ERDF on the firm-level TFP growth in the period 2007-2015.

³ We use firm-level balance sheet data sourced from the ORBIS database, by Bureau Van Dijk for the period 2007-2015. Thereafter, we match the regional policy data on the distribution of expenditure of the ERDF across NUTS-2 regions with the locations of firms. It is important to note that while the programme’s commitment is in the period 2007-2013, the allocation of funds is possible 2 years longer, ending in 2015 for some regions. Also, there can be some overlaps in 2007 and 2008 between these funds and the ones allocated in the previous seven-year financial period.

In the Single Market, increasing economic integration is thought to have a positive impact on productivity due to stronger competitive pressure coming from the elimination of national borders. Firms compete on an EU-wide basis and we estimate firms' productivity using elasticities computed by industries across the whole sample of EU members. Our EU-wide approach allows for a comparison of each firm with its peers within and across the national borders of the integrated market. Finally, we also control for a selection bias possibly coming from uneven missing information in some countries, due to different national regulations for financial accounts. To this end, we make our results robust to a Heckman (1979) correction.

FIRM HETEROGENEITY MEETS 'COHESION POLICY'

First, we find a positive and statistically significant impact of *RTD* by ERDF⁴ on productivity growth. In fact, the firms that seem to benefit more from the *RTD* measure are the ones on the first quartile of the productivity distribution, i.e. the less efficient in a region. By contrast, the *Business support* vehicle by ERDF has a negative and statistically significant impact on productivity growth in the short term. Also in this case, the first quartile of the firms' productivity distribution is where a stronger impact can be detected. On the one hand, our results suggest that the aim of *RTD* is on average reached, as direct investments in R&D activities seem to improve firms' overall performance, possibly thanks to developing new products and processes. On the other hand, a general *Business support*⁵ funding appears to have unintended consequences, although at this stage we cannot exclude that a positive future impact can still be revealed in the longer run, given the diverse priority themes.

When discussing policy-making in Europe, the tendency is to refer to aggregate country-, region- or industry-level data as these are easier to calculate, understand, and finally communicate (Altomonte et al., 2012). However, there are actually firms that shape the aggregate statistics through their daily activity of investing, producing, selling, and exporting. The last decade of empirical studies on firm-level data shows how no 'average' firm within an industry, a region or a country can represent the aggregates (among others, see for example Mayer and Ottaviano, 2008). Firms are heterogeneous along many dimensions and their distributions have power-law right tails.

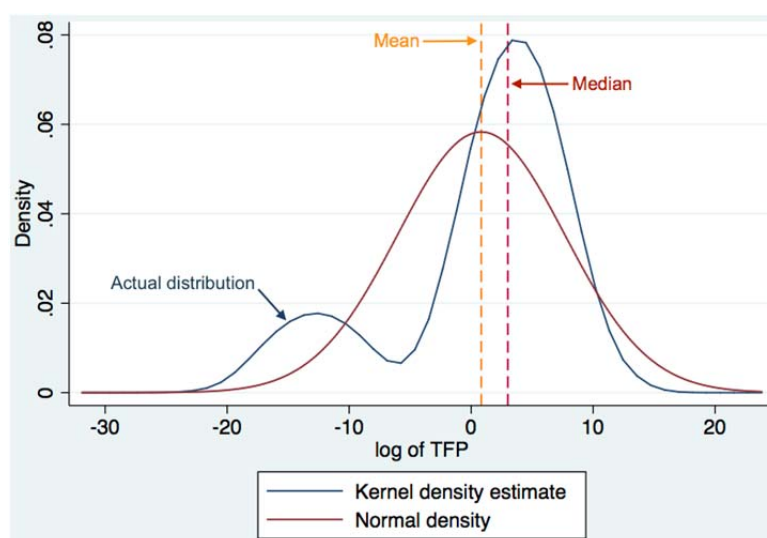
Our case is slightly more sophisticated. Take the case of Figure 2, where we compare an assumed normal (Gaussian) distribution with the same average of the actual distribution that we find for the TFP of EU firms. At first glance, we observe an asymmetric bimodal distribution with very few firms. In other words, there are two different sets of firms. On the left side of the actual TFP distribution, there is a bunch of firms significantly less productive than the ones on the right side of the distribution, yet active on the market and far from going bankrupt, like in a world apart. Such a polarisation in productivity on a

⁴ The *RTD*'s priority themes for the period 2007-2013, laid down in Commission Regulation (EC) No 1828/2006, were: 01. R&TD activities in research centres; 02. R&TD infrastructure and centres of competence in a specific technology; 03. Technology transfer and improvement of cooperation networks between small and medium-sized businesses (SMEs), between these and other businesses and universities, post-secondary education establishments of all kinds, regional authorities, research centres and scientific and technological poles; 04. Assistance to R&TD, particularly in SMEs; 07. Investment in firms directly linked to research and innovation; 09. Other measures to stimulate research and innovation and entrepreneurship in SMEs.

⁵ The *Business support*'s priority themes for the period 2007-2013, laid down in Commission Regulation (EC) No 1828/2006, were: 05. Advanced support services for firms and groups of firms; 06. Assistance to SMEs for the promotion of environmentally-friendly products and production processes; 08. Other investment in firms; 63. Design and dissemination of innovative and more productive ways of organising work.

continental level is unexplained, and its origin is not the object of study of the present contribution. In the context of our exercise, we note that the average effect of ERDF financial support on firms' productivity growth could deliver a distorted picture of what really happens on the field.

Figure 2 / Total factor productivity distribution of EU manufacturing firms



Source: Own elaboration.

Therefore, we explore the robustness of the main findings across the percentiles of the distribution of TFP. What we observe is that the strongest impact of ERDF is for the median firm, positive for *RTD* and negative for *Business support*, while at the 99th percentile both coefficients decrease and lose significance. That is, already efficient firms are not affected by 'cohesion policy', whereas low-performing firms seem to experience a downturn in productivity in regions where a significant share of funds is allocated to the category *Business support*. By contrast, improvements are observed in the performance of firms with a low initial productivity level when we focus on the share of spending according to the *RTD* criteria.

CONCLUSION

The joint wiiw-IMT study contributes to the academic and political debate by assessing the impact of the EU's 'cohesion policy' and of its tools on the performance of firms, which from the bottom shape the macroeconomic dynamics of the European regions. Results show that financing of 'cohesion policy' (ERDF) aimed at direct investments in R&D correlates with improvement of firms' productivity in a region. Conversely, funding designed at overall *Business support* correlates with negative productivity growth rates. In both cases, we registered an asymmetric impact along the firms' productivity distributions. Eventually, the study showed that a consideration of the heterogeneous characteristics of the potential beneficiaries of EU funds across regions is of paramount importance for the design of effective and efficient policies of regional convergence.

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On the use of different public innovation commercialisation measures in the EU-28

BY SANDRA M. LEITNER

INTRODUCTION

The commercialisation of technological improvements is key to the process of economic development. Only if a new product, service or process successfully meets the test of the market, is accepted by consumers and users, and starts generating income and profits which compensate for the investment made during the R&D phase, jobs and wealth can be created and competitiveness improved. The importance of commercialisation is also emphasised by Schumpeter (1934) who argues that technical inventions 'not carried into practice ... are economically irrelevant' (p. 88).

However, the process of commercialisation is highly complex and multifaceted, characterised by various interrelated stages (see, e.g., Jolly, 1997) which span production, marketing, distribution, sales and customer support activities. The path to successful commercialisation can be long and uncertain and paved with numerous technical, institutional, structural, financial, administrative and legal obstacles (Nassiri-Koopaei et al., 2014; O'Brien et al., 2004; Rosa and Rose, 2007; EC, 2014). Consequently, many a time, commercialisation success of inventions is limited.

In view of the above, the issue of technology commercialisation has become a major policy concern and an important policy agenda in many economies. In Europe, this was further fuelled by the heated debates around the perceived 'European Paradox' (European Commission, 1995) which sees Europe as having excellent scientific performance but as underperforming in terms of converting scientific success into marketable innovations.¹ As a consequence, the past two decades saw a proliferation of commercialisation policy measures², the mobilisation of substantial funds, legislative and regulatory reforms and an increase in the formation of new intermediary institutions (Szalavetz, 2015).

PUBLIC INNOVATION COMMERCIALISATION MEASURES – A CHARACTERISATION

In view of the significant role of commercialisation policy measures in the field of financial and non-financial public innovation, we take a closer look at their importance, on the one hand, and on the determinants of their use by European companies, on the other.

¹ For a confirmation of its existence see, e.g., IUC (2011); for a rebuttal of such a paradox see, e.g., Dosi et al. (2006, 2009); for an overview and more detailed discussion see, e.g., Fragkandreas (2015).

² Such policy measures are predominantly aimed at facilitating technology transfer and the commercialisation of the results of scientific research, stimulating industry-academia collaborations and firms' external knowledge exploitation and fostering new technology-based entrepreneurship (Szalavetz, 2015).

For this purpose, a large sample of company-level data is used that was gathered by the Flash Eurobarometer No 394 survey³ on 'The role of public support in the commercialization of innovations' for all EU-28 Member States (plus Switzerland and the United States). In particular, seven different measures are analysed, namely support for:

- (i) meeting regulations or standards,
- (ii) developing a marketing plan,
- (iii) developing a prototype,
- (iv) training staff in how to promote innovative goods or services,
- (v) applying for or managing intellectual property rights,
- (vi) market-testing a product or service before launch, and
- (vii) selling in export markets.

Table 1 / Share of companies that received public financial or non-financial support for the commercialisation of innovative goods or services – EU-28 (%)

Policy initiative	Total	Goods	Services
Meeting regulations or standards	3.13%	3.45%	3.45%
Developing a marketing plan	2.46%	2.19%	2.77%
Developing a prototype	2.21%	2.51%	2.11%
Training staff in how to promote innovative goods and services	5.83%	6.23%	6.32%
Applying for or managing intellectual property rights	0.97%	1.04%	1.05%
Market-testing a product or service before launch	1.84%	1.98%	2.13%
Selling in export markets	2.05%	2.44%	1.70%
None of the above	87.61%	86.97%	87.48%

Note: Weighted averages are reported.

Source: Flash Eurobarometer No. 394, own calculations.

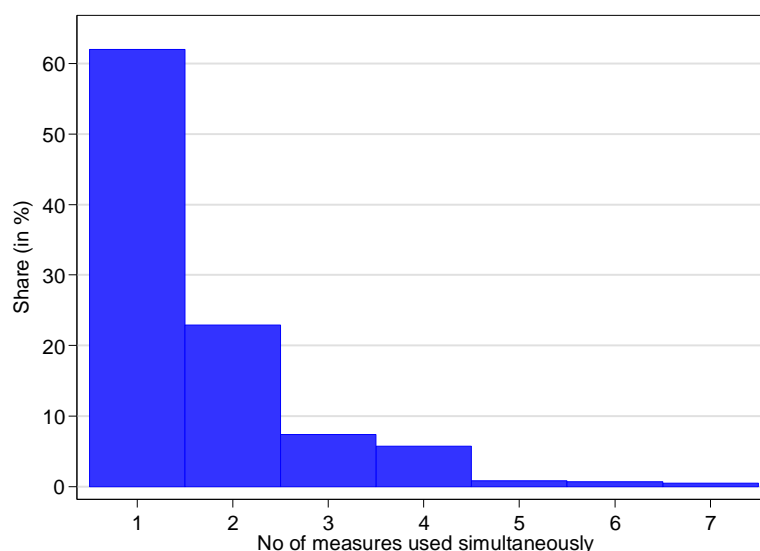
Our analysis found that European innovators rarely make use of the seven considered public financial and non-financial support measures to commercialise innovative goods or services (only 12% of all innovative companies) (see Table 1). However, those measures that are used are of varying importance and used to different degrees. In particular, *support for training staff* in how to promote innovative goods or services was the most widely used public commercialisation measure and used by around 6% of all innovative companies in the sample. Both support for *meeting regulations or standards* and *developing a marketing plan* were the next two most important public commercialisation measures, used by around 3% of innovative EU companies each. Furthermore, support for *developing a prototype*, for *selling in export markets* or for *market-testing a product or service before launch* was used by around 2% of innovative companies in the sample, each. Finally, support for *applying for or managing intellectual property rights* was the least frequently used measure and only availed of by around 1% of innovative companies in the sample. These figures were generally similar for both product and services

³ In general, Flash Eurobarometers are small-scale, European cross-national surveys based on ad hoc telephone interviews conducted on behalf of the European Commission to collect information on specific topics. The Flash Eurobarometer No 394 survey was conducted between February 2012 and February 2014 on behalf of the European Commission, DG Enterprise and Industry, among general managers, financial directors or a significant owner of companies with one or more employees in Manufacturing (NACE C), Retail (NACE G), Services (NACE H, I, J, K, L, M, N and R) and Industry (NACE D, E and F). Samples are stratified by size (following 4 different size groups: 1-9 employees, 10-49 employees, 50-249 employees and 250 employees or more) and sector of activity (Manufacturing, Retail, Services and Industry).

innovations, though services innovators less intensely use public support for the development of a prototype and for selling in export markets.

Figure 1 presents the breakdown of those EU-28 companies using public (financial or non-financial) commercialisation measures, by the number of measures used. It demonstrates that the majority of such companies (61%) used a single measure only. Furthermore, around 24% used 2 measures simultaneously, another 7% and 5% used 3 and 4 measures simultaneously, while only 1% each used 5, 6 or even 7 measures in parallel. This suggests that the seven public commercialisation measures are not concentrated in a few companies only but are used by many different innovative companies to different degrees.

Figure 1 / Share of EU-28 companies using public commercialisation measures, by the number of measures used simultaneously



Source: Flash Eurobarometer No. 394, own calculations.

DETERMINANTS OF THE USE OF DIFFERENT PUBLIC INNOVATION COMMERCIALISATION MEASURES

In addition, we also conducted an econometric analysis⁴ of the use of the seven individual public innovation commercialisation measures. The analysis demonstrates that this depends on different factors. In particular:

- › *Larger companies* are generally more likely to use public commercialisation programmes (except for support for the development of a marketing plan and of selling in export markets). The underutilisation of such public programmes by small firms may be the result of entry barriers when applying for public innovation support (Huergo et al., 2015). Such applications entail costs which can more easily be shouldered by larger companies.

⁴ In Leitner (forthcoming).

- › *New entrants* are more likely to receive support for meeting regulations or standards but less likely to receive support for training staff in how to promote innovative goods or services and for selling in export markets.
- › As expected, and consistent across all commercialisation support measures, participation is more likely among *companies which carry out R&D* (either in-house or by subcontracting) relative to non-R&D innovators of products or services.
- › The use of any of the seven commercialisation initiatives is consistently more likely among *companies that collaborated* with either competitors, partner or client companies or public sector organisations for the marketing, distribution or promotion of innovative goods or services. This finding suggests that innovators make use of a broader mix of strategies to commercialise their innovative goods or services, both in terms of the particular type of support measure (i.e., financial and non-financial support versus collaboration) as well as the source (public sector versus private sector).
- › It also matters whether a company has sold off part of its business or has bought another company. In particular:
 - *Innovative companies that sold off part of their business* are less likely to avail of public commercialisation programmes in support of training staff in how to promote innovative goods or services. This may be the result of the loss of personnel in conjunction with the scaling-down of business activities.
 - In contrast, *innovative companies that bought another company* are more likely to make use of programmes that support selling in export markets, which could indicate that expanding and acquiring companies, whose product range and geographical outreach may have increased as a result, are more likely to start exporting and to need public support to sell in export markets.
- › *Companies which face stronger competition* in their main markets more likely make use of support for selling in export markets. This finding may reflect that competition is generally fiercer in international markets, which necessitates the additional support of (financial and non-financial) public measures to commercialise innovative goods or services.

CONCLUSIONS

We use company-level data from the Flash Eurobarometer No 394 survey on '*The role of public support in the commercialization of innovations*' for all EU-28 Member States which provides information on the use of seven different innovation commercialisation measures. In summary, the analysis shows that only a small proportion of European product and services innovators actually make use of these measures, for reasons that go beyond the scope of the survey. Additionally, almost all those European product and services innovators which do make use of public commercialisation measures only use at most two measures simultaneously, which suggests that public commercialisation measures are not concentrated in the hands of a few lucky ones.

Furthermore, we demonstrate that the use of the seven individual public innovation commercialisation measures differs across companies and depends on general company characteristics, such as size or age, a company's cooperation strategy in other areas, the acquisition of another and the sale of its own business, or its competitive environment. What is worrying in this context is the seeming disadvantage of smaller companies which may be the consequence either of non-negligible cost-induced entry barriers faced by smaller companies or of a more systematic discrimination of smaller companies by public support organisations.

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Choosing the right partner: R&D cooperations and innovation success in CESEE and CIS economies¹

BY SANDRA M. LEITNER

INTRODUCTION

As a result of swifter globalisation, quickly growing product and technology complexity and higher innovation risks and costs, cooperative activities of firms on R&D and innovation have increased substantially in the course of the last couple of decades. From the perspective of the individual firm, R&D cooperations are beneficial as they help compensate for deficiencies in internal resources and competencies, reduce and share the risks and/or costs associated with innovations, get better access to markets or realise economies of scale and scope in R&D activities. Moreover, they also spur innovative performance.

R&D cooperations have also been on the rise in transition and emerging economies – particularly in China – which is important given the pivotal role that is assigned to R&D cooperations as a vehicle for technology transfer, technological learning and upgrading. All that subsequently accelerates catching-up processes with more advanced economies (Becker and Dietz, 2004; Zeng et al., 2010).

R&D COOPERATIONS IN TRANSITION AND EMERGING ECONOMIES

However, the particular situation of transition and emerging economies can prove difficult not only for the realisation of various R&D cooperations in the first place but also for their technical and commercial success.

First, since the number of high-technology firms is still rather low in transition and emerging economies, finding a suitable *domestic* cooperation partner may turn out to be more difficult than in developed countries and is mostly restricted to *public research institutes and universities*, which have superior technological capabilities in comparison to other domestic firms (Manolova et al., 2010).

Second, despite non-negligible improvements over the last decades, science and technological capabilities of firms as well as their absorptive capacities are still comparatively low (Jindra et al., 2015; Radošević, 1993). This makes it more difficult in transition and emerging economies not only to forge new collaborations with *foreign* partners – particularly those in developed countries – that lead to important innovations (Branstetter et al., 2015) but also to learn from and translate such collaborations into new and profitable innovations.

¹ For further details, see Leitner (2016).

Third, despite recent improvements, institutional and business environments in transition and emerging economies are still of lower quality than in developed countries. This stymies own innovative efforts (Habiyaemye and Raymond, 2013; Sharma, 2007; Lin et al., 2010) and success (Krammer, 2009) and lowers the returns innovators can reap from their innovations (Nguyen and Jaramillo, 2014). Weak legal protection, difficult to enforce (intellectual) property rights and corruption further hamper the chances in transition and emerging economies to start R&D collaborations with either *domestic* or *foreign* partners (Lhuillery and Pfister, 2009) and to fully profit from the associated transfer of knowledge and technology as a result of the lower incentive to share information and knowledge. In this respect, uncertain intellectual property rights appear as particularly harmful for R&D collaborations with *competitors* (Czarnitzki et al., 2015) or *universities* (Veugelers and Cassiman, 2005).

EMPIRICAL ANALYSIS

Our empirical analysis of patterns of R&D cooperations uses the 2013wave of the Business Environment and Enterprise Performance Survey (BEEPS). It focuses on Emerging Europe and compares the more advanced and institutionally superior Central and East European EU Member States (EU-CEE)² with the group of less advanced and institutionally lagging Western Balkan and CIS transition economies (non-EU)³ to shed light on the role of different cooperative arrangements with

- (i) domestic suppliers,
- (ii) domestic client firms,
- (iii) foreign suppliers,
- (iv) foreign client firms, and
- (v) external academic or research institutes for product innovators' success.

Innovation success is measured twofold:

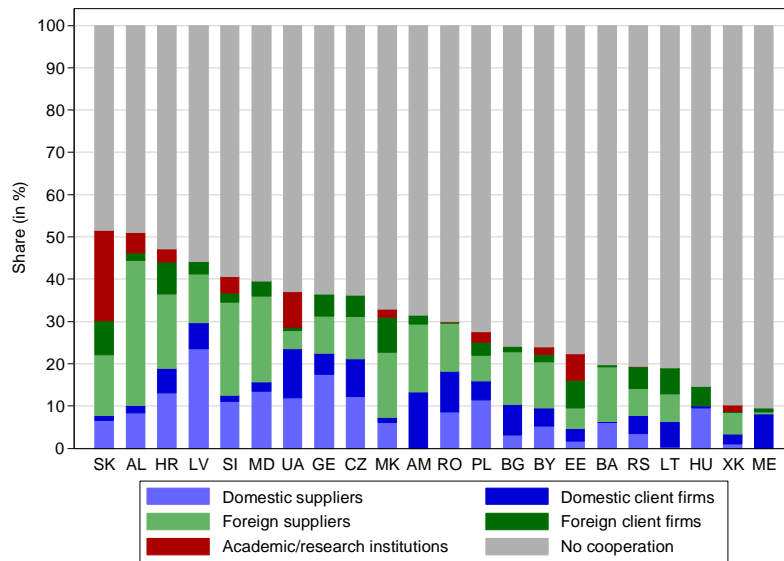
- (1) by annual average sales per new or significantly improved product (as a proxy for commercial success of R&D collaborations);
- (2) by the probability of applying for a patent (as a proxy for technical success of R&D collaborations).

Generally, the descriptive part of the analysis brings out some interesting commonalities but also differences across countries as to the prevalence and importance of different R&D cooperation strategies (see Figure 1). First, it shows that the majority of product innovators do not cooperate at all to develop new or significantly improved products. Second, the importance of the five different cooperation strategies differs widely across countries analysed. Third, it highlights that cooperations with foreign partners are of greater importance than those with domestic partners in the majority of countries; this can be seen as a result of the quickly progressing vertical specialisation and the region's rapid trade integration, particularly of the EU-CEE, with the rest of Europe and enhanced participation in global value chains (GVCs) (Leitner and Stehrer, 2014) which also facilitates and encourages R&D cooperations.

² The group of EU-CEE comprises Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovenia and Slovakia.

³ The group of non-EU countries comprises Albania, Bosnia and Herzegovina, FYR Macedonia, Montenegro, Kosovo and Serbia as well as Armenia, Belarus, Georgia, Moldova and Ukraine.

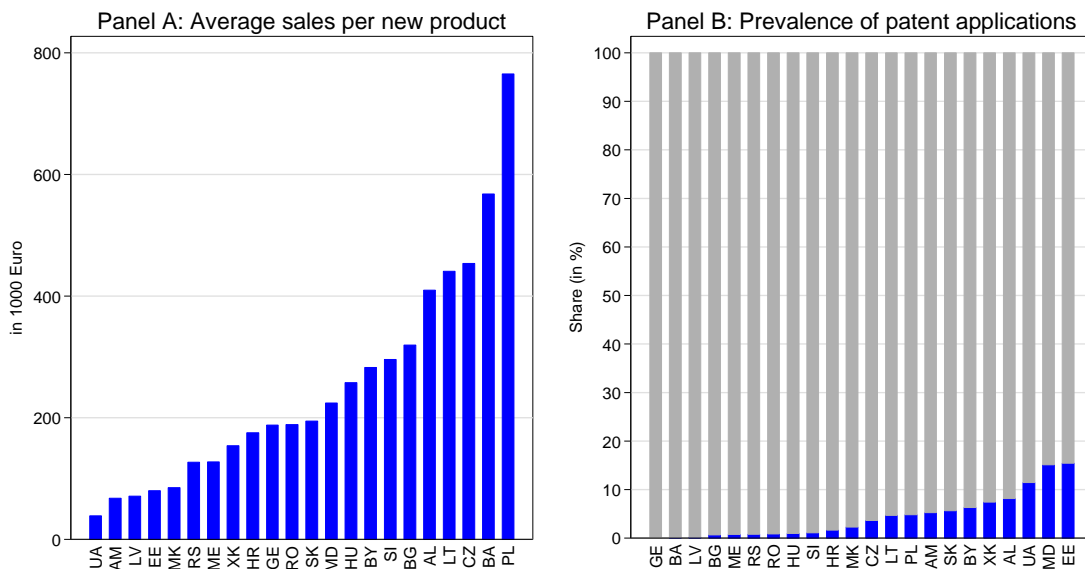
Figure 1 / Prevalence of different R&D cooperation strategies by country



Note: The following country codes are used: AL (Albania), AM (Armenia), BA (Bosnia and Herzegovina), BG (Bulgaria), CZ (Czech Republic), EE (Estonia), GE (Georgia), HR (Croatia), HU (Hungary), LT (Lithuania), LV (Latvia), MD (Moldova), ME (Montenegro), MK (FYR Macedonia), PL (Poland), RO (Romania), RS (Serbia), SI (Slovenia), SK (Slovakia), UA (Ukraine) and XK (Kosovo).

Source: BEEPS, own calculations.

Figure 2 / Annual average sales per new or significantly improved product (Panel A) and the share of product innovators that applied for a patent (Panel B)



Note: In Panel B, the blue part of each column refers to the share of firms which applied for a patent during the previous three years. For the key to country codes used see the Note to Figure 1.

Source: BEEPS, own calculations.

Furthermore, there are also important differences across countries with respect to the two measures of innovation success (see Figure 2). In particular, Panel A in Figure 2 shows annual average sales per

new or significantly improved product as a measure of commercial success of innovations. It points to rather strong heterogeneity across countries and emphasises that annual average sales per new product were particularly high in Poland, followed by Bosnia and Herzegovina and the Czech Republic. Moreover, it shows that in a large group of countries, annual sales from product innovations were below EUR 200,000 on average but particularly low in Ukraine, followed by Armenia, Latvia and Estonia.

Panel B in Figure 2 depicts the frequency of patent applications by country (as captured by the blue part of each column) as a measure of technical success of innovations. It demonstrates that, in order to protect intellectual property and innovations, patenting of new products or services is hardly used in the countries under consideration. With between 10 and 15 per cent only, the share of product innovators that applied for patents was highest in Estonia, Moldova and Ukraine. In contrast, with less than 1 per cent of product innovators applying for patents, Bosnia and Herzegovina, Latvia, Bulgaria, Montenegro, Serbia, Romania and Hungary were at the bottom of the league.

In addition, the econometric analysis⁴ demonstrates that the choice of R&D cooperation partner is pivotal to the commercial and technical success of innovations, with interesting differences across country groups. In particular, as concerns **commercial success**:

- › Particularly for the group of EU-CEE countries, only *R&D cooperations with foreign suppliers* help product innovators to reap significantly higher returns from their innovative activities. However, even that effect is rather moderate: on average, annual sales per new product are only around 0.4 per cent higher as a result of R&D cooperations with foreign suppliers.

Similarly, as concerns **patenting activities**:

- › Product innovators in non-EU countries are more likely to patent if they engage in R&D cooperations with either *domestic suppliers* or, more importantly so, in cooperations with *external academic or research institutions*. The latter is of particular importance due to easier access to superior science research capabilities which firms in this region typically lack.
- › In contrast, product innovators in both EU-CEE and non-EU countries engaged in cooperations with *foreign suppliers* show a significantly lower probability of patenting. This may suggest that patenting predominantly takes place abroad in the home country of the main foreign inventor as a result of, for instance, little trust in the patent system in EU-CEE and non-EU countries.

CONCLUSIONS

Summing up, our analysis demonstrates that while R&D cooperations are still a rather rare phenomenon in Emerging Europe, those firms that cooperate on R&D and innovation generally more strongly rely on foreign partners. Furthermore, the choice of cooperation partner is pivotal to commercial success and the probability of patenting. Effects, however, differ across country groups considered. In particular, while cooperations with foreign suppliers are conducive to commercial success (particularly for EU-CEE countries), they prove obstructive to patenting (for both country samples). Moreover, cooperations with

⁴ See Leitner (2016) for a more detailed discussion.

domestic suppliers or external academic or research institutions are beneficial and help to foster patenting activities (for non-EU countries only).

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The editors recommend for further reading*

Why the Phillips curve apparently no longer holds:

https://www.omfif.org/analysis/commentary/2017/august/filling-the-phillips-gap/?utm_source=OMFIFupdate

Why you don't need rational decision-makers for a useful economic theory that makes good predictions:

<http://www.fresheconomicthinking.com/2017/08/a-random-physicist-takes-on-economics.html?m=1>

On monetary and fiscal policy: <http://economistsview.typepad.com/economistsview/2017/08/new-conditions-for-monetary-and-fiscal-policy.html>

Technological change and the future of cash:

<http://www.suerf.org/policynotes/1253/technological-change-and-the-future-of-cash/html>

The cult of statistical significance: <http://www.deirdremccloskey.com/docs/jsm.pdf>

Our broken economy, in one simple chart:

https://www.nytimes.com/interactive/2017/08/07/opinion/leonhardt-income-inequality.html?_r=0

Euro area recovery: <http://cepr.org/sites/default/files/EABCDC-Findings-August-2017.pdf>

It is hard to reform France: <https://www.ft.com/content/e93ef49e-8747-11e7-8bb1-5ba57d47eff7>

On income and wealth inequality in Russia: <http://gabriel-zucman.eu/files/NPZ2017.pdf>

Gas and geopolitics: <https://www.the-american-interest.com/2017/08/18/golden-age-natural-gas/>

Brexit:

How to have one's cake and eat it: <http://www.politico.eu/article/uks-brexit-plan-more-of-the-same-please/>

As seen from Brussels:

<http://www.politico.eu/article/brussels-to-uk-give-us-clarity-on-divorce-bill-or-brexit-talks-will-stall/>

Hopes for Brexit and Trump to be gone:

<https://mainlymacro.blogspot.co.at/2017/08/what-does-respecting-referendum-result.html>

UK position paper on customs arrangement with the EU:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/637748/Future_customs_arrangements_-_a_future_partnership_paper.pdf

Ireland position paper:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/638135/6.3703_DEXEU_Northern_Ireland_and_Ireland_INTERACTIVE.pdf

Trade and fall of wages due to Brexit:

<https://mainlymacro.blogspot.co.at/2017/08/why-brexit-has-led-to-falling-real-wages.html>

On negotiations progressing very slowly if at all: <http://www.bbc.com/news/uk-41119870>;

<http://www.politico.eu/article/after-three-rounds-of-brexit-talks-a-gaping-divide/>

Stay in the customs union say MPs: <http://www.politico.eu/article/mps-warn-theresa-may-over-customs-union/>

* Recommendation is not necessarily endorsement. The editors are grateful to Vladimir Gligorov, Richard Grieveson, Philipp Heimberger and Mario Holzner for valuable contributions to this section.

Monthly and quarterly statistics for Central, East and Southeast Europe

Starting from **September 2017** the Statistical Annex has acquired a new look with a modified set of graphs. Additional indicators and altered combinations of time series offer a more comprehensive picture of short-term economic trends, and their identification becomes easier and faster.

The monthly and quarterly statistics cover **20 countries** of the CESEE region. The graphical form of presenting statistical data is intended to facilitate the **analysis of short-term macroeconomic developments**. The set of indicators captures trends in the real and monetary sectors of the economy, in the labour market, as well as in the financial and external sectors.

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

Conventional signs and abbreviations used

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

The following national currencies are used:

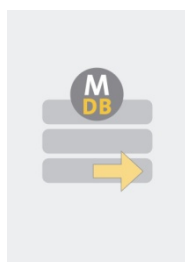
ALL	Albanian lek	HUF	Hungarian forint	RSD	Serbian dinar
BAM	Bosnian convertible mark	KZT	Kazakh tenge	RUB	Russian rouble
BGN	Bulgarian lev	MKD	Macedonian denar	TRY	Turkish lira
CZK	Czech koruna	PLN	Polish zloty	UAH	Ukrainian hryvnia
HRK	Croatian kuna	RON	Romanian leu		
EUR	euro – national currency for Montenegro and for the euro-area countries Estonia (from January 2011, euro-fixed before), Latvia (from January 2014, euro-fixed before), Lithuania (from January 2015, euro-fixed before), Slovakia (from January 2009, euro-fixed before) and Slovenia (from January 2007, euro-fixed before).				

Sources of statistical data: Eurostat, National Statistical Offices, Central Banks and Public Employment Services; wiiw estimates.

Online database access



wiiw Annual Database



wiiw Monthly Database



wiiw FDI Database

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

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

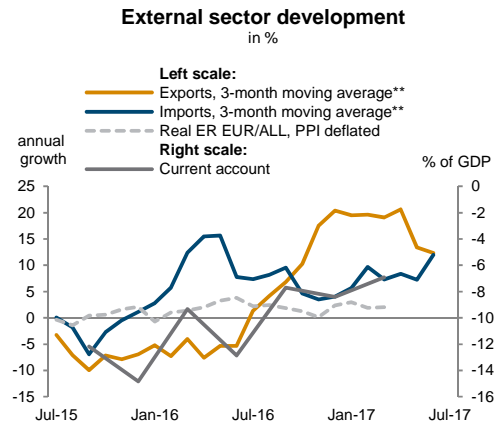
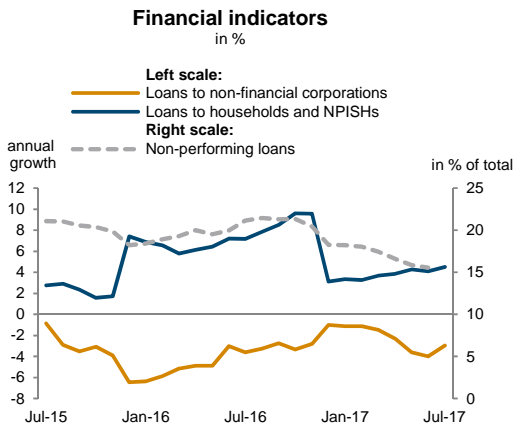
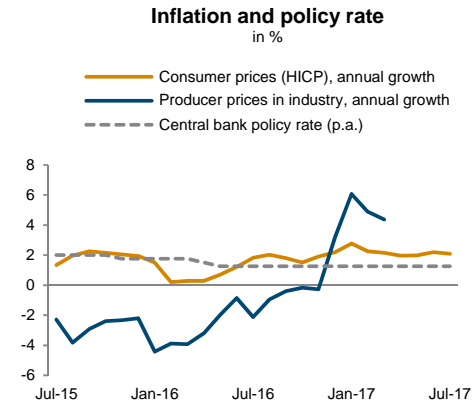
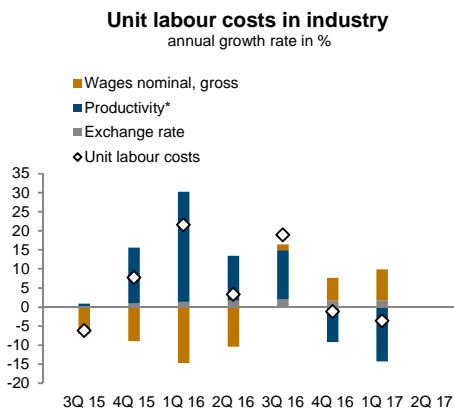
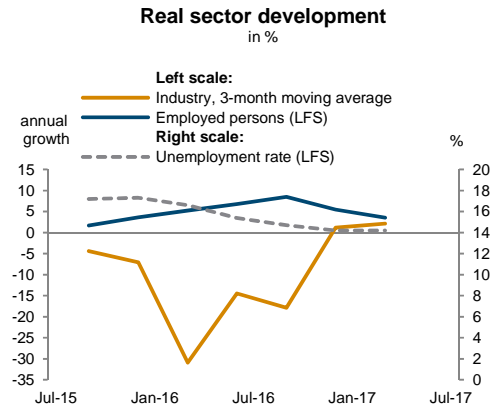
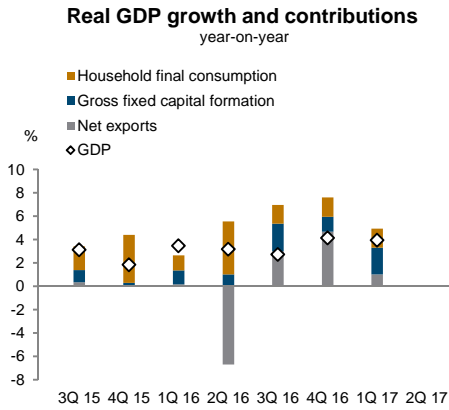
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Albania



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

**EUR based.

Source: wiiw Monthly Database incorporating Eurostat and national statistics.

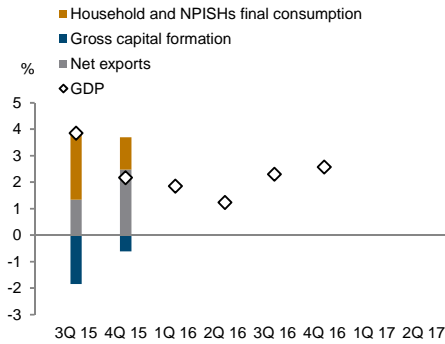
Baseline data, country-specific definitions and methodological breaks in time series are available under:

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

Bosnia and Herzegovina

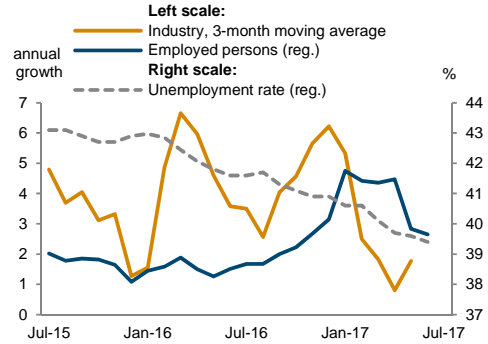
Real GDP growth and contributions

year-on-year



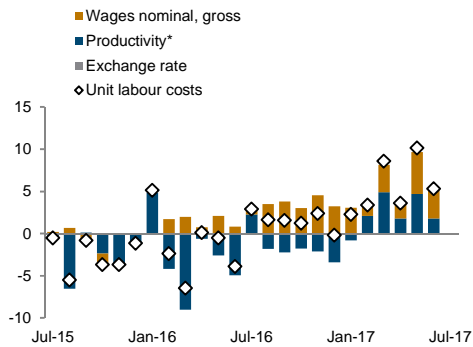
Real sector development

in %



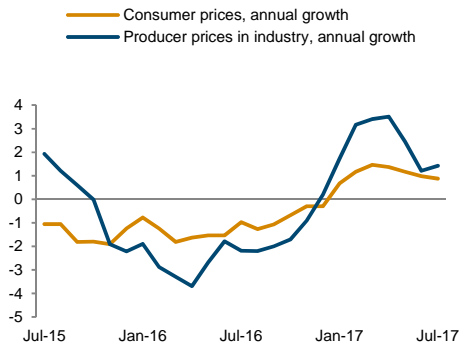
Unit labour costs in industry

annual growth rate in %



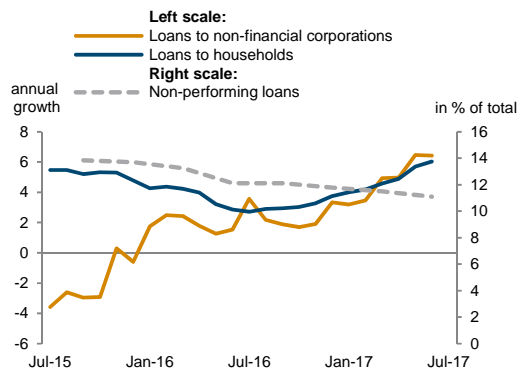
Inflation

in %



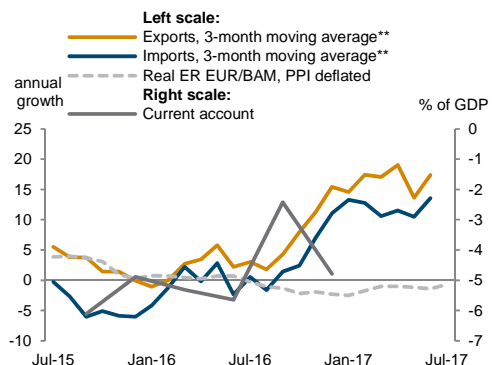
Financial indicators

in %



External sector development

in %



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

**EUR based.

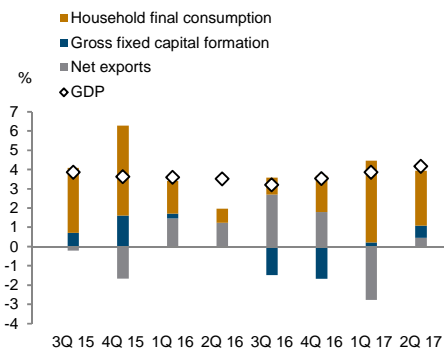
Source: wiiw Monthly Database incorporating Eurostat and national statistics.

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

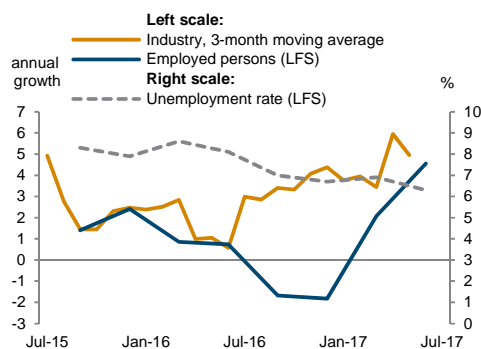
<https://data.wiiw.ac.at/monthly-database.html>

Bulgaria

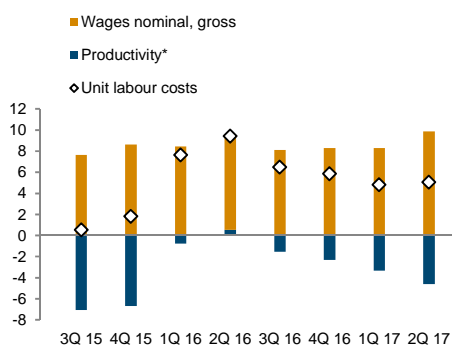
Real GDP growth and contributions
year-on-year



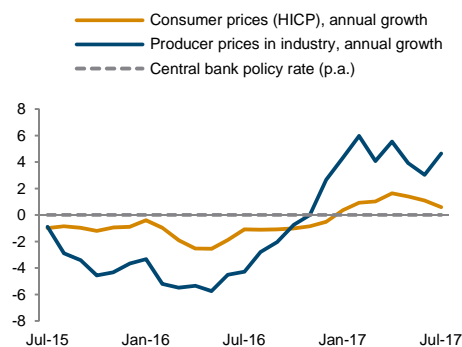
Real sector development
in %



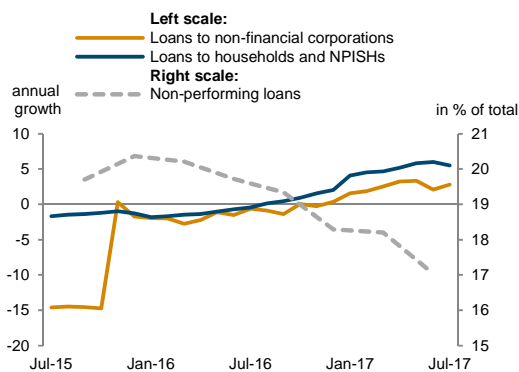
Unit labour costs in industry
annual growth rate in %



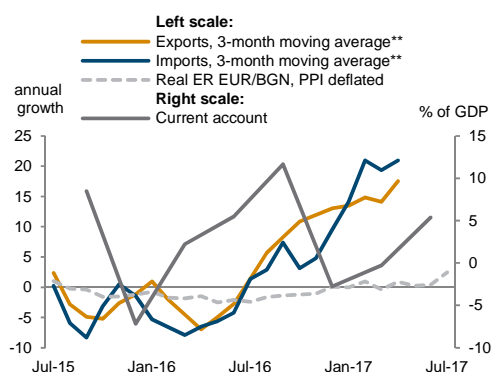
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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**EUR based.

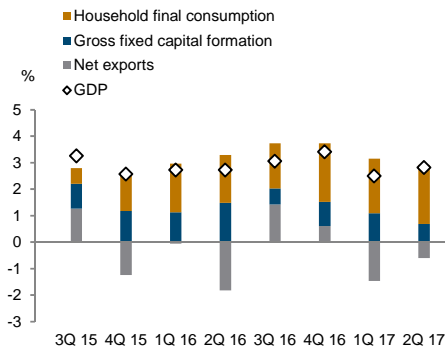
Source: wiiw Monthly Database incorporating Eurostat and national statistics.

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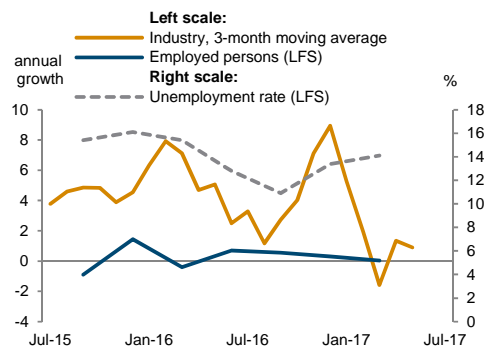
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Croatia

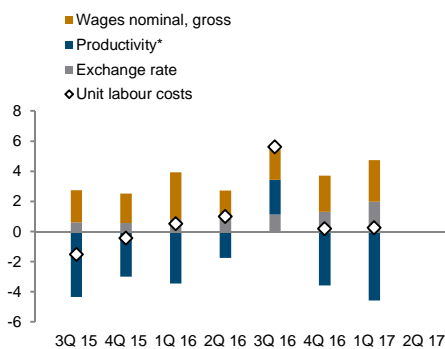
Real GDP growth and contributions
year-on-year



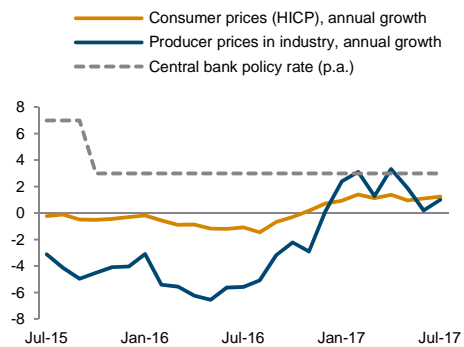
Real sector development
in %



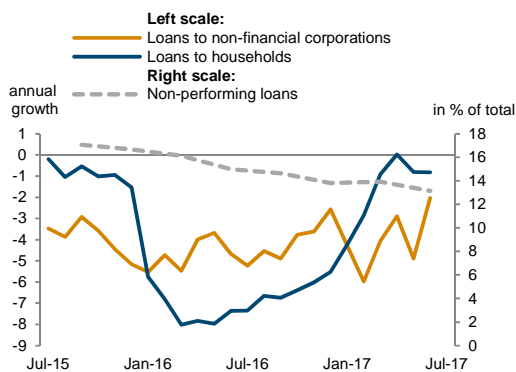
Unit labour costs in industry
annual growth rate in %



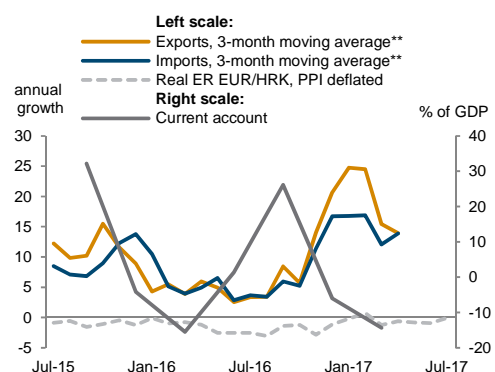
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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**EUR based.

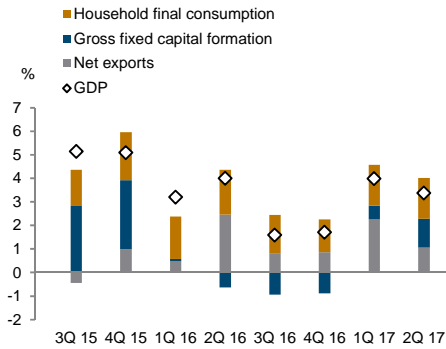
Source: wiiw Monthly Database incorporating Eurostat and national statistics.

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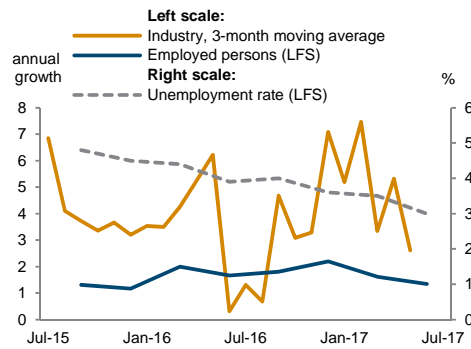
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Czech Republic

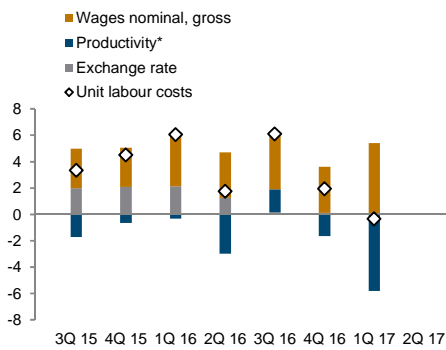
Real GDP growth and contributions
year-on-year



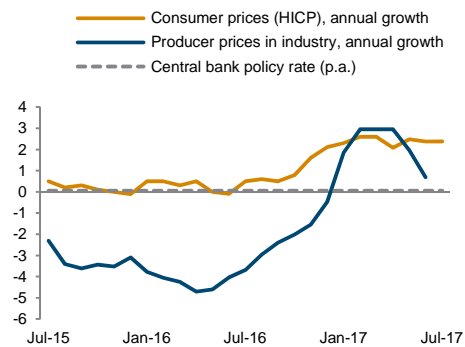
Real sector development
in %



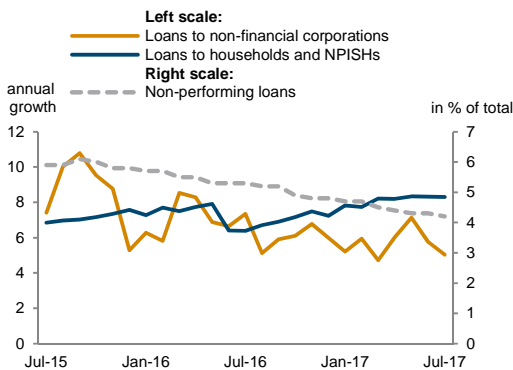
Unit labour costs in industry
annual growth rate in %



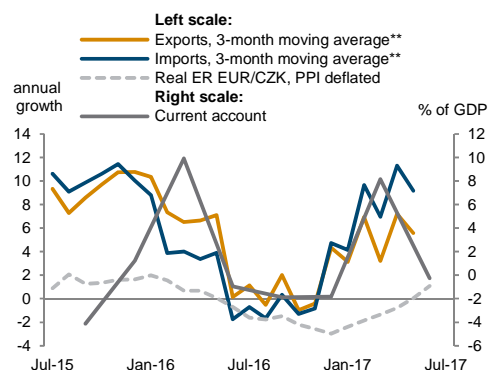
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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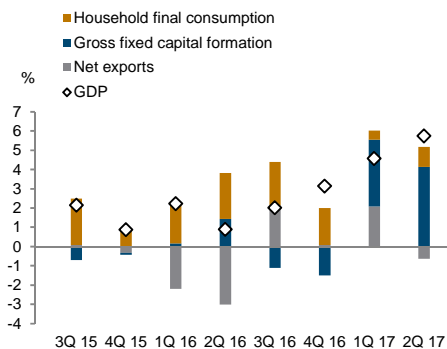
Source: wiiw Monthly Database incorporating Eurostat and national statistics.

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

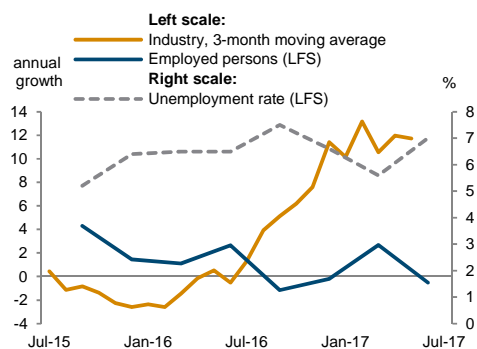
<https://data.wiiw.ac.at/monthly-database.html>

Estonia

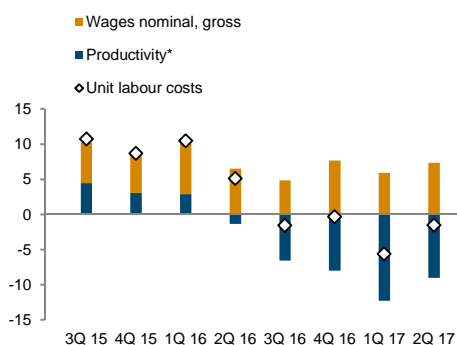
Real GDP growth and contributions
year-on-year



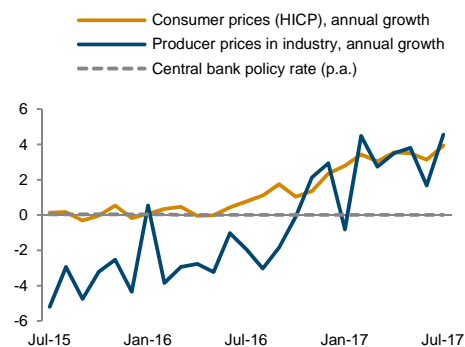
Real sector development
in %



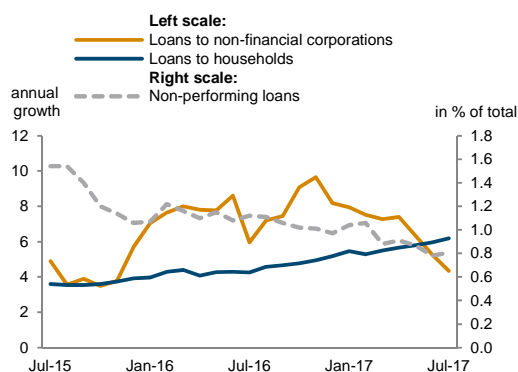
Unit labour costs in industry
annual growth rate in %



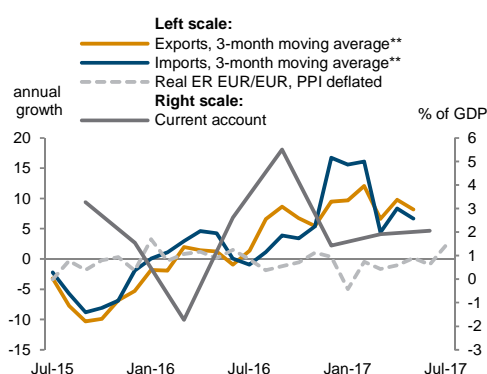
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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**EUR based.

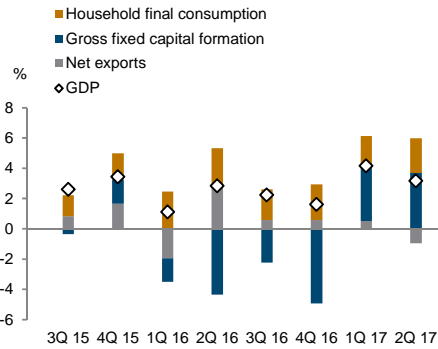
Source: wiiw Monthly Database incorporating Eurostat and national statistics.

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

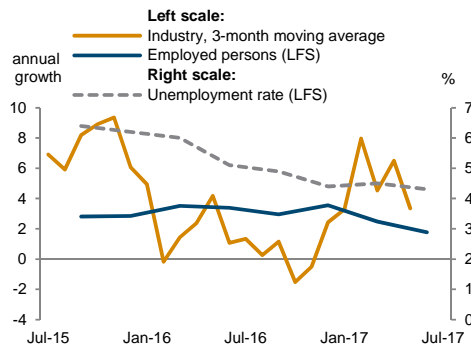
<https://data.wiiw.ac.at/monthly-database.html>

Hungary

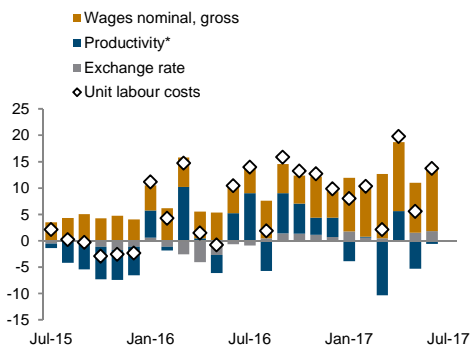
Real GDP growth and contributions
year-on-year



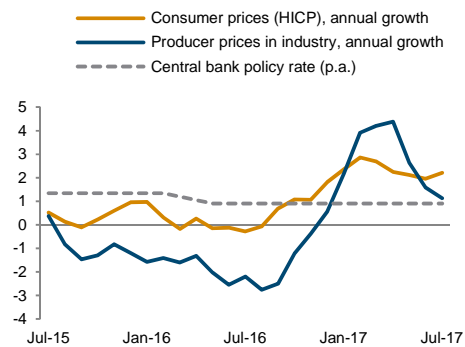
Real sector development
in %



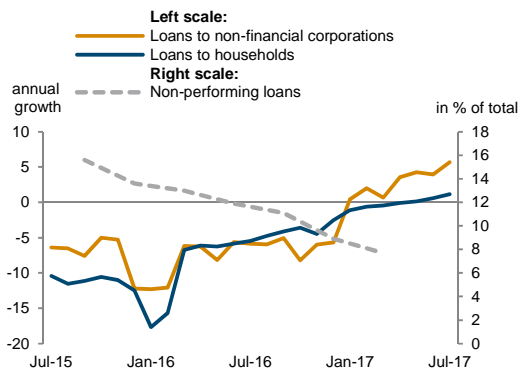
Unit labour costs in industry
annual growth rate in %



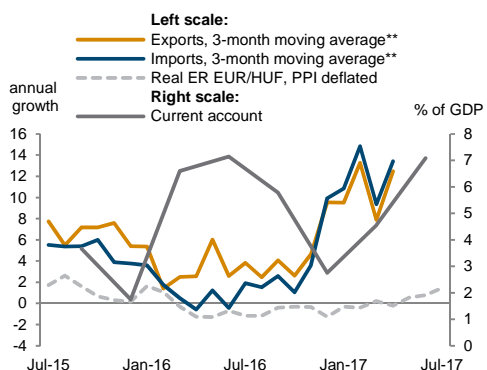
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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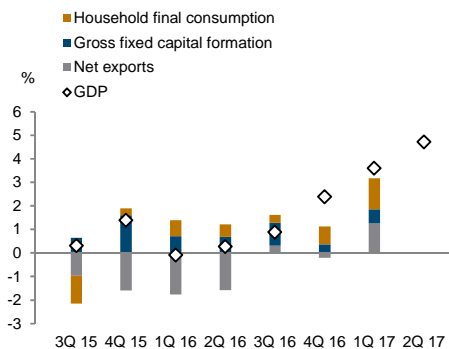
Source: wiiw Monthly Database incorporating Eurostat and national statistics.

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

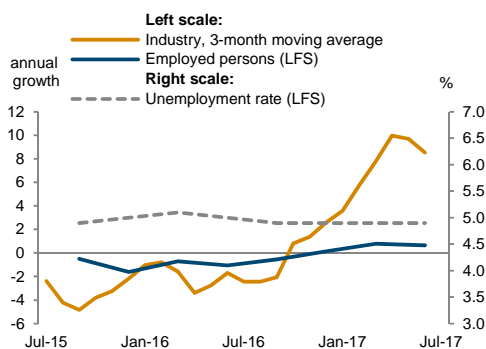
<https://data.wiiw.ac.at/monthly-database.html>

Kazakhstan

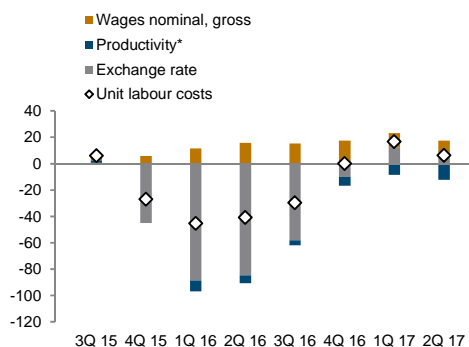
Real GDP growth and contributions
year-on-year



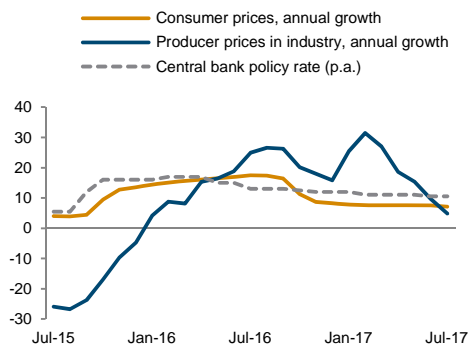
Real sector development
in %



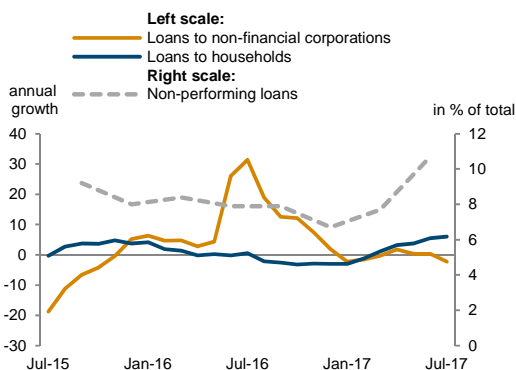
Unit labour costs in industry
annual growth rate in %



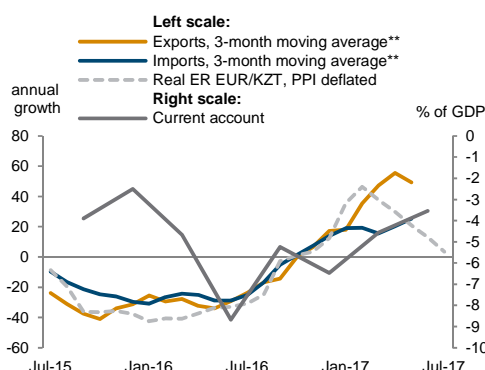
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %

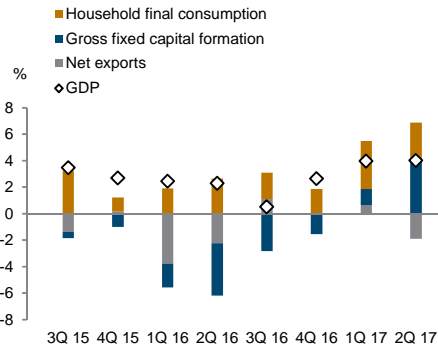


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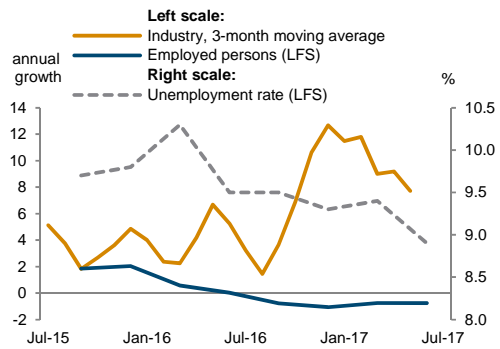
Source: wiiw Monthly Database incorporating Eurostat and national statistics.
Baseline data, country-specific definitions and methodological breaks in time series are available under:
<https://data.wiiw.ac.at/monthly-database.html>

Latvia

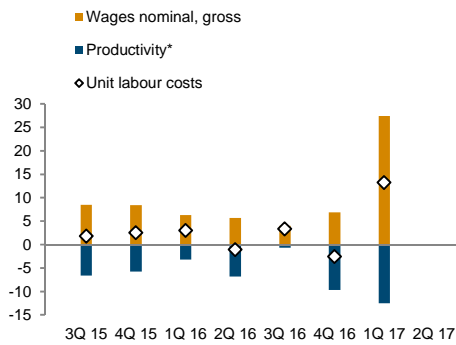
Real GDP growth and contributions
year-on-year



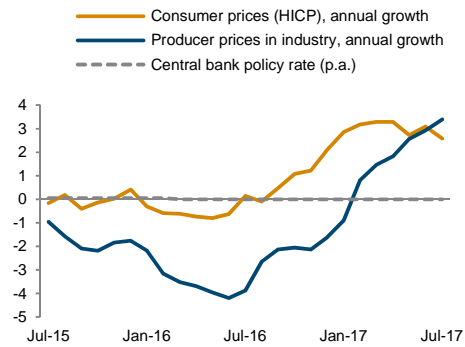
Real sector development
in %



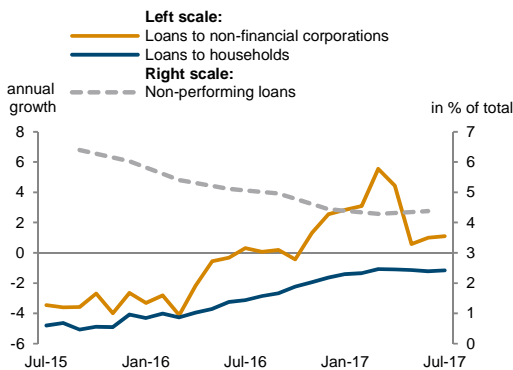
Unit labour costs in industry
annual growth rate in %



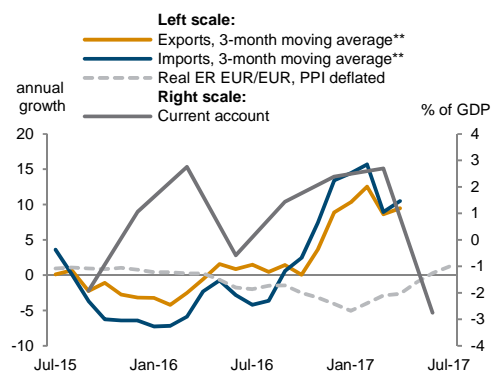
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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**EUR based.

Source: wiiw Monthly Database incorporating Eurostat and national statistics.

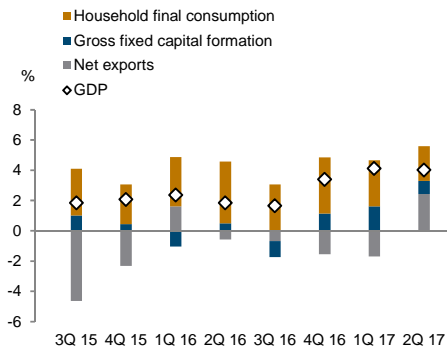
Baseline data, country-specific definitions and methodological breaks in time series are available under:

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

Lithuania

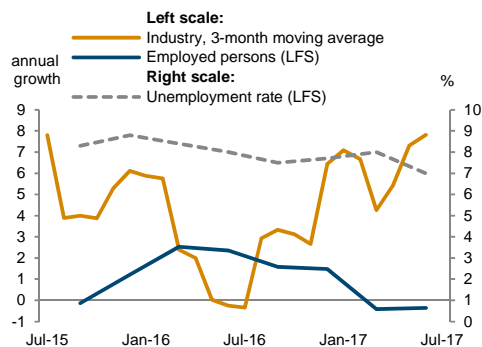
Real GDP growth and contributions

year-on-year



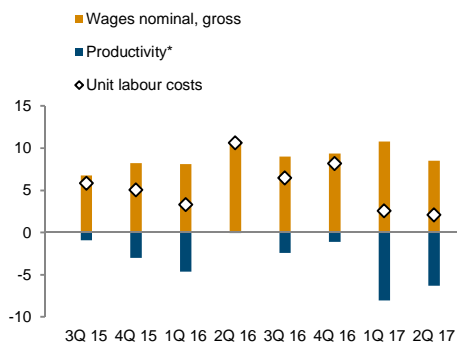
Real sector development

in %



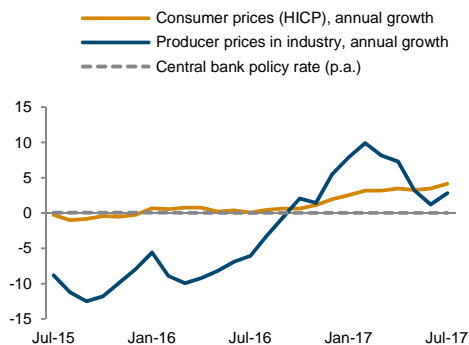
Unit labour costs in industry

annual growth rate in %



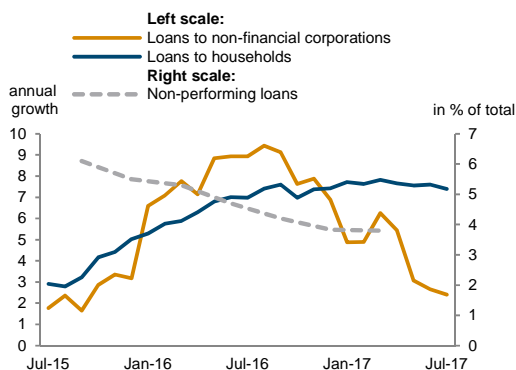
Inflation and policy rate

in %



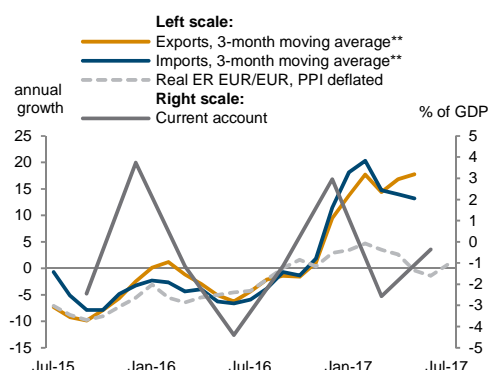
Financial indicators

in %



External sector development

in %



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**EUR based.

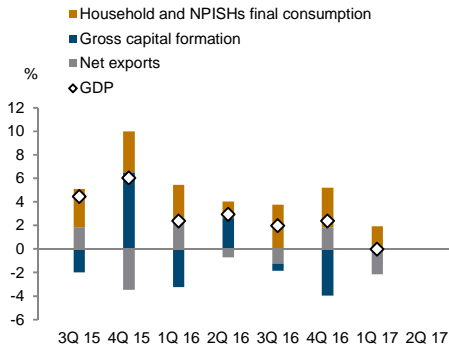
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Baseline data, country-specific definitions and methodological breaks in time series are available under:

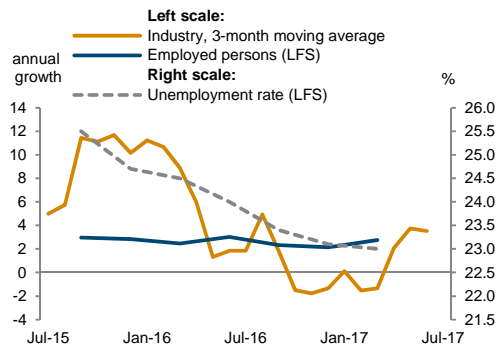
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Macedonia

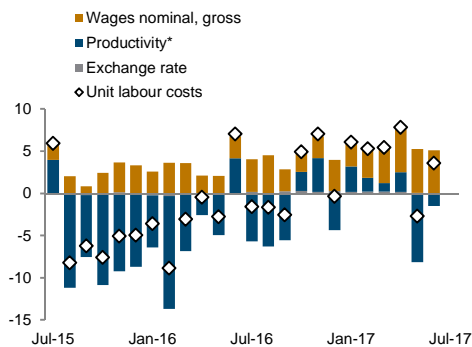
Real GDP growth and contributions
year-on-year



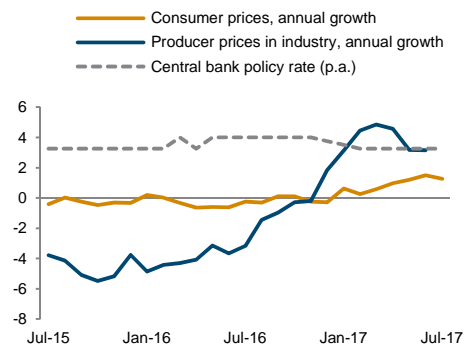
Real sector development
in %



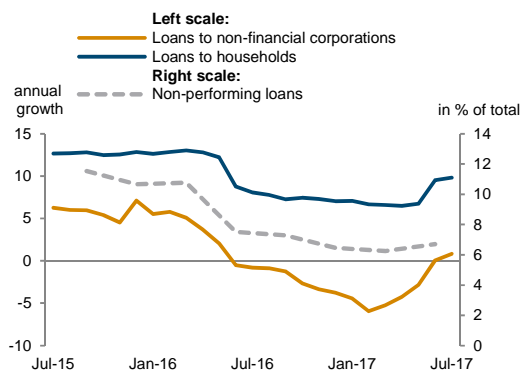
Unit labour costs in industry
annual growth rate in %



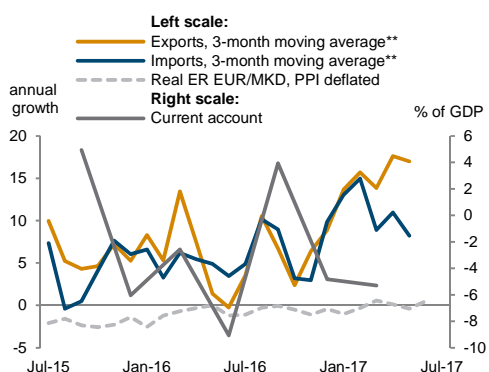
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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**EUR based.

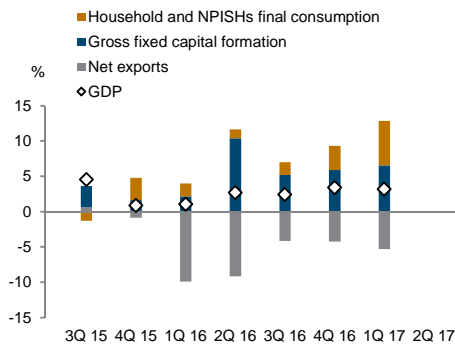
Source: wiiw Monthly Database incorporating Eurostat and national statistics.

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

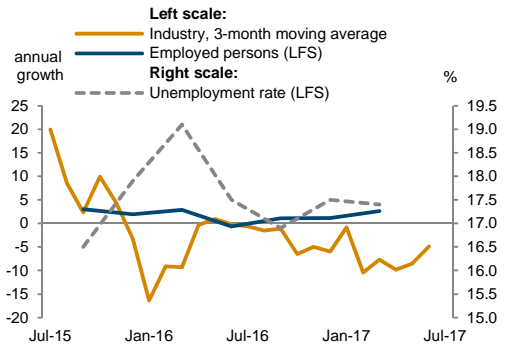
<https://data.wiiw.ac.at/monthly-database.html>

Montenegro

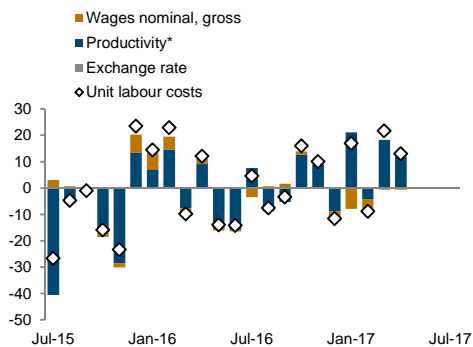
Real GDP growth and contributions
year-on-year



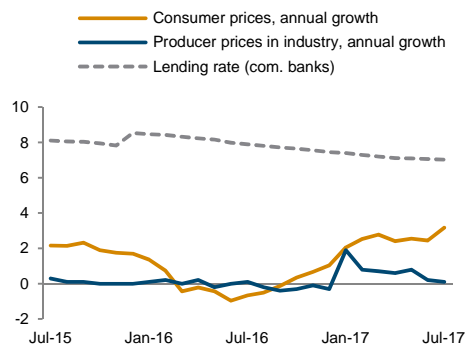
Real sector development
in %



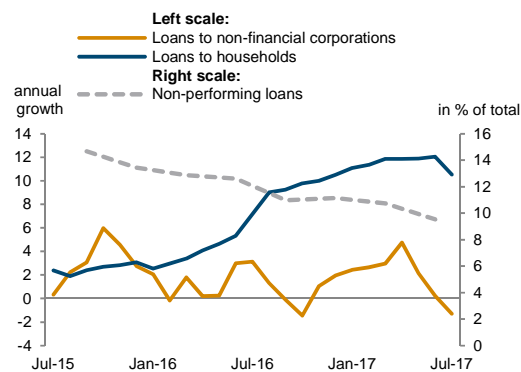
Unit labour costs in industry
annual growth rate in %



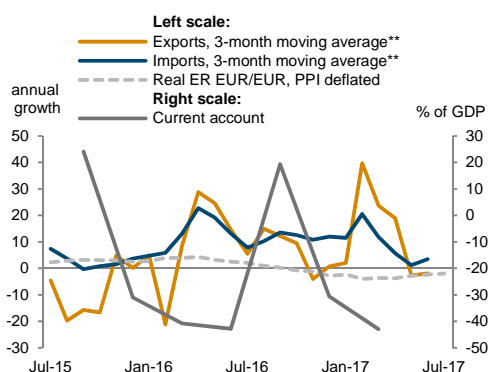
Inflation and lending rate
in %



Financial indicators
in %



External sector development
in %



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**EUR based.

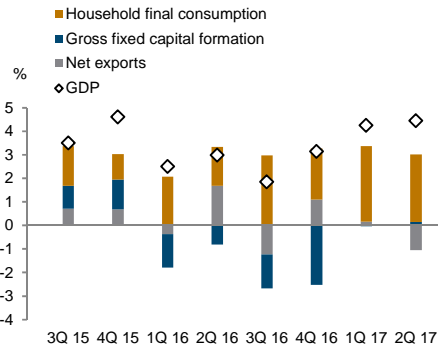
Source: wiiw Monthly Database incorporating Eurostat and national statistics.

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

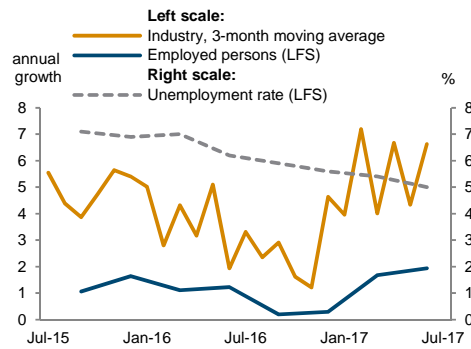
<https://data.wiiw.ac.at/monthly-database.html>

Poland

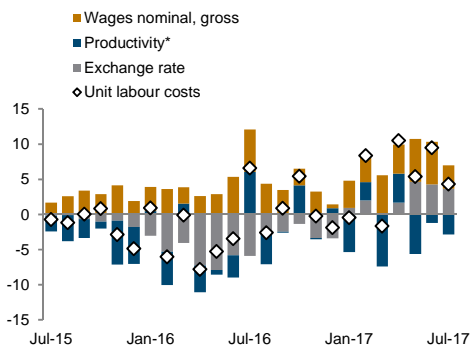
Real GDP growth and contributions
year-on-year



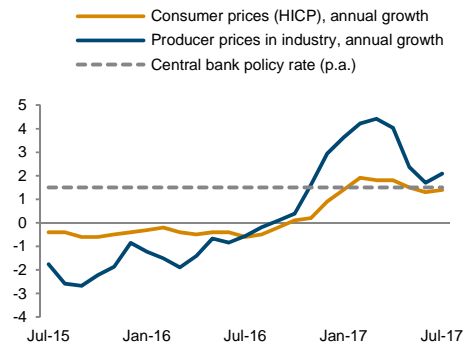
Real sector development
in %



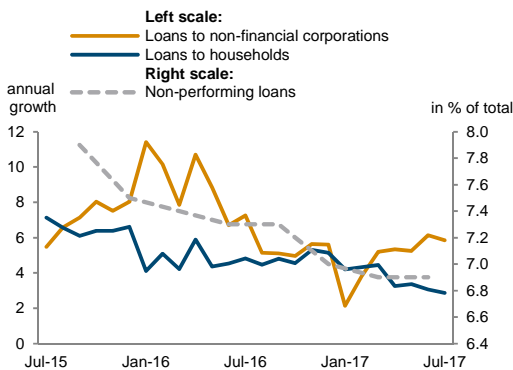
Unit labour costs in industry
annual growth rate in %



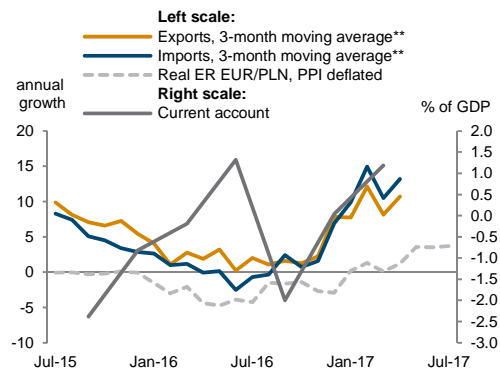
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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**EUR based.

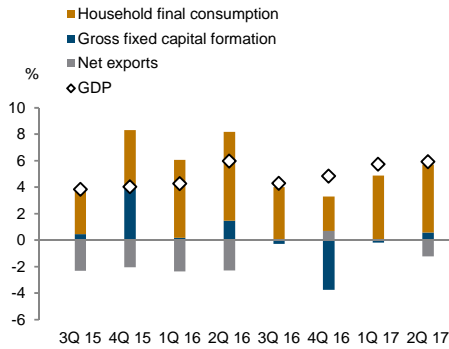
Source: wiiw Monthly Database incorporating Eurostat and national statistics.

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

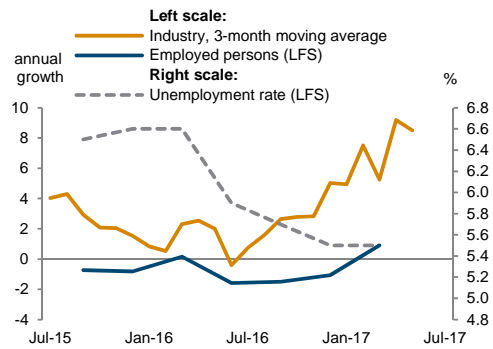
<https://data.wiiw.ac.at/monthly-database.html>

Romania

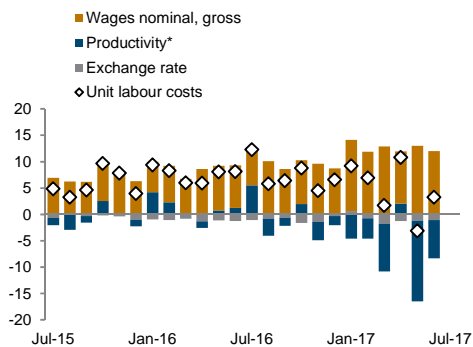
Real GDP growth and contributions
year-on-year



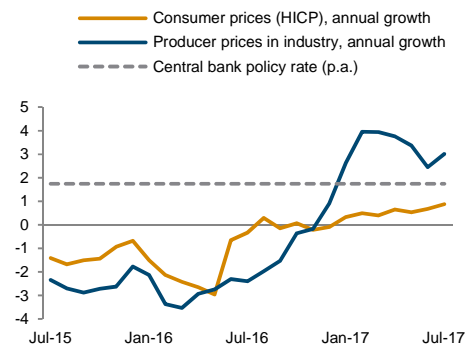
Real sector development
in %



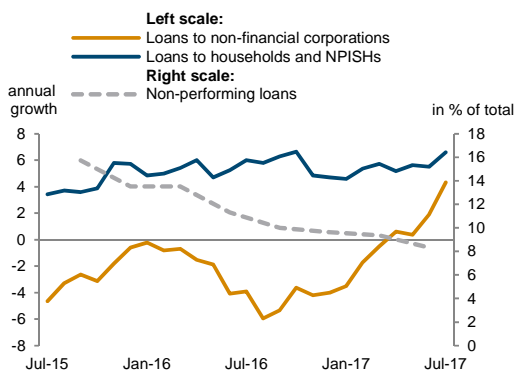
Unit labour costs in industry
annual growth rate in %



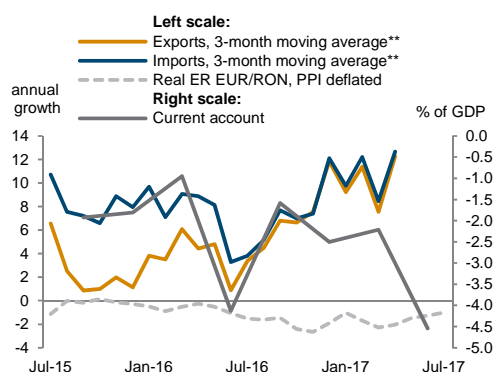
Inflation and policy rate
in %



Financial indicators
in %



External sector development
in %



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

**EUR based.

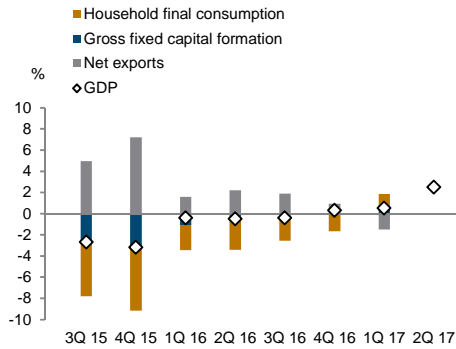
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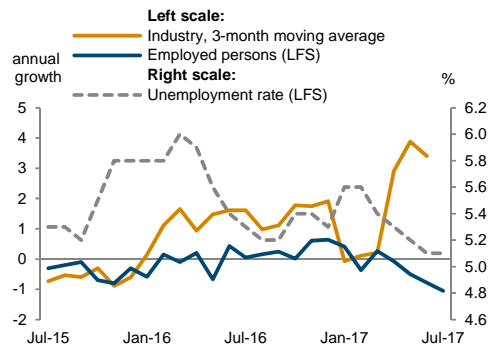
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Russia

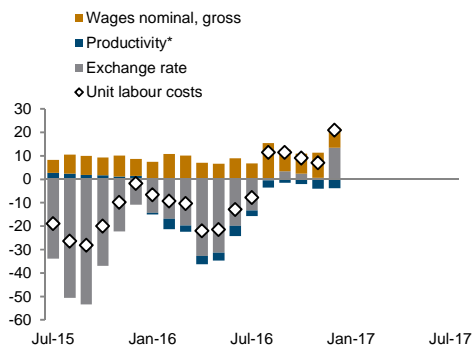
Real GDP growth and contributions
year-on-year



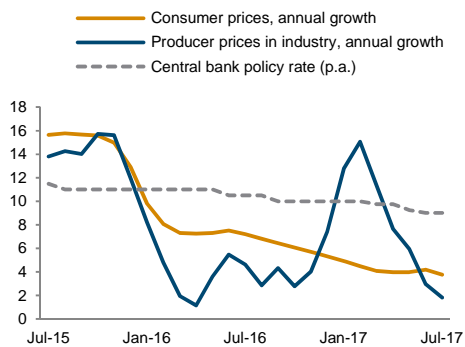
Real sector development
in %



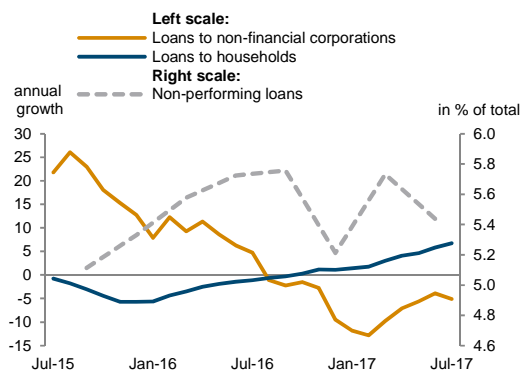
Unit labour costs in industry
annual growth rate in %



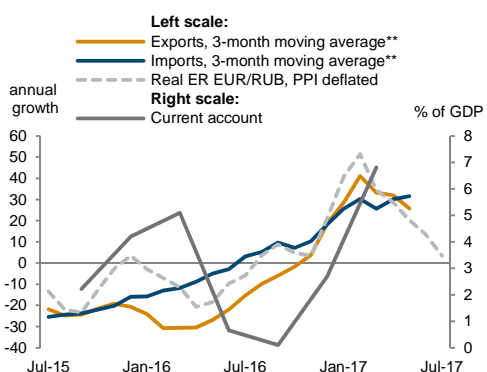
Inflation and policy rate
in %



Financial indicators
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External sector development
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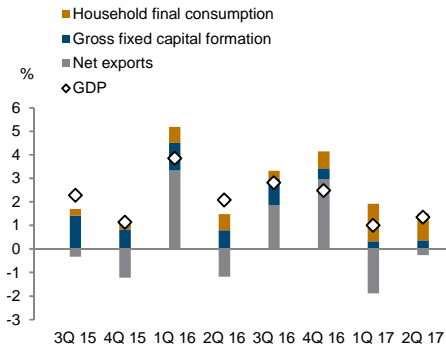
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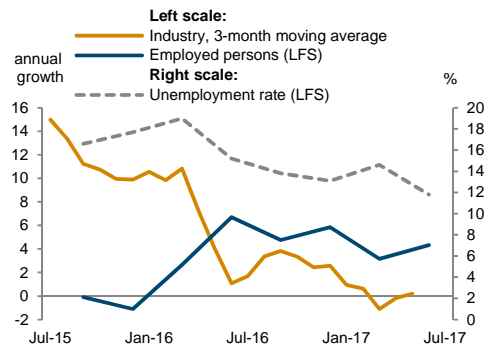
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Serbia

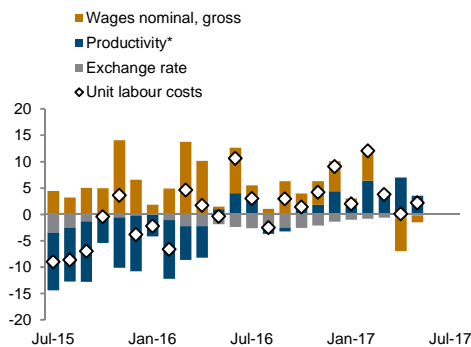
Real GDP growth and contributions
year-on-year



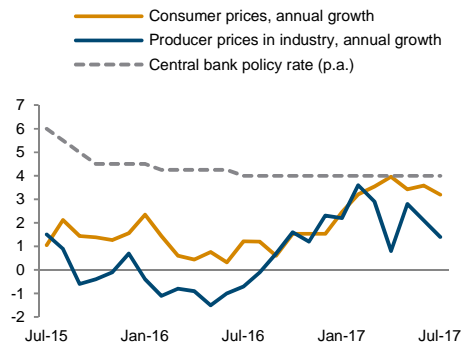
Real sector development
in %



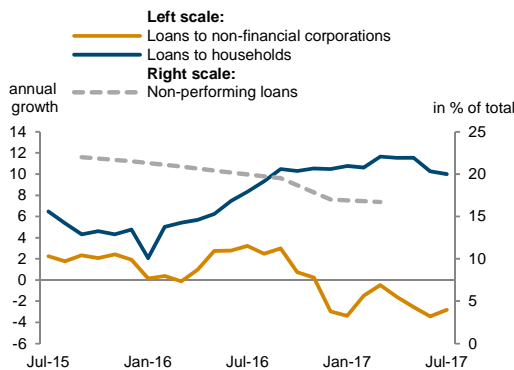
Unit labour costs in industry
annual growth rate in %



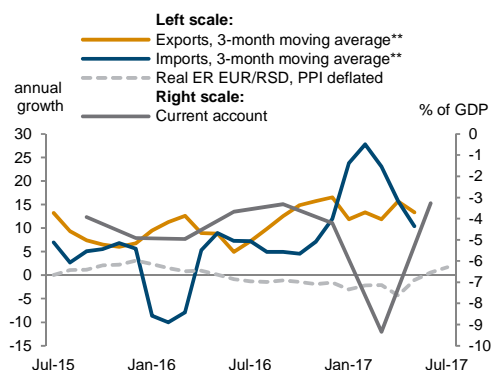
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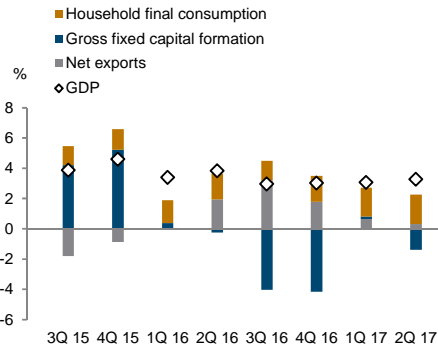
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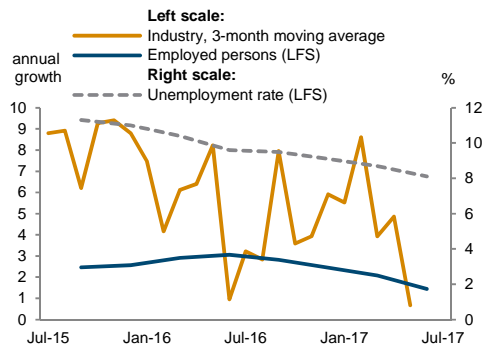
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Slovakia

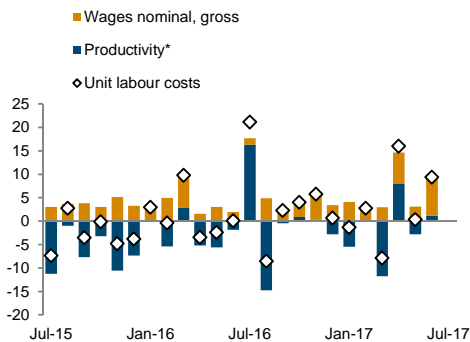
Real GDP growth and contributions
year-on-year



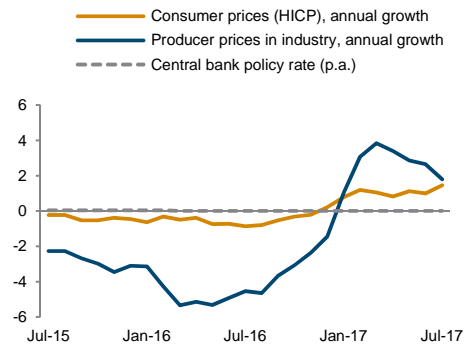
Real sector development
in %



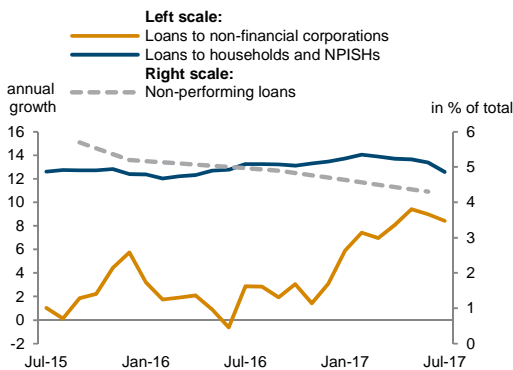
Unit labour costs in industry
annual growth rate in %



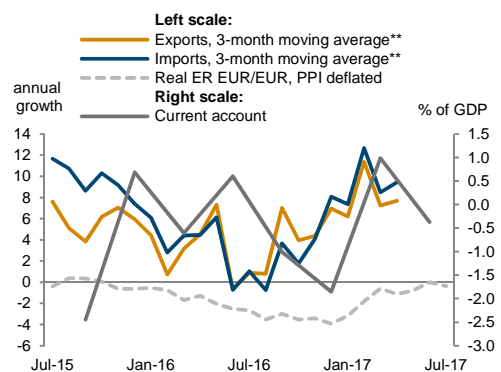
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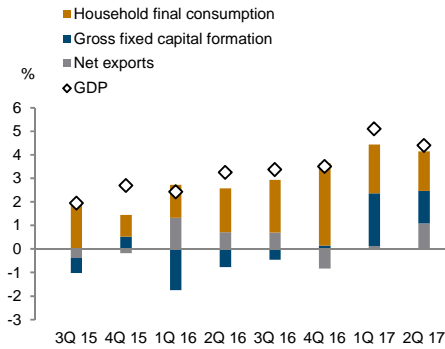
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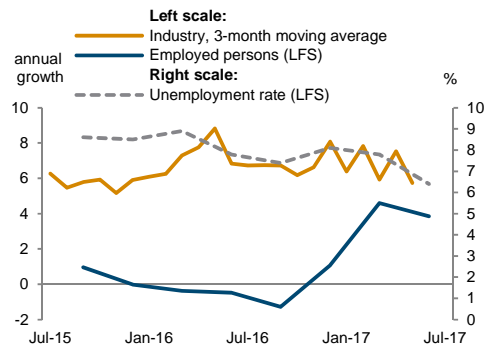
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Slovenia

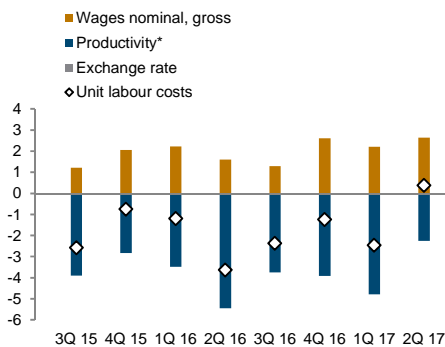
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year-on-year



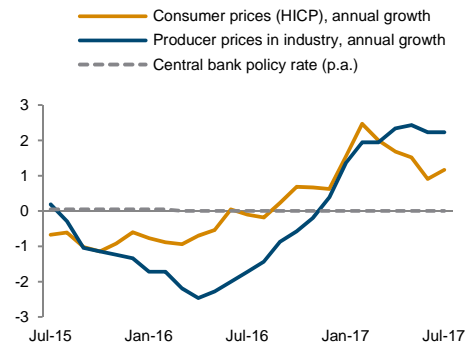
Real sector development
in %



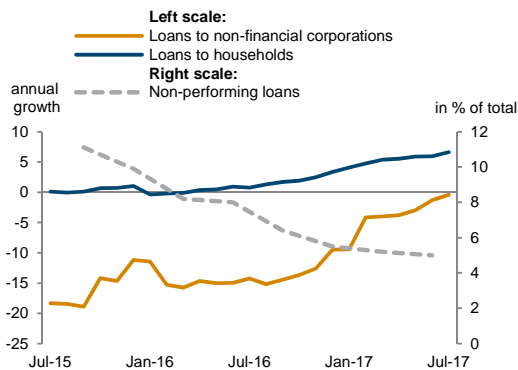
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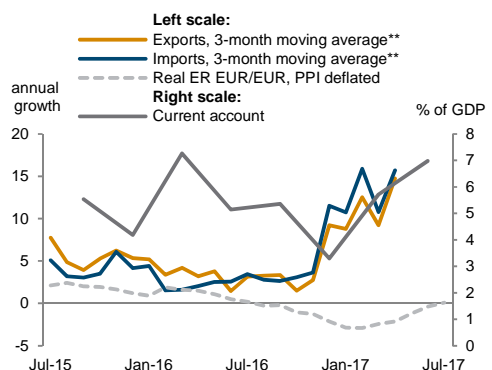
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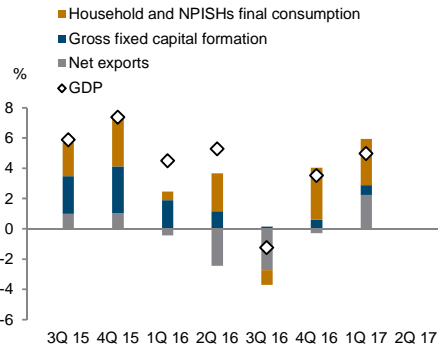
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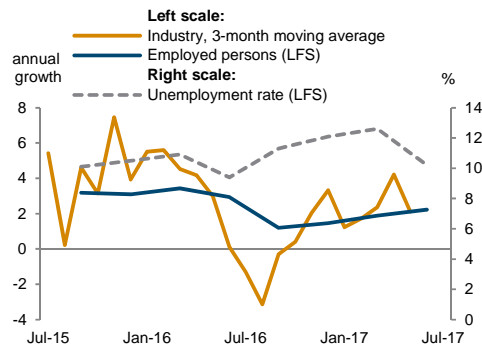
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Turkey

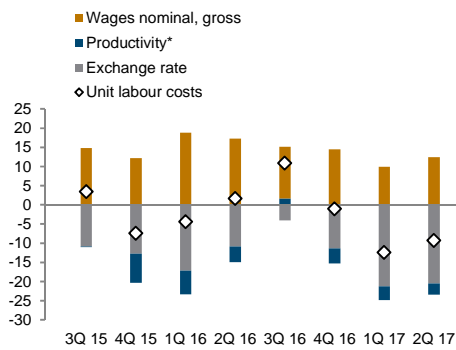
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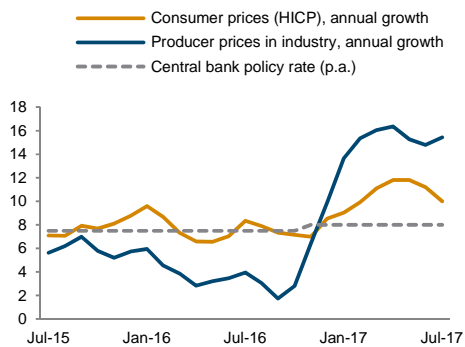
Real sector development
in %



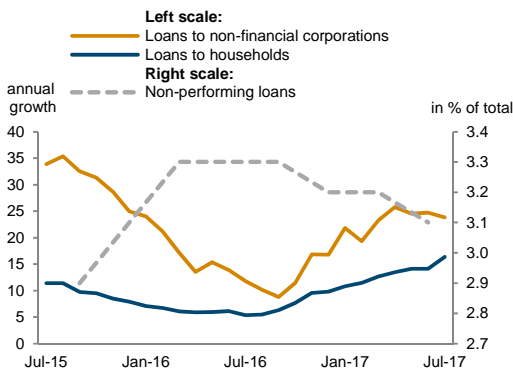
Unit labour costs in industry
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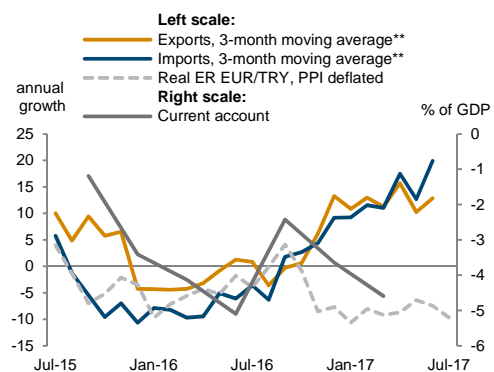
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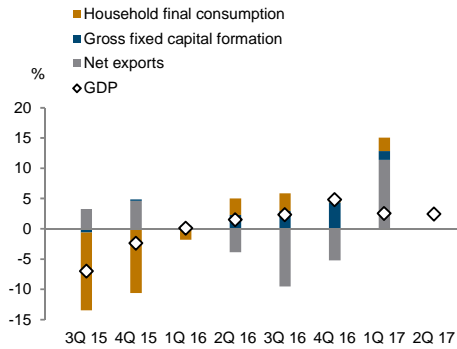
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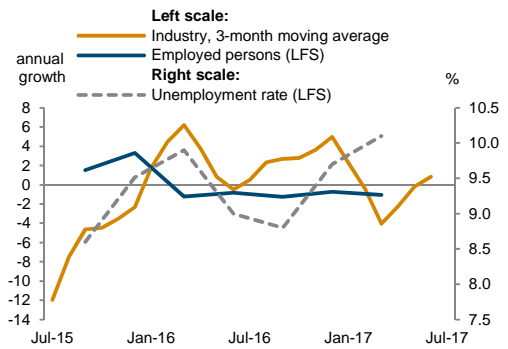
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Ukraine

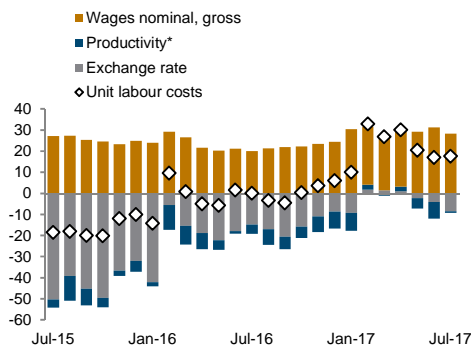
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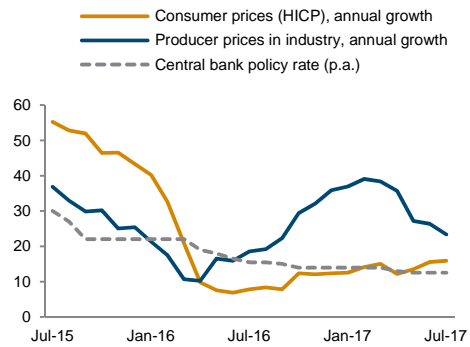
Real sector development
in %



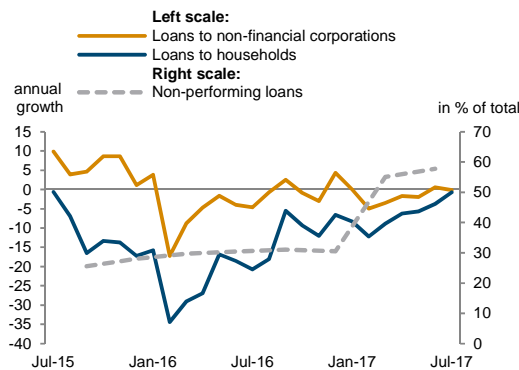
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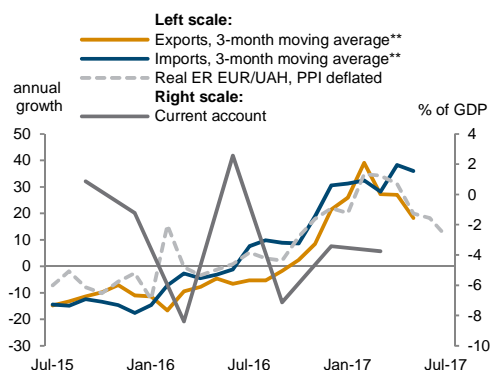
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Index of subjects – September 2016 to September 2017

Albania	economic situation	2017/7-8
Austria	car parts industry	2016/9
	FDI in CESEE	2016/9
	position in the EU Strategy for the Danube Region	2016/9
Belarus	economic situation	2017/7-8
Bosnia and Herzegovina	economic situation	2017/7-8
Bulgaria	economic situation	2017/7-8
	car industry	2017/1
	ten years of EU membership	2017/1
	presidential elections	2016/12
China	Silk Road initiative	2016/10
Croatia	economic situation	2017/7-8
Czech Republic	economic situation	2017/7-8
Estonia	economic situation	2017/7-8
	intra-regional trade	2017/5
Hungary	economic situation	2017/7-8
Iran	Silk Road initiative	2016/10
	presidential elections	2017/6
Kazakhstan	economic situation	2017/7-8
Kosovo	economic situation	2017/7-8
	business disputes	2017/3
	property dispute with Serbia	2017/6
Latvia	economic situation	2017/7-8
	intra-regional trade	2017/5
Lithuania	economic situation	2017/7-8
	intra-regional trade	2017/5
Macedonia	economic situation	2017/7-8
Montenegro	economic situation	2017/7-8
Poland	economic situation	2017/7-8
	euro introduction	2017/1
Romania	economic situation	2017/7-8
	car industry	2017/1
	ten years of EU membership	2017/1
Russia	economic situation	2017/7-8
	economic policy	2016/12
	Silk Road initiative	2016/10
Serbia	economic situation	2017/7-8
	property dispute with Kosovo	2017/6
Slovakia	economic situation	2017/7-8
Slovenia	economic situation	2017/7-8
Turkey	economic conundrum	2017/7-8
	economy after referendum	2017/4
Ukraine	economic situation	2017/7-8
	Donbas blockade	2017/5
United Kingdom	Brexit	2017/9

(continued on the next page)

**multi-country articles
and statistical overviews**

EU cohesion policy.....	2017/9
history and economic development (Habsburg example)	2016/11
import demand of EU countries	2017/6
import tariff rates.....	2017/4
inflation and unit labour costs.....	2016/12
innovation in EU Member States	2017/3
non-tariff measures in poultry trade	2017/4
price sensitivity and the effects of trade policy instruments.....	2016/12
public innovation commercialisation measures in EU-28	2017/9
public social expenditures in EU Member States	2016/11
race to the bottom, globalisation	2017/2
race to the bottom, falling wage share.....	2017/2
railway networks, economic role of.....	2017/2
R&D cooperations and innovation in CESEE, CIS.....	2017/9
Silk Road	2016/10
sustainable development in CESEE	2016/11
Thirlwall's Law	2017/6
unemployment and fiscal policy	2017/2
US elections and their implications	2016/11
wealth and happiness	2017/5
wealth of private households.....	2017/5

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