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How to Cope with the Current Refugee Crisis?

Industrial Policy: Rationale and its Role in the European Economy

Services and the Manufacturing Value Chain

The Effectiveness of Public Innovation Support in the EU

The Vienna Institute for International Economic Studies
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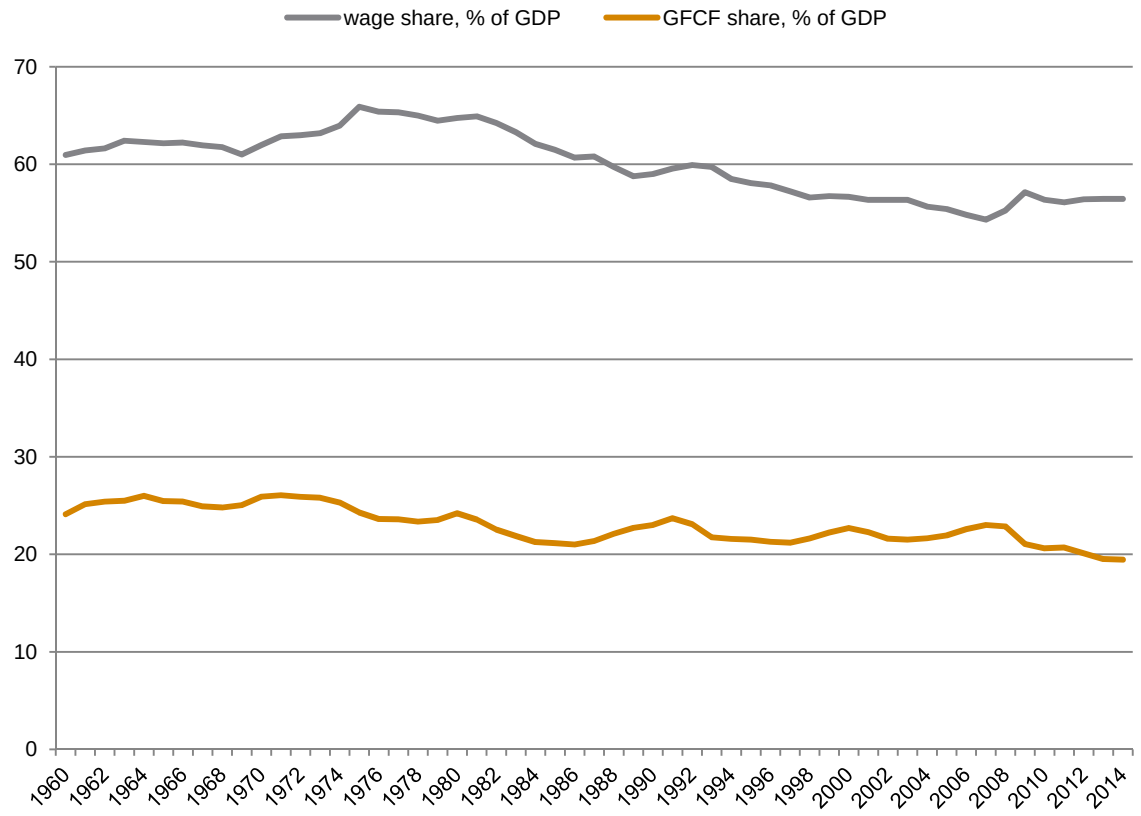
Wage share and investment ratio in the euro area-12, 1960-2014



Source: AMECO.

Euro area-12 includes the 12 original euro area member countries (with West Germany until 1991, united Germany thereafter).

GDP wage share is compensation per employee at current market prices. GFCF is gross fixed capital formation.

Opinion corner: How to cope with the current refugee crisis?

ANSWERED BY WIIW EXPERT MICHAEL LANDESMANN

What is new in the current refugee crisis and how can we analyse the situation beyond the partiality of economic analysis?

The current refugee crisis has become the dominant theme in European politics, in regional elections (such as most recently in Austria) and in looming national elections (such as in the forthcoming French presidential elections). It has also dominated politics at the European level in recent months where summits on the Greek debt crisis have been superseded by complex and conflictual relationships between EU member countries on the refugee issue.

Why has the refugee issue become so dominant in European politics?

The current refugee/migration flows reflect the ***big geographic shift of migration potential*** *which could have been foreseen for some time based on demographic trends. This migration potential has already and will strongly shift further from 'East–West' – which in many European countries has been the focus of policy discussion for some time – to 'South–North'. With 'East–West' we refer to the migration flows from Eastern European economies (such as Poland, the Baltic States, Bulgaria and Romania, the Western Balkans) to the higher-income countries of Western Europe. By 'South–North' migration we mean the flows from non-European low-income countries (particularly from the MENA[1] region, Africa, and some parts of Asia) to the European economies.*

What is the reason for this 'big shift'?

Firstly, and most importantly, there are demographic reasons for this 'big shift': Population levels are projected to increase in the MENA region from a level of 301 million in 2005 to 537 million in 2050 (an increase of 79%). Over the same period the population in the EU-25 (we start from 2005 when the EU comprised 25 members) is projected to fall from a level of 472 million to 415 million, a fall by 12%. Accordingly, the labour forces (i.e. those in the age groups 15-64) are expected to increase in the MENA region by 115 million and in the EU-25 to decline by 66 million. Population and labour force growth is very strong in Sub-Saharan Africa as well, where e.g. the age group of 15-39 years (the age bracket most contributing to migration potential) is expected to increase by 328 million over the period 2005 to 2050, all based on UN Population statistics[2]. Most of the Eastern European region, on the other hand, faces population decline and ageing processes which exceed those in the higher-income Western European countries. It is thus clear that the underlying demographic complementarity between Europe and the 'South' will drive migration flows over the coming decades.

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1 The MENA region comprises all countries of the Middle East and Northern Africa.

2 For more details see http://siteresources.worldbank.org/INTMENA/Resources/SF_background-2.pdf

Secondly, there are other reasons for the 'big shift': development blockages in large parts of Europe's 'Southern neighbourhood', particularly in the MENA region, have led to serious social and political instability and in a number of countries to civil war and crumbling state structures. External military interventions (such as in Iraq and Libya) have further contributed to this instability. The recent refugee crisis is an outcome of all these processes.

The region is currently convulsing in terms of political developments, the prospects of economic developments are pretty abysmal and the combination of a large young population bulge with very dim prospects of domestic economic development combines towards a very strong 'push' factor. The ageing process in the European societies with its shrinking labour force, high old-age dependency ratios, relatively high income levels, questions regarding sustainability of social security systems and the need to recruit essential man/woman power to maintain social services adds the 'pull' factor on the side of Europe.

Economic impacts of immigration

Economists have been analysing the impact of migration in detail over many years and their research has resulted in rather robust results which can be summarised as follows:

(i) GDP receives a boost through the influx of migrants most of whom are in the age groups which increase a country's labour force. Participation rates (which include those in employment and those actively looking for jobs while unemployed) are high amongst those who have migrated recently.

(ii) There are distributive effects of migration when migrants enter the labour market: they boost the incomes of 'complementary factors', i.e. if migrants take predominantly jobs which require lower qualifications, they increase the 'productivity' of those employees with higher qualifications; and they put pressure on the incomes of those who compete for the same jobs, i.e. those with lower qualifications. However, these negative income effects (often exerted on earlier migrant groups who work in low-qualification jobs) are relatively small, in part because productivity effects which migrants can contribute to increase the overall resources which can be distributed. The same can be said about unemployment effects: there can be rising unemployment among those competing for the same jobs, but again research indicates that this effect is not strong – as adjustment processes and overall growth effects lead labour markets to accommodate to the influx of the additional labour force.

(iii) 'Diversity' at the work place can increase productivity: through mutual learning, job structures adjusting to the availability of differentiated skills, the possible offering of a more diversified product portfolio (e.g. in the food industry) and also the high engagement of specific segments of the migrant population at work, in education and in innovative activities. In this respect, it is important that firms show flexibility to exploit such potential and that migrants find a good match between their 'skills' and the jobs they are assigned to; otherwise there is 'skill' or 'brain waste' and the potential productivity gains get lost. Furthermore, there should be good entry points of migrants into education, training institutions and into the 'innovation systems' of the host economies.

(iv) Migrants of the first generation (i.e. those who have migrated more recently and thus – given their predominantly young age profile – become quickly part of the labour force) are typically over their life

cycle 'net payers' into the social welfare system, i.e. they pay more into the social security system than they receive.

(v) There can be 'congestion effects', i.e. if the housing stock, investments into transport infrastructure, health and educational institutions do not keep pace with the influx of new people, then there can be a strain on these resources and this will be felt by the resident population. The way to deal with this problem is to make sure investments into all these facilities keep pace with the influx of the population.

The above is a short sketch of what economists usually have to say about the impact of migration. Overall, from an economic point of view one would argue that the long-run impact will be a positive one, although there are adjustment costs and distributive effects which have to be looked after.

Economists' partial analysis: cultural, social and political processes shape public perception of immigration

We as economists should be aware that the economist's approach to migration is a very partial one, i.e. it insufficiently captures cultural, social and political processes which shape a population's perception of immigration.

First of all, there is a relative neglect in economic analysis of adjustment processes (we are used to comparative static analysis comparing different equilibria, i.e. states of the economy after all the adjustments have taken place). However, adjustment costs are real and society is very sensitive to the ways in which it has to adapt to changing social and economic structures. It is also the case that the costs and benefits of such adjustments are very unevenly distributed across members of a society.

Second, the economists' perception of issues such as the impact of 'diversity' might be very different – and more positive – compared to other social sciences (sociologists, anthropologists, political scientists) and we should not ignore the analysis conducted by these disciplines.

Third, on the refugee issue: a strong inflow of migrants (as this is what refugees become when their status as refugees is recognised) – in addition to the traditional migration flows to which a society has already built-up channels of integration and has planned the provision of additional capacities (such as in housing, education and health services) – obviously initiates an additional (and unexpected) need of adjustment. Given the lack of forward planning (which is only incompletely possible with an 'unexpected' crisis), the population experiences the situation, furthermore, as 'loss of control' by policy-makers, adding to the sense of insecurity.

Policy recommendations: how to deal with migration and refugee inflows

The above analysis leads to the following recommendations with regard to the measures which would have to be employed (at times on a massive scale) to deal with a scenario of sizeable long-term migration and refugee inflow from the 'South' to Europe over the coming decades:

(i) Consider seriously the differentiated distributive implications of migration flows and take appropriate measures; one response would be to invest heavily in human capital upgrading of the existing

population (with a strong emphasis on the most vulnerable segments) which would enhance their chances to come out as beneficiaries from the adjustment processes initiated by such inflows.

(ii) Plan massive infrastructural expansion (in housing, education, health and social infrastructure) in order to increase the absorption capacities of the host economies and avoid experiences of 'congestion'.

(iii) Improve provisions for social integration of migrants from more diverse cultural backgrounds which means educational processes of both the host population as well as the migrant community.

(iv) Overcome labour market discrimination to facilitate quick integration of migrants and avoid longer-term mismatches of skills and occupations that lead to losses on both sides ('brain and skill waste').

(v) Use a range of policy tools to overcome segregation (particularly in housing and education).

(vi) Combine migration policy with a careful design of development assistance (such as support of educational and training facilities in the sending countries), as well as of trade and investment policies which might encourage circular forms of migration and the longer-term development of region-to-region integration which would benefit both sending and host regions.

Industrial policy: rationale and its role in the European economy

BY MICHAEL LANDESMANN

INTRODUCTION

A lively debate has re-emerged on the issue of industrial policy in the current context of the European economy where major problems have been recognised over the past decades and particularly since the onset of the financial and economic crisis in 2008. Amongst these problems the following can be singled out: (i) the rather slow overall growth trajectory of the European economy and particularly its productivity growth performance in relation to the US economy since the early 1990s; linked to that is the worry that Europe has not been in the forefront of the main innovative technological trajectories e.g. in information technology and bio-engineering and shows little sign that this is going to change; (ii) the fear that the EU has stopped delivering its promise of 'convergence', i.e. that lower-income economies and regions would follow a sustained catching-up process towards the higher income and productivity levels of the more advanced European economies. There is a recognition of the fact that the European economy shows severe problems of intra-EU imbalances which are revealed as sustained external accounts deficits in a range of lower- and medium-income EU economies (and which can be traced to severe long-term weaknesses in exporting capacity in these economies) accompanied by excessive current account surpluses in a number of high-income EU countries; this in turn reflects strong agglomeration features of industrial activity in Europe (for more details on this see Landesmann, 2015a and 2015b). Both these considerations lie behind the renewed interest in industrial policy and the need to avoid some of the pitfalls which characterised earlier versions of such policies.

REVIEW OF THE DEBATE ON INDUSTRIAL POLICY

Industrial policy had fallen into disrepute since the 1980s on the basis of mainly two arguments: (i) Why should government have more information in which direction structural change should be encouraged than the actors of the private sector? (ii) If policy measures were used to differentially benefit particular industries or types of enterprises, such policy measures would be subject to lobbying efforts and rent-seeking behaviour (in the worst case shared by both the policy-making bureaucrats and the groups which benefit from the measures) and hence – even if the proper allocation of such funds were known – they would be wrongly allocated and not benefit the aims of industrial policy.

Industrial policies were thus largely pushed aside in the policy debate, even though in practice there was still a widespread use of traditional tools of industrial policy (such as subsidies or tax exemptions of various types, concessional credit, privileged access to public tenders, infrastructural support including training and R&D facilities benefiting particular groups of firms/industries or regions).

More recently, there has been a revival of interest in the role which industrial policies can play (see also European Commission, 2010, 2012), partly driven by the concerns of the impact of the international financial and economic crisis, partly by the structural adjustment processes which result from the fast international economic integration ('globalisation') and partly from the insights gained in the development literature on successes and failures of various forms of government interventions and business-government relationships observed in the developing world. In this context, Rodrik states that the issue is no longer the 'whether' but the 'how' of industrial policy, i.e. whether one can 'design institutions that take into account the informational and political problems which have preoccupied industrial policy sceptics' (Rodrik, 2007, p. 3). Hence there is general agreement that in any assessment of industrial policy explicit attention has to be paid to government failures, the capture of government policy by special interest groups and the efficiency and quality with which government agencies operate.

Let us start with *definitions of industrial policy*, narrowing the very wide range provided in the literature (see e.g. Warwick, 2012) to those definitions which we find suitable for this particular paper. Aghion et al. (2011) define industrial policy as 'adequately targeted' if it 'targets a particular market failure (such as knowledge externalities or financial market imperfections)'. Pack and Saggi (2006) consider industrial policy as 'basically any type of selective intervention or government policy that attempts to alter the structure of production toward sectors that are expected to offer better prospects for economic growth than would occur in the absence of such intervention'. A similar definition by Crafts (2010) considers the objective to change the distribution of resources across economic sectors as the defining element of industrial policy. Warwick (2012, p. 12) widens the Pack and Saggi definition somewhat in the following way:

'*Industrial policy is any type of intervention or government policy that attempts to improve the business environment or to alter the structure of economic activity toward sectors, technologies or tasks that are expected to offer better prospects for economic growth or societal welfare than would occur in the absence of such intervention, i.e. in the market equilibrium*.'

The above definitions emphasise the *impact of industrial policies on the economic structure*. The Treaty on the Functioning of the European Union (TFEU) also links industrial policy to competitiveness. According to Article 173 of TFEU, the objective of the EU's industrial policy is to provide the appropriate conditions for making the EU's industry internationally competitive. This objective recognises that, while businesses themselves are ultimately responsible for the success or failure in the global market, industrial policy can support but potentially also impede the process of firms or whole industries gaining international competitiveness. These broad definitions do not confine industrial policies to manufacturing. In fact, many recent contributions in the literature on industrial policy stress that effective measures should encompass the entire value chain of firms and the whole spectrum of the economy.

Well-known is also the *public goods argument* in favour of providing infrastructure (transport, communications, standards, etc.) which would be insufficiently provided by private suppliers and could lead to welfare-diminishing exclusion of users. And there is also the *coordination failure* argument in situations when a development effort would require the mobilisation of a significant set of complementary inputs (some of them of a governance type) which the spontaneous decision-making in the market would often not provide – especially in the presence of significant 'indivisibilities' of such inputs; in such circumstances the state (at national, regional or cross-national levels) has to provide a

'push' in the direction of such coordinated efforts (see the 'Big Push' theories of economic development started by Rosenstein-Rodan, 1943, and more recently elaborated by Murphy et al., 1989).

Linked with this is the influence which industrial policy can exert on the *path-dependent process of innovation and diffusion of technology* (see Aghion et al., 2010a and 2010b). This has become particularly prominent in the debate about climate change and how to counteract it with the development of 'green technology'. Famous is the role which the US Advanced Research Projects Agency (ARPA) played in this respect e.g. in the development of the internet. Pisano and Shih (2009) emphasise the importance of long-term commitment which public involvement in the development of such technological trajectories has to show – acting as a coordinating and supporting agent to encourage networked activities amongst firms, research institutions and universities. Also the support provided through public procurement policy is important here – as is the case in areas in which directly and indirectly the military sector is involved (see e.g. Pollin and Baker, 2009).

In this context, Rodrik (2007) not only emphasises that innovation and technology absorption takes place within a framework which shapes the direction of technological developments (in advanced and developing countries) but extends the analysis on the role which industrial policy can play in *influencing a country's or region's pattern of industrial specialisation*.

The role of influencing and 'planning' strategically a country's (region's) position in an international setting has gained further importance in an age in which value chains get more 'fragmented' and there are increasing options for countries and regions to plug themselves into international and regional production networks. The *role of 'specific inputs'* publicly provided has therefore not just to be seen as relevant at the industry level but also to support the local production of particular 'fragments' in international production activity.

'FRAMEWORK CONDITIONS' AND 'HORIZONTAL' VS. 'VERTICAL' INTERVENTIONS

An old issue in industrial policy has been that of debating the relative weights which should be given to so-called 'horizontal' vs. 'vertical' policies, where the former do not *explicitly* single out specific activities or technologies for preferential treatment while the latter do. The 'specific inputs' approach by Hausmann, Rodrik and Sabel (2007) automatically means that the specific requirements of particular activities or of clusters of activities have to be recognised in formulating policies, be they of the horizontal or the vertical variety.

Rodrik rightly criticises that '... the strong aversion towards industry-specific policies is somewhat dishonest, as a properly informed policy maker would also be aware of the differential impact of horizontal policies on different industries (and even on different types of enterprises) and would take this into account when formulating his policies. Horizontal interventions always have differentiated effects on different industries.' (see Rodrik, 2007, pp. 8/9) And (ibid, p. 9): 'Thus, policy makers do not have the luxury of neglecting the asymmetric effects of their "horizontal" interventions. They need to ensure that the activities being ultimately favored are those that disproportionately suffer from the market imperfections in question.' Hence the first issue with regard to the discussion of 'horizontal' vs. 'vertical' policies is that the boundary between the two cannot be easily drawn.

Secondly, while there are reasons to support 'vertical policies' – given the need for specific infrastructural support, countering specific coordination failures in particular sectors etc., the criticism remains however, that vertical policy always implies that government selects a particular branch of activity, technology, or particular market niche for support. The accusation of a 'picking winners' strategy is based on the criticism that governments do not have any privileged source of information regarding such picking. The answer which Hausman and Rodrik (2006), Hausman et al. (2007) and Rodrik (2007) give to this is that industrial policy should not pick ex ante but in a close interaction with all the possible actors involved (they call this strategy 'embeddedness'); hence no superior information by government agencies is pre-supposed, just an attempt to pool many potential sources of information, embark on a 'search process' and focus on areas where potentially high (social) returns could emerge from a range of 'coordination' supports. A transparent process of 'search' and laying down clearly stated criteria why decisions are taken at different nodes of such a search procedure should also provide a safe-guard against capture by interest groups.

Let us say something about the different situation which policy-makers face in advanced economies as compared to less advanced economies with regard to the use of 'vertical' industrial policy instruments:

In *less advanced economies* in which the main aim is to choose a particular path of 'catching-up', the choice of vertical policies is in some sense easier: Development patterns across stages of industrial developments have been well studied (see the early works of Kuznets, 1973; Chenery and Syrquin, 1989; Syrquin, 1988). This makes the choice of a sequence of activities which allow a gradual 'climbing up the ladder' process to take place more straightforward than in the case of advanced economies. The criteria for choice of activities include an assessment of what is feasible in relation to factor endowments that are available and could realistically be provided within a particular time horizon; of where would be the strongest 'learning' opportunities; where the strongest potential for growth lies (which explains the strong attraction to acquire stakes in high-income markets where global purchasing power is concentrated); which activities would have strong linkage effects to other activities in which further learning and development potentials could be exploited; finally, which types of firms (in terms of numbers, scales, factor recruitment capacity) would most likely be successful to overcome thresholds of market entry and embark on a sustained growth record in the chosen areas of activity.

In *advanced economies*, i.e. those close to the technological frontier, the future development with regard to new industrial activities, new products, and new technologies is untested territory. There is less solid ground of what are the criteria which are decisive for success. One can draw on analogies, on policies which worked in previous technological ventures, in the setting-up of infrastructure for new activities before that, on lessons with respect to appropriate market structures to optimise the balance between reaping scale economies and competitive pressure, etc. It is also difficult to foresee the nature of international competition which would be encountered: there could be 'over-crowding' in the same areas of 'new technologies', 'new branches', 'new products' as countries at similar levels of technological and industrial development are all driven by similar evaluations of the next most important 'frontier' with regard to industrial and technological development. It is important in this context to be aware of a country's/region's particular comparative advantages within the space of next generation technologies, products and activities. Such comparative advantages are built on the built-up stock of skills, of infrastructure, also of public inclinations to support one or another type of technology or activity and thus be willing to provide public resources to support the development of these.

Apart from the support of new activities, there is also a role for vertical policies to influence the nature of an adjustment process with regard to old industries which have come under acute pressure either from international competition (through a changing international division of labour) or simply because these are – at a certain stage of national or global development – industries with rather low growth prospects and/or they require a major overhaul in terms of product spectrum, techniques used etc. The shift of resources out of old industries, technological trajectories and product segments which should be vacated could encounter 'lock-in' features which serve as exit barriers and require coordination efforts – similarly to entry barriers for new activities. Hence here is another role for industrial policy.

RECOMMENDATIONS REGARDING POLICY PROCESSES AND PROCEDURES

(i) Industrial policy formulation and execution have to take place at all the different levels (regional and sub-regional, national and supra-national)

It is clear from the earlier discussion that industrial policy intervention which is directed towards reducing or overcoming entry barriers, counteracting coordination failures and providing public goods will have to take place at different levels depending on the scope and scale where such phenomena take place. This is easy to see in the case of public goods provision where access to different public goods (transport, communications, training infrastructure) supports different scales and geographic scopes. It similarly applies however also to policy designed to overcome entry barriers or coordination failures.

There are advantages and disadvantages of policy processes conducted at higher or lower levels: at the regional or sub-regional levels, the advantage is the easier involvement of all relevant actors ('embeddedness') in the information gathering process, and the potential to cater more precisely to the 'specific input' needs of a particular region or sub-region or a geographically defined cluster of activities. The disadvantage might lie in the easier capture of the process of decision-making by powerful local groups and the smaller range of alternatives which could be weighed against each other and which would provide a yardstick to make sure that the best option is chosen; furthermore the capture might also lead to greater non-transparency of the process. A counter-weight could be to involve authorities at a higher level (national or supra-national) to provide information on comparative projects, provide standards, undertake additional evaluations, supply technical know-how which would not be available at the regional or sub-regional level and also increase the level of transparency by publishing cross-regional evaluations etc.

At the higher (national or supra-national) levels, the problem of lack of 'embeddedness' of the policy process is more severe; involving actors will mean selection which will limit access to all relevant information and involvement in the 'search process' (see Hausman, Rodrik and Sabel, 2007). On the other hand, standards of evaluation and of execution can be higher as there is more scope for comparison, for the hiring of better expertise and the cumulative build-up of a knowledge base. The respective advantages and disadvantages of the policy process at higher and lower levels mean that interaction between the processes at different levels would lead to better outcomes.

(ii) Risks of government failures: which types? What are the challenges for low/medium/high-income countries?

It is clear, like in all areas of government intervention, that there is a risk of government failure in implementing industrial policy measures. One reason for such failure could be that the relationship between government and private sector agents is affected by asymmetric information and this can lead to serious principal-agent problems. How can government agencies assure that correct and sufficient information is provided by the private sector so that good decisions can be made? Furthermore, how can effective monitoring be undertaken of the use of resources, of the impact of policies, and – following from this – a proper evaluation be conducted? There is no general recipe available to deal with these issues. The recommendation by Hausman et al. (2007) is to use a 'carrot and stick' approach to elicit information from private agents in an interactive process of 'search' for an appropriate industrial policy framework tailored to the specific problem situation. Clear evaluation guidelines for continuations or discontinuations of support schemes should be worked out, always keeping open access for newcomers to such schemes so that a competitive bidding process should be in place at each stage of an industrial policy strategy.

Apart from the issue of asymmetric information, there is the problem of 'rent-seeking bureaucrats' as well as 'rent sharing' between public authorities and private agents. This can be a particularly problematic issue in the case of the use of industrial policy instruments as such arrangements can influence long-term market structures and market positions. The 'capture' of public policy-making institutions can thus thwart economic structures in the direction of entrenching the position of incumbents and solidify entry barriers. A recent econometric study by the Vienna Institute for International Economic Studies (wiiw) looked at the impact of various types of state aid schemes in the European Union; one of the very robust results obtained showed that the impact of state aid depends strongly on governance indicators deciding in many cases between a positive and a negative impact (see wiiw, 2013). Hence it is clear that the 'quality of governance' is very much an issue whether industrial policy can have beneficial impacts.

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Services and the manufacturing value chain

BY ROBERT STEHRER

INTRODUCTION

Manufacturing production not only involves activities of the respective manufacturing industries, but also requires inputs from other sectors (e.g. services) which are produced in the domestic or in foreign economies (again by use of intermediate inputs and primary factors such as labour and capital). Still, the 'classical' perspective when studying the size and volume of the manufacturing sector is to consider only the value added created through pure manufacturing activities, which will be referred to as the 'industry perspective'. An alternative perspective focuses on value added created in all production stages of the final manufacturing product: Manufacturing is then perceived to be composed of the sum of all (domestic) activities (including, in particular, services) along the whole production chain which are used to create a final product with the focus on the contribution of a specific country. This 'value chain perspective' was introduced and analysed at a global level in Timmer et al. (2013) and Timmer et al. (2014). This perspective basically considers 'vertically integrated' production processes as have been theoretically introduced in Pasinetti (1983).

THE VALUE CHAIN PERSPECTIVE OF MANUFACTURING PRODUCTION

Figure 1 schematically depicts the calculation of the different shares according to the two above-mentioned approaches. The following example highlights the difference between the two perspectives:

Industry perspective: The production of any product – be it a manufacturing product such as a car, or a service such as in tourism, be it domestic or foreign – requires inputs from the own sector and from other sectors via inter-industry linkages. The production of these inputs generates income, i.e. value added, in each sector of the economy. Summing up the value added according to the origins of the inputs (i.e., services inputs accrue to the services industry, etc.) yields the value added created in a particular industry as it is reported in industry statistics. In Figure 1 this is represented as the column sum for a specific industry, e.g., total 'manufacturing' is the sum of the three central cells of the matrix.

Value chain perspective*:* Alternatively, one might consider the value added created in any industry – be it manufacturing or services – due to final demand for a final manufacturing product (where final demand can be domestic or foreign).[1] This perspective, first, circumvents the argument that the share of manufacturing declined because of (domestic) outsourcing of services activities from the manufacturing industries to services industries or firms. For instance, if design or marketing activities were originally carried out in-house by the manufacturing firms, but then outsourced to a service provider, the value chain perspective still considers them to be a part of the manufacturing process. Second, also the role of

1 To be even more specific, 'final demand' includes domestic demand for a domestic or foreign final manufacturing product, foreign demand for a domestic or foreign final manufacturing product.

specialisation due to offshoring activities is viewed differently. For example, a country offshoring the assembly process but keeping 'at home' other activities related to the manufacturing production – either in the manufacturing industries or services – retains these shares of the manufacturing value chain. In Figure 1 this is represented by the row sum for final demand products, e.g. in manufacturing. Let us consider the most extreme case: A country in which no longer any manufacturing activities are carried out directly could still be involved in the manufacturing value chain by providing service activities which are required for production. For example, countries specialising in pre- and post-production activities such as design and sales would still be considered as generating value added in the manufacturing value chain. To highlight the differences between the two perspectives, Table 1 provides the numbers in line with the concept set out in Figure 1 for the EU-27 in 1995 and 2011.

Figure 1 / Industry and value chain perspectives of the manufacturing process

				Value chain perspective
	VA created in 'other industries' to satisfy final demand for 'other' products	VA created in manufacturing to satisfy final demand for 'other' products	VA created in services to satisfy final demand for 'other' products	VA created to satisfy final demand for 'other' products
	VA created in 'other industries' to satisfy final demand for manufacturing products	**VA created in manufacturing to satisfy final demand for manufacturing products**	VA created in services to satisfy final demand for manufacturing products	VA created to satisfy final demand for manufacturing products
	VA created in 'other industries' to satisfy final demand for services products	VA created in manufacturing to satisfy final demand for services	VA created in services to satisfy final demand for services products	VA created to satisfy final demand for services products
Industry perspective	VA created in 'other industries' to satisfy final demand	VA created in manufacturing to satisfy final demand	VA created in services to satisfy final demand	Total VA (= GDP)

Table 1 / Value added creation in EU-27 in % of total value added (GDP), 1995 and 2011

	Other	Manufacturing	Services	Value chain perspective
		1995		
Other	8.2	2.4	4.0	14.6
Manufacturing	2.3	14.8	8.5	25.7
Services	2.3	3.8	53.7	59.7
Industry perspective	12.8	21.0	66.2	100.0
		2011		
Other	7.4	2.1	4.2	13.7
Manufacturing	1.7	11.8	8.6	22.0
Services	2.1	3.4	58.8	64.3
Industry perspective	11.2	17.2	71.6	100.0

Source: WIOD (World Input-Output Database); wiiw calculations.

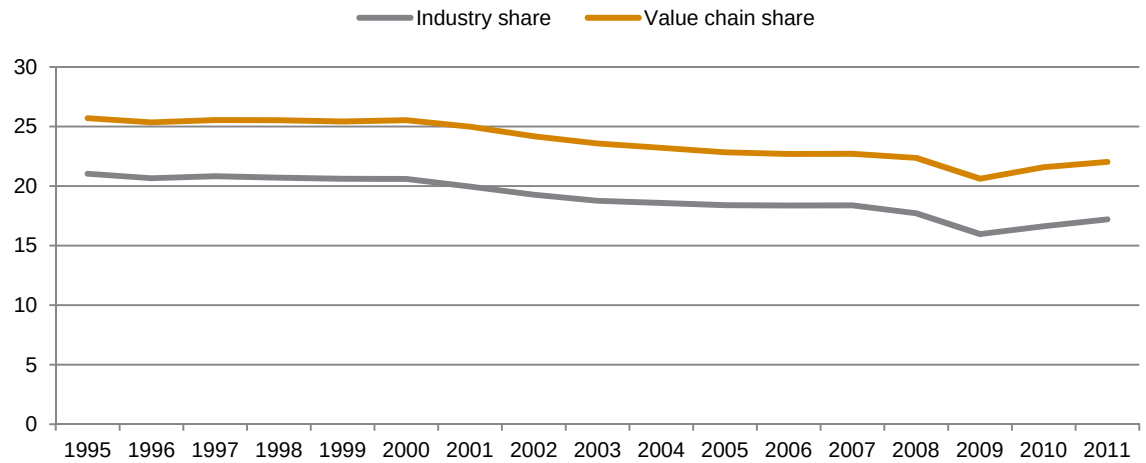
In 2011, the manufacturing share in EU GDP was slightly above 17%, whereas more than 70% of GDP was created in services industries and the remaining 11% in other industries such as agriculture, mining

and construction. The assessment changes substantially when one recognises that the value created to meet final demand for manufacturing products also includes contributions from services and other industries; in this perspective, a higher share of value added created due to manufacturing final goods production is reported. In fact, about 22% of the EU-27 GDP is related to manufacturing production, i.e. about 5 percentage points more than reflected by the shares based on industry classifications. Similarly, an increase is also observed for 'other' activities which in the value chain perspective show a share of 13.7%, compared to 11.2% in the industry perspective. The share of services however declines in the value chain perspective to 64.3%, i.e. by more than 7 percentage points.

THE DECLINE OF THE MANUFACTURING SHARE RECONSIDERED

Considering the changes over time depicted in Figure 2, one finds that both shares have declined since 1995 at a rather uniform pace. The share of manufacturing value added according to the industry perspective declined from more than 21% in 1995 to about 17% in 2011, i.e. by slightly less than 4 percentage points. But also the share of manufacturing in the value chain perspective declined from 25.7% to 22% over the same period, i.e. also by about 4 percentage points. In both cases these shares remained rather constant up to 2000 and started to decline only thereafter. Furthermore, it seems that the decline has flattened over the past few years (apart from the crisis period).

Figure 2 / Industry and value chain shares for manufacturing in % of GDP, EU-27



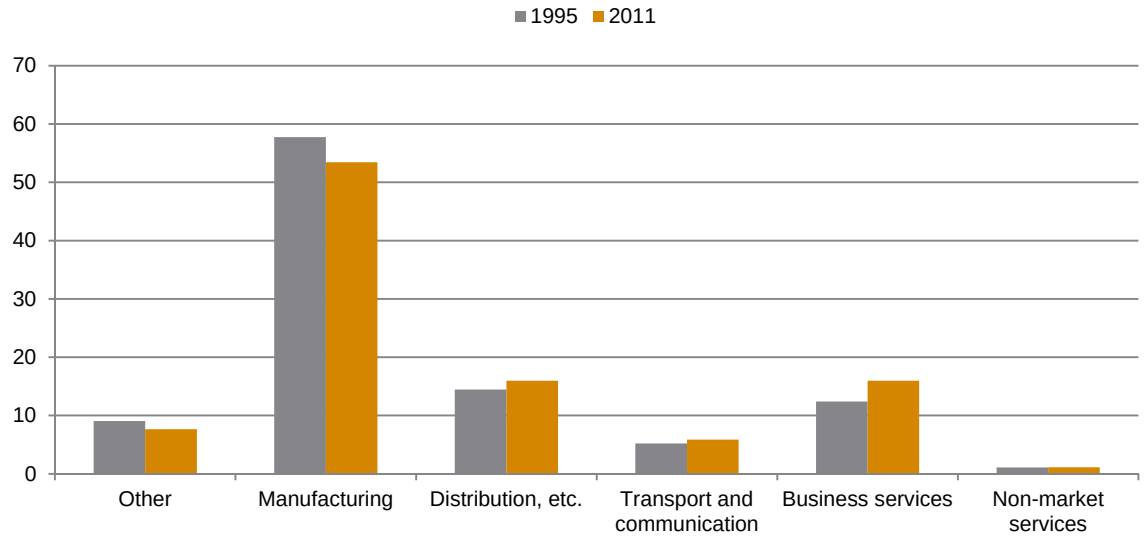
Source: WIOD; wiiw calculations.

A number of reasons may have contributed to the overall decline of the manufacturing share in the EU (and, more generally, other economies). The composition of industries changes due to changes in real income and related demand patterns, e.g. demand for services rising overproportionately with income. Changes in relative prices may also play a role: On the one hand, a price increase of services compared to manufactured products during the time period under consideration would imply a somewhat lower demand for services. However, on the other hand, this would contribute to the overall trend of increasing shares of services in nominal terms and therefore additionally exacerbate the above structural effects. This can be interpreted as a national accounting effect whose mechanics are somewhat similar to Baumol's disease. A further potential reason for a declining manufacturing sector may be the increasing

specialisation of a country (or the EU) as providers of services in a global economy as trade structures change (e.g. manufactured products such as textiles are increasingly imported from emerging countries). A further important structural contributor to the decline of the manufacturing share is the offshoring of manufacturing activities outside the borders of the EU, with some other activities, particularly services activities, still being undertaken domestically. To explain why a similar tendency of a relative decline in manufacturing is found for the value chain approach one has to take a closer look at the structure of the manufacturing value chain.

Thus, the structural changes also affect the share of manufacturing when measured via the value chain approach. The reason for this is that inter-sectoral linkages are still predominant within manufacturing and within services sectors implying that the interlinkages between manufacturing and services are – despite modest increases – not strong enough to compensate the structural effects. For this more detailed analysis, one can further split the manufacturing value chain into the contributions by the different components. This is shown in Figure 3 in which the services contributions are further differentiated. Within the manufacturing value chain of the EU-27, the increase of the share of services activities was mainly driven by the strong development of business services and distribution services. This is in line with the findings from other studies indicating that it is mainly knowledge-intensive industries and services that are driving the current shift towards larger services shares across the board. These results are also in line with the previous results considering cost shares and the service content of manufacturing production.

Figure 3 / The structure of manufacturing value chains in EU-27, in % of manufacturing output



Source: WIOD; wiiw calculations.

SERVICES IN MANUFACTURING VALUE CHAINS IN EU MEMBER STATES

The same approach can be applied for individual EU Member States. Table 2 presents the indicators as discussed above for the EU-27, now for each individual Member State, i.e. it presents both the shares of manufacturing in GDP as usually measured (industry perspective) and the shares of the manufacturing value chain in GDP (value chain perspective). Furthermore, the table also includes the shares of services and business services, respectively, in the manufacturing value chains of each country.

Table 2 / Manufacturing value chain indicators in 1995 and 2011, by EU Member State, in %

	Value added share		Value chain share		Share of services in manufacturing value chain		Share of business services in manufacturing value chain	
	1995	2011	1995	2011	1995	2011	1995	2011
Hungary	21.3	25.3	29.9	32.6	28.8	28.8	9.2	11.0
Czech Republic	24.3	25.8	29.9	31.6	28.5	28.8	7.0	8.2
Germany	22.6	22.4	27.7	28.9	32.0	35.9	13.7	15.9
Slovak Republic	26.8	19.6	29.8	27.8	28.0	33.3	6.8	8.4
Ireland	30.2	26.8	35.0	27.5	25.6	26.8	9.6	15.6
Poland	21.1	18.1	28.4	27.0	26.2	36.1	4.9	7.9
Romania	25.6	23.6	33.3	26.6	22.1	24.2	10.1	6.7
Bulgaria	22.0	17.6	32.6	25.7	23.3	30.9	9.9	8.3
Italy	22.2	16.6	29.1	23.3	33.7	40.0	9.4	13.9
Slovenia	25.7	19.6	30.1	23.1	26.6	33.0	8.7	10.9
Sweden	22.4	16.7	26.0	23.1	30.8	40.4	9.3	16.1
Austria	19.6	18.5	23.7	23.1	31.2	34.7	10.3	12.4
Netherlands	17.4	14.1	25.6	22.6	36.4	39.8	12.5	15.7
Belgium	20.3	14.5	27.0	22.1	36.7	45.2	13.6	17.8
EU-27	21.0	17.2	25.7	22.0	33.2	38.9	12.4	16.0
Lithuania	19.1	16.4	26.0	21.5	26.0	34.2	2.8	5.6
Finland	25.4	18.6	25.9	20.2	27.5	35.8	7.6	12.6
Estonia	21.0	14.3	29.3	20.1	28.7	41.1	5.2	12.5
Denmark	17.1	11.5	23.9	19.1	33.3	39.6	8.6	12.2
France	14.2	10.1	21.4	18.3	40.1	48.5	17.7	23.7
Malta	21.7	13.3	27.6	17.9	24.4	36.8	6.4	13.4
Portugal	18.4	13.4	24.7	17.8	32.9	36.5	10.5	12.7
Spain	19.2	13.2	23.6	17.4	33.0	39.4	9.5	12.2
Luxembourg	13.7	6.5	20.7	17.2	49.7	73.0	28.5	45.4
United Kingdom	20.9	11.7	24.6	15.9	30.2	39.4	12.3	20.5
Latvia	20.7	9.9	24.1	14.8	27.0	44.7	4.9	11.2
Greece	12.0	10.3	16.8	13.3	28.2	35.3	6.9	8.5
Cyprus	11.8	6.8	15.8	9.1	30.5	46.1	9.8	16.4

Note: Countries are ranked according to value chain share in 2011.
Source: WIOD; wiiw calculations.

CONCLUSIONS

This article applied a 'manufacturing value chain approach' to explain the manufacturing developments in the EU. In this approach all value added generated in a particular economy which contributes to worldwide final demand for manufactured products is assigned to manufacturing. Thus, it takes into account services activities which are – together with the core manufacturing activity – provided in-house by a manufacturing firm and services activities which are outsourced to a domestic services provider as part of the manufacturing value chain of this country. Further, services activities undertaken in a particular economy which contribute to the manufacturing process in other countries are also accounted for as being part of the manufacturing value chain of the country under consideration.

The results suggest that in 2011 22% of value added generated in the EU was due to the contribution to world final demand for manufactured products. Over time this share – similarly to the share of manufacturing in GDP – declined from more than 25% in 1995. Within the manufacturing value chain the major part of value added came from manufacturing industries, but almost 40% from services. The share of the manufacturing contribution declined over time, whereas those of business services and distribution services increased. Countries with larger shares of manufacturing also tend to have larger shares of the manufacturing value chain in their GDP. Finally, over time, countries which were characterised by a declining share of manufacturing value added in GDP could only partly compensate that decline by providing corresponding business services to the manufacturing value chain.

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The effectiveness of public innovation support in the EU

BY JOHANNES PÖSCHL

INTRODUCTION

Innovation has been placed at the heart of the Europe 2020 agenda as one of the main drivers of economic growth. In a globalised world, innovative ideas and products stimulate exports and sales in general, thereby securing growth and future jobs (Harrison et al., 2008). As the EU is still behind other major economies when looking at simple innovation indicators such as overall R&D expenditures, the impact of innovation policies on firms' innovative behaviour has been a major concern of European policy-makers.

FACTORS OF INNOVATION ACTIVITY

A fertile environment for innovative activities is characterised by a number of preconditions, such as a good business environment, sound institutional background, strong legislation and execution of intellectual property rights, good quality of tertiary education and sufficient human resources in the respective research field. While these critical success factors are an essential part of each innovation system, another main component consists of financial innovation factors. Substantial financial resources are a prerequisite for the success of an innovation project and, if missing, the predominant factor of failure (Rubenstein et al., 1976; Page, 1993; Canepa and Stoneman, 2008). Acquiring external funding for R&D is harder and usually more costly compared to ordinary investment. The reasons are capital market imperfections resulting from asymmetric information and moral hazard problems: the investor is usually much more in the dark and her ability to judge the progress and prospects of innovation projects is rather limited in comparison with conventional projects (Arrow, 1962; Myers and Majluf, 1984). The high cost of external capital due to this extra premium for R&D projects makes internal funds preferable over external sources of finance (Himmelberg and Petersen, 1994). As a result, around 87% of firms finance innovation projects with internal funds (Spielkamp and Rammer, 2009).

If an innovation is successful, a further problem arises as the innovating firm is typically unable to appropriate all the benefits of its R&D efforts. Labour mobility and other factors are responsible for the diffusion of knowledge, which makes it again less attractive to invest in R&D. Given the existence of such market failures, public intervention is essential to overcome the resulting underinvestment in innovative activity.

In order to foster innovation, many studies have pointed out the importance of supporting small and start-up firms (see Hall and Lerner, 2009 for a literature overview). Due to their very limited internal funds, they have to rely more on external funding than their larger competitors, which gives them a

comparative disadvantage. Especially 'small and start-up firms in R&D-intensive industries face a higher cost of capital than their larger competitors' (Hall, 2002; Canepa and Stoneman, 2007).

The way these external funding problems of firms are dealt with still differs greatly across countries in the EU. Venture capitalists are more active in Scandinavian and Anglo-Saxon countries and public funding is on average more pronounced in EU-15 countries (Western Europe) compared to the EU-12 countries (new EU Member States). When looking at the different settings, an essential question that arises is about the effectiveness of public innovation support. In this article, the effects of public innovation support are evaluated and the investigation will show whether there is evidence for crowding out of private R&D investment. To that end, the effect of public funding on the R&D intensity and innovation output is estimated, using data from the Community Innovation Survey (CIS).[1] The two CIS waves used for the analysis are those before and after the EU enlargement in 2004, CIS4 (2002-2004) and CIS5 (2004-2006). Innovation output will be measured in terms of innovative sales and patent applications.

ESTIMATION METHODOLOGY AND RESULTS

A major problem that the analysis faces is a possible selection bias. Neither the fact that a firm applies for funding nor the fact that it receives public support can be considered random. Firms receiving public support are, for example, more often exporting firms, which are likely to be more productive as well. Moreover, firms in higher-tech industries and those participating in R&D cooperations are more often supported as well as firms which are larger in terms of turnover. Thus, selection clearly has to be taken into account to be able to produce credible estimation results.

BOX 1 / THE FOUR-STEP MATCHING PROCEDURE

1. Restriction of the sample to the innovative firms of interest: either all innovative firms, or a subsample of firms with respect to size, country or industry affiliation.
2. Estimation of probability of a firm to receive public funding depending on the following observable characteristics: size based on employment and turnover, country and industry affiliation, exporter status, a dummy for multinationals and domestic enterprise groups as well as information on R&D cooperations and preconditions for R&D (estimated at a previous stage).
3. Matching of firms that receive public support with firms that have a similar probability of getting public funds but do not receive them. Firms are only matched with other firms in the same country and employment size class (small: less than 50 employees, medium: between 50 and 250, large: more than 250). Firms that have no similar counterpart are excluded from the sample using a threshold for the maximum allowed difference.
4. The average treatment effect can now be calculated as the mean difference of the matched samples.

[1] Following the Community Innovation Survey, public funding or public innovation support is defined as credits or deductions, grants, subsidised loans, and loan guarantees for innovative activities. The support may come from three authorities: the EU, national governments and regional authorities.

In the analysis, matching techniques are applied to control for this selection bias. According to a number of observable characteristics, each firm that receives public support is matched with a firm that does not. The two groups, the treatment group, i.e. those firms that do receive public support, and the control group, should then be similar according to the considered observable characteristics. Hence, one can estimate the treatment effect on firms that receive public support. The complete procedure is an extended version of the one found in Czarnitzki and Lopes-Bento (2013) and explained in Box 1.

Table 1 / R&D intensity (R&D expenditures in % of turnover)

R&D intensity	Treated	Control	Difference	T-stat
All firms	0.033	0.017	0.016	13.46 ***
EU-15 firms	0.035	0.018	0.017	13.23 ***
EU-12 firms (CIS4)	0.024	0.013	0.011	3.81 ***
EU-12 firms (CIS5)	0.024	0.012	0.013	4.48 ***
Small	0.041	0.019	0.022	10.25 ***
Medium	0.027	0.014	0.014	7.69 ***
Large	0.029	0.019	0.010	4.66 ***
High-tech	0.069	0.036	0.033	6.27 ***
Medium-high-tech	0.041	0.025	0.016	5.97 ***
Medium-low-tech	0.019	0.011	0.009	4.41 ***
Low-tech	0.020	0.013	0.007	3.22 ***
Food processing	0.015	0.006	0.008	2.23 **

Note: The stratified sample overall contains all CIS4 EU-27 countries; the number of treated firms in each sample is: full sample: 5152, EU-15: 4338, EU-12: 814 (CIS4), 954 (CIS 5), small: 2090, medium: 1827, large: 1235, domestic enterprise groups: 1580, foreign enterprise groups: 411, high-tech: 633 firms, medium-high-tech: 1447, medium-low-tech: 1131, low-tech: 902, food processing: 441. ***, ** and * denote tests being significant at a 1, 5 and 10% level, respectively.

Table 2 / Patent application propensity (share of firms applying for a patent in the previous two years)

Patent application propensity	Treated	Control	Difference	T-stat
All firms	0.303	0.219	0.084	7.54 ***
EU-15 firms	0.323	0.234	0.089	7.03 ***
EU-12 firms (CIS4)	0.192	0.138	0.054	2.62 ***
EU-12 firms (CIS5)	0.158	0.108	0.050	3.00 ***
Small	0.193	0.128	0.066	4.59 ***
Medium	0.284	0.201	0.082	4.62 ***
Large	0.516	0.399	0.117	4.09 ***
High-tech	0.404	0.288	0.117	3.38 ***
Medium-high-tech	0.435	0.317	0.117	5.08 ***
Medium-low-tech	0.249	0.195	0.055	2.55 **
Low-tech	0.121	0.127	-0.007	-0.35
Food processing	0.163	0.091	0.073	2.51 **

Note: The stratified sample overall contains all CIS4 EU-27 countries; the number of treated firms in each sample is: full sample: 5152, EU-15: 4338, EU-12: 814 (CIS4), 954 (CIS 5), small: 2090, medium: 1827, large: 1235, domestic enterprise groups: 1580, foreign enterprise groups: 411, high-tech: 633 firms, medium-high-tech: 1447, medium-low-tech: 1131, low-tech: 902, food processing: 441. ***, ** and * denote tests being significant at a 1, 5 and 10% level, respectively.

Table 3 / Share of innovative sales (sales of products introduced in the previous two years in % of total turnover)

Share of innovative sales	Treated	Control	Difference	T-stat
All firms	0.232	0.201	0.031	4.11 ***
EU-15 firms	0.222	0.188	0.033	4.04 ***
EU-12 firms (CIS4)	0.288	0.269	0.019	1.09
EU-12 firms (CIS5)	0.285	0.277	0.009	0.57
Small	0.225	0.198	0.027	2.19 **
Medium	0.233	0.190	0.042	3.55 ***
Large	0.244	0.222	0.022	1.37
High-tech	0.336	0.249	0.087	3.84 ***
Medium-high-tech	0.261	0.220	0.041	3.04 ***
Medium-low-tech	0.178	0.166	0.012	0.83
Low-tech	0.200	0.190	0.010	0.60
Food processing	0.173	0.149	0.024	0.92

Note: The stratified sample overall contains all CIS4 EU-27 countries; the number of treated firms in each sample is: full sample: 5152, EU-15: 4338, EU-12: 814 (CIS4), 954 (CIS 5), small: 2090, medium: 1827, large: 1235, domestic enterprise groups: 1580, foreign enterprise groups: 411, high-tech: 633 firms, medium-high-tech: 1447, medium-low-tech: 1131, low-tech: 902, food processing: 441. ***, ** and * denote tests being significant at a 1, 5 and 10% level, respectively.
Source: Community Innovation Survey (CIS), waves 4 and 5; wiiw estimations.

The results shown in Tables 1 to 3 indicate that for the full sample, public funding has considerable effects on the R&D input as well as output. The following three innovation input and output measures are considered: (1) R&D intensity, which measures R&D expenditures in % of turnover; (2) patent application propensity, showing the share of firms applying for a patent in the previous two years; and (3) share of innovative sales, indicating how much of total turnover can be attributed to new products introduced in the last two years. The average R&D intensity in the treatment group is 1.6pp higher than in the control group (Table 1). The probability of firms to apply for a patent (patent application propensity) increases by 8.4pp through public funding (Table 2) and the share of innovative sales is on average 3.1pp higher for firms that received public funding (Table 3).

Looking in more detail at geographic aspects, one is able to observe that the R&D intensity as well as the patent application propensity of EU-15 firms is way above the one of EU-12 firms. The difference in the patent application propensity is also not an effect originating from the firm size distributions as firms in the matched sample are on average larger in the EU-12 and thus should have a higher patent application propensity. However, public funding has had a significantly positive effect in both country groups. The effects are quite different for the other innovation output measure – the share of innovative sales. This share is overall found to be larger in the EU-12 due to faster product upgrading, but the results indicate no effect of public funding on the commercialisation phase in this region. This finding is also rather stable over time when looking at different measurement waves (CIS4 and CIS5).

POLICY IMPLICATIONS

These results suggest that there is a potential to improve the targeting of public innovation support in the EU-12 and to make it more effective. Especially in the EU-12, and irrespective of the actual objectives of the support programmes, de facto governments end up providing innovation support more often to larger firms than to their smaller competitors. Given the substantial evidence that especially small firms face considerable financial problems due to asymmetric information, they should be the primary target of public funds. In order to increase support of small firms, a special targeting of grants is one possibility to improve the allocation of public funds. Other initiatives could include information campaigns about credits, deductions and subsidised loans for new entrepreneurs. As problems lie mainly in the commercialisation phase, fostering venture capital investment could be another starting point.

Interesting results also emerge from the investigation of effects along the dimension of firm size. Very pronounced effects of public support on R&D input as well as output can be found for small firms and medium-sized enterprises (SMEs). SMEs usually lack sufficient internal funds and thus supporting them is vital in order to have a competitive market with strong entrants that are able to fill world market niches and produce innovative products. Effects on patent application rates are especially pronounced for larger firms. At the same time, no significant effect of public support on the share of innovative sales can be found for large firms. One reason for this finding is that large firms often split research and production facilities geographically and thus output effects may be generated in other subsidiaries.

The most striking results were obtained with respect to the industry affiliation of firms. On the one hand, the analysis shows that especially innovation projects in higher-tech industries benefit strongly from public funding. This can be seen from the significant and large effects on both the patent application propensity and the share of innovative sales. Publicly funded firms in high- and medium-high-tech industries exhibit an 8.7 and 4.1pp higher increase in the share of innovative sales, respectively, and an 11.7pp higher application rate for patents.

On the other hand, the results indicate strong crowding-out effects of public funding in lower-tech industries, especially with respect to innovation output measures. The finding is not only due to lower-tech EU-12 firms, which overall exhibit no significant results with respect to the share of innovative sales, but can be found for lower-tech EU-15 firms as well. A possible explanation for this result is that innovation projects in these industries take place in an environment which is changing less rapidly than in high-tech industries. Thus, there is on average less risk and asymmetric information attached to innovation projects in low-tech industries. Banks and other financial intermediaries can thus better evaluate them. Innovation market failures are therefore expected to be less pronounced in traditional industries and thus there is also less need for public funding. This is especially true for larger firms, which can either rely on internal funding or have easier access to external funding e.g. from banks. The finding also indicates that the increased innovation support via the Rural Development Policy, which is part of the European Common Agricultural Policy, has no or very small effects on innovation output.[2]

[2] 'Food processing' was analysed separately, as firms in this industry exhibit by far the highest support rate with respect to EU funds.

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The editors recommend for further reading*

Razin and Sadka on **migration and the welfare state:** http://www.nber.org/papers/w21606.pdf

Martin Wolf arguing against immigration or rather for some kind of rationing:
http://www.ft.com/intl/cms/s/0/509c8f5a-65c3-11e5-a28b-50226830d644.html#axzz3nCSsx7DK

On the refugee crisis: http://www.nybooks.com/articles/archives/2015/oct/22/terrible-flight-killing/

A debate on the **political economy of free trade**: Dani Rodrik answers a question:
http://rodrik.typepad.com/dani_rodriks_weblog/2015/09/trade-within-versus-between-nations.html

Don Boudreaux, the person asking the question, comments:
http://cafehayek.com/2015/09/responding-to-dani-rodrik.html

Arnold King jumps in with a short comment:
http://www.arnoldkling.com/blog/dani-rodrik-on-trade-across-borders/

On **corporate debt** in emerging economies:
http://www.voxeu.org/article/emerging-economy-corporate-debt-threat-financial-stability

Blanchard et al. on whether capital inflows are expansionary or contractionary:
http://www.nber.org/papers/w21619.pdf

Krugman debates Gourevitch:
http://www.nytimes.com/2015/09/21/opinion/paul-krugman-the-rage-of-the-bankers.html

– criticised by Gourevitch: http://www.washingtonpost.com/blogs/monkey-cage/wp/2015/09/30/this-explains-whats-wrong-with-paul-krugmans-explanation-for-how-the-fed-sets-policy/

– to which Krugman answered: http://krugman.blogs.nytimes.com/2015/09/30/the-fed-puzzle/

– eliciting another comment by Gourevitch: http://www.washingtonpost.com/blogs/monkey-cage/wp/2015/10/02/paul-krugman-is-right-about-economics-what-his-arguments-need-are-more-politics/

– with Krugman's final comment (so far):
http://krugman.blogs.nytimes.com/2015/10/03/puzzled-by-peter-gourevitch/?module=BlogPost-Title&version=Blog%20Main&contentCollection=Opinion&action=Click&pgtype=Blogs&region=Body&_r=0

* Recommendation is not necessarily endorsement. The editors are grateful to Vladimir Gligorov for his valuable contribution to this section.

Monthly and quarterly statistics for Central, East and Southeast Europe

The annex now covers **20 countries** of the CESEE region. The new graphical form of presenting statistical data is intended to facilitate the **analysis of short-term macroeconomic developments**. The set of indicators captures tendencies in the real sector, pictures the situation in the labour market and inflation, reflects fiscal and monetary policy changes, and depicts external sector development.

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: **http://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
LFS	Labour Force Survey
HICP	Harmonized Index of Consumer Prices (for new EU Member States)
PPI	Producer Price Index
M1	Currency outside banks + demand deposits / narrow money (ECB definition)
M2	M1 + quasi-money / intermediate money (ECB definition)
p.a.	per annum
mn	million (10^6)
bn	billion (10^9)

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.

Access: New online database access! (see overleaf)

New online database access

wiiw Annual Database

wiiw Monthly Database

wiiw FDI Database

The wiiw databases are now accessible via a simple web interface, with only one password needed to access all databases (and all wiiw publications). We have also relaunched our website with a number of improvements, making our services more easily available to you.

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

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

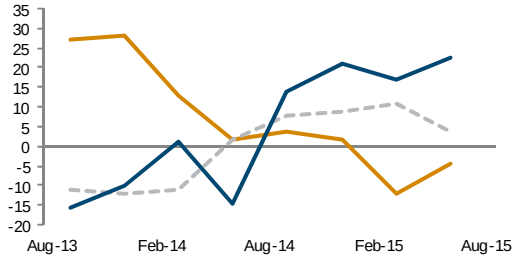
New service package available

Starting in January 2014, we offer an additional service package that allows you to access all databases – a Premium Membership, at a price of € 2,300 (instead of € 2,000 as for the Basic Membership). Your usual package will, of course, remain available as well.

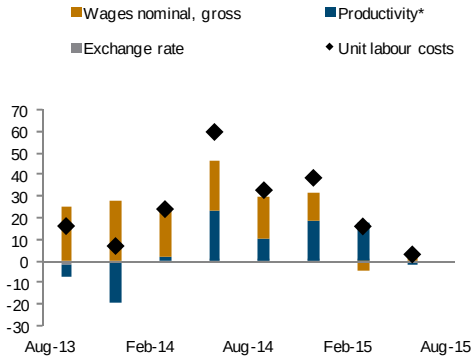
For more information on database access for Members and on Membership conditions, please contract Ms. Gabriele Stanek (stanek@wiiw.ac.at), phone: (+43-1) 533 66 10-10.

Albania

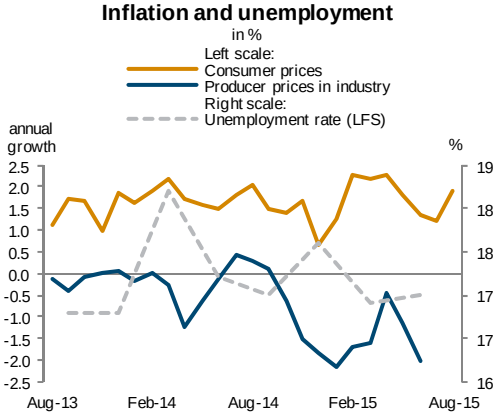
Real sector development
annual growth rate in %



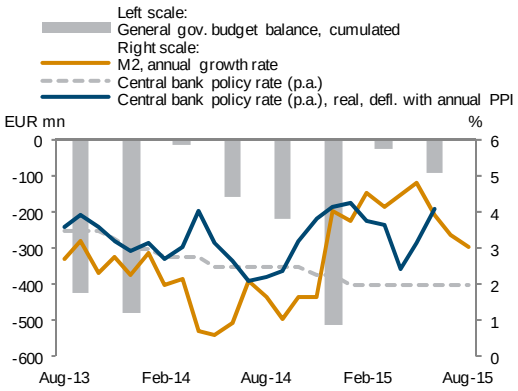
Unit labour costs in industry
annual growth rate in %



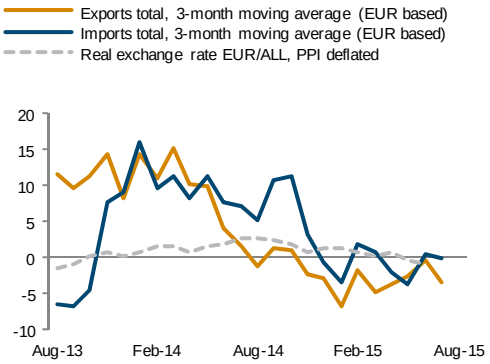
Inflation and unemployment
in %



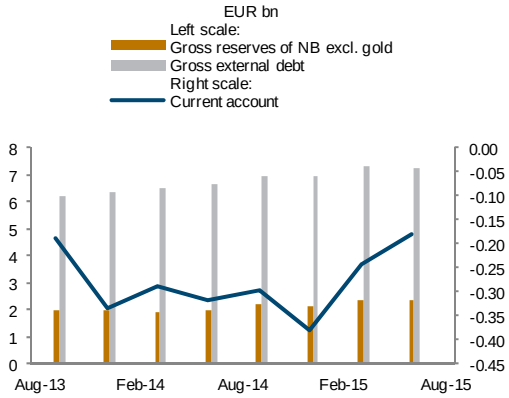
Fiscal and monetary policy



External sector development
annual growth rate in %



External finance
EUR bn



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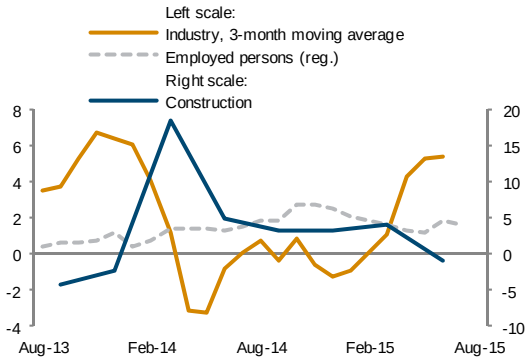
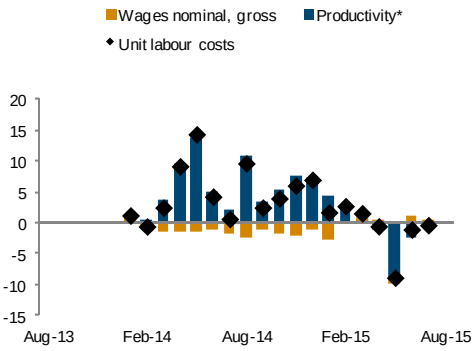
Bosnia and Herzegovina

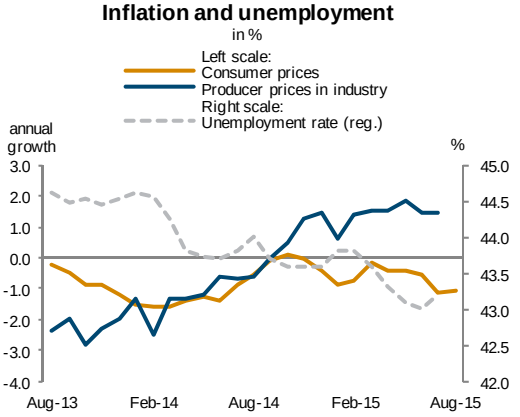
Real sector development
annual growth rate in %



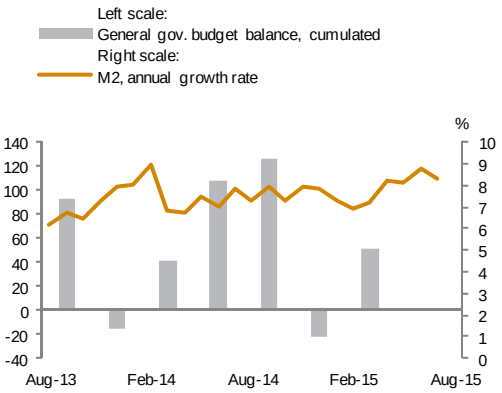
Unit labour costs in industry
annual growth rate in %



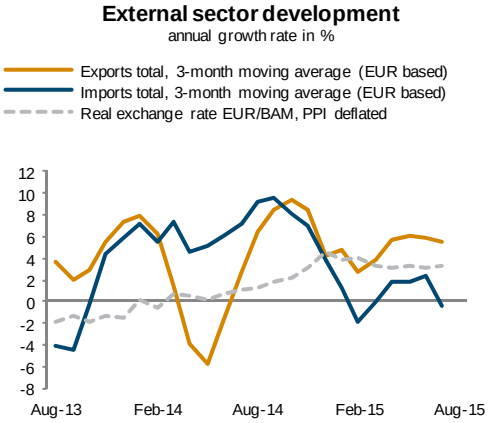
Inflation and unemployment
in %



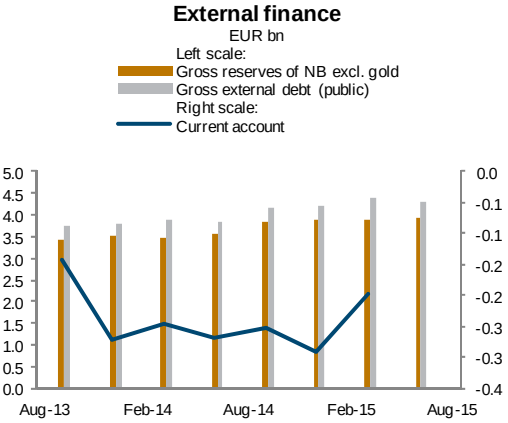
Fiscal and monetary policy



External sector development
annual growth rate in %



External finance
EUR bn



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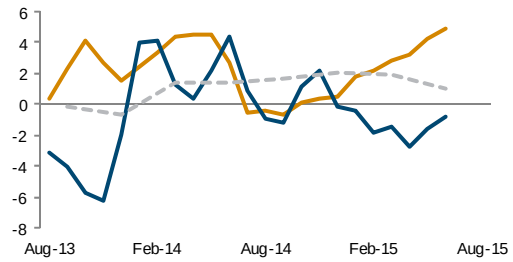
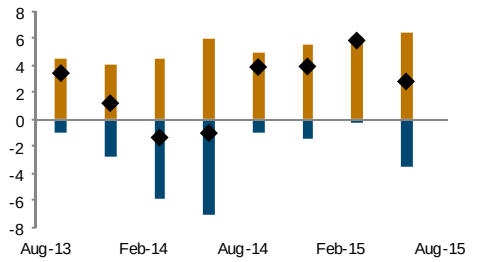
Bulgaria

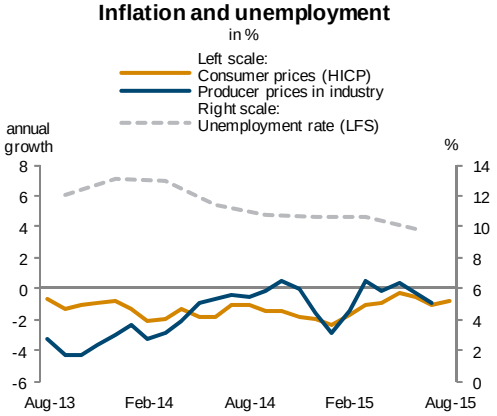
Real sector development
annual growth rate in %



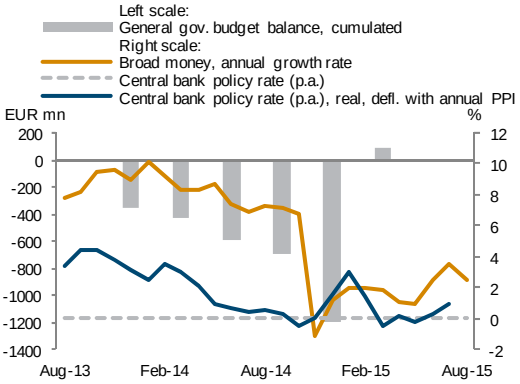
Unit labour costs in industry
annual growth rate in %



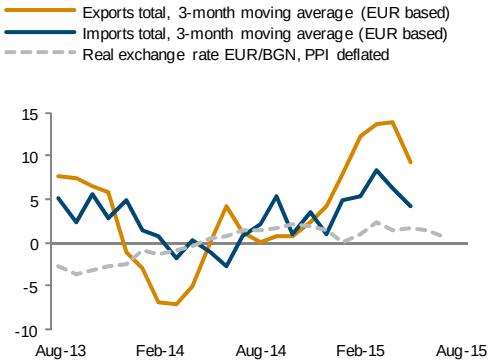
Inflation and unemployment
in %



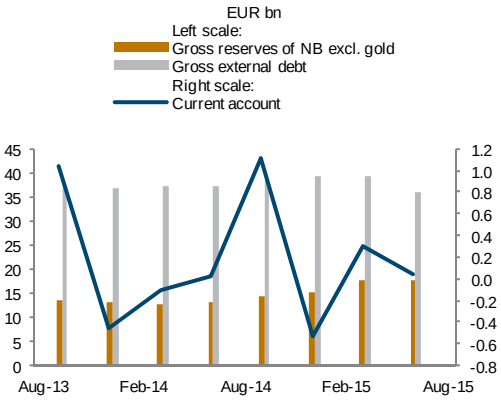
Fiscal and monetary policy



External sector development
annual growth rate in %



External finance
EUR bn



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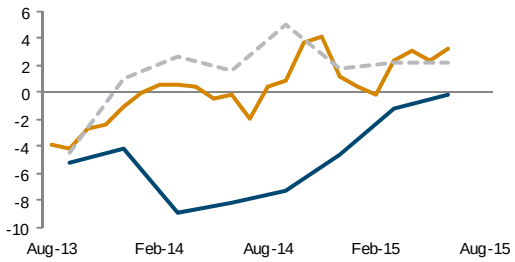
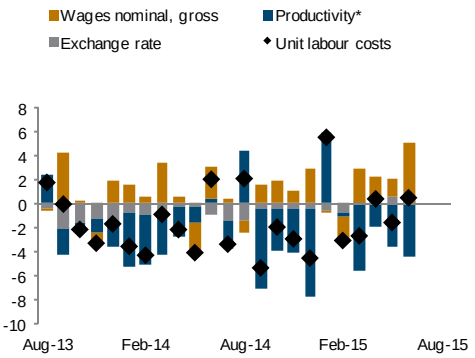
Croatia

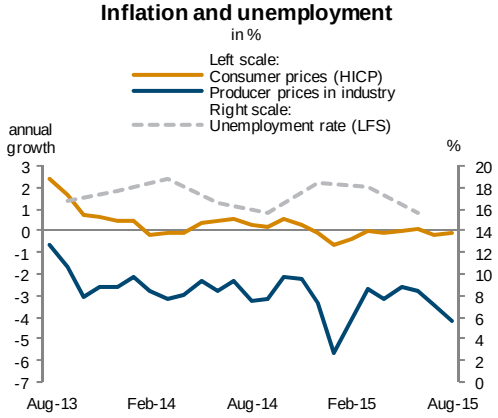
Real sector development
annual growth rate in %



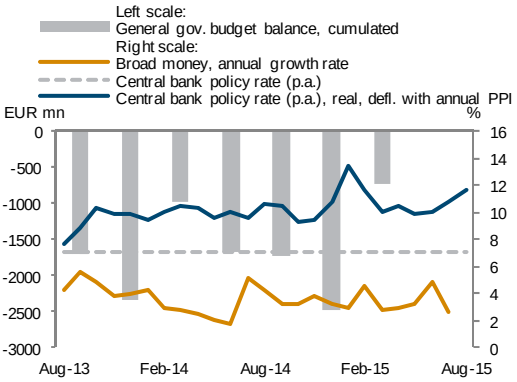
Unit labour costs in industry
annual growth rate in %



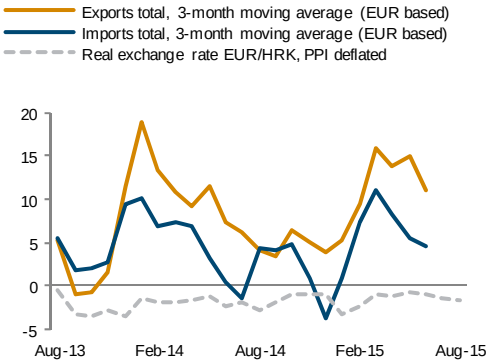
Inflation and unemployment
in %



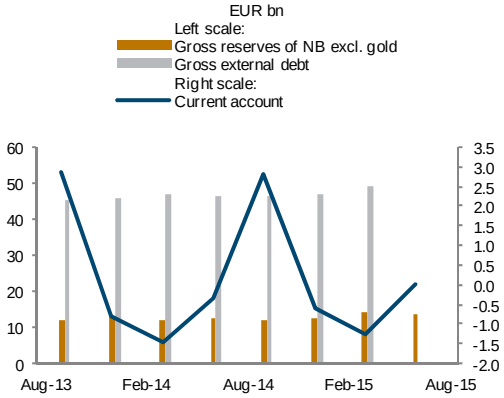
Fiscal and monetary policy



External sector development
annual growth rate in %



External finance
EUR bn



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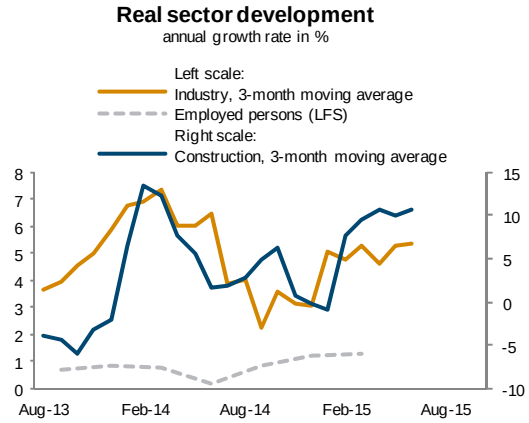
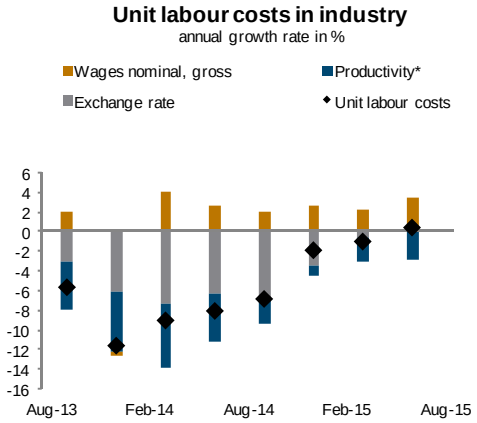
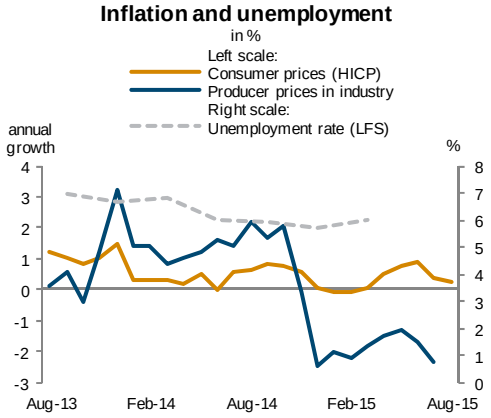
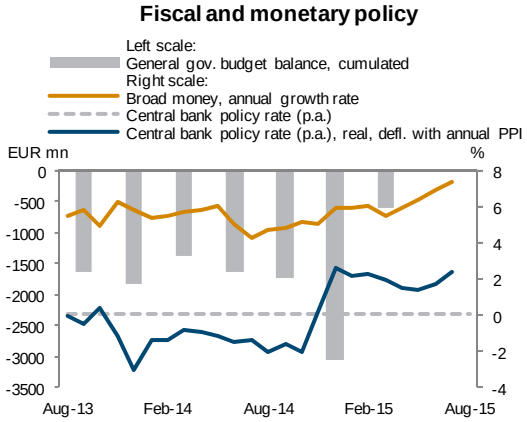
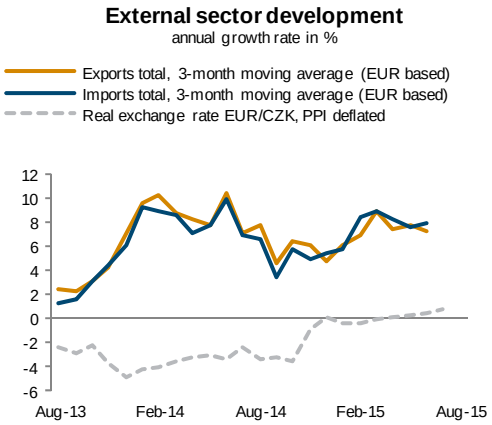
Czech Republic

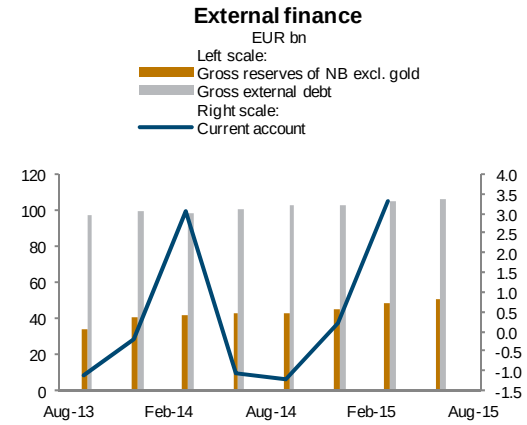












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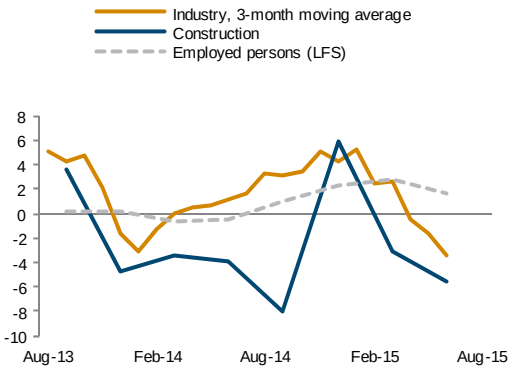
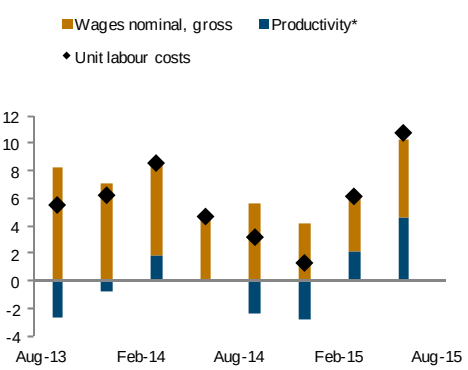
Estonia

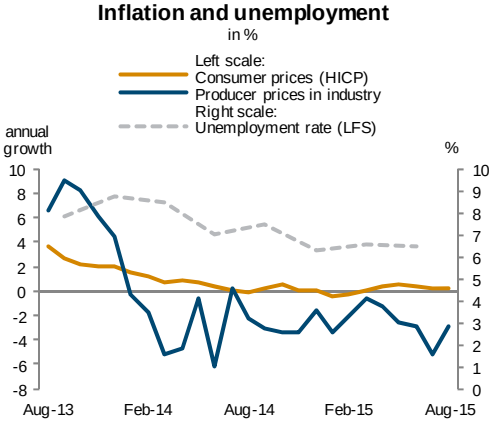
Real sector development
annual growth rate in %



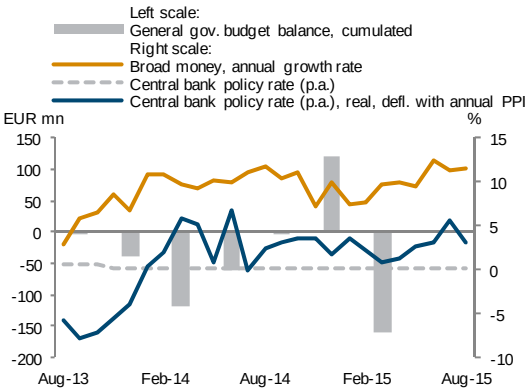
Unit labour costs in industry
annual growth rate in %



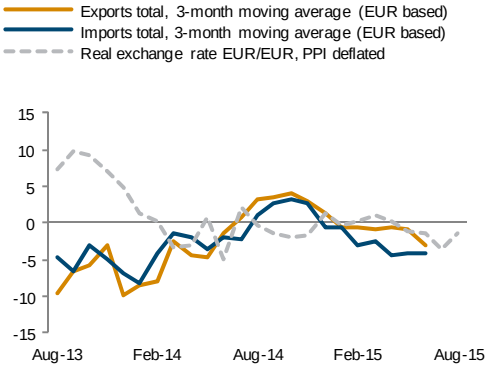
Inflation and unemployment
in %



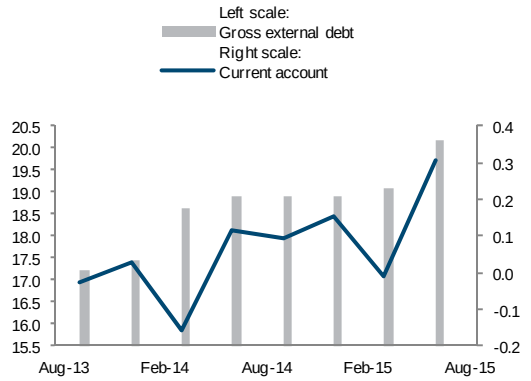
Fiscal and monetary policy



External sector development
annual growth rate in %



External finance
EUR bn



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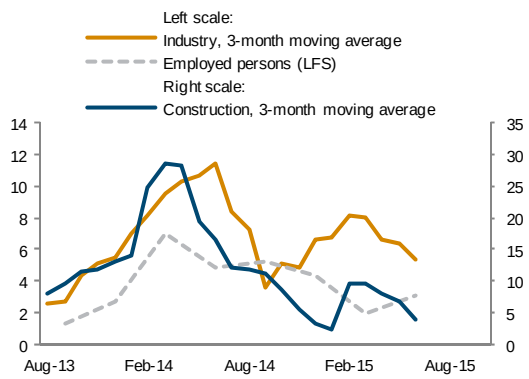
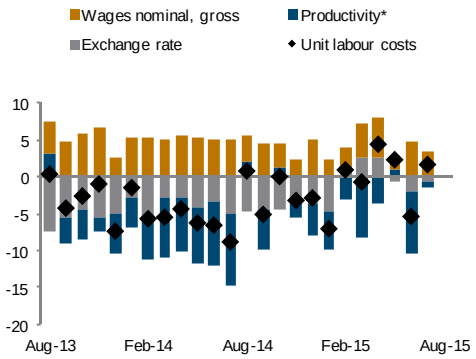
Hungary

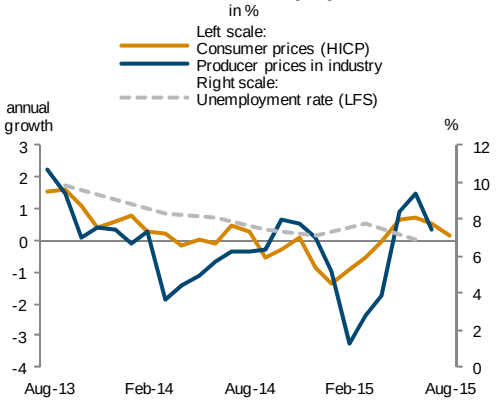
Real sector development
annual growth rate in %



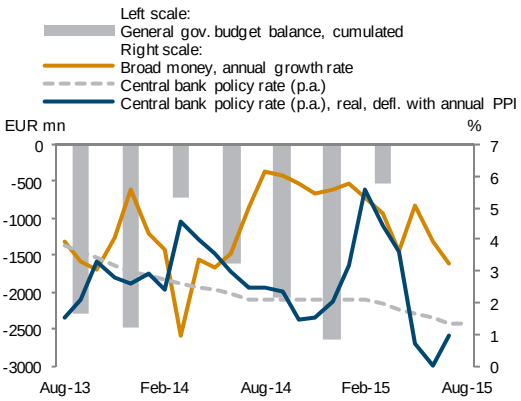
Unit labour costs in industry
annual growth rate in %



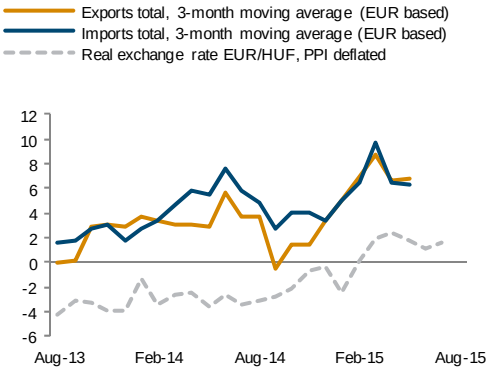
Inflation and unemployment
in %



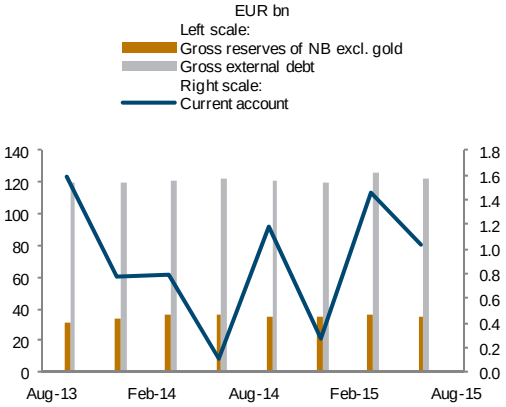
Fiscal and monetary policy



External sector development
annual growth rate in %



External finance
EUR bn



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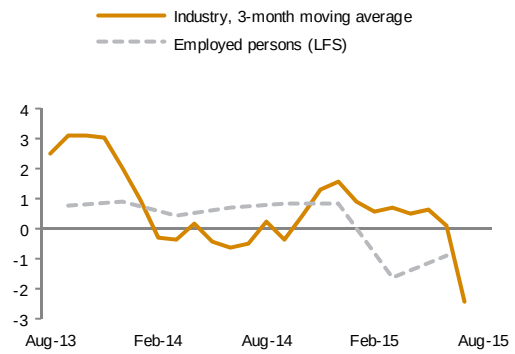
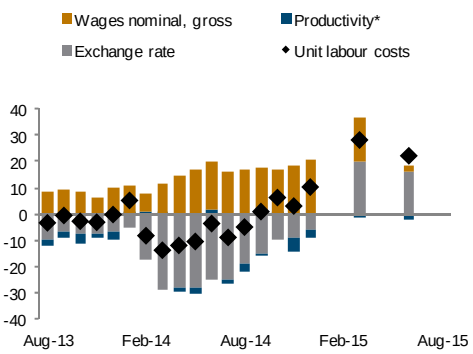
Kazakhstan

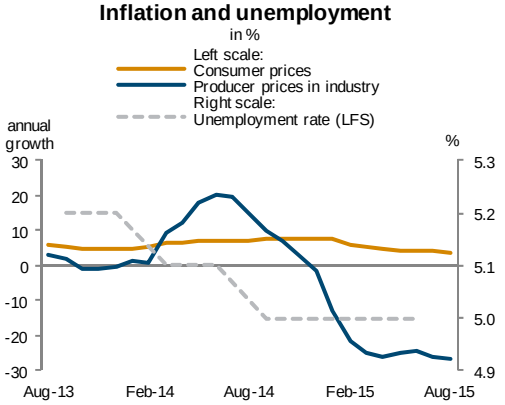
Real sector development
annual growth rate in %



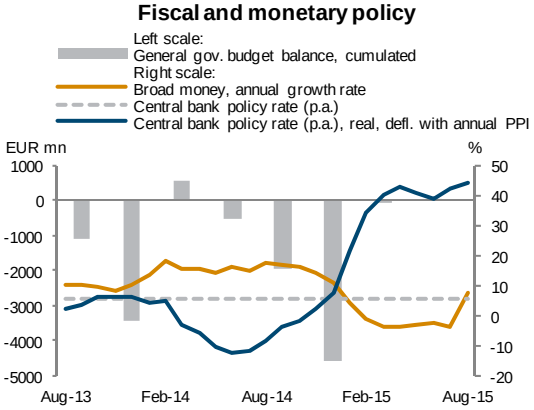
Unit labour costs in industry
annual growth rate in %



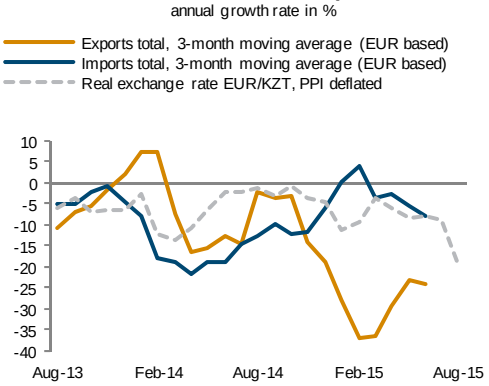
Inflation and unemployment
in %



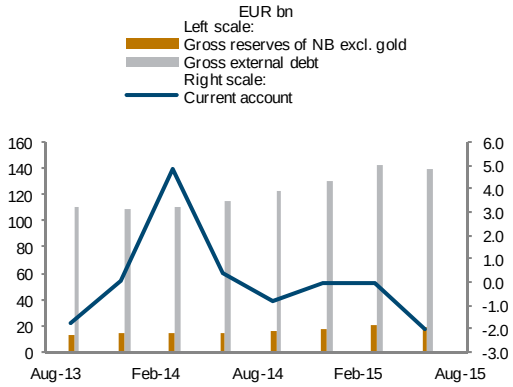
Fiscal and monetary policy



External sector development
annual growth rate in %



External finance
EUR bn



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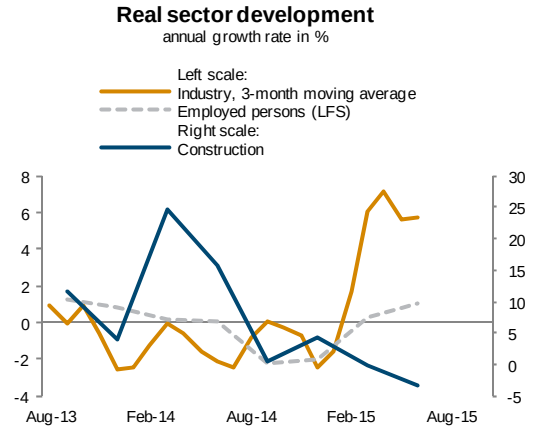
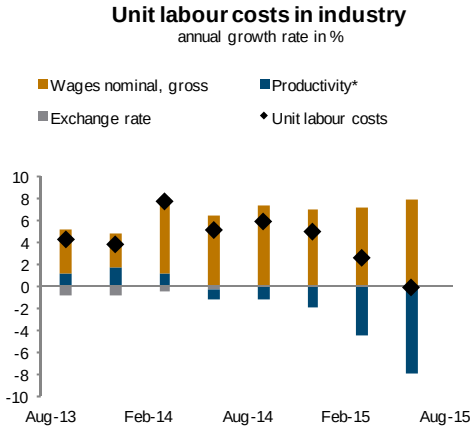
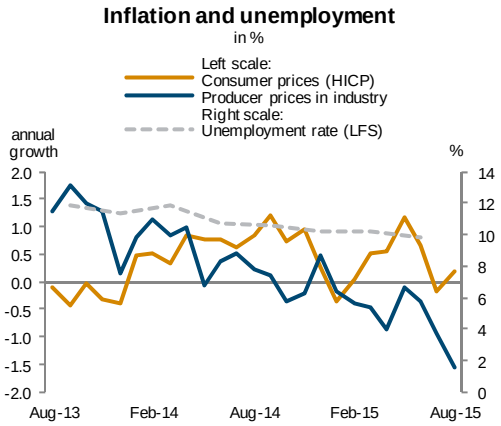
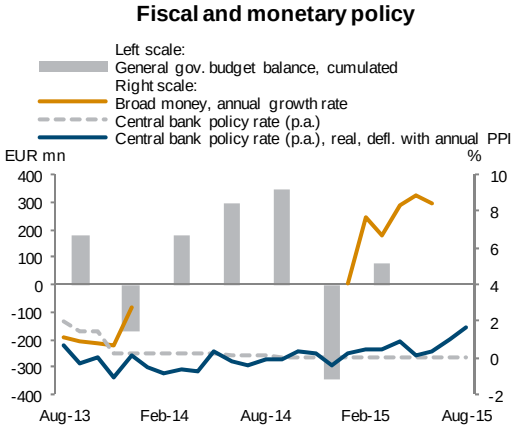
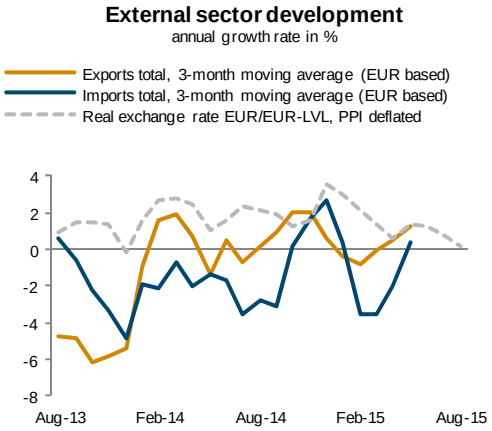
Latvia

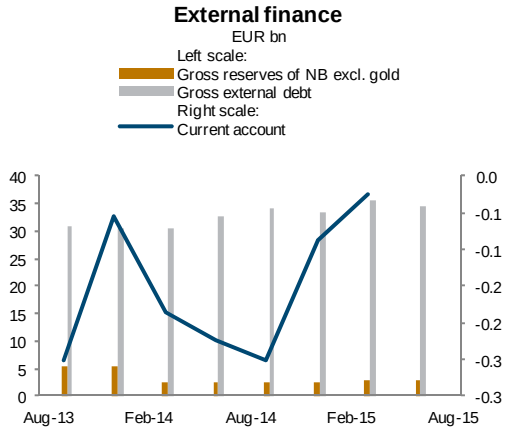












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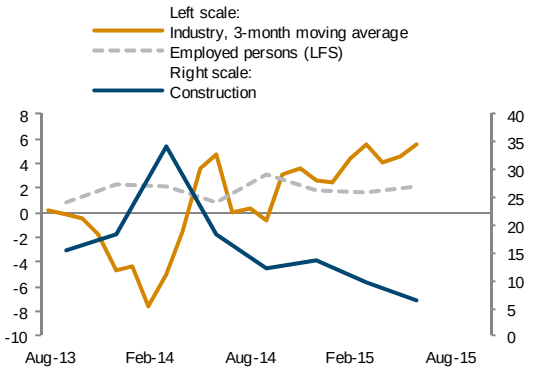
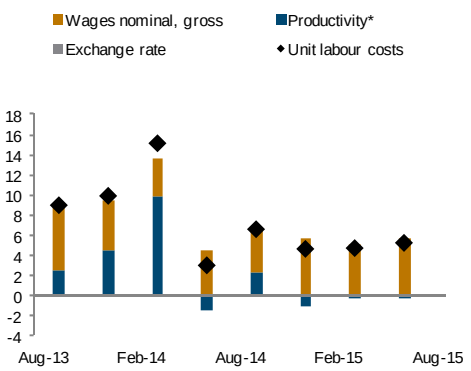
Lithuania

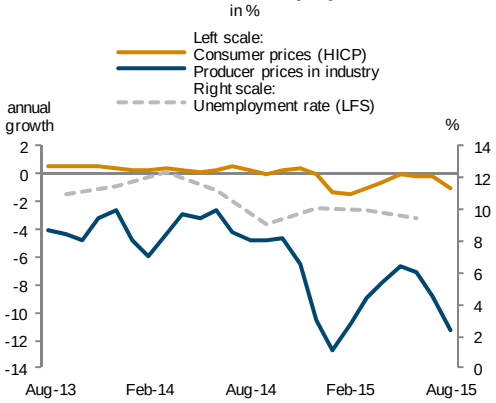
Real sector development
annual growth rate in %



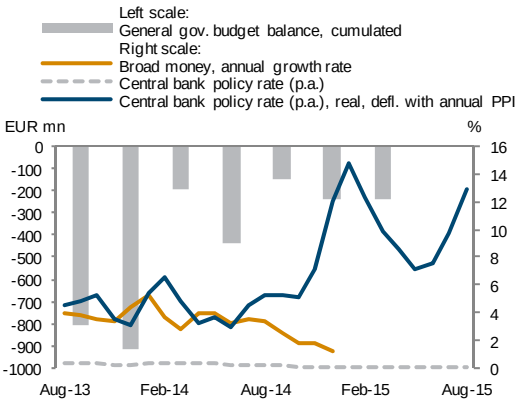
Unit labour costs in industry
annual growth rate in %



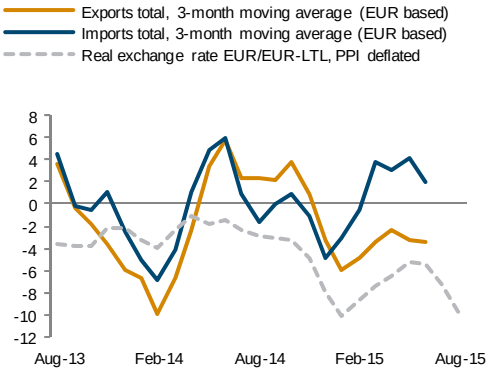
Inflation and unemployment
in %



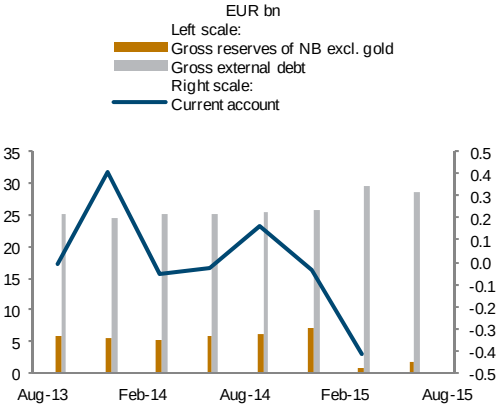
Fiscal and monetary policy



External sector development
annual growth rate in %



External finance
EUR bn



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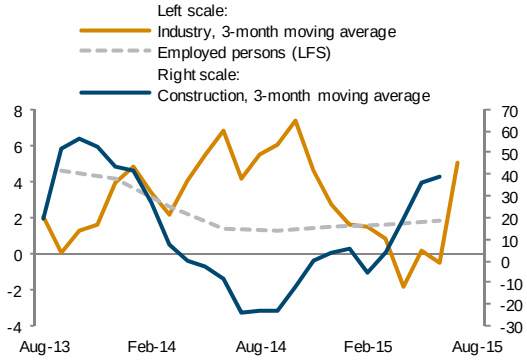
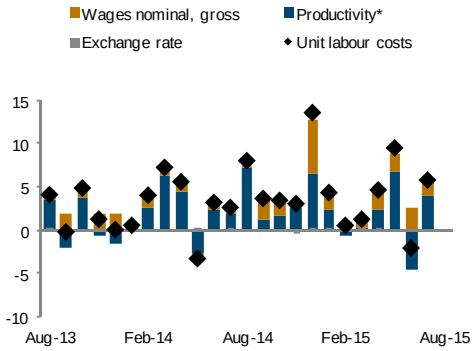
Macedonia

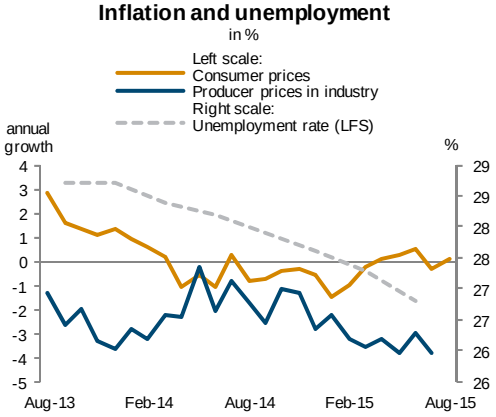
Real sector development
annual growth rate in %



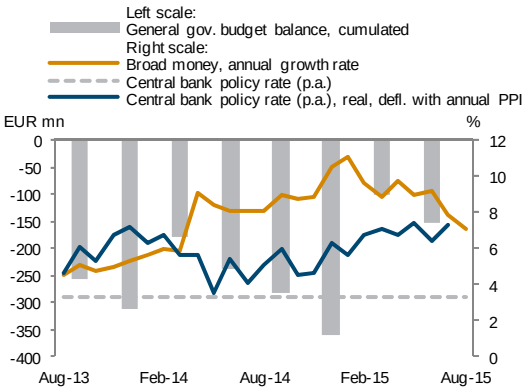
Unit labour costs in industry
annual growth rate in %



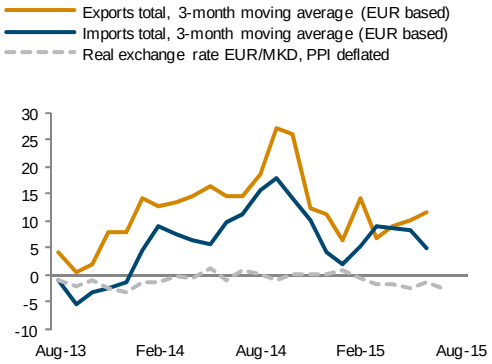
Inflation and unemployment
in %



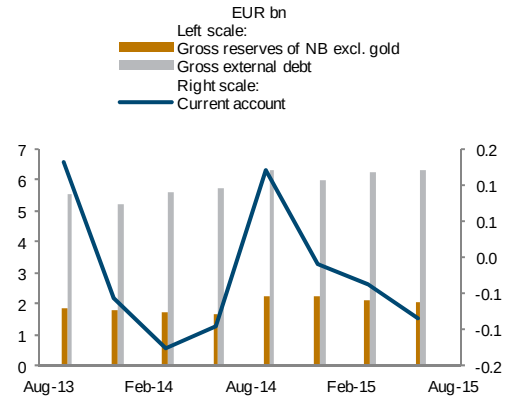
Fiscal and monetary policy



External sector development
annual growth rate in %



External finance
EUR bn



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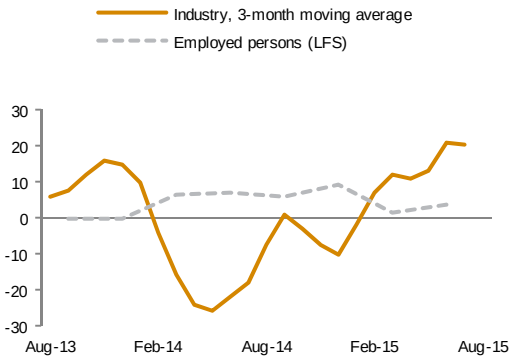
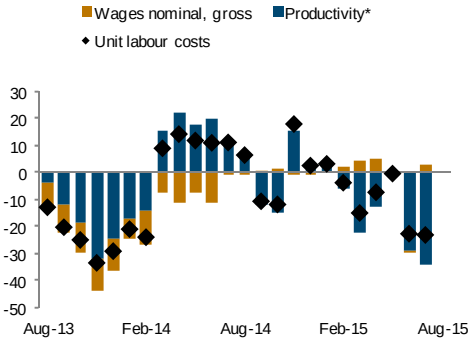
Montenegro

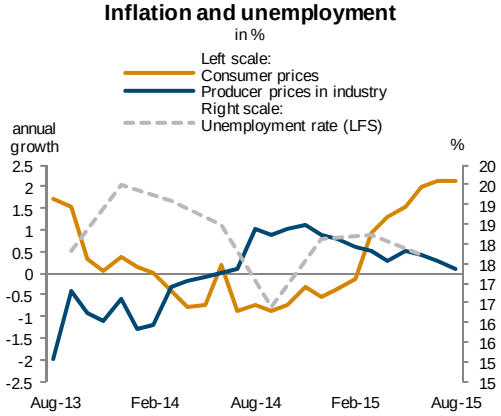
Real sector development
annual growth rate in %



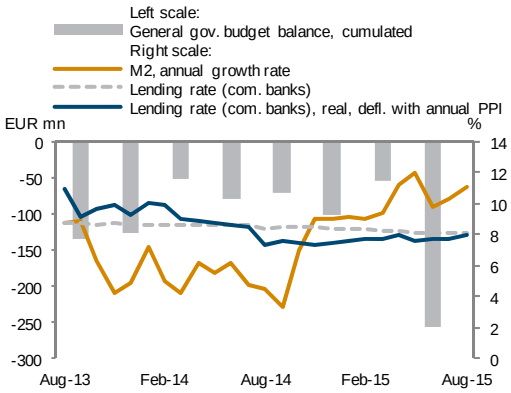
Unit labour costs in industry
annual growth rate in %



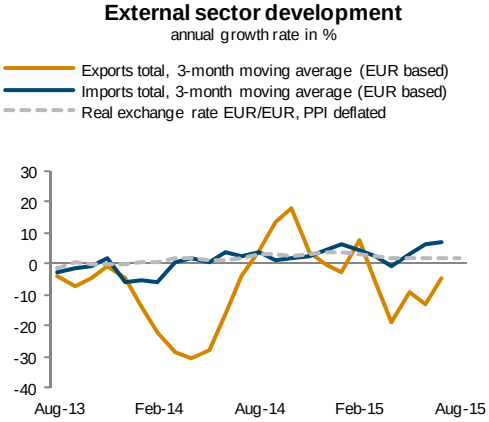
Inflation and unemployment
in %



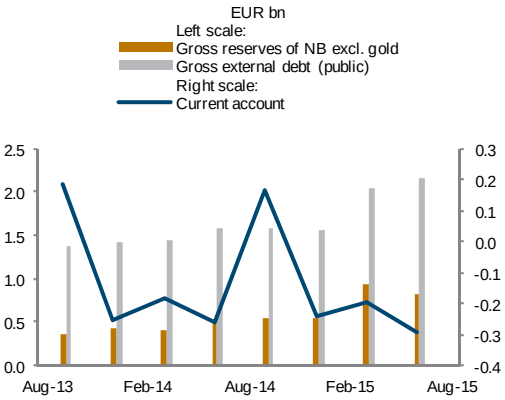
Fiscal and monetary policy



External sector development
annual growth rate in %



External finance



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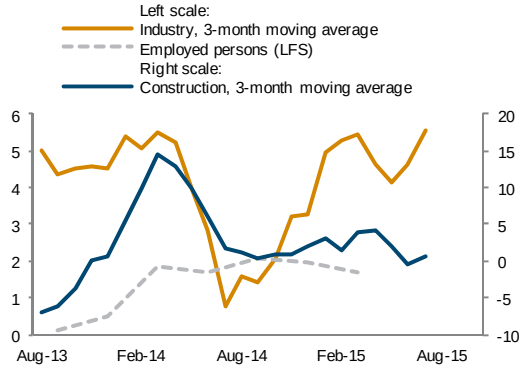
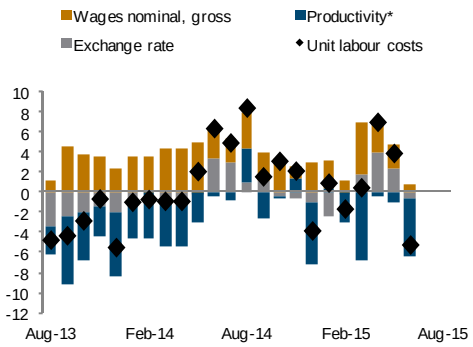
Poland

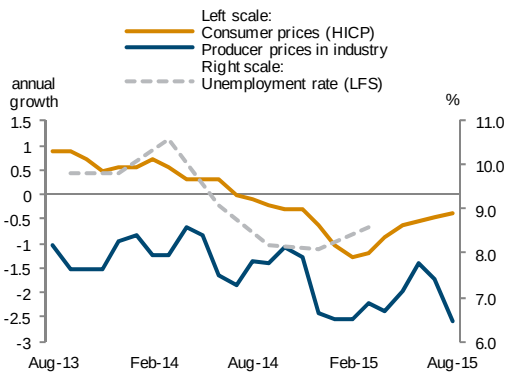
Real sector development
annual growth rate in %



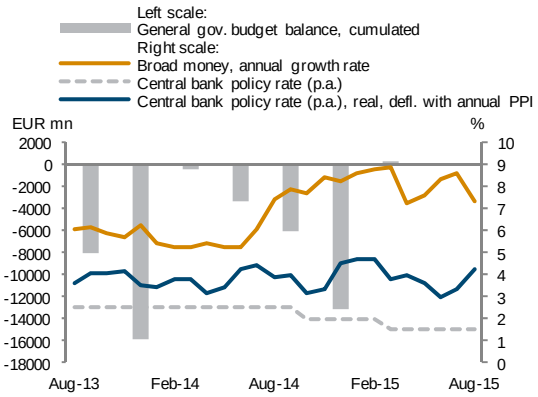
Unit labour costs in industry
annual growth rate in %



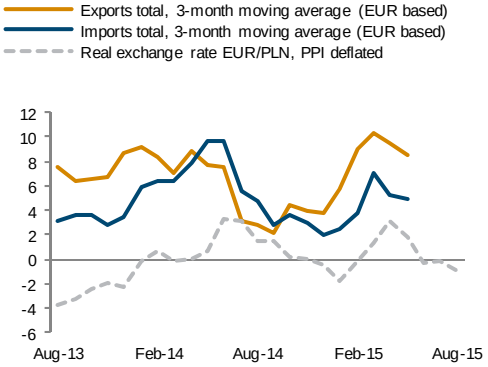
Inflation and unemployment
in %



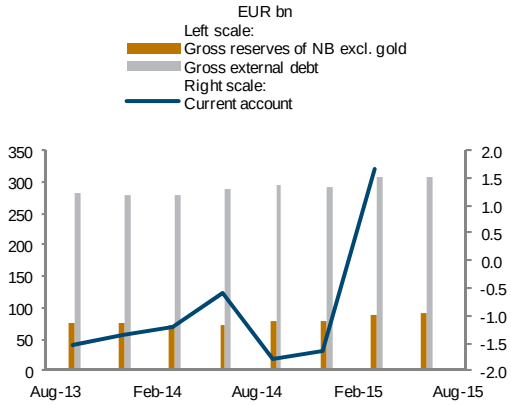
Fiscal and monetary policy



External sector development
annual growth rate in %



External finance
EUR bn



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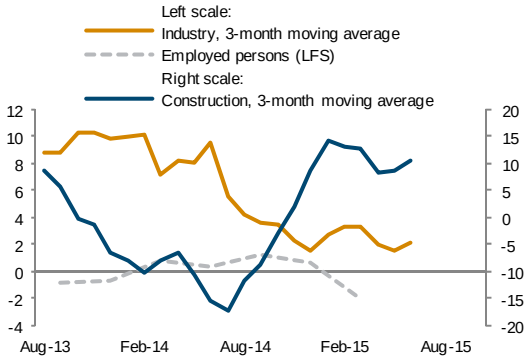
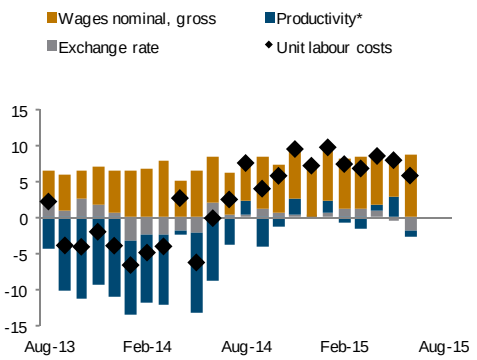
Romania

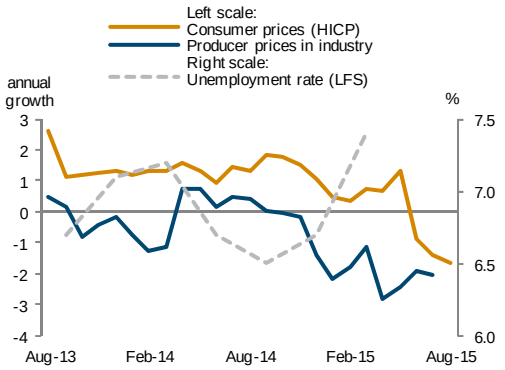
Real sector development
annual growth rate in %



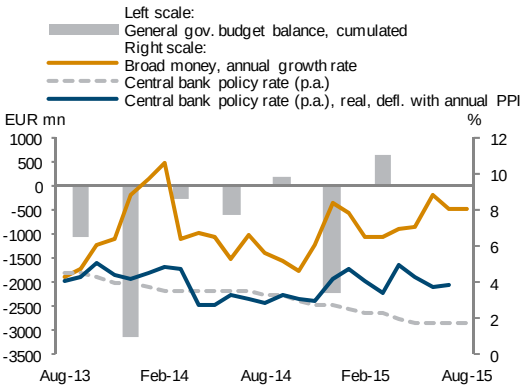
Unit labour costs in industry
annual growth rate in %



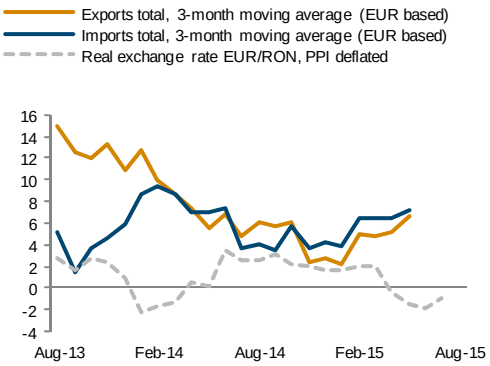
Inflation and unemployment
in %



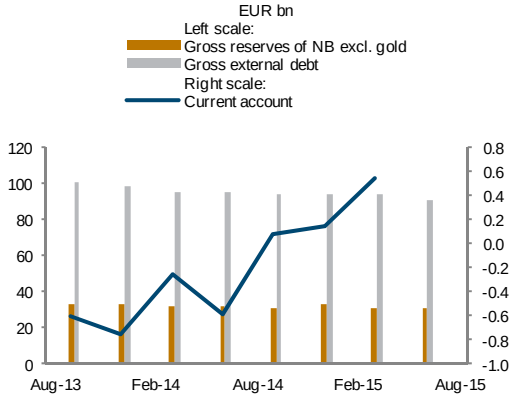
Fiscal and monetary policy



External sector development
annual growth rate in %



External finance
EUR bn



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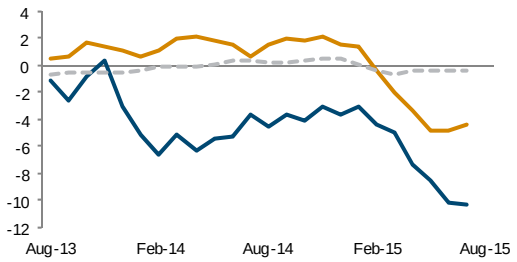
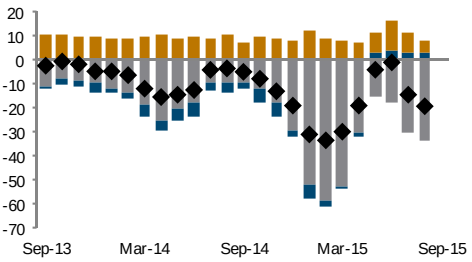
Russia

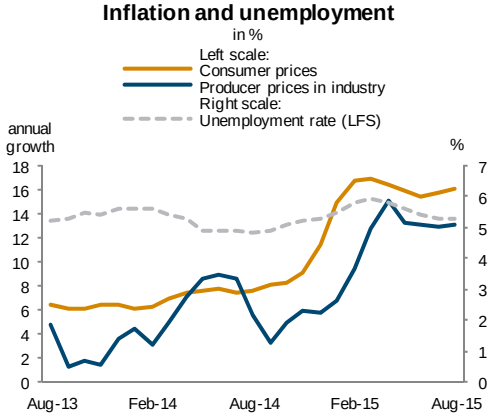
Real sector development
annual growth rate in %



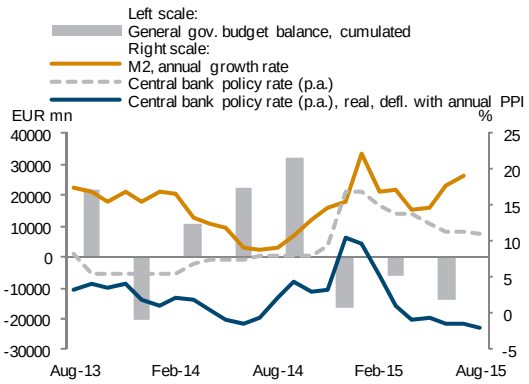
Unit labour costs in industry
annual growth rate in %



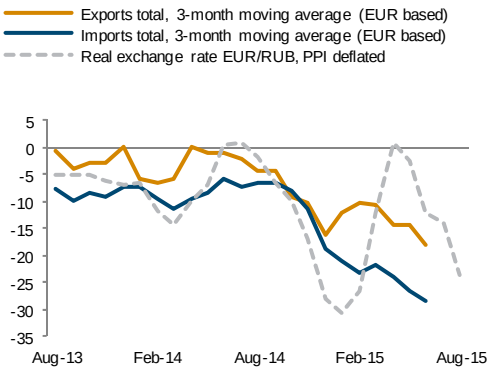
Inflation and unemployment
in %



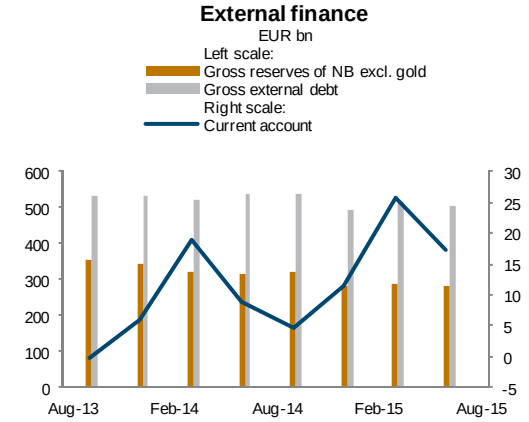
Fiscal and monetary policy



External sector development
annual growth rate in %



External finance
EUR bn



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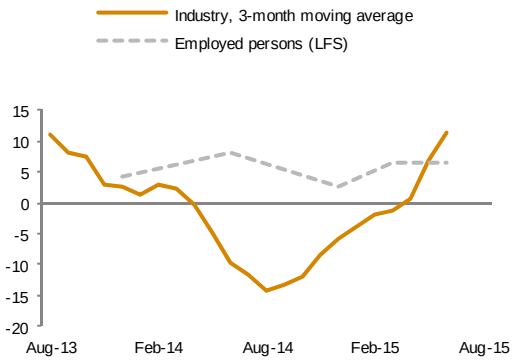
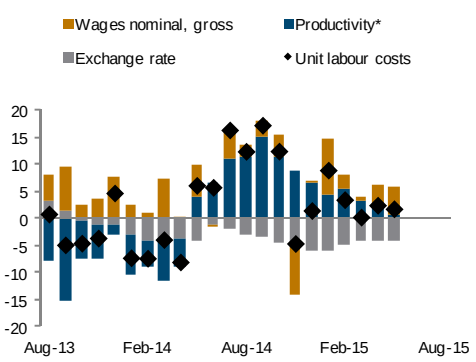
Serbia

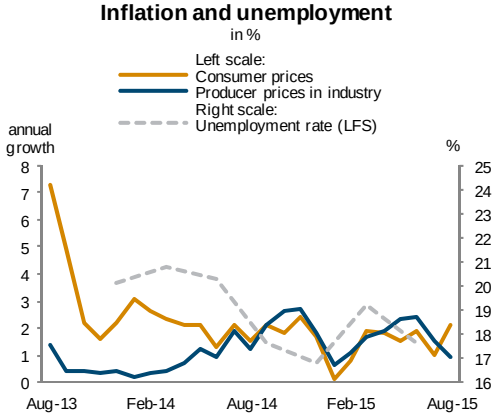
Real sector development
annual growth rate in %



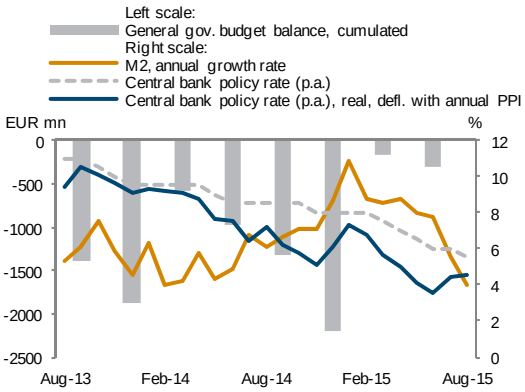
Unit labour costs in industry
annual growth rate in %



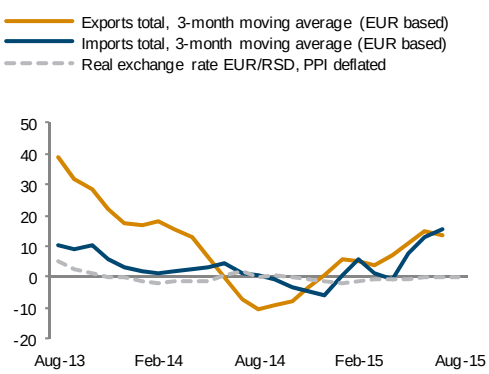
Inflation and unemployment
in %



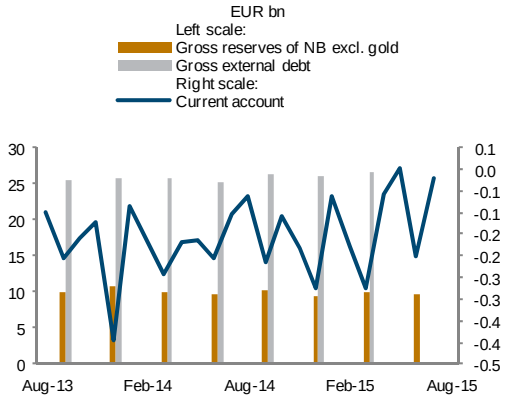
Fiscal and monetary policy



External sector development
annual growth rate in %



External finance
EUR bn



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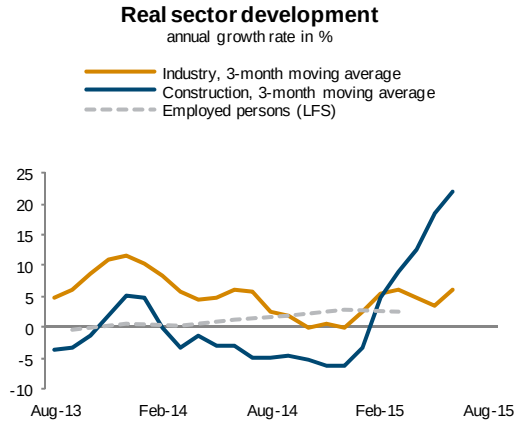
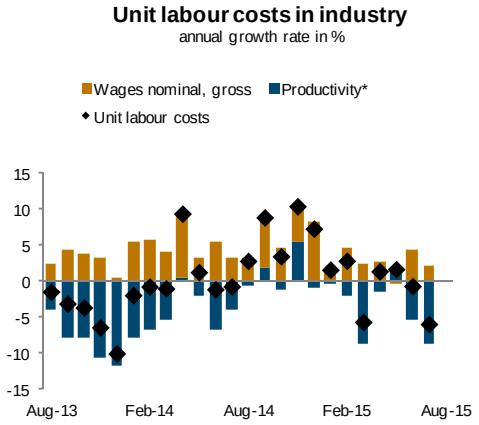
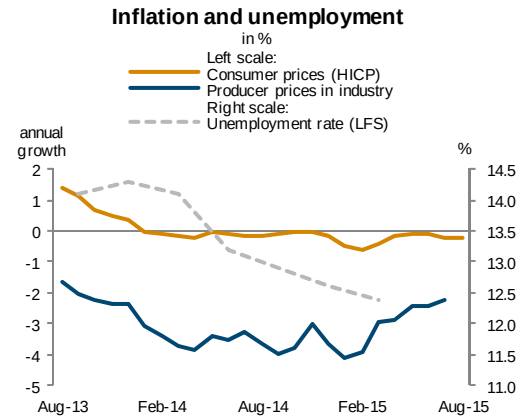
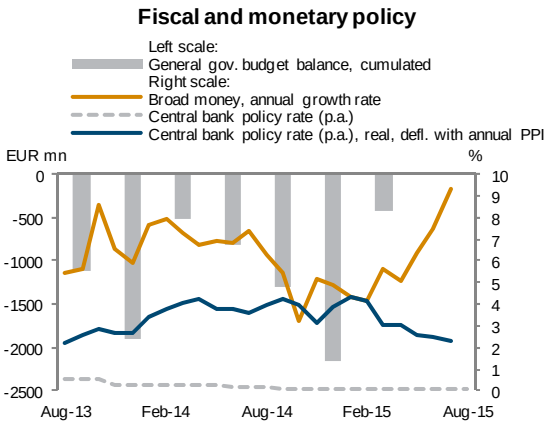
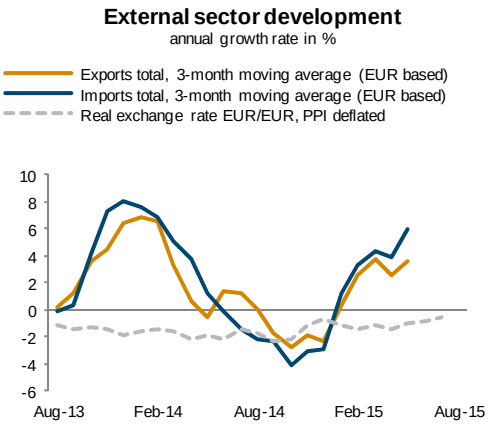
Slovakia

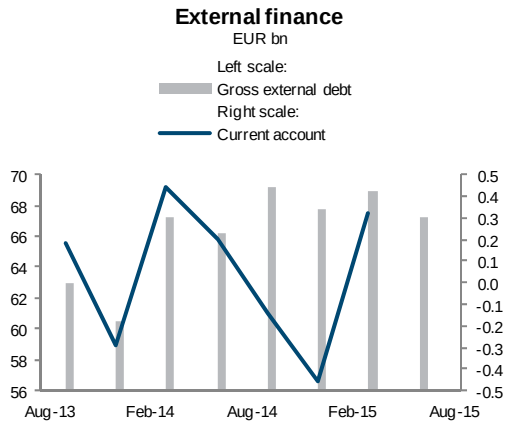












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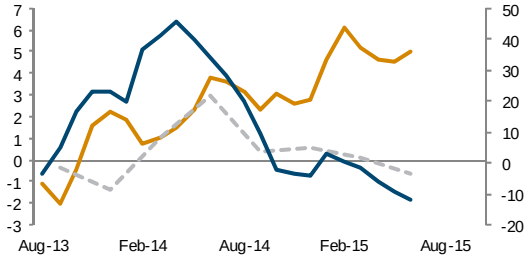
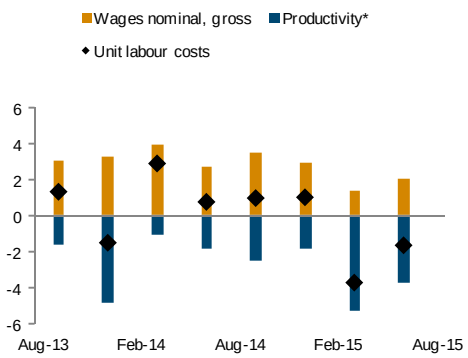
Slovenia

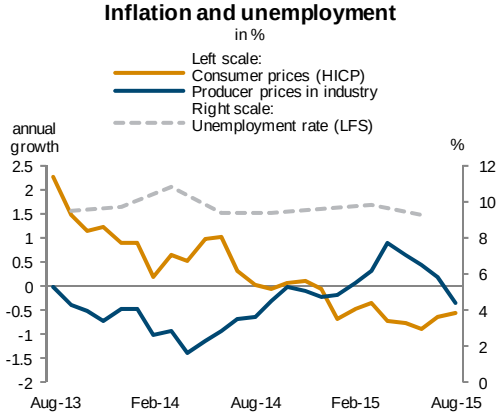
Real sector development
annual growth rate in %



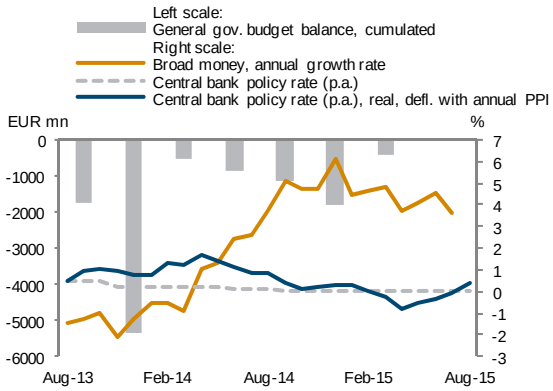
Unit labour costs in industry
annual growth rate in %



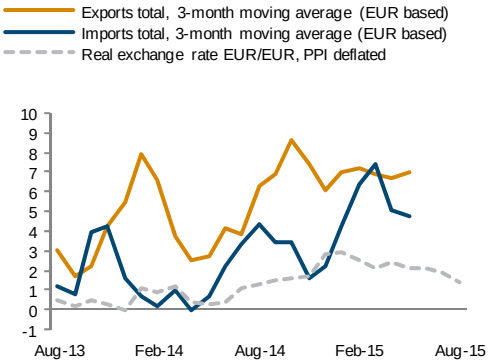
Inflation and unemployment
in %



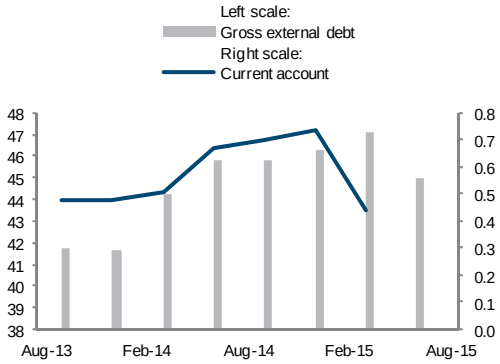
Fiscal and monetary policy



External sector development
annual growth rate in %



External finance
EUR bn



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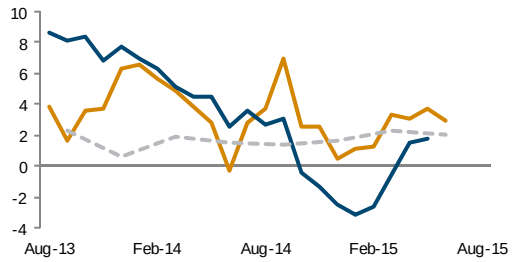
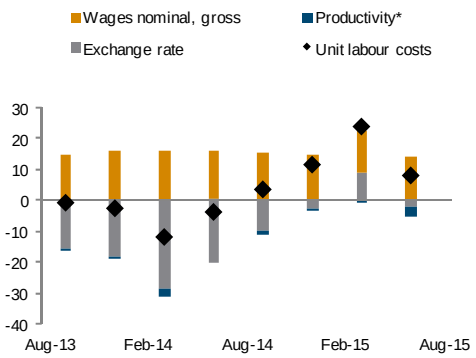
Turkey

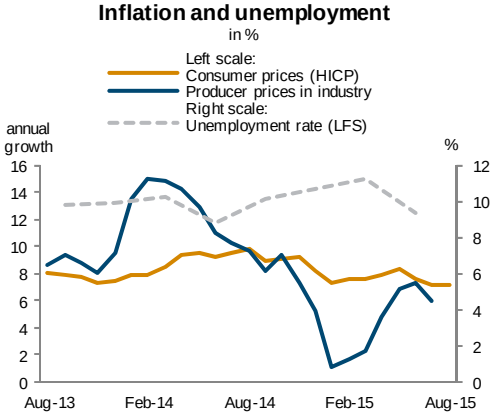
Real sector development
annual growth rate in %



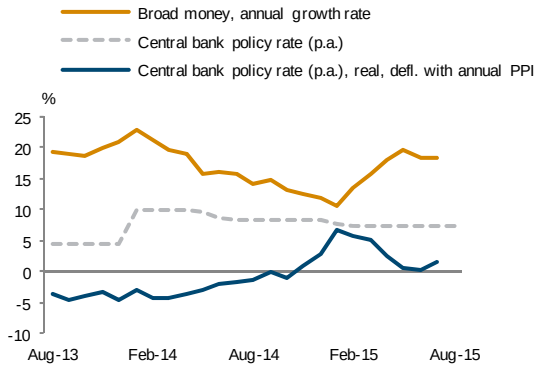
Unit labour costs in industry
annual growth rate in %



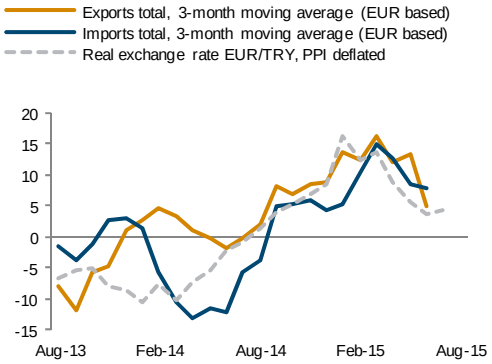
Inflation and unemployment
in %



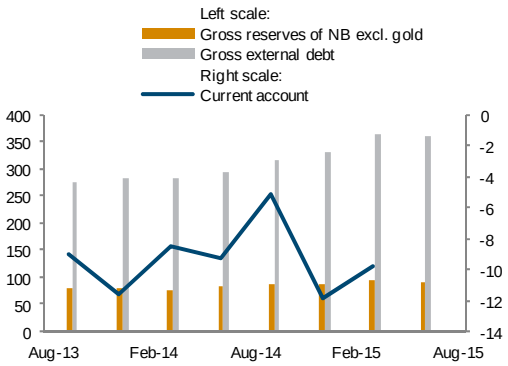
Fiscal and monetary policy



External sector development
annual growth rate in %



External finance
EUR bn



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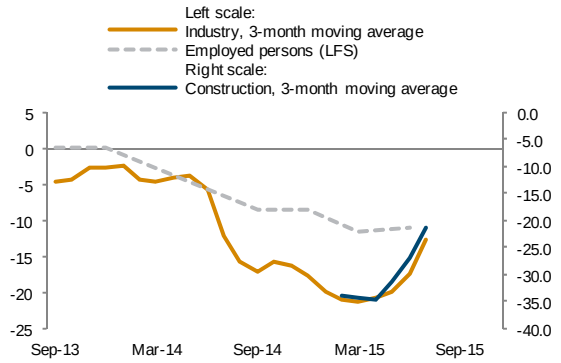
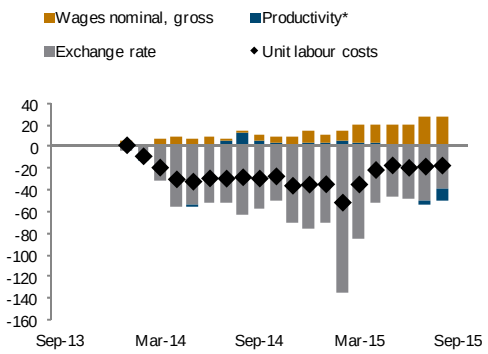
Ukraine

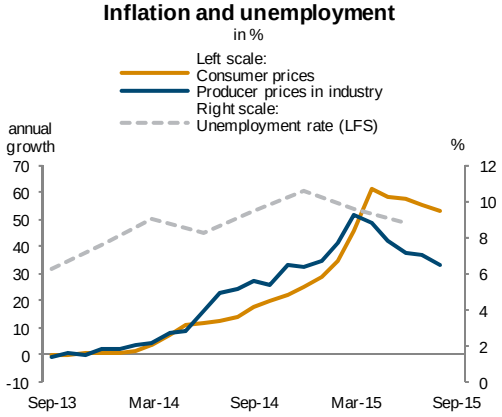
Real sector development
annual growth rate in %



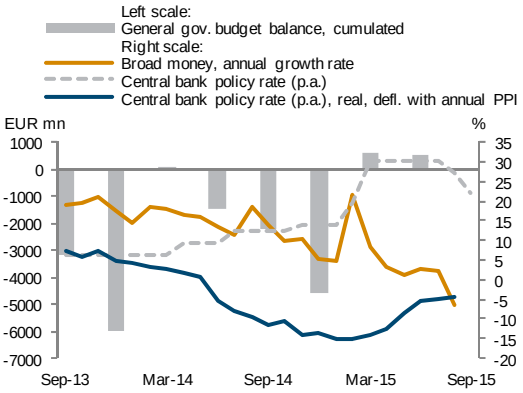
Unit labour costs in industry
annual growth rate in %



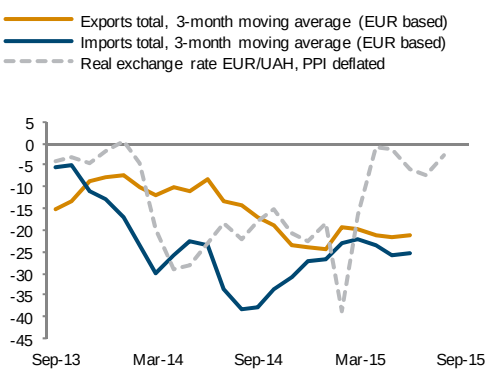
Inflation and unemployment
in %



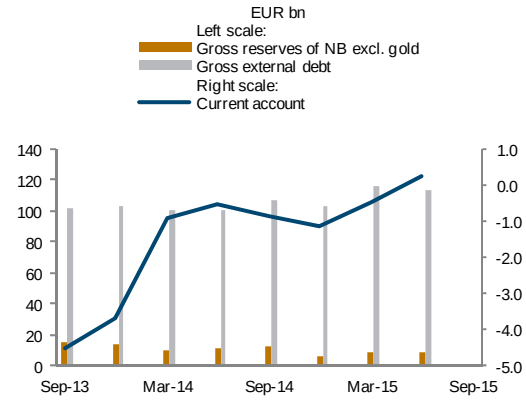
Fiscal and monetary policy



External sector development
annual growth rate in %



External finance
EUR bn



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