

■ Global and European setting

■ World economic activity

Global growth accelerates markedly in spring after weak start to year

Global economic growth failed to meet expectations in the first half of 2014, primarily because the year got off to a bumpy start. The pace of growth picked up again markedly in the second quarter. Global industrial output, at +1½% after seasonal adjustment in April-May, was only slightly up on the average for the winter quarter, but the volume of global trade picked up again distinctly at the end of the period under review – after a seasonally adjusted decline of more than ½% in the first quarter. At the same time, the fairly rapid recovery in a number of key economies' labour markets continued in the past few months. Key factors in the slightly faster pace of global economic activity in the spring were, first, accelerated growth in China and, second, the strong growth of aggregate output in the United States, which a variety of extraordinary factors had dragged down in the first quarter of the year. Looking at the group of industrial countries as a whole, however, the US economy's return to growth contrasted with the sharp contraction of real gross domestic product (GDP) in Japan as a result of the VAT hike on 1 April 2014, following a very steep rise there in the winter thanks to anticipatory effects. The UK economy continued to grow at the fairly high pace of the preceding quarters. Economic output remained at the prior-period level in the euro area, again dashing hopes of the upturn strengthening and stabilising. In the aggregate, real GDP in the aforementioned group of countries was up by a seasonally adjusted ¼% in the spring quarter as against the previous period, in which it had grown only slightly. It exceeded its year-earlier result by 1½%.

Signs that the upward trend will continue in the current quarter

Economic growth in Japan is set to point upwards again in the current quarter. The US economy is likely to remain on a growth trajectory, although it will probably be unable to maintain the fast pace of the second quarter.

Following stagnation in the spring, the euro area is looking at renewed real GDP growth, although probably not on the scale predicted by many analysts in the spring. At least the survey-based indicators already available for July point to moderate growth. For example, industrial confidence in the euro area continued to outperform the long-term average, and the Purchasing Managers' Indices (PMIs) for manufacturing and services were clearly above the threshold that indicates growth. The geopolitical tensions in eastern Europe caused by the Ukraine conflict as well as in other parts of the world now seem to be weighing more heavily on business confidence. Although they will only affect a very small percentage of EU exports directly, the recently enacted EU sanctions and retaliatory measures by Russia are likely to dampen sentiment.

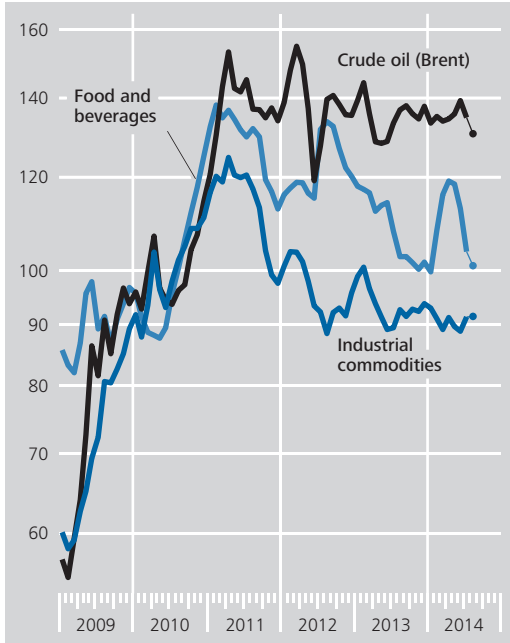
The IMF staff, in response to the factors mentioned at the beginning of this article, reduced its global growth forecast for the current year by 0.3 percentage point to 3.4%.¹ This means that the pace of growth in 2014 will be fairly sluggish in a longer-term comparison. The growth forecast of 4.0% was retained for 2015. Overall, the adjustments focus on the current year, with the estimate for the group of industrial countries reduced by 0.4 percentage point to 1.8% and that for the group of emerging market economies (EMEs) by 0.2 percentage point to 4.6%. The growth forecast for the United States was lowered particularly sharply, from 2.8% to 1.7%, primarily owing to the weak start to the year. However, a marked upward correction is to be expected again here as

IMF forecast again revised downwards

¹ It should be noted that the IMF now uses the recently published new purchasing power parities for its aggregate calculations. This perspective gives the EMEs and developing countries a greater weighting in the global economy. Consequently, the forecasts, but also the historical values, for global GDP growth are somewhat higher than previously estimated. This effect is not evident in the revisions mentioned here, however, as the reference figures on which they are based, ie the forecasts made in the April World Economic Outlook, were corrected accordingly.

World market prices for crude oil, industrial commodities and food and beverages

US dollar basis, 2010 = 100, monthly averages, log scale



Sources: Thomson Reuters and HWWI. • Average of 1 to 8 August or 1 to 13 August 2014 (crude oil). Deutsche Bundesbank

growth prospects than in the spring, forecasting 7.4% for this year and 7.1% next year. The 2014 forecast for global trade growth was also revised downward by 0.3 percentage point to 4.0%. The IMF believes that downward risks for the global economy continue to predominate. With regard to the oil markets, the geopolitical risks arising from events in the Middle East are now classified as higher, while the risks emanating from the Ukraine conflict are estimated as being unchanged.

Intensifying geopolitical tensions at times had a considerable impact on the crude oil market during the reporting period. Having mostly traded below the US\$110 per barrel mark in the first two months of spring, the spot price of Brent rose significantly in June given the military escalation in Iraq. Tensions on the crude oil market subsequently eased, probably partly based on the expectation of a resumption of exports from Libya and concerns about a slump in demand. On average across July, prices fell back to their May level. The weakness in the spot market was probably one reason that mark-ups had to be paid for deliveries made some months later. Spot prices had not been lower than forward prices for quite some time prior to this. As this report went to press, the spot price for Brent fell to its lowest point this year, of US\$103¾ per barrel, with only small discounts being offered for deliveries well into the future. Prices for industrial commodities trended sideways in the past few months. By contrast, food and beverages became noticeably cheaper from the beginning of May as harvest prospects improved thanks to more favourable weather. In the past, surges in food prices in international commodities markets have often been seen as triggers for political unrest in EMEs and developing countries. An econometric analysis shows, however, that – unlike local prices – global market prices have no significant influence on a measure of political instability (see box on pages 13 to 16).

Temporary rise in price of crude oil

the quarterly profile in the last three months of 2013 and the first quarter of 2014 is more favourable following the revisions and given the good performance in the spring. The projection for the euro area was confirmed at 1.1%, as downward revisions for France and Italy and increases for Germany and Spain more or less balanced each other out. However, a reduction now seems likely for the euro area as a whole following the disappointing result for the second quarter. In addition, the growth rates for the United Kingdom and Japan were lifted to 3.2% and 1.6% respectively. In the group of EMEs, the CIS countries in particular were affected by negative corrections, with Russia's forecasts for 2014 and 2015 reduced by more than 1 percentage point in each case, to 0.2% and 1.0%. For Latin America, the rates were cut by ½ percentage point and ¼ percentage point respectively to 2.0% and 2.6%, whereas the downward revisions for the Asia region were fairly moderate. IMF staff made somewhat more cautious estimates for China's

General consumer price inflation clearly gained strength in the industrial countries over the

Rising food prices as a cause of political unrest in emerging and developing economies

Prices on international commodity markets rose sharply between the start of the millennium and the outbreak of the global financial and economic crisis. Between July 2001 and July 2008, the US-dollar price of Brent crude oil increased by 446½%, while the HWWI price indices for industrial raw materials and for food and beverages¹ rose by 176¾% and 179¾% respectively. In the summer of 2008, prices for these commodities not only reached record highs in nominal terms, they also rose considerably in real terms too, ie taking increases in US consumer prices into account, although some real prices remained well below previous highs.

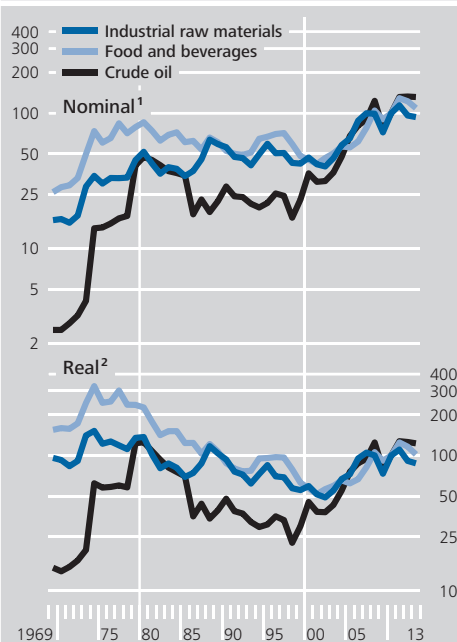
The recession-induced fall in prices in the winter of 2008-2009, which was particularly pronounced for crude oil and industrial raw materials, was followed by a swift recovery. In the first half of 2011, the HWWI price index for food and beverages reached new historical highs in nominal terms. Since mid-2011, there has been a moderate downward trend in commodity prices. However, prices for food and beverages were recently still 106½% higher than the average of the pre-crisis period from 2000 to 2007, with equivalent figures for wheat and corn up 70½% and 87% respectively.

When major unrest broke out in Tunisia in December 2010 and quickly spread to other Arab countries, many saw increased food prices as a causal factor. Similar arguments had already been made in 2008, when the sharp rise in prices on food markets coincided with unrest in India, Haiti, and some countries in Africa and the Middle East. Indeed, anecdotal evidence can be found from all periods of history to suggest that political unrest has been triggered by sharp increases in food prices.

It would therefore seem to tie in rather well that North African countries, where wheat flour is the most important basic foodstuff, account for about 17% (in 2011) of global wheat imports and that Egypt and Algeria were the world's top two wheat importers in 2011. However, the causal relationship to the events that took place in 2011 is less clear than it might seem at first glance. For example, during the Arab Spring, unrest spread from North Africa to countries in the Middle East such as Saudi Arabia, Iran and Bahrain, where broad sections of the population have a fairly high level of material wealth compared with North African countries. Indeed, even when a rise in prices for basic foodstuffs has triggered large-scale unrest in the past, it is possible that this was merely the final straw, with the underlying causes of the unrest being serious economic, political and social failings. This the-

Indices of commodity prices in nominal and real terms

2010 = 100, log scale



Source: HWWI and Bundesbank calculations. **1** On a US-dollar basis. **2** Deflated using the US consumer price index.
 Deutsche Bundesbank

¹ This includes cereals, soya, coffee and sugar.

ory is borne out by the fact that unrest and revolts are usually local phenomena, while increases in international food prices tend to affect many countries.

In this context, it is important to note that the significance of fluctuations in international food prices can vary dramatically from country to country. One important factor is the extent to which fulfilling basic dietary requirements in a given country is dependent on certain foods. Another is the extent to which price increases at the international level cause domestic prices to change. According to IMF estimates, a rise of 1% in international food prices leads on average to a long-term rise of 0.34% in domestic consumer food prices in emerging and developing economies.² The figure for industrial countries is estimated to be 0.18%. However, there are considerable differences from country to country and the correlation between world market prices for wheat and prices for wheat-based foods tends to be low.

The fact that the correlation between international and domestic prices is not particularly high, either on average or in individual countries, can be explained by various factors. For example, domestic prices are also influenced by the cost of distribution and logistics. Moreover, governments, particularly in emerging and developing economies, frequently use import and export tariffs or non-tariff barriers to partially or completely uncouple domestic markets from global markets. Furthermore, subsidies and government price controls, which are common for basic foodstuffs in many countries, also limit the influence of world market prices on domestic prices. In light of this, it is too simplistic to see a direct causal relationship between developments on international commodity and food markets and events in individual countries.

Furthermore, the direction of the effect of rising food prices on the occurrence of political unrest is, theoretically, only clear when

food is predominantly imported. In this case, increasing food prices mean that almost all inhabitants of a country will see their real income fall. However, if most or all food is produced domestically, higher prices reduce the purchasing power of consumers but also increase the income of producers, meaning that the (net) effect of rising prices on political stability is unclear *a priori*. Indeed, there are also many examples from history of farmers revolting and taking to the streets in periods of low global market prices because producer prices were too low.

All things considered, an examination of the empirical effects of increases in food prices on political stability should not be limited to anecdotal evidence, but should be supplemented and substantiated by econometric analyses that incorporate control variables. We therefore performed a panel data analysis examining the influence of the price of wheat, corn, rice and soya on political stability in developing countries, based on data from 57 emerging and developing economies over a period of 29 years (1980 to 2008). First of all, the degree of political instability as measured by an index devised by Banks and Wilson (2014)³ was regressed on the average annual percentage change – linear and squared – in domestic prices for wheat, corn, rice and soya.⁴ For comparison, the index was also regressed on the average annual percentage change in world market prices for the aforementioned foodstuffs. The instability index is a weighted indicator calculated on the basis of the amount of political assassinations, general strikes, guerrilla warfare, government crises, political purges, riots, revolutions and anti-government demon-

² See IMF, Target What You Can Hit: Commodity Price Swings and Monetary Policy, IMF World Economic Outlook, September 2011.

³ A S Banks and K A Wilson (2014), Cross-National Time-Series Data Archive, Databanks International, Jerusalem.

⁴ Where data was missing, the mean of the available price data was used.

strations per year and per country.⁵ The price data (domestic data in local currency) were taken from the FAOSTAT database of the UN's Food and Agriculture Organisation (FAO). The selection of control variables (GDP per capita, inflation rate, globalisation,⁶ population density, degree of democratisation, length of time in office and political ideology of the current government as well as infant mortality) is in line with the existing literature.⁷ The regressions were estimated using OLS and panel-corrected standard errors.⁸ Furthermore, controls were carried out for regional fixed effects and AR(1) autocorrelation.⁹

The results show that there is no significant correlation between a change in the global price of wheat, corn, rice and soya and political instability in emerging and developing economies. However, such a correlation does exist for domestic prices, with price rises having a destabilising effect. The negative but relatively small quadratic term could imply, on the one hand, that political instability tends to recede when there are very large changes to domestic prices. This may be because large price fluctuations lead to famine or because both famine and large price fluctuations are the result of crop failures and in such situations the starving population initially focus on survival and put political activities on hold. On the other hand, the significantly negative quadratic term could indicate an asymmetric

Political instability and changes in food prices

Variable	World market prices	Domestic prices
GDP per capita ¹	– 0.01 [– 0.28]	0.00 [0.06]
Inflation rate	0.12 [1.51]	0.05 [0.30]
Globalisation	– 21.38*** [– 4.50]	– 20.13*** [– 4.12]
Population density	0.03 [1.23]	0.02 [0.80]
Degree of democratisation	16.32 [1.12]	14.58 [0.99]
Length of government's time in office	– 20.74*** [– 2.83]	– 21.47*** [– 2.90]
Political ideology (left/right wing)	– 12.30 [– 0.08]	– 89.44 [– 0.58]
Infant mortality (per 1,000)	1.82 [0.52]	4.29 [1.15]
Asia	– 246.89 [– 0.62]	– 101.30 [– 0.24]
Sub-Saharan Africa	– 592.36 [– 1.53]	– 687.04* [– 1.76]
Middle East and North Africa	– 254.47 [– 0.79]	– 286.05 [– 0.89]
Eastern Europe	– 466.12* [– 1.86]	– 597.67** [– 2.37]
Average world market price (% change pa)	41.07 [0.11]	
Average world market price (% change pa), squared	– 1,511.34 [– 1.20]	
Average domestic price (% change pa)		124.19*** [2.77]
Average domestic price (% change pa), squared		– 1.85*** [– 2.76]
Number of observations	1.417	1.318
R-square	0.04	0.05
Number of countries	57	57

¹ In PPP terms. *** p<0.01. ** p<0.05. * p<0.1. Dependent variable: combined index of political instability. Z-statistics in parentheses.

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⁵ For a detailed description of how the index is constituted, see Banks and Wilson (2014), op cit.

⁶ Measured by the economy's degree of openness, i. e. the sum of imports and exports as a percentage of nominal GDP.

⁷ See, for example, A Alesina and R Perotti (1996), Income distribution, political instability, and investment, *European Economic Review* 40 (6), pp 1203-1228; L Blanco and R Grier (2009), Long live democracy: The determinants of political instability in Latin America, *Journal of Development Studies* 45 (1), pp 76-95; P Dutt and D. Mitra (2008), Inequality and the instability of polity and policy, *Economic Journal* 118 (531), pp 1285-1314.

⁸ See N Beck and J N Katz (1995), What to do (and not to do) with time-series cross-section data, *American Political Science Review* 89 (3), pp 634-647.

⁹ The results remain largely robust even when using other estimation methods (standard errors robust to spatial autocorrelation and clusters as well as pooled FGLS, each controlled for AR(1)).

effect of positive and negative price changes on political stability.

According to this analysis, increasing globalisation has a stabilising effect when viewed in isolation, probably partly due to the possibility to balance out domestic price fluctuations through trade. Furthermore, other things being equal, governments with a longer period in office are correlated with

higher stability. This finding appears plausible at first sight, but contradicts the theory of institutional sclerosis. According to this theory, over time, governments become increasingly negatively influenced by interest groups and government action increasingly deviates from the optimum due to the self-interest of those in power.¹⁰ The underlying level of instability varies from region to region. Countries in Sub-Saharan Africa and Eastern Europe are more stable than those of the South American peer group.¹¹

While there is therefore no evidence of a statistically significant correlation between world market prices for food and political instability in emerging and developing economies, there is evidently a systematic correlation between domestic food prices and political instability in these countries,¹² with price rises increasing the likelihood of political unrest, depending on the specific circumstances.

¹⁰ See M Olson (1982), *The Rise and Decline of Nations*, Yale University Press, New Haven.

¹¹ The model's explanatory power is relatively low. However, this is common for macro panel models without fixed country effects.

¹² Studies examining the impact of price increases for crude oil and industrial raw materials on political stability have uncovered completely different mechanisms of influence. A decisive factor is often that the increasing resource wealth of a country or region within a country resulting from rising raw material prices increases the incentive of certain population groups to exercise control over the exploitation of these raw materials, which increases the probability of a coup or of military conflict. See R Bates, A Greif and S Singh (2002), *Organizing violence*, *Journal of Conflict Resolution* 46 (5), pp 599-628; T Besley and T Persson (2010), *State capacity, conflict, and development*, *Econometrica* 78(1), pp 1-34. Standing somewhat in contrast to this is the "resource curse" literature, which examines the effects of natural resource abundance. It finds no robust, systematic correlation between the resources a country has at its disposal and the frequency of civil wars, although anecdotal evidence with regard to diamonds and crude oil in African countries, for example, would suggest otherwise. See P Collier and A Höffler (2004), *Greed and grievance in civil war*, *Oxford Economic Papers* 56 (4), pp 563-595; J D Fearon (2005), *Primary commodity exports and civil war*, *Journal of Conflict Resolution* 49 (4), pp 483-507; M Humphreys (2005), *Natural resources, conflict, and conflict resolution – Uncovering the Mechanisms*, *Journal of Conflict Resolution* 49 (4), pp 508-537; M L Ross (2006), *A closer look at oil, diamonds, and civil war*, *Annual Review of Political Science* 9 (1), pp 265-300. For an overview see P Collier (2007), *The Bottom Billion*, Oxford University Press, Oxford, UK.

Consumer price inflation in the industrial countries gains strength

course of the spring quarter. The year-on-year change in an appropriately constructed price index, for instance, rose from 1.1% in March to 1.7% in June. This was particularly, but not solely, attributable to the VAT hike in Japan and higher energy prices. If Japan is excluded from the analysis, and energy and food are also left out of the underlying basket of goods, the core rate defined in this way still went up by 0.2 percentage point to 1.6%. Although general inflation remains subdued, there is nothing to suggest that inflation in the industrial countries as a group will ease significantly.

Selected emerging market economies

Following a rather subdued start to the year, the Chinese economy picked up momentum again in the spring quarter. According to the official estimate, real GDP rose 2% in seasonally adjusted terms on the previous period, in

Higher pace of overall economic growth in China

which it had grown by 1½%. Economic output was up 7½% year-on-year in the first half of 2014. The acceleration in the spring is likely to be attributable partly to the expansionary fiscal and monetary policy measures previously initiated by the government. In addition, foreign demand again provided more of a catalyst. In contrast to this, the slowdown in the Chinese housing market continued, although it does not appear to have had a notable effect on overall economic activity so far (see box on pages 17 to 20). The fairly high GDP growth reported is in marked contrast to developments in Chinese imports of goods, however, which rose by just 1½% in the first half of the year on a US dollar basis. In real terms, however, this growth could have been somewhat stronger, as lower prices, especially for commodities, have to be taken into account. Consumer price inflation remained muted until recently, with the inflation rate moving around the 2% mark over the course of the quarter.

The potential effects of a downturn in the Chinese housing market on the real economy

There have been signs of a slowdown in activity in the Chinese housing market since the beginning of 2014. The number of homes purchased has decreased considerably and house prices have shown a slight downward trend on average across the country. Apart from periods of consolidation in 2008 and in the first half of 2012, the Chinese housing market experienced a prolonged and extremely robust upturn in previous years. In the process, property prices and construction activity may also have been exaggerated. The Chinese housing market appears to be particularly vulnerable to this, not least because savings deposits only generate low returns as a result of the country's interest rate regulation and property is therefore a popular investment choice. Over the last few years, the authorities have thus tried to prevent property speculation by placing restrictions on the purchase of second and third homes. To support demand, however, these restrictions have been eased again in many cities in recent months.

Various signs of imbalances in the Chinese property market have led to worries that the slowdown currently emerging could signal the start of a considerable structural adjustment. In this case, the construction sector, too, would face a deep and more prolonged downturn, which would probably have a marked dampening effect on macroeconomic growth in China. China's national accounts show the key importance of the construction sector. Last year, the construction sector as a whole (including housing construction, commercial construction and public sector construction) accounted for 7% of total value added. This share has also risen considerably over the past few years. In 2013, the Chinese construction sector (measured in terms of its nominal value added based on market

exchange rates) even overtook the US construction sector to become the largest in the world.¹

The expenditure side of gross domestic product (GDP) generally provides a more comprehensive overview of how important the construction sector is to an economy than residential investment (which also includes components from other sectors).² However, the Chinese national accounts show only total gross fixed capital formation and not the individual components. Residential investment can therefore only be gauged approximately. The estimation presented here is based on the value of all new buildings constructed in one year according to Chinese construction statistics. Last year, it was RMB 9 trillion, or 16% of GDP. Yet, as these constructions could be homes, commercial property or public sector buildings, the latter two have to be removed from the data. To do this, investment in buildings is weighted by the share of newly built floor space that is designated for housing purposes in the individual years according to the construction statistics. This results in a share of just under 11% of GDP last year.³

The share of residential investment in GDP calculated using this method appears very high compared with the corresponding per-

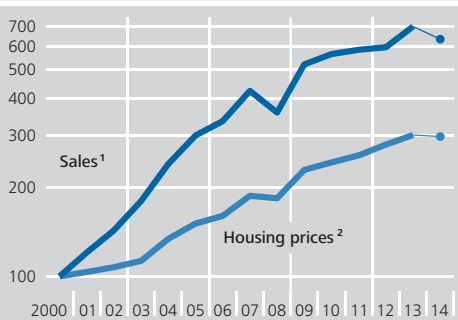
¹ China's cement consumption also indicates that its construction sector is the largest in the world. According to official figures, China used no less than 2.4 billion tonnes in 2013. Apart from a few countries in the Middle East, China also has the highest per capita cement consumption.

² As a rule, it also includes imported services, which are not usually of major significance.

³ The approach taken here is more likely to underestimate the level of residential investment because it does not include renovations. In other countries, this component accounts for a fairly considerable share of overall residential investment.

Indicators for the Chinese housing market

2000 = 100, log scale



Source: National Bureau of Statistics of China (NBS). Values for 2014 extrapolated by the Bundesbank based on data for the first seven months. **1** On a square metre basis. **2** Average transaction prices (in renminbi) on a square metre basis.

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centages in industrial countries.⁴ However, it must be remembered that there is far greater demand for additional housing in China. This is mainly due to the large numbers of people migrating to the cities. The urban population grew by 3¾% per year on average between 2000 and 2010. The United Nations assumes that the growth rate will be 2½% per year this decade. Furthermore, according to official Chinese figures, the average living space per person in the cities has risen steadily from just over 20m² in 2000 to 33m² in 2012. The trend towards larger and better quality housing is likely to continue as households' income is expected to increase further over the next few years.

However, the impression that residential investment in China is very high by international standards is also supported by a comparison of its share of GDP with that of Japan and South Korea when they had a similar income level to China today (in around 1967 in Japan and in around 1988 in South Korea). At those times, residential investment amounted to only about 6% of GDP in both countries. Even as development progressed, this figure never exceeded the 9% mark.

Beyond the evidence that residential investment in China has reached a fairly high level by international standards, further indications suggest that there is a structural surplus of newly constructed housing. In many cities, a considerable amount of vacant housing stock appears to have accumulated in the meantime. Although the National Bureau of Statistics of China and other national authorities do not publish any official figures in this area, based on a large-scale household survey, the Survey and Research Center for China Household Finance estimates that the vacancy rate in cities rose to 22% in 2013.⁵

Against this background, it is fairly likely that the new housing stock created by the construction sector currently exceeds demand. In the next few years, Chinese construction investment may therefore not only expand less strongly than before, but may even contract. Based on the share of GDP mentioned above, a decline in residential investment of 10% in one year would lower GDP growth by around one percentage point in purely statistical terms.

The dampening effect on GDP growth would probably be distinctly larger because lower residential investment is likely to have a negative impact on other aggregate demand components. For example, job losses in the construction sector and reduced demand for furniture and furnishings would affect private consumption. However, these effects are very difficult to estimate. In turn, it must be remembered that residential investment also comprises a small volume of imports, which would slightly reduce the impact on Chinese GDP, but which would accordingly affect foreign trading partners,

⁴ For example, residential investment in the USA amounted to just 6½% of GDP in 2005, ie at the height of the property boom.

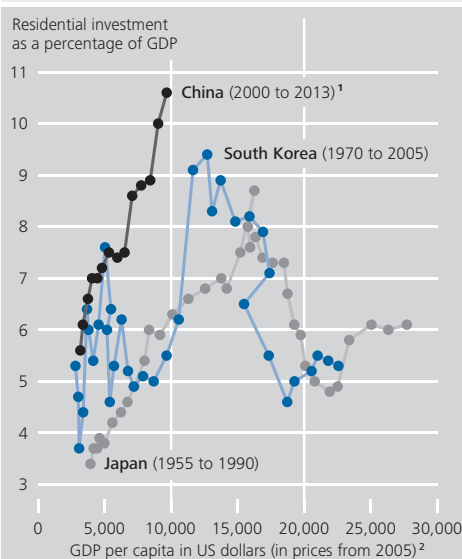
⁵ See Housing Vacancy Rates and Housing Market Trends – Findings from CHFS, presentation by Li Gan, July 2014, unpublished.

particularly exporters of commodities such as Australia, which would, for instance, supply less iron ore to China due to a drop in sales of construction steel.

A marked correction in the Chinese property market could also have a negative impact on the real economy via other channels. It should therefore be assumed that a downturn will bring about a fall in house prices, which is likely to generate negative wealth effects for non-financial corporations and households. This is particularly true given the prominent role that property plays as an investment choice. Apart from this, losses in value on property that is used as loan collateral could lead to losses for commercial banks. In the worst case scenario, this would place a strain on the stability of the financial system and curb investment owing to a reduced supply of credit. However, a risk of this nature appears to be limited by the fact that a relatively large amount of equity is generally provided when purchasing a home in China – due in part to households' high propensity to save. This means that even if property prices were to fall sharply, the value of a house would be unlikely to fall below the loan amount in the vast majority of cases and homeowners would therefore be unlikely to have any incentive to stop their loan repayments.

A property market downturn could also spill over to the real economy via land sales, which are a major source of funding, especially for local governments. According to calculations by the IMF, the corresponding net general government revenue (ie after the deduction of costs for the acquisition of land or compensation payments to household owners in the case of expropriation) has been between 2% and 3% of GDP in the past few years.⁶ In the event of a downturn in the property market, this revenue would probably shrink sharply as a result of falling land prices but also as a result of a reduction in the number of designated

Residential investment in China, Japan and South Korea during their period of economic recovery



Sources: National data, Penn World Table 7.1 and Bundesbank calculations. ¹ Investment in housing construction according to the Bundesbank's estimation (see box for more information). GDP per capita for 2011 to 2013 extrapolated. ² Based on purchasing power parities.
 Deutsche Bundesbank

building sites. As local governments already have a considerable level of debt, they might then be forced to scale back their investments.

All in all, there is much to suggest that a reduction of the imbalances in the Chinese housing market, which may be about to occur, could perceptibly impair the country's macroeconomic development. However, given that the statistics are fairly rough and incomplete, estimates of the probability of a correction as well as the extent and the macroeconomic effects thereof are subject to considerable uncertainty.

⁶ See IMF, People's Republic of China – Staff Report for the 2014 Article IV Consultation, July 2014.

Recent signs of improvement in Indian economy

The Indian economy remained on a flat growth path in the first quarter of the year, the latest for which official national accounts data are available. Real gross value added – India’s preferred indicator of aggregate output – was up by 4½% year-on-year. In this context, the manufacturing sector’s weak performance, where real value added declined for the second time in a row, is particularly striking. According to industrial production statistics, there seems to have been a certain upturn in the second quarter, however. In addition, a number of survey-based indicators for the situation in the services sector have recently shown a marked improvement. The expectations of reforms by the new government could have played a significant role in this change of mood. The inflation rate tailed off slightly in the past few months, averaging 8.1% in the second quarter.

Weak economic growth in Brazil

The Brazilian economy got off to a very weak start in 2014. In the first quarter, the last for which national accounts results have been published, real GDP only grew by ¼% on the previous period in seasonally adjusted terms. The available indicators suggest that economic output stagnated or even contracted somewhat in the second quarter. Industrial production, for example, which had already declined slightly in the first quarter, fell by 2%. Even the positive demand stimuli in a number of services sectors thanks to the country hosting the FIFA World Cup is unlikely to have offset this. Consumer price inflation increased slightly in recent months, reaching 6.5% in June. The central bank had raised its policy rate to 11% in April; it has left it unchanged since then, however, in part because of the weak economy.

Russian economy hit by Ukraine conflict

Adjusted for seasonal effects, Russian economic output in the second quarter is likely to have seen weak, if any, growth from the depressed level of the preceding quarter. This is suggested by an initial, not yet seasonally adjusted national accounts estimate issued by the Russian Federal State Statistics Service. Real GDP grew by ¾% year-on-year. The consequences of the Ukraine conflict, which has led

to considerable losses in confidence and rising financing costs, had a heavy impact on the Russian economy in the first half of the year. The sanctions imposed against Russia by the European Union in July, including a block on exports of certain goods and restrictions on the access of major state-run Russian banks to the European capital market, will probably continue to have a distinctly dampening effect on the country’s overall economic development, including indirectly via shrinking inflows of direct investment from abroad. Consumer price inflation picked up again in the past few months, due primarily to the depreciation of the rouble. The inflation rate rose to 7.8% in June, its highest level since mid-2011. Against this backdrop, the Russian central bank once again lifted its policy rate in July. Russia’s countermeasures are likely to drive food prices significantly higher in the coming months.

United States

The US economy recovered in the spring from the economic setback in winter. According to the data currently available, real GDP was up 1% after adjustment for the usual seasonal effects from the previous quarter, in which it had shrunk by ½%. The primary factor in this turnaround was the fact that inventory changes no longer perceptibly depressed growth in aggregate output, but instead drove it up considerably. In addition, foreign trade did not act as a brake as much as in the first quarter of the year. What must also be considered, however, is that domestic final demand returned to a steeper growth path following a sluggish start to the year. Households in particular stepped up their consumption of goods, especially of durable goods, whereas consumption of services again increased only a little. Private gross fixed capital formation also grew fairly substantially in the spring. The rates of change in real spending on commercial machinery and equipment and private housing construction turned positive. Although the upwards momentum that the US economy regained in the spring

Recovery from economic downturn

quarter was broadly spread across the individual expenditure components, the underlying driving forces could nonetheless have differed. For example, it is likely that the upturn in domestic final demand not least reflects the normalisation of activity following the negative impact of the unusually harsh winter weather at the start of the year. By contrast, the contributions to growth made by inventory changes and foreign trade seem to have continued their volatile pattern from the preceding quarters, with no connection to weather effects. This is signalled by calculations that can be used to estimate the influence of the unusual winter weather on the economy in the first half of the year (see box on pages 22 to 24). All in all, the underlying pace of the economic upswing probably remained quite moderate. Private domestic final demand grew by 2¾% year-on-year in the spring; its average rate of growth since the start of the economic recovery was thus exceeded by a small margin. The improvement in the labour market was ongoing as this report went to press. Although the unemployment rate rose slightly on the month in July, at 6.2% it was nonetheless still ½ percentage point lower than in March. Furthermore, consumer price inflation strengthened. Inflation measured by the consumer price index (CPI) climbed from 1.5% in March to 2.1% in June, while the corresponding core rate rose to 1.9%.

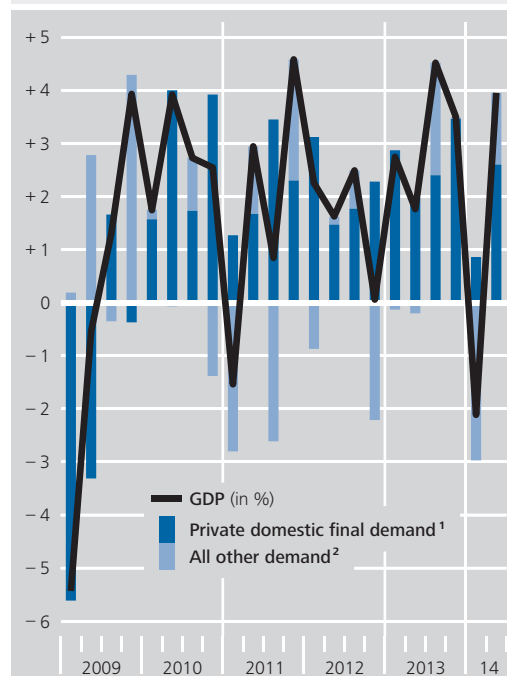
Japan

Domestic demand slumps following VAT hike

The VAT hike that took effect in April 2014 also helped shape economic activity in Japan in the spring. In the winter, anticipatory effects had already contributed quite significantly to the steep rise in real GDP by a seasonally adjusted 1½% as against the preceding quarter. This anticipatory demand was then absent in the second quarter, which meant that aggregate output shrank by 1¾%. Statistically speaking, production still improved considerably thanks to a slump in imports and a slowdown of de-stocking. Private domestic demand, in which inventory changes are also an input, sank by

Contributions to quarter-on-quarter growth in US real GDP

Percentage points, seasonally adjusted, annualised



Source: Bureau of Economic Analysis. **1** Private consumption and private gross fixed investment. **2** Public demand, inventory changes and net exports.

Deutsche Bundesbank

3¾%. Alongside consumer spending, private residential investment in particular was severely reduced. The public sector was unable to pick up the slack as demand rose only marginally. Its efforts to step up government investment were potentially counteracted by the expiry of preceding fiscal policy measures. In addition, Japanese enterprises' foreign business was disappointing; exports fell slightly compared with the previous period and hence did not help boost domestic production. The failure of exports to pick up – despite the preceding depreciation – is not alone in clouding the Japanese economy's prospects. Pay for wage and salary earners also fell substantially in real terms in the spring. When the VAT hike came into effect, CPI inflation jumped from 1.6% in March to 3.4% in April, and stood at 3.6% in June. In the same month, the unemployment rate was slightly higher than at the end of the winter quarter, at 3.7%.

Weather effects on real GDP growth in the USA in the first six months of 2014

According to current estimates, real gross domestic product (GDP) in the USA slumped by an annualised rate of 2% (after seasonal adjustment) in the first quarter of 2014 compared with the previous quarter. That is one of the sharpest drops in aggregate output during a period of expansion that has ever been recorded in US statistics.¹ Many analysts have ascribed this contraction to the unusually severe winter weather in the USA.² Mirroring this development, the strong macroeconomic growth seen in the second quarter might be regarded as the outcome of weather conditions returning to normal. This box presents the results of a simple regression equation that indicate the potential magnitude of weather effects over the previous six months. The main aim is to explain the annualised growth of real GDP vis-à-vis the previous quarter using deviations of the population-weighted indices for the number of heating and cooling degree days from the long-run average.³ To capture potential countermovements in the following quarter, these deviations are also included with a lag of one quarter.⁴ Average growth, which changes over time, is modelled using dummy variables for the individual periods of expansion and recession in line with the reference dates determined by the National Bureau of Economic Research.

Overall, the estimated coefficients have plausible signs. Thus the rate at which aggregate output expands when there is an unusually high number of heating degree days in one quarter is lower than normal. In the following period, the effect reverses. The signs change accordingly for the number of cooling degree days. However, only the contemporaneous effect of the number of heating degree days proves to be statistically significant. This thus shows that unusual winter weather curbs GDP growth in the current quarter without there being a countermovement of the same magnitude

and significance in the following quarter. More in-depth calculations do not indicate that weather effects differ greatly depending on whether it is the fourth or the first quarter that is directly affected. Positive and negative deviations of the number of heating degree days from the long-run average also appear to produce effects of a similar magnitude, albeit in different directions. However, it should be noted that the regression only captures the average historical effects of unusual temperatures. The impact of particularly heavy precipitation is not captured by the explanatory variable selected.

If the estimation is repeated for the contributions of individual expenditure components to annualised GDP growth, the impact of the winter weather can be traced back predominantly to private gross fixed capital formation and private consumption, where an unusually harsh winter curbs real ex-

¹ See K L Kliesen (2014), How Negative Is Negative Real GDP Growth?, Federal Reserve Bank of St Louis, Economic Synopses, No 17.

² Recent findings have shown that exceptional weather conditions can have a considerable impact on seasonally adjusted GDP growth in Germany. See Deutsche Bundesbank, The impact of weather conditions on gross domestic product in the latter part of 2013 and early part of 2014, Monthly Report, May 2014, pp 54-55.

³ The researchers at Macroeconomic Advisers have chosen a similar approach. The estimation period presented here extends from the first quarter of 1990 to the second quarter of 2014. The underlying data are taken from the Haver Analytics database; the information about heating and cooling degree days comes from the National Oceanic and Atmospheric Administration. These are figures designed to show demand for energy depending on temperature. They are based on the (positive or negative) deviation of daily average temperatures from a certain base temperature. See Macroeconomic Advisers, A Winter Chill in Q1 GDP; A Spring Thaw in Q2: Follow-Up, Macro Musing, posted on 5 March 2014 at <http://www.macroadvisers.com/2014/03/a-winter-chill-in-q1-gdp-a-spring-thaw-in-q2-follow-up/>.

⁴ By contrast, the Macroeconomic Advisers' approach already implicitly assumes such a countermovement of GDP growth once temperatures return to normal by including the first differences of weather variables as explanatory variables.

Regression* of real GDP growth in the USA and of the contributions of its expenditure components on weather variables

Item	GDP					
		Private consumption	Private gross fixed capital formation	Changes in inventories	Net exports	Public demand
Regression coefficients						
Heating degree days						
Contemporaneous	-0.59***	-0.27**	-0.20**	-0.01	-0.02	-0.09
Lagged	0.28	0.07	0.12	-0.05	0.10	0.04
Cooling degree days						
Contemporaneous	0.10	0.02	0.02	-0.04	0.03	0.07
Lagged	-0.10	-0.13	-0.05	0.02	0.08	-0.02
Dummy variables						
Periods of expansion						
1990 Q1 to 1990 Q3	1.54***	1.09***	-0.56***	0.17	0.39**	0.41*
1991 Q2 to 2001 Q1	3.67***	2.56***	1.18***	0.06	-0.39*	0.25**
2002 Q1 to 2007 Q4	2.68***	1.90***	0.43	0.16	-0.13	0.31**
2009 Q3 to 2014 Q2	2.14***	1.53***	0.73***	0.44	-0.23	-0.33*
Periods of recession						
1990 Q4 to 1991 Q1	-3.08***	-1.69***	-1.86***	-1.14**	1.13***	0.51***
2001 Q2 to 2001 Q4	0.01	1.62**	-1.31***	-0.59	-0.40*	0.72***
2008 Q1 to 2009 Q2	-2.65*	-1.12**	-2.55***	-0.97**	1.24***	0.74***
Coefficient of determination	0.51	0.58	0.62	0.07	0.25	0.28
F-test for insignificance of all weather variables (p value)	0.01	0.01	0.02	0.99	0.68	0.28

* Regression of annualised growth rate (or corresponding contributions to growth) of quarter-on-quarter seasonally adjusted real GDP. Explanatory weather variables are deviations of the population-weighted indices for the number of heating or cooling degree days from the long-run average, normalised using standard deviations. Underlying data are taken from the Haver Analytics database. Estimation period: 1990 Q1 to 2014 Q2. Standard errors corrected using the Newey and West method; asterisks (*, **, ***) denote coefficients that are significant at the usual levels (5%, 1%, 0.1%).

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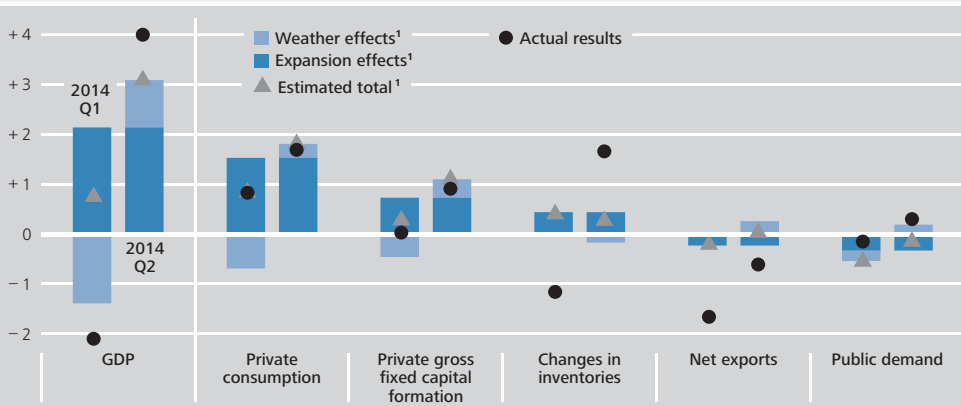
penditure on consumer durables in particular – above all on motor vehicles. The contemporaneous effect of an unusual number of heating degree days on the contribution of the consumption of services as a whole to growth is not significant. However, consideration should also be given to the fact that, within the US statistical framework, an elevated demand for energy on account of the severe winter weather considerably pushes up real expenditure in the services category of housing and utilities. For the aggregate position, this should even out the dampening effect recorded by other types of services. As for the contributions of real expenditure on consumer durables and on housing and utilities services to growth, the lagged effect with the sign reversed proves to be significant; the magnitude is also in line with that of the contemporaneous effect. These subcomponents therefore undergo quite sizeable corrections in the following quarter. However, the fact

that private consumption as a whole does not record a significant countermovement is most likely due to the opposing directions in which the effects on spending on consumer durables and demand for energy develop; at the same time, growth in demand for other types of services merely seems to return to its longer-term average without making up for previous shortfalls. The winter weather is not found to have a significant impact on the contributions of foreign trade and changes in inventories to growth. These items are rather volatile over time and the model presented here can scarcely explain them.

In quantitative terms, the effects of the unusually cold weather last winter are indeed likely to have been important for macroeconomic developments in the first six months of 2014. The estimates presented here indicate that annualised GDP growth in the first quarter should have been down by just

Estimated and actual real GDP growth and contributions to growth in the USA

Quarter on quarter, seasonally adjusted, annualised rate, % or percentage points



¹ Bundesbank estimates based on data from Haver Analytics.
 Deutsche Bundesbank

under 1½ percentage points. The model nonetheless suggests that aggregate output should have risen by ¾% (also in annualised terms). This thus does not provide a sufficient explanation for the considerable contraction in real GDP. Analysing the contributions of the individual expenditure components to growth shows that weak final domestic demand can be chiefly ascribed to weather conditions. However, the clear drop in aggregate output is also attributable to the sharp retarding effects of changes in inventories and of foreign trade for which weather effects have not been relevant in the past. Yet the retarding effect of these expenditure components must be examined in light of the fact that they conversely considerably boosted GDP growth in previous quarters.

Lagged weather effects did not prove to be statistically significant in the regression presented here. Nonetheless, taking the estimated coefficients at their face value results in a weather-induced rise of 1 percentage point in annualised GDP growth in the second quarter of 2014, and the strong performance of private consumption as well as private gross fixed capital formation can be primarily interpreted as an – albeit incomplete – countermovement to the adverse weather effects seen in the previous quarter. On average, GDP growth of just over

2% is expected in the current upturn. This means that just under 1 percentage point of the annualised growth rate of aggregate output of 4% in the second quarter remains unexplained. This residual is mainly due to increased inventory building.

All in all, swings in the rate of change for real US GDP in the first six months of 2014 are attributable to weather effects to a considerable extent. But changes in inventories and foreign trade, whose contributions to aggregate growth are generally rather volatile, also play a role here. The moderate underlying pace of US economic growth, which is primarily driven by final domestic demand, appears to still be intact. Due to the notable deceleration of trend growth over time, if the rate of change of quarter-on-quarter real US GDP remains as volatile as hitherto, it is likely to slip below zero more frequently than in the past.⁵ This will not necessarily imply a cyclical turning point.

⁵ See Deutsche Bundesbank, The US economy in the current economic upturn, Monthly Report, April 2013, pp 15-37.

United Kingdom

*Persistently
strong upswing*

The UK economy expanded its output with undiminished strength in the spring. According to a second estimate, seasonally and price-adjusted GDP rose for the fifth time in a row by $\frac{3}{4}\%$ quarter-on-quarter. It thus also surpassed its previous high from the winter of 2008 for the first time. The services sector remained the most important growth driver; its real gross value added grew by 1% in the spring, exceeding the pre-crisis level by 3%. Industry output (excluding construction), however, added just $\frac{1}{4}\%$ compared with the preceding three-month period. This was primarily because manufacturing output was only raised a little after robust growth in the previous quarter. Construction output remained at the fairly high level of the start of the year. The year-on-year change in production, which is still considerably positive, highlights the underlying upward trend in this sector, however. Reflecting the overall economic upswing, the unemployment rate slipped from 6.8% in the winter to 6.4% in the second quarter, according to data released by the UK Office for National Statistics. Inflation as measured by the Harmonised Index of Consumer Prices (HICP) climbed from 1.6% in March to 1.9% in June, while the inflation rate excluding energy and unprocessed food rose in lockstep to 2.1%.

New EU member states

*Economic
upward trend
continues*

In the new EU member states (EU-7)² as a whole, economic output grew more moderately in the spring following a quarter-on-quarter rise of $\frac{3}{4}\%$ after seasonal adjustment in the first quarter. Initial flash estimates show that GDP growth was strongest in Hungary and Lithuania ($+\frac{3}{4}\%$ each). Aggregate output in Poland grew by $\frac{1}{2}\%$. The slower pace of growth in many countries, especially in industry, is likely to trace back to negative effects in connection with the Ukraine crisis and waning impetus from the euro area. Aggregate HICP inflation, which had already reached a multi-

year low in the winter, fell to 0.3% in the second quarter, not least because of decreasing food prices. The figures ranged from -1.6% in Bulgaria and +0.3% in Poland to +1.3% in Romania.

Macroeconomic trends in the euro area

In the second quarter of 2014, the already weak upward trend in the euro-area economy started to falter. Real GDP stagnated at the previous period's level in seasonally adjusted terms.³ The result therefore remained distinctly down on the spring forecast made by the European Commission, which publishes quarterly profiles of its estimates. The figure exceeded that of one year previously by $\frac{3}{4}\%$, but still fell short of the pre-crisis level of real GDP from the start of 2008 by 2 $\frac{1}{2}\%$ at the end of the period under review. The slowdown in economic activity in the second quarter was broad-based in the sense that notable positive contributions to growth are unlikely to have come from either domestic demand or foreign trade.

*Aggregate
output stag-
nates in the
spring*

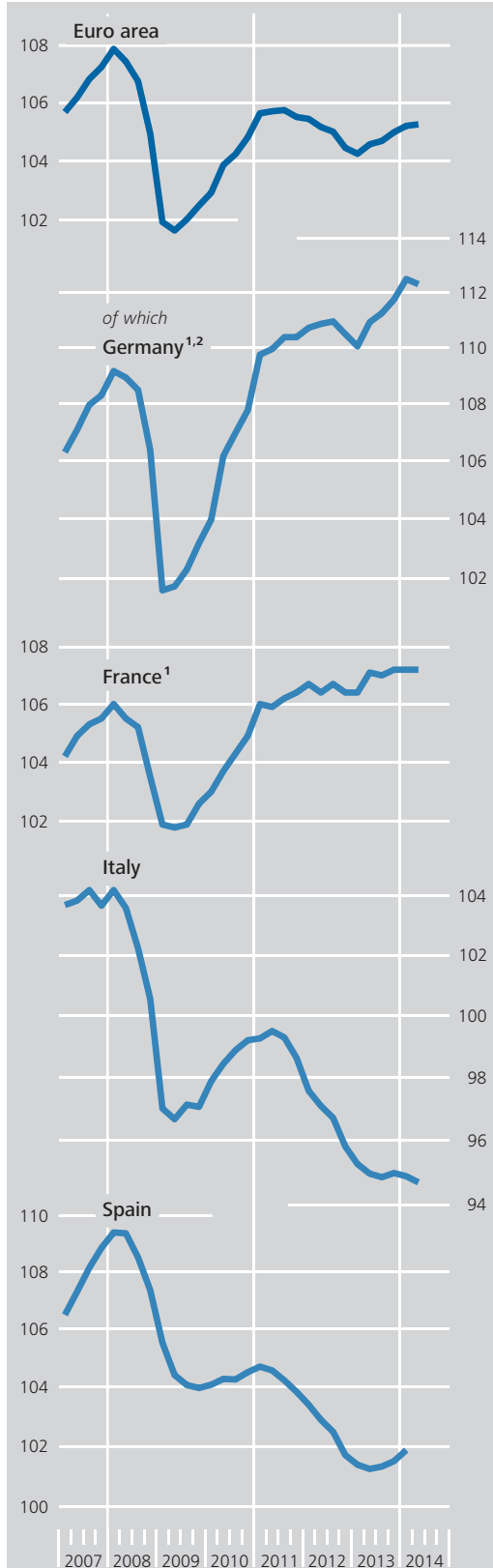
The poor result for the euro area as a whole masks a fairly mixed and, compared with the first quarter, heavily changed picture from country to country. On the one hand, real GDP in Germany fell slightly in the spring, partly as a reaction to the previous sharp growth in aggregate output caused in part by the weather. On the other hand, the Dutch economy saw renewed growth of $\frac{1}{2}\%$ following the decline in the previous period, which was primarily con-

² This group comprises the non-euro-area countries that have joined the EU since 2004.

³ When interpreting Eurostat's flash estimate for the second quarter of 2014, it should be taken into account that some of the member states, including France and Germany (see box on pages 58 and 59), have already switched to the new method given in the European System of Accounts (ESA 2010) to calculate GDP, while the other countries will take this step by the end of September. The GDP series for the euro area as a whole are still based exclusively on the ESA 95 data until the end of 2013, but the GDP growth rates for the first and second quarter of 2014 are already affected by the new figures from the countries that have made the switch.

Aggregate output in the euro area

2005 = 100, seasonally adjusted, quarterly, log scale



Sources: Eurostat and INSEE. **1** According to ESA 2010, re-based so that 2005 = 100. **2** Source of unadjusted figures: Federal Statistical Office.
 Deutsche Bundesbank

nected with low gas production due to mild temperatures. Aggregate output in France stagnated again. In Italy, real GDP fell once more, this time by ¼% as against the first quarter, whereby the country slid into recession again according to the common interpretation. Spain’s recovery, by contrast, continued at quite a lively pace (+½%). Of the eight remaining euro-area member states that have so far published initial seasonally adjusted figures for GDP growth, seven reported an increase, while the downturn persisted only in Cyprus. In Greece, for which no official seasonally adjusted data will be published until further notice, estimates by other institutions point to a slight recovery. Its real GDP saw a year-on-year drop of just ¼%, after -1% in the winter of 2014.

Current indicators suggest that the muted economic upswing, which had been interrupted in the spring, regained momentum from the middle of the year onwards. Whether or not it lasts, however, is also contingent on the newly resolved EU sanctions against Russia and Russia’s retaliatory measures not having a further impact on enterprises’ willingness to invest. In the April-May period, the manufacturing sector as a whole recorded a ¾% increase in orders compared with the previous quarter, which benefited producers of capital goods and consumer goods in particular. In the same period, however, order intake – excluding new orders for other transport equipment, which is dominated by major orders – was no higher than the average for the first quarter in seasonally adjusted terms. Survey-based indicators are signalling a solid start to the second half of the year. The composite Purchasing Managers’ Index for the euro area, for example, went up again in July, due to the unchanged level of the manufacturing index and a major rise in the figures for the services sector. Industrial confidence stabilised somewhat in July, putting it even further ahead of the long-term average.

Leading indicators point to subdued economic recovery from mid-year on

No growth stimuli emanated from the production sector in the spring. On the one hand,

Industry and construction lack momentum in spring

construction output declined by a seasonally adjusted $\frac{3}{4}\%$ in April-May 2014 as against the first quarter, when the result had been boosted by weather-related effects. On the other hand, industrial output stagnated at the level of the winter quarter, in which it had risen moderately ($+\frac{1}{4}\%$). Energy producers reported growth of $2\frac{1}{2}\%$ and manufacturers of consumer goods added $1\frac{3}{4}\%$. In contrast to this, output by manufacturers of consumer durables and capital goods dropped by $\frac{3}{4}\%$ in each case, while output of intermediate goods was down by 1%. The underlying pace of economic growth in industry could nevertheless have been slightly higher in the spring, as the timing of public holidays in some member states, particularly in France and Italy, offered an above-average number of opportunities for employees to take advantage of long weekends. In any case, capacity utilisation in the manufacturing sector rose slightly from April to July, but is still signalling moderate underutilisation.

Broadly based weak demand

Looking at the demand side, foreign trade is unlikely to have made any contribution to growth in the spring, as reported at the beginning of this article. In April-May, nominal goods exports – as measured by the balance of payments statistics – were $2\frac{3}{4}\%$ lower after seasonal adjustment than in the first quarter, amongst other things because trade with Russia, which received 4.7% of exports to non-euro-area countries last year and was thus the sixth most important sales market, is dwindling (and has been for some time now). Import figures decreased on a similar scale. Modest growth stimuli are likely to have come from private consumption. Real retail sales (excluding motor vehicles and fuels) only inched upwards marginally after seasonal adjustment in the second quarter, but new car registrations increased markedly on the winter months ($+\frac{1}{4}\%$), surpassing their previous year's level by 4%. With regard to gross fixed capital formation, the trend in construction output and production of machinery and equipment suggests a decline.

The slight tendencies towards an improvement in the labour market continued in the spring. The number of unemployed persons was around 435,000 lower in June than at the beginning of the year, and 932,000 lower than one year previously. The standardised unemployment rate in the euro area stood at 11.5% at the end of the period under review, compared with 12.0% one year ago. A notable decrease could be seen in most member states; only in France, Italy and Slovenia did the rate remain at a high level. Youth unemployment in the euro area also dropped, falling by 240,000 to around 3.3 million persons since mid-2013. The corresponding rate declined by 0.7 percentage point to 23.2% in this period. In line with the gradual decline in unemployment in the euro area, employment bottomed out in the second half of 2013. The number of persons in work trended slightly up again after seasonal adjustment in the first three months of this year – no more up-to-date data are available – and exceeded the prior-year level by 0.2%.

Consumer price inflation, measured in terms of the HICP, largely came to a standstill in the euro area in the second quarter of 2014. Prices only rose again slightly after seasonal adjustment around the middle of the year. The HICP's sideways movement in the second quarter resulted from countervailing movements of the sub-components. The prices of unprocessed food were subject to considerable downward corrections from a fairly high level. Energy prices also decreased slightly. The price of crude oil did rise at times, particularly towards the end of the quarter, but the inflation in fuel prices that this caused was more than offset by lower tariffs for gas and electricity. In addition, retail prices of commercial goods sank slightly, which was likely to have been helped by falling prices at the import level in the past few months. By contrast, prices for services, which have a weighting of around 40% in the HICP, continued the marked rise already observed in the first quarter.

Continued slight improvement in the labour market

Euro-area consumer prices move sideways in second quarter

*Inflation rate still
at low level for
now*

Owing to the overall weak price trend in the last three quarters, year-on-year HICP inflation continued to fall, dropping to 0.6% in the second quarter and even to 0.4% in July. However, in the two months around the middle of the year, consumer prices rose again slightly on the period in seasonally adjusted terms, mainly

due to rising services prices and a stabilisation of industrial goods prices. This can be explained, amongst other things, by the fact that prices at upstream stages of the economy seem to have gradually stopped falling, in part because the euro has depreciated.