On the problems of macroeconomic imbalances in the euro area

Since the beginning of the third stage of monetary union at the start of 1999, the combination of strong growth in demand, relatively sharp inflation and severe erosion of price competitiveness has led to persistently high current account deficits in a number of countries on the geographical periphery of the euro area. The financial and economic crisis revealed that unsustainable developments at home were behind the substantial external imbalances of these euro-area countries. Macroeconomic imbalances of this kind not only increase the economic and fiscal policy vulnerability of the countries in question; given the spill-over effects on the closely integrated euro-area financial markets, they are also a hazard for other member states and, consequently, for the single currency area as a whole. Furthermore, such imbalances seriously impede the implementation of a uniform monetary policy that is geared to price stability. The debt crisis, which escalated in some peripheral countries in the second quarter, and the stabilisation measures adopted at European level in response have clearly demonstrated the inherent risks.

Consequently, it is imperative to correct the imbalances that have arisen thus far and to prevent a recurrence in the future. Such a reform agenda has to centre on measures to more closely align domestic demand and potential output in deficit countries. As a first step, urgent action must be taken to strengthen the driving forces for growth in the affected countries. However, in the medium to long term, supply-side reforms do not necessarily lower external deficits. The economies in question will therefore have no choice but to bring domestic demand back to a sustainable level. Owing to the dramatic worsening of public finances, a determined fiscal consolidation is of key importance. This is the only way, moreover, to restore the lost confidence in financial markets.

With regard to the opening question of correcting macroeconomic imbalances, therefore, the bulk of structural adjustments required can be taken only by the deficit countries themselves. Compensatory measures by euro-area countries with current account surpluses to stimulate domestic demand, for instance by means of a more expansionary wage and fiscal policy, would neither adequately address the problem nor bring notable relief to deficit economies, given that spill-over effects on the deficit countries are low. Instead, improved conditions for stability-oriented monetary policy by ensuring that all euro-area countries pursue a sustainable economic policy would constitute effective assistance for these countries.

Euro-area countries during the financial and economic crisis

Macroeconomic imbalances in some euro-area peripheral countries in past years

The first ten years following the introduction of the single currency marked a phase of comparatively pronounced macroeconomic stability. In addition to the remarkably high level of monetary stability, the euro area experienced a phase of low real economic volatility. However, below the surface of favourable economic conditions, this period also saw the build-up of macroeconomic imbalances in some countries. They became apparent above all in high current account deficits and eroding price competitiveness in a number of euro-area peripheral countries. But behind these external variables are essentially domestic imbalances: especially the expansion of domestic demand that – measured in terms of domestic potential output – was too sharp, as well as an associated acceleration in wage developments that were hurried along in many cases by the domestic productivity situation. Furthermore, demand in these countries was fuelled in part by an expansive fiscal policy and in part by exaggerations in the real estate markets.

Global financial and economic crisis exposes problems in some euro-area countries

The global financial and economic crisis has brought to light the problems resulting from these imbalances. The first decline in overall economic output in the euro area since the beginning of the third stage of monetary union at the start of 1999 was recorded in 2009, when it fell by 4%. The economic downturn was particularly pronounced in the last few months of 2008 and the early months of 2009. The export-oriented economies of Germany and Finland suffered the sharpest short-term losses. However, here the downturn was primarily seen as a temporary dip in external demand and, as a result, enterprises in Germany, as well as in other export-oriented economies, did not implement any proportional changes in employment. Consequently, household consumption demand remained relatively stable. The sharp recovery in global trade, which started as early as the second quarter of 2009, confirmed the expectations of enterprises and households. In export-oriented economies, growth in 2010 is likely to be well above the euro-area average.

The recession in the peripheral countries Spain, Ireland, Portugal and Greece, however, took a different course. The slump in gross domestic product (GDP) was initially much weaker due to lower dependence on exports. But ultimately, as the crisis progressed, it became quite clear that not only recessionary forces resulting from the global economy were at play; home-grown problems, too, were placing a further strain on the situation. Overall, it transpired that these countries' pre-crisis growth was not sustainable in the long term. In Ireland and Spain, economic overheating culminated in housing price bubbles. The related strong expansion of the construction sector has since proven, to a large extent, to have been exaggerated. Many jobs have been lost in these two countries as a result of the subsequent need to reduce capacity. In Spain alone, unemployment recorded an increase of 2¾ million from the low in the second quarter of 2007 to 4½ million three years later; this accounted for over half of the increase in the entire euro area. The expect-

ation of a long drawn-out adjustment process, bringing with it heavy job losses, has prompted the Spanish and Irish to invest more in precautionary savings since the outbreak of the economic crisis in the final quarter of 2008. In both countries, the process of adjusting the domestic real estate market is proving to be a major strain on the banking system.

While the Greek and Portuguese real estate markets were not severely distorted in the run-up to the crisis, domestic demand in these countries, too, exceeded domestic production capacity and incomes over a longer period of time. Portugal was not able to halt the rise in unit labour costs or boost potential growth. Greek fiscal policy was charting a very expansionary course that was unsustainable in the long term and which ultimately plunged the country into the current debt crisis.

Arising problems spill over to entire currency area

Developments in Greece have clearly demonstrated that persistent macroeconomic imbalances of this kind occurring in closely integrated financial markets of the single currency area cannot be contained within the affected country. Under the conditions of a single currency, persistent national imbalances generate spill-over and contagion effects on other member states. As an upshot, the necessary correction and adjustment procedure strains not only the economic prospects of the affected economies but also the stability of both the real economic framework and the financial system of the entire currency area. With this in mind, this article analyses the key factors that contributed to the escalation of the most recent crisis and examines elements of an essential adjustment strategy to prevent similar problems occurring in the future. Attention is focused on the divergences in external balances and in indicators of price competitiveness that have come to light.

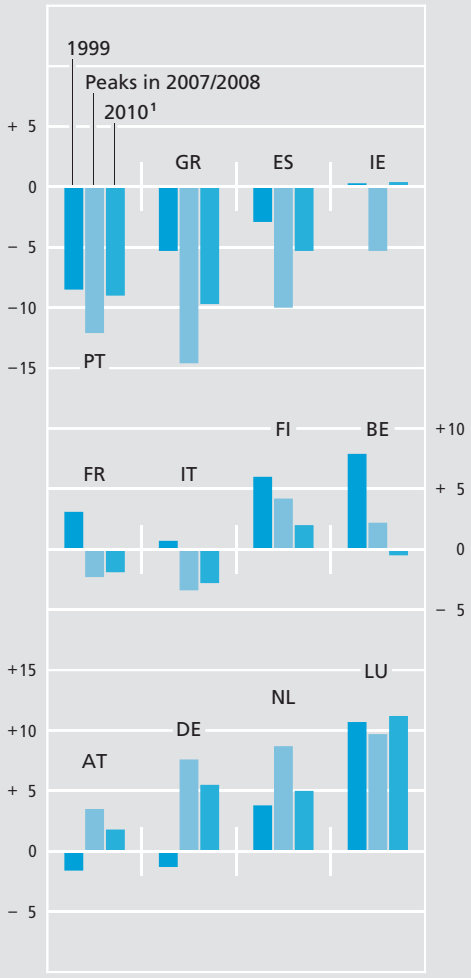
Development of current account balances in the euro area – the statistics

Euro-area current account balance mainly on an even keel, ...

Although no growing differences in macroeconomic growth rates and national inflation rates have been recorded and the dispersion of these figures has not markedly deviated from those of other large currency areas since the third stage of monetary union began in 1999, the development of current account balances has nevertheless been extremely heterogeneous. However, it is interesting to note that the current account balance of the euro area as a whole has fluctuated only between slight deficits and moderate surpluses since the launch of monetary union. The highest levels were recorded in 2000 and 2008 (deficits of 1½% and 1¾% of GDP respectively) as well as in 2002 and 2004 (surpluses of ½% and ¾% of GDP respectively). Germany, with its high surpluses from trading with non-euro-area countries, made a major contribution to this by and large balanced position. Had Germany been factored out of the calculations, the euro area would have had to bear current account deficits of between €160 billion (2006), or 2.6% of GDP, and €320 billion (2008), or 4.7% of GDP, since 2006. In this context, it should also be noted that Germany was able to keep its real

Current account balances in the euro area

As a percentage of GDP



Source: IMF. — **1** IMF forecast from April 2010.

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global market share at just under 10% between 1999 and 2008, whereas the group of other euro-area countries sustained a 4 percentage point decline to 18%.

... but balances of some member states drifted far apart

However, if the euro-area countries are considered individually, major differences become apparent. The twelve member states that are analysed here in greater detail can be roughly divided into three groups. The four peripheral countries Spain, Portugal, Greece and Ireland, of which the first three joined the euro area with sizeable current account deficits, posted sharply rising deficits in particular in the period from 2004 to 2007-2008. Immediately prior to the global economic crisis, the deficits ranged from 5.3% of GDP in Ireland (2007) to 14.6% in Greece (2008). The second, mid-table, group constitutes France, Italy and Belgium, which started with surpluses and posted moderate deficits in 2008. With a surplus of 3.0% in 2008 that was only half of the amount recorded in 1999, Finland has also earned its place in this group. Of the members of the third group, Austria and Germany have a rather similar profile insofar as both countries were able to turn slight deficits into surpluses. The surplus recorded by the Netherlands, which also belongs to this group, peaked at 9.3% (2006).

Current account balances and net external position

As a consequence of stubborn current account deficits, the peripheral countries' net external position has worsened dramatically over the years. As early as 1999, Spain, Portugal and Greece recorded net deficits that were, however, in a rather narrow range of between 20% and 30% of GDP. Nonetheless, up until the end of 2009, net liabilities increased significantly, to around 97% in Spain and 86% in Greece. In Ireland and Portugal, the net debt item deteriorated to 55% and 92% respectively up to the end of 2008 (this is the most recent information that is available to date). In the surplus economies, the net external position may have improved, yet the 2009 rates of 38% (Germany) and 18% (Netherlands) were not especially high by international standards. Since 2001, Austria

has made significant progress in reducing its negative balance to 14%.

Current account balance as difference between savings and net investment

A country's current account position provides vital information about its macroeconomic position. It corresponds to the difference between aggregate savings (including the balance on the capital account) and overall net investment (gross investment less depreciation) of the country in question. In cases where aggregate savings are lower than investment, a current account deficit shows the aggregate savings gap that has to be bridged by lowering balances or by borrowing abroad.[1] For instance, increasing external debt in Spain and Ireland was driven chiefly by investments, whereas in Greece and Portugal declining savings activity in the economy as a whole was the main driver.

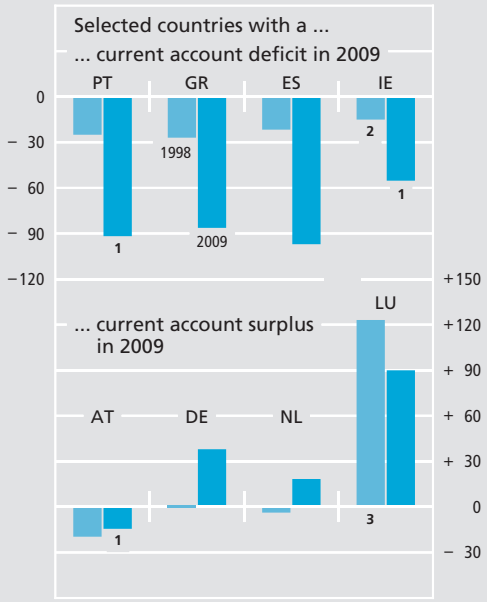
From an economic perspective, surpluses and an improvement in the net external position are advisable for countries, such as Germany, that are faced with an increasingly ageing society to absorb future demographically induced burdens. Channelling these savings abroad allows domestic savers to diversify the risks of their assets and benefit from higher yields in fast-growing economies with a different demographic profile.

High capital inflows not problematic if used efficiently

Conversely, one should not criticise flat out the fact that peripheral catching-up countries in the euro area that have lower incomes to support the economic convergence process, which was greatly fuelled by the alignment of interest rates in the run-up to the third stage of monetary union, generated higher current account balances for a time.[2] If the corresponding capital imports had been used efficiently in economic terms for sustained profitable investment, then not only would foreign debt have been serviced from returns but national income would also have been increased considerably. In such an environment of above-average productivity growth, higher wage rises than the average for the euro area

Net external positions

As a percentage of GDP, year-end levels



Source: IMF and Bundesbank calculations. — **1** Level in 2008. — **2** Level in 2001. — **3** Level in 2002.

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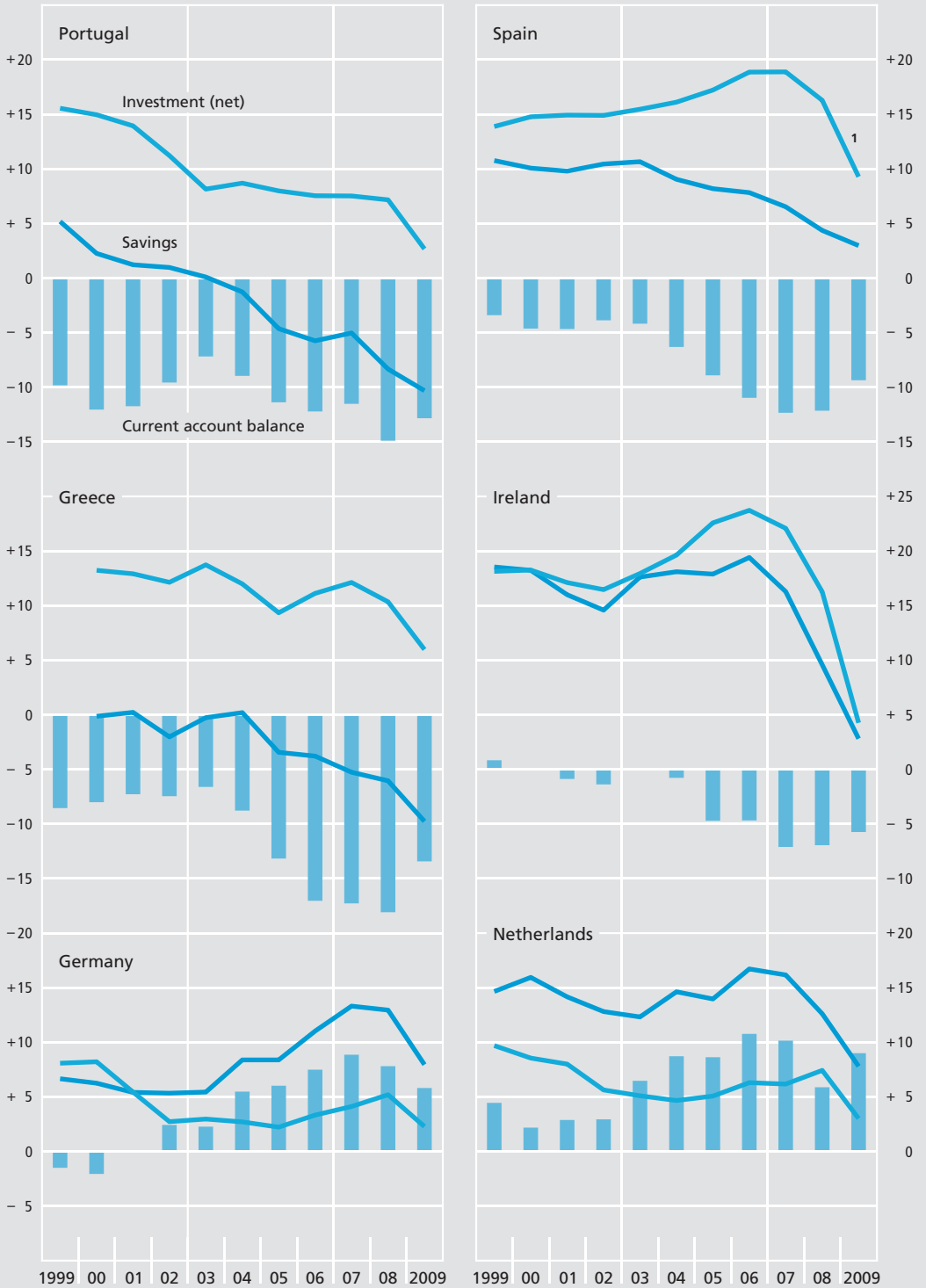
1 In the economic literature, current account balances are also considered to be the result of intertemporal savings and investment decisions (see M Obstfeld and K Rogoff (1995), The intertemporal approach to the current account, in G M Grossman and K Rogoff (eds), Handbook of International Economics, Vol 3, pp 1731-1799). Internationally integrated financial markets enable, for example, economies with higher growth potential to finance growth by borrowing abroad, ie to invest more than can be funded through own savings. In the model, given a comparatively smooth intertemporal development of private consumption, sharp growth in subsequent periods enables debts to be serviced and repaid.
2 See O Blanchard and F Giavazzi (2002), Current Account Deficits in the Euro Area. The End of the Feldstein-Horioka Puzzle?, Brookings Papers on Economic Activity, Vol 2002-2, pp 147-209.

Savings, investment and current account balance

As a percentage of national disposable income



Source: Eurostat. — **1** Net investment for 2009 based on first three quarters.

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would not have damaged the price competitiveness of these countries.

Causes of the unsustainable development of current account balances in the euro-area peripheral countries

Inefficient allocation of capital in euro-area peripheral countries

However, from a long-term growth perspective, these capital inflows from abroad were in actual fact not allocated efficiently in the peripheral countries. In Spain and Ireland, for example, they were fed to a large extent into the real estate markets. In Greece, they were used to fund high government deficits and, in Portugal, to support private consumption.[3] Ultimately, it stands to reason that it is not the current account deficits *per se* that caused the current problems in the peripheral countries, but the economically inefficient use of capital provided from abroad.[4]

Change in risk perception following start of third stage of EMU

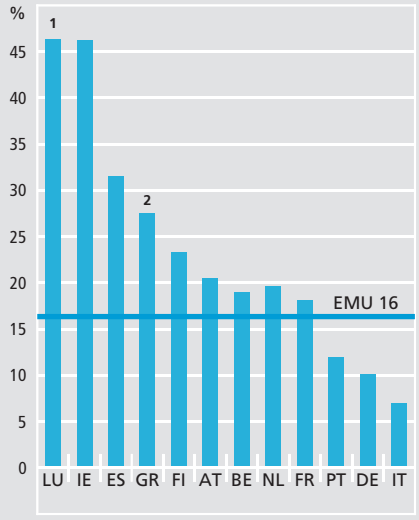
These capital inflows – and with them the funding of current account deficits, too – were accelerated by the disappearance of the exchange rate risk as soon as monetary union started, and country default risks in the euro-area bond markets were rated very low in the pre-crisis years.

Self-reinforcing effects due to diverging real interest rates

Even before the start of monetary union, the nominal yield differences between euro-area countries had evened out considerably. However, with persistent differences between national rates of price change, this consequently meant sizeable deviations in real interest rates.[5] Due to comparatively strong inflation, the ex post real interest rate (calculated on the basis of domestic consumer prices) in the peripheral countries in the period from 1999 to 2008 was relatively low, especially in relation to the equilibrium real interest rate, which can be approximated using the potential growth rate, for example. Viewed in isolation, this greatly spurred demand and economic activity in those countries, mainly in the purely domestically oriented sectors, such as construction, and drove inflation through

Cumulative growth in the euro area since the beginning of the third stage of monetary union

Real GDP 1999 Q1 to 2010 Q1



1 1999 Q1 to 2009 Q4. — **2** 2000 Q1 to 2010 Q1.

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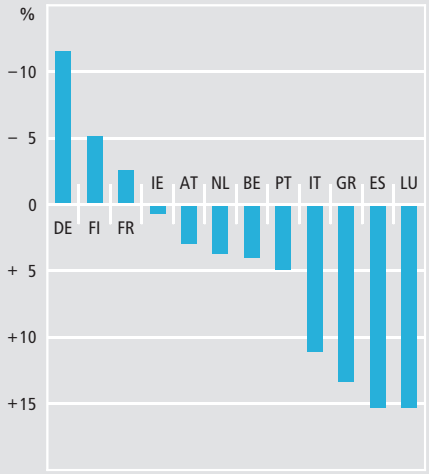
3 See European Commission (2010), Surveillance of the Euro Area – Competitiveness and Imbalances, European Economy, No 1.
4 Such an economically inefficient allocation may, for instance, arise if the financial accelerator mechanism (see B S Bernanke, M L Gertler and S Gilchrist (1996), The Financial Accelerator and the Flight to Quality, The Review of Economics and Statistics, Vol 78 No 1, pp 1-15) intensifies the effect of certain shocks, such as the lowering of refinancing costs for peripheral countries once they join the currency union.
5 See European Commission (2006), The EU Economy: 2006 Review, Adjustment Dynamics in the Euro Area – Experiences and Challenges, in European Economy, No 6, pp 131-176.

Change in price competitiveness relative to the euro-area partners since the beginning of European monetary union*

2010 Q1 compared with 1998 Q4



* Indicator based on deflators of total sales. Inverted scale: a negative value denotes an increase in price competitiveness.

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high wage growth. By contrast, real interest rates in the price-stable core countries, including Germany, were comparatively high – meaning that, when viewed in isolation, growth here was less strongly boosted.

Divergences in price competitiveness

The divergences in the current account balances that were already evident due to these demand-side factors were probably further intensified through the competitiveness channel. The higher inflation rates in the peripheral countries, which were mainly driven by sharp rises in unit labour costs, slowed down exports in real terms and boosted growth in imports by weakening the position of domestic suppliers on their home market. The indicator of price competitiveness vis-à-vis other euro-area countries (calculated on the basis of the deflators of total sales) fell between 1999 and 2008 by 15% for Spain, 4% for Portugal and 7% for Greece. After a phase of sharply negative development up until the end of 2002 (-7%), the indicator for Ireland experienced a period of sideways movement until the start of 2007 but then trended strongly upwards (see also explanations on pages 39 to 55).

Real depreciation in Germany merely by-product of labour market reforms

By contrast, Germany's price competitiveness grew steadily from 1999 to 2008 by a total of 12%. The improved competitiveness in this economy was above all a result of moderate wage policy which had been fostered by the far-reaching reforms of the labour market. It was predominantly a response of the decentrally active social partners to the highly unsatisfactory situation on, and the impending further deterioration of the labour market at the outset of the last decade. This about-turn in wage policy was necessary to counteract previously misaligned labour costs and thereby improve the conditions for sustained growth and higher employment. However, it initially reduced domestic demand. From mid-2005, the expected creation of jobs surged and unemployment figures fell from just under 5 million at the beginning of 2005 to just over 3 million in the final quarter of 2008. Furthermore, reforms were launched and the social partners at corporate level tapped flexibility potential, making the German labour market much more resilient. The most conspicuous sign of the success of these efforts is the relatively low level of job cuts during the recent recession. This is clear proof of the benefits of labour market reforms and wage moderation for the economy as a whole. This should serve as an encouraging

example for euro-area countries that are currently embarking on a similar adjustment process.

The aim of labour market reforms in Germany was to render economic growth more employment-intensive. By contrast, improving price competitiveness vis-à-vis other euro-area countries was not a central consideration. The strategy of increasing the employment intensity of growth in order to bring about a lasting reduction of structural unemployment would also have been successful even without the supporting effect of the regained price competitiveness. The foremost consequence of labour market reforms and of the moderate wage developments that they promote is a medium and long-term strengthening of domestic activity. Wage moderation is therefore in no way an international zero-sum game where output gains are realised at the expense of partner countries (see annex on pages 33 to 38). This is spelled out by the fact that the German economy generated sizeable growth stimuli for other euro-area countries in the final stages of the last upturn.

The economic crisis: corrections since its outbreak and their sustainability

Significant contraction of current account balances due to crisis

Since the global economic crisis broke out in 2008, discrepancies in the euro-area countries' current account balances have narrowed again considerably. According to the IMF's April 2010 forecast, the deficit in Spain in 2010 is likely to be only half as large as in the pre-crisis boom years. By comparison, in Portugal and Greece the decline is likely to be less pronounced. At the same time, the balances of the surplus countries have contracted slightly; the GDP ratio in Germany is likely to fall to around 5½% in 2010. This thus raises the question of the extent to which this adjustment is cyclically induced or of a more permanent nature.

Cyclical and structural causes in deficit countries ...

One sign that the adjustment may be sustainable is that the extremely dynamic demand trends in the deficit countries, as could be observed during the previous cycle, appear to be a thing of the past, at least for the foreseeable future. On the one hand, the expansionary growth stimuli from the process of interest rate convergence have finally subsided. In response to a growing loss of confidence on the capital markets, the interest rate differential between the peripheral countries and Germany has widened greatly in recent months. On the other hand, import growth in the deficit countries over the next few years – in addition to indispensable general government consolidation measures to restore confidence – is likely to be constrained by households' heightened savings activity. Ultimately, deficit countries are currently in search of a new, more sustainable growth model. This adjustment process should be accompanied and mitigated by structural reforms to strengthen the domestic growth forces. The latter are required because – as described above – the peripheral countries' high current account balances are not the actual problem but are merely a reflection of domestic imbalances in the countries in question. In the short term, such measures are likely to dampen domestic demand.

However, in the medium term, it must not be forgotten that the impact of supply-side reforms on a country's current account position cannot be forecast with any certainty. Whereas measures that serve purely to curb demand clearly reduce the current account deficits, the impact of steps to boost demand are not as clear-cut. For instance, significantly strengthening potential output stimulates investment, which can result in higher inflows from abroad. Successful cost cuts can also lower the export value via prices and, in some cases, even inflate nominal current account losses.

... and in surplus countries

In contrast to the deficit countries, tendencies can currently be observed in the surplus countries that are counteracting a return to the high surpluses of the pre-crisis years. For example, in Germany, a continuation of the pronounced wage moderation of the last decade is not to be expected in this form in the current business cycle. This is due, on the one hand, to the currently relatively favourable situation on the labour market. Should economic recovery continue, the unions' relative bargaining position is thus likely to be much stronger than at the beginning of the last decade. Furthermore, the unions' aim of halting the pronounced shift in the distribution of income in favour of enterprises, or at least reversing this shift to some degree, could have an impact on future wage developments. On the other hand, due to demographic developments, fewer and fewer young people are likely to enter the labour market, thus rapidly stepping up competition among firms for new and highly qualified workers.

Need to adjust economic policy in the euro area: symmetry or asymmetry?

Consolidation of public budgets and structural reforms essential, especially in deficit countries

In view of the fact that the deeper causes of the imbalances are to be found in domestic economy factors within the deficit countries, it is indisputable that the necessary adjustments are to be made first and foremost in those countries. For instance, it is vital that these economies get back on a sustainable path by consolidating public budgets and implementing structural reforms. Experience has shown that the adjustments required in the area of wage growth can be implemented in a considerably more rapid and sustainable way if measures to increase labour market flexibility are implemented and incentives to take up employment are improved by making changes to the social security system, for example.[6] As the deficit countries bear the brunt of the adjustment burden, the respective adjustment requirements are distributed asymmetrically between deficit and surplus countries.

Low adjustment due to labour migration

The need for decisive supportive economic policy measures in the deficit countries is also backed by the fact that major market adjustment channels for a more extensive sustainable reduction of the diverging current account balances in the euro area, where relative prices can no longer be adjusted through nominal exchange rate shifts, were not particularly pronounced in the past. This includes the cross-border migration of workers. In the

6 See H Zemanek, A Belke and G Schnabl (2010), Current Account Imbalances and Structural Adjustment in the Euro Area: How to Rebalance Competitiveness, International Economics and Economic Policy, Vol 7, pp 83-127.

last few decades, labour mobility in the euro area has been rather low, especially compared to the USA, not least due to language barriers. This adjustment mechanism may play a greater role in the future, that is if unemployment takes hold in the peripheral countries; however, its significance should not be overstated.

Symmetrical adjustment through wage acceleration in surplus countries no help to deficit countries

In addition to necessary reform efforts in the deficit countries, recent public debate on the strategies required to achieve a sustainable reduction of macroeconomic imbalances in the euro area has also focused on economic policy in the surplus countries. Here the recommendation is often that these economies should also play their part in reducing external discrepancies within the euro area by, for instance, increasing domestic demand, and thus imports, through higher government expenditure or wage acceleration. This would lower their current account surplus and help deficit countries make the necessary adjustments by providing an expansionary stimulus. Such a scenario where deficit and surplus countries alike work towards reducing discrepancies is known as symmetrical adjustment.

Extent of trade integration important

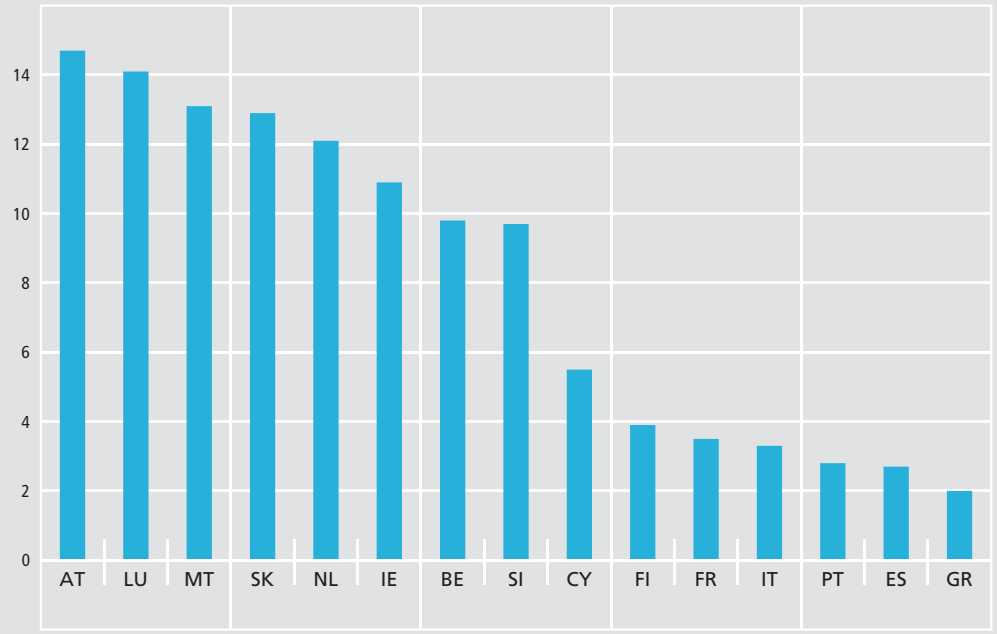
However, this preference for symmetrical adjustment is based on assumptions which, when analysed in more detail, prove to be invalid. From an empirical point of view, one vital prerequisite would be that the relevant measures in surplus countries actually have a notable impact on deficit countries. However, phantasms of mechanistic control for countries with different current account positions generally ignore that, in reality, an economy's trade activities are divided into numerous smaller flows to many different countries. It should be noted in particular that every measure taken by a surplus country with the aim of triggering an external impact often has only a relatively small effect on the deficit country if the trade links between the surplus and the deficit country are not particularly developed. This is precisely the case for relations between Germany and the euro-area peripheral countries we are looking at here. Even if demand in Germany shoots up in the short term, this would not make much of a contribution towards reducing current account deficits in most of the peripheral countries. For example, for the given country weights, if German imports were to rise by 10%, the first-round effect would be that the current account balance in Spain, Portugal and Greece would improve by only ¼ percentage point; the effect would be more pronounced only in the case of Ireland, where it would amount to one percentage point. Furthermore, the higher demand for imports in Germany would also benefit those economies that have a trade surplus. These considerations alone illustrate that, essentially, the problem of large current account deficits can be solved only by the affected countries themselves.

External effects of wage moderation less important

Proposals for symmetrical adjustment often centre on wages and prices in the assumption that using real effective depreciation as a means of wage moderation would first and foremost shift output from abroad to the home markets. This effect could be further intensified by wage acceleration abroad. Germany has sometimes been accused, especially

Exports by euro-area partners to Germany*

2009, as a percentage of partner's GDP



* Goods and services in nominal terms, measured using German import statistics.

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by fellow Europeans, of expanding its overall economic output in recent years at the expense of its neighbours and is now expected to shore up demand in partner countries. This line of reasoning neglects, on the one hand, the fact that wage adjustments are no direct political control variable but, in market economies, are rather the result of decentralised decisions taken by social partners at sector or firm level. Furthermore, characterising wage setting behaviour as a tool that serves primarily to shift output between nations is quite simply wrong. The main effects of macroeconomic changes in wage setting behaviour are felt almost entirely in the home economy, above all through changes in employment. The effects on the external balance items are, by contrast, less important in quantitative terms and, in addition, not clear ex ante in qualitative terms. This is also demonstrated by simulations as part of standard macroeconomic models (see annex on pages 33 to 38).

No noticeable relief for deficit countries from more expansionary fiscal policy in surplus countries

In addition to wages as a potential way of increasing demand in surplus countries, advocates of a symmetrical adjustment strategy also cite fiscal policy as a possible instrument. For example, it has been proposed that Germany, in particular, should use tax cuts to increase government expenditure or stimulate private consumption. However, this argument disregards the fact that the public finance situation is tense in Germany, too, and has given rise to a need for consolidation, not least due to the constitutional provisions of the debt brake and the commitments made by the German government as part of the excessive deficit procedure initiated by the Euro-

pean Commission. Another valid point here is that the effects of such a strategy – given the low spill-over effect between the euro-area countries, which can realistically be assumed – would disappoint ambitious expectations. Overall, it is more likely that macroeconomic relief in the countries with current account deficits would be negligible, whereas the fiscal policy situation in the countries with current account surpluses would deteriorate significantly. This is not a sensible macroeconomic adjustment strategy for countries in a monetary union.

Structural reforms in surplus countries sensible but not likely to have notable effect on deficit countries

A recent examination of current account divergences in the euro area by the European Commission has correctly determined the essence of these theoretical and empirical considerations – that neither strong exports nor the fiscal policy situation in the surplus countries constitute the problem, and that it would therefore not be sensible to weaken Germany's price competitiveness or its fiscal policy framework.[7] The OECD ultimately also comes to this conclusion and proposes, above all, stepping up structural reforms to stimulate domestic demand in Germany. In particular, it recommends implementing further labour market reforms as well as deregulating services and product markets, improving tax treatment of the promotion of research and reforming the education system.[8] From the German perspective, these measures make good sense. It is safe to assume, however, that these measures will make little contribution towards easing adjustment requirements in the euro-area deficit countries.

Economic risks of adjustment process ...

The advocates of the proposals for symmetrical adjustment fear that a reduction of domestic demand in the peripheral countries without compensatory actions in surplus countries will result in a general shortage of aggregate demand in the euro area. In the worst case scenario, this could plunge the euro area into recession again, which would hamper both fiscal consolidation and the build-up of competitive output capacity. However, for various reasons, these arguments are too short-sighted. As mentioned above, the naive view of a mechanistic shift of demand between deficit and surplus countries – given the low spill-over effects in the euro area – is misguided as far as wage and fiscal policy is concerned. What is more, this line of reasoning overlooks the fact that real economic recovery in the euro area is essentially intact despite the adjustment requirements in the deficit countries. According to the most recent Eurosystem projections, the real GDP growth rate both this and next year is likely to be lower than prior to the economic crisis. However, even after fiscal stimuli and considerable consolidation efforts have ceased, economic development is not likely to slip back into recession over the forecast horizon (see box on pages 30 and 31). Ultimately, advocates of symmetrical adjustment disregard the fact that – even in a risk scenario of an upturn in the euro area that is much weaker than currently expected – there are more effective means of countering a general shortage in aggregate demand in

7 European Commission (2010), The Impact of the Global Crisis on Competitiveness and Current Account Divergences in the Euro Area, Quarterly Report on the Euro Area, Vol 9, No 1, p 38.
8 OECD (2010), Economic Surveys – Germany, p 17 ff.

The cyclical effects of concurrent fiscal consolidation within the euro area

In a monetary union, solid public finances in all member states provide an important pillar of support for stability-oriented monetary policy. In the euro area, however, the economic and financial crisis caused a sharp rise in government deficits and debt. Furthermore, developments in Greece and the ensuing contagion effects on other euro-area countries dramatically combined to underline the need for a rapid reduction in inflated fiscal deficits throughout the euro area. Most member states now face an extensive process of consolidation to bring their government finances back down to a level which is sustainable in the long term in line with European targets and to win back the fiscal credibility lost during the economic and financial crisis. However, the potentially significant negative macroeconomic consequences of rapid and, above all, concurrent consolidation in all member states are also of concern to some.

The short-term macroeconomic effects of fiscal measures can be examined effectively using structural models. It should generally be noted, however, that the results of such analyses are subject to great uncertainty. It is thus not surprising that the dispersion of such estimations is relatively high.[1] As well as the dependency of political instruments examined, transmission channels (such as confidence effects), which can be difficult to model, are significant for results.

Below, the macroeconometric multi-country model NiGEM is used to analyse the cyclical effects of a concurrent consolidation of public finances in the euro-area countries.[2] This analysis assumes that, in the coming years, the countries will all reduce their deficit ratios in such a way as to meet the adjustment targets specified in their national stability programmes.[3] By contrast, it is assumed that Greece will reduce its deficit ratio in line with the ambitious Greek consolidation programme agreed in return for financial aid, and that Spain and Portugal will follow a consolidation path based on the public announcements made in both countries in mid-May and at the beginning of July, respectively. A scenario is envisaged whereby public finances are consolidated in equal parts in all countries by increasing the income tax and VAT rates and reducing real government consumption and government transfers. Positive confidence effects resulting from stability-oriented budget management, which could, for instance, be reflected in lower risk premiums in financial markets, are not included in the model; they are likely to be of particular relevance to the current situation, however. The model also assumes that households – unlike financial markets – do not act in a forward-looking manner and that their consumer behaviour therefore depends only on current and previous income as well as on current wealth. As a result, negative macroeconomic consolidation effects are likely to be significantly overestimated on the whole.

The results of the simulation show that the planned consolidation of public finances in the euro area may well have a dampening impact on demand. Compared with a scenario in which fiscal policy is not adjusted,[4] real annual GDP growth in the euro area would be ¼ percentage point lower on average between 2010 and 2014. The consolidation measures would lead to the euro-area deficit ratio being cut to 1.7% in 2014, compared with just 4.6% in the reference scenario.

According to the model, monetary policy reaction to fiscal consolidation is lagged because, due to the VAT hike in member states, consumer price inflation in the euro area is initially somewhat stronger. Owing to the forward-looking nature of financial markets, as assumed in the model, the long-term interest rate immediately drops considerably, however, which stimulates private investment demand, especially in 2011. This explains why the baseline deviation of the real year-on-year rate of GDP in 2011 is very small compared with the scope of consolidation. The very expansive overall effect of monetary policy is illustrated if a parallel simulation without a monetary policy reaction is conducted. In this comparison, the significantly higher output losses in this alternative scenario are also attributable to the stricter consolidation measures which governments would then have to implement to meet their specified consolidation targets.

Despite the dampening effect of planned consolidation measures on growth, the continued economic recovery

1 See A Spilimbergo, S Symansky and M Schindler (2009), Fiscal Multipliers, Staff Position Note 11, International Monetary Fund. — **2** The analysis does not include Slovakia, Luxembourg, Slovenia, Cyprus and Malta. — **3** For those countries which reach the 3% net borrowing ceiling before 2014, it is also assumed that they will reduce their deficit ratios by a further one percentage point in each of the remaining years until 2014. — **4** An adjusted version of the current NiGEM forecast baseline is used for the simulations, as the forecast baseline already

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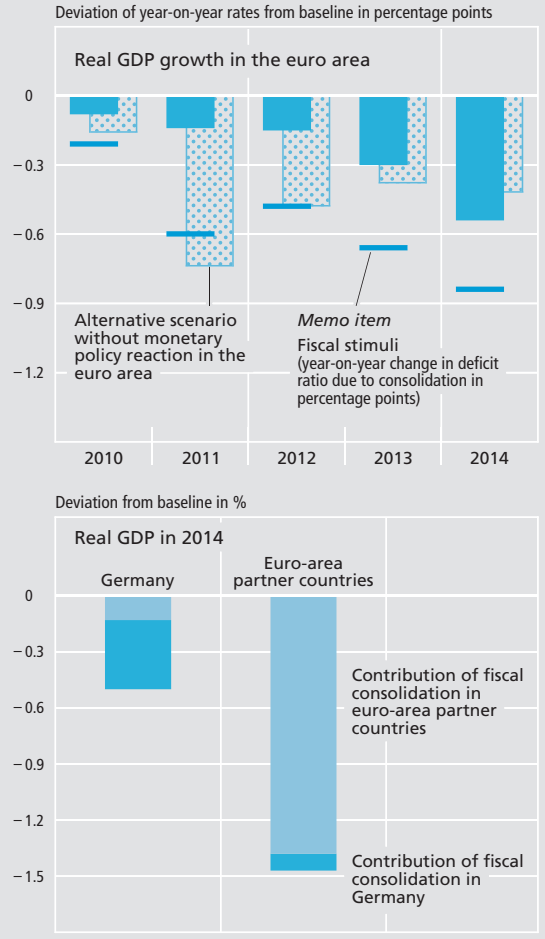
in the euro area is not endangered overall. Even in those euro-area countries where consolidation is needed most, there is no marked and prolonged downward trend in macroeconomic developments. This outcome remains unchanged if the United Kingdom, USA and Japan likewise adopt a strict consolidation strategy, since the negative spill-over effects of consolidating public finances are limited between the countries.

To more accurately gauge the extent of such fiscal spill-over effects for Germany in relation to the other euro-area countries, the simulation is broken down into two variations. In variation 1, only Germany undergoes consolidation; in variation 2, the remaining euro-area countries undergo consolidation. The first simulation determines the impact of consolidation in Germany on euro-area partner countries. The second variation determines the effect of consolidation in the other euro-area countries on Germany. They show that production shortfalls in euro-area partner countries which result from consolidation in Germany are consistently small, and that a number of Germany's immediate neighbours are hit hardest owing to their closer foreign trade links. By contrast, peripheral euro-area countries with the biggest macroeconomic problems are barely affected. The fact that consolidation in Germany would enable monetary policy accommodation in the euro area, which would again slightly alleviate spill-over effects, also plays a role. Conversely, the German economy is barely affected by consolidation in the other euro-area countries.

Combining the effects of the two variations and comparing them with the results of previous simulations of consolidation in all euro-area countries shows whether mutually reinforcing losses in demand are the result of concurrent consolidation in Germany and in the other euro-area countries. Evidently, the difference between overall GDP losses from each individual simulation and the outcome of a concurrent consolidation is negligible. Thus, concurrent consolidation in Germany and the other euro-area countries does not, on its own, give rise to significant mutually reinforcing losses in demand.

Overall, the results of this analysis support the call for consistent compliance with European fiscal targets by all member states. Furthermore, the results provide no evidence that countries with a relatively low consolidation priority should give way to countries with a high priority over and above the time paths specified in the stability programme, thus delaying the start of their public finance consolidation programmes.

Impact of fiscal consolidation on real GDP in the euro area



takes into account certain consolidation steps which euro-area countries are set to take from 2011 onwards in the form of tax increases. The NiGEM forecast baseline also already includes reductions in public spending for Greece and Ireland; these are unaffected by adjustment, however.

deficit countries than compensation from surplus countries. This applies primarily to the role of monetary policy.

... can be countered with monetary policy

The primary mandate of Eurosystem monetary policy is safeguarding price stability for the entire currency area. This means that it generally cannot allow itself to take account of economic problems in individual countries. The macroeconomic constellation outlined above may nevertheless create monetary policy scope insofar as reducing aggregate demand in some economies paired with the fiscal consolidation required of all member states, viewed in isolation, could curb inflation in the euro area as a whole. Monetary policy geared towards price stability would be able to take this into consideration when estimating the price outlook and the resulting policy stance. This would limit the risk of a short-term recovery course in the euro area being slowed by retarding fiscal and wage factors.

Conclusion

Real economic discrepancies in the euro area to be corrected predominantly by peripheral countries

All in all the large current account deficits of the European peripheral countries in the past few years are a testament to imbalances in domestic economic activities: measured in terms of domestic potential output, demand was too high. Imbalances of this kind in parts of a single currency area give cause for concern and, in view of the resulting sizeable macroeconomic adjustment requirements, not only in the affected countries. Given the spill-over effects on the closely integrated euro-area financial markets, they are also a hazard for other member states and, consequently, for the single currency area as a whole. Furthermore, such imbalances seriously impede the implementation of a uniform monetary policy that is geared to price stability. The debt crisis, which escalated in some peripheral countries in the second quarter, and the stabilisation measures adopted at European level in response have clearly demonstrated the inherent risks.

Extensive reform agenda

Consequently, it is imperative to correct the imbalances that have arisen thus far and to prevent a recurrence in the future. Such a reform agenda has to centre on measures to more closely align domestic demand and potential output in deficit countries. In addition to structural reforms, especially on the labour market, the agenda should include the consolidation of public budgets in particular. Furthermore, regulatory measures should be put in place to counter future exaggerations in the real estate market in peripheral countries. In the medium to long term, supply-side reforms do not necessarily lower external deficits. The economies in question will therefore have no choice but to bring domestic demand back to a sustainable level.

With regard to the opening question of correcting macroeconomic imbalances, therefore, the bulk of structural adjustments required can be taken only by the deficit countries themselves. Compensatory measures by euro-area countries with current account surpluses to stimulate domestic demand would neither adequately address the problem nor bring notable relief to deficit economies, given that spill-over effects on the deficit

countries are low. Instead, improved conditions for stability-oriented monetary policy by ensuring that all euro-area countries pursue a sustainable economic policy at home would constitute effective assistance for these countries.

Closer surveillance at European level under discussion

Given the critical impact of country-specific domestic problems on the entire euro area, it is also appropriate to tighten the fiscal policy commitment procedures and macroeconomic surveillance in the euro area. A debate on reform has since begun for both issues. While it is broadly uncontested that the fiscal policy rules of the Stability and Growth Pact need to be tightened, the attempt to establish more effective macroeconomic surveillance is largely new territory. It is vital to set up effective procedures that are restricted to significant imbalances in the form of macroeconomic vulnerabilities in the affected countries. Extensive macroeconomic fine-tuning and coordination by supranational bodies should, however, be rejected.

Annex

Macroeconomic effects of wage moderation

The effects of an altered orientation in wage setting in the context of the euro area can be appropriately demonstrated using simulations of macroeconomic models. This is illustrated below for two of the models used by the Bundesbank. The primary purpose of the simulations is to identify the main transmission channels, and also, in particular, repercussions on other euro-area countries.

Simulations using NiGEM

Exogenous and endogenous wage shocks in NiGEM

With the aid of the multi-country model NiGEM of the National Institute of Economic and Social Research (NIESR), the effects of wage moderation in their entirety, including the impact on other economies, can be depicted.[9] In this model, the (real) hourly wage W/P is determined using an estimated equation, according to which it rises with increasing productivity Y/L but falls with increasing unemployment U as the negotiating power of the employees weakens in relation to the position of the employers. The influence of all other determinants is encapsulated in one term α:

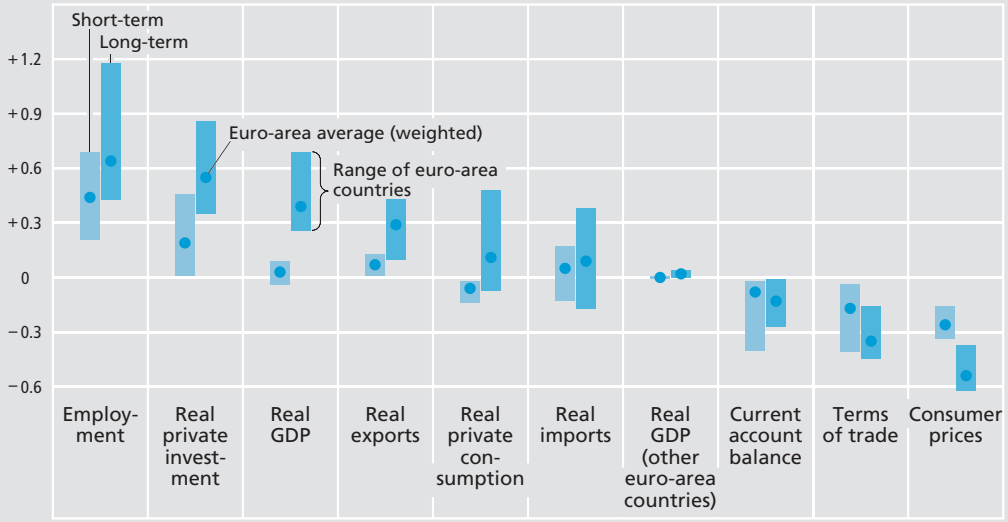
$$ln(W_t/P_t) = \alpha + ln(Y_t/L_t) - \beta U_t.$$

In the following, wage moderation is understood as a permanent reduction in the wage level vis-à-vis a baseline. Such a shock can be implemented in NiGEM in various ways. First, the equation for determining the hourly wage can be replaced by a specific change value (exogenous shock). Second, the structural relationship described in the equation can, in principle, be left intact by merely shifting the level by modifying the term α.[10] For such an endogenous shock, the impact of other macroeconomic variables on the shock variable itself – in this case, the influence of induced changes in

9 See R Barrell, B Becker and S Gottschalk (2003), Wage Moderation Policy in Germany, NIESR discussion paper, No 224.
10 This corresponds to a change in the wage mark-up in the DSGE model and leads to a shift in the NAIRU. Labour market reforms could be simulated in the same way in NiGEM.

Macroeconomic effects of an isolated wage cut in individual euro-area economies*

Deviation from the baseline as a percentage[1]



* Range of results from simulations using NiGEM. In each simulation, one euro-area country is taken in isolation and its nominal hourly wage is exogenously and permanently reduced by 1%, with nominal fixed key interest rates. Euro-area average and aggregate for other euro-area countries calculated using GDP weights. — **1** Deviation in quarter 4 (short-term) and quarter 60 (long-term) of shock. For current account balance (as a percentage of GDP) deviation given in percentage points.

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productivity and the unemployment rate on the hourly wage – continues to be taken into consideration. This can be particularly significant if the rule-based responses of monetary policy are to be taken into account. Admittedly, by considering the feedback effects ex ante it is nearly impossible to gauge to what extent the variable concerned changes ex post after an endogenous shock, which, above all, makes a cross-country comparison more difficult. By contrast, an exogenous shock fixes the (final) change in the hourly wage and nevertheless illustrates the underlying complex macroeconomic impact of wage moderation. Therefore, depending on the question at hand, either an exogenous or an endogenous wage shock is assumed.

In NiGEM the major economies are depicted by modules with the same structure, with the respective parameters having been estimated using the economies' historical data. Therefore, even an identical exogenous shock produces quantitatively different macroeconomic effects in a cross-country comparison. Despite the concrete results ranging considerably in some cases, a consistent response pattern clearly emerges from the separate simulations of a permanent exogenous reduction in the (nominal) wage level vis-à-vis the baseline in the euro-area member states.[11] The informative value of the results for the current economic situation

11 A total of eleven euro-area economies (DE, FR, IT, ES, NL, BE, AT, FI, PT, IE and GR) are considered here and adequately modelled in NiGEM for the purpose of the experiments. The simulations are conducted separately, so that in each case the nominal hourly wage is permanently reduced by 1% in one country only. Monetary policy influences are suppressed by fixing the nominal key interest rates in the euro-area for an extended period. The responses of the macroeconomic variables as a euro-area average are calculated from the changes in the national variables in the separate simulations using GDP shares.

depends not least on the extent to which the empirical interactions depicted in NiGEM still exist today.

Domestic effects ...

Since prices are rigid in the short term, a nominal reduction in the hourly wage translates into a real shock. As a general rule, the goods prices in NiGEM are derived from the production costs plus a mark-up. Therefore, in the wake of a reduction in wages, prices are likewise progressively lowered. Nevertheless, in real terms, the wage falls below the baseline in the long term too. This primarily increases firms' labour demand, leading to growth in employment. Consequently, an economy's potential output rises. Employment growth also results in a firm's capital stock being increased to provide machinery and equipment for the newly created workplaces. With potential output, aggregate demand also increases in the long term. But in the short term it is depressed, particularly by private consumption, because lowering the hourly wage also reduces the income of the labour force up to then. However, in the medium to long term, this effect on aggregate wage income is more than compensated for by the strong growth in employment. [12]

... and external effects

The external effects of wage moderation must also be taken into consideration. As a result of a reduction in production costs, export prices are also lowered. As domestic products are now cheaper than the goods of other economies, international demand is diverted in favour of domestic products and the export volume rises perceptibly. Nonetheless, the rise in real exports remains below the increase in real GDP and, above all, below growth in private investment. Therefore, foreign trade is by no means the driver of the macroeconomic effects of wage moderation, as is often asserted. Furthermore, the reduction in the prices of domestic goods compared with those of foreign products results in import substitution to a certain extent only. Since, if potential output increases, aggregate demand also rises in the long term, import demand must be higher, if viewed in isolation. For the euro area as a whole, on average this impact of the shift in the level of domestic demand dominates the substitution effect from the relative price change, resulting in the volume of imports somewhat exceeding its baseline level.

While the redirection of the trade volumes in favour of the home country thus has a comparatively weak impact overall, the terms of trade deteriorate considerably as a result of the real depreciation. The values show that the price effect even outweighs the impact of the shifts in the real trade flows and, in the long term, the (nominal) current account balance falls somewhat in relation to the baseline. A further consequence is that aggregate output abroad hardly changes. It should be stressed that there is no drop in production in the partner countries and the overall effect in the long term tends rather to still be slightly positive. This is primarily due not only to the fact that the effect of redirecting the trade volumes, which is in any case weak, is spread over many partner countries, but also to the fact that foreign countries mainly benefit from a rise in purchasing power as a result of the improvement in their terms of trade.

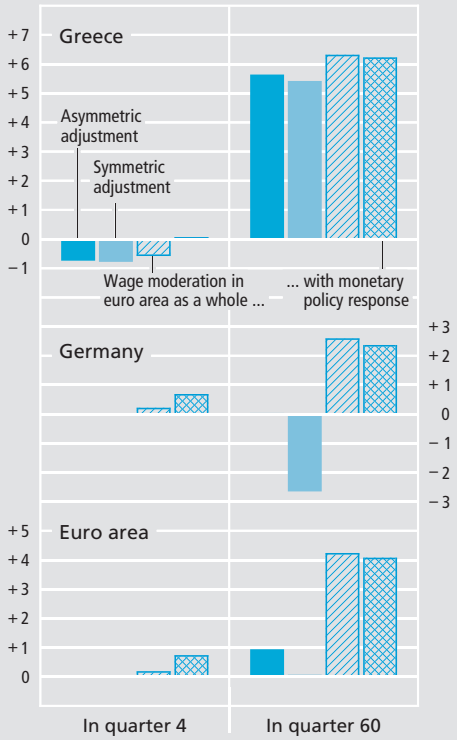
Symmetric adjustment ...

Conversely, particularly in the case of aggregate underemployment, wage acceleration, which pro-

12 Nevertheless, in some economies, private consumption, in line with households' real disposable income, falls below the baseline in the long term as well. This is likely to be mainly due to the loss of income resulting from the reduction in export prices. In the latest available version of NiGEM, NIESR has adjusted the behaviour of export prices so that private consumption is no longer reduced in the long term. The current account response is also affected by this. The simulation results presented here are based on NIESR's version of NiGEM from January 2010.

Effects of various wage adjustment strategies on real GDP*

Deviations from the baseline as a percentage[1]



* Results from simulations using NiGEM, for which in Spain, Portugal and Greece the nominal hourly wage is endogenously (ex ante) and permanently reduced by 1% (asymmetric adjustment); in addition, the hourly wage in Germany rises by 1.25% (symmetric adjustment) or in all euro-area countries the hourly wage is reduced (ex ante) by 1% (wage moderation in the euro area as a whole). Unless otherwise stated, monetary policy response suppressed. — **1** Deviation in quarter 4 and quarter 60 of the shock.

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duces the opposite macroeconomic effects, cannot be beneficial, either from a domestic or a foreign perspective. In order to illustrate the effects of a symmetric adjustment, (simultaneous) wage moderation in Greece, Portugal and Spain is combined with wage acceleration in Germany. Endogenous shocks are applied to the respective wage equations so that the macroeconomic repercussions – and, in a subsequent step, also the impact of a monetary policy response – can be depicted in their entirety. The shocks are calibrated in such a way that the long-term increase in the (real) product wage in Germany compensates ex post for the decline in the southern European countries, weighted by their economic output.[13] The example of Greece, for instance, confirms that although the real effective depreciation of a deficit country is increased by wage acceleration in a major surplus country, the effect is small. Above all, however, compared with the situation where the adjustment is limited to the selected deficit countries, the aggregate output of the deficit country is by no means further increased. In the euro-area aggregate, the significant fall in output, which the German economy would be confronted with in the long term owing to higher wages, would compensate for GDP gains in the wake of the decline in wages in the southern European countries.

... versus wage moderation in the euro area as a whole

Finally, a strategy is analysed in which all euro-area economies engage in wage moderation.[14] The real effective depreciation of a deficit country such as Greece is then notably weaker than is the case if the upward pressure on wages is only moderated in some member states and increases further in others. Nevertheless, the deficit country benefits from wage moderation in the euro area as a whole, as its economic output receives an additional boost from purchasing power effects and shifts in the level of demand in the other member states. With regard to the strong increase in euro-area GDP, above all the positive contribution from the economies that were not subject to wage

13 Endogenous shocks of equal measure (1%) were applied ex ante on a permanent basis to the wage equations of the three southern European countries selected.
14 As in the previous case of symmetric adjustment for the three southern European economies, in these simulations an identical endogenous shock is applied ex ante to all euro-area countries. As the real wage changes in some cases vary considerably ex post, the macroeconomic effects cannot be compared across countries, but only with regard to strategies.

moderation in the preceding simulations has a major impact. Since the inflation rate for the euro area as a whole is significantly curbed in this scenario, a stability-oriented monetary policy can also tackle short-term drops in demand in the wake of wage moderation by giving a certain amount of free rein.

Simulations with the Bundesbank DSGE model

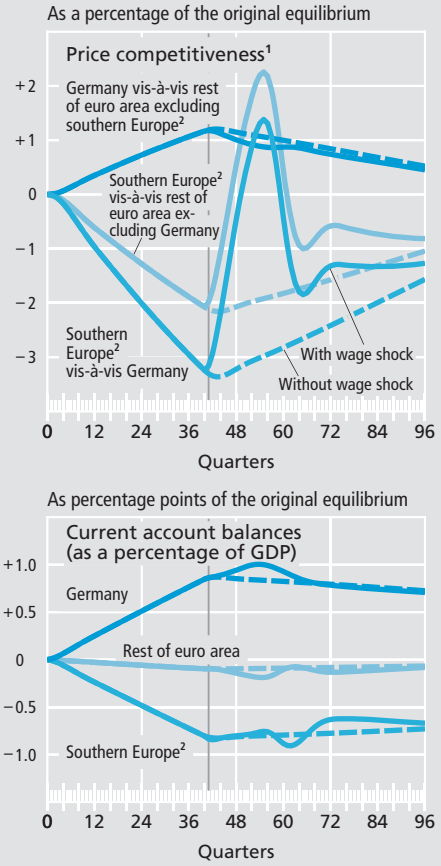
Bundesbank's three-region DSGE model for the euro area

In addition to the simulations carried out using NiGEM, the macroeconomic effects of wage moderation in deficit countries are analysed using an extended version of the Deutsche Bundesbank's dynamic stochastic general equilibrium model (baseline DSGE model).[15] Compared with NiGEM, whose structure is based on econometrically estimated behavioural equations, the strength of the DSGE models lies in a rigorous microeconomic foundation of macroeconomic relationships. The Bundesbank model can depict three different regions and, for the purposes of the simulation in question, is calibrated with the corresponding data to Germany, southern Europe (Greece, Portugal and Spain) and the rest of the euro area. Values commonly used in the literature are taken to determine the structural parameters.[16] The single monetary policy in the monetary union focuses, in particular, on the objective of price stability in the euro area as a whole.

Current account imbalances in euro area form starting point

First, the genesis of the current account imbalances in the euro area is reproduced in the model. Since the deterioration in the current account balances in southern Europe is largely due to the decline in the private saving ratio, differences in savings behaviour in Germany and in southern Europe are assumed in the DSGE model. These are modelled using a time preference shock,[17] which leads to a considerable nominal current account surplus

Responses to a time preference shock or wage shock*



* Time preference shock or subsequent temporary wage shock (from quarter 41 onwards) simulated in Deutsche Bundesbank's extended dynamic general equilibrium model. — **1** Based on consumer price indices. Rising curve denotes an increase in price competitiveness. — **2** Greece, Portugal, Spain.

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15 For a detailed description of the baseline model for the German economy and its possible extensions with examples for simulation experiments, see Deutsche Bundesbank, Development and application of DSGE models for the German economy, Monthly Report, July 2008, pp 31-46.
16 See, for example, F Smets and R Wouters (2003), An Estimated Dynamic Stochastic General Equilibrium Model of the Euro Area, Journal of the European Economic Association, Vol 1 No 5, pp 1123-1175.
17 The time preference shock implies that the economic agents in southern Europe favour current consumption over future consumption and thus save less. At the same time, households in Germany save more to the same extent, while in the rest of the euro area there is no time preference shock.

in Germany and to a high current account deficit in southern Europe. Furthermore, the current consumption restraint in Germany, implied by a stronger preference for future consumption, indirectly results in an increase in the supply of labour and thus a decline in the real wage.[18] As exactly the opposite labour market responses are produced in southern Europe, the reverse development of production costs causes divergent changes in price competitiveness within the euro area.

Wage moderation in southern Europe

In a further step, based on the existing current account imbalances in the euro area, wage moderation scenarios in southern Europe are analysed using a wage mark-up shock.[19] A temporary reduction in the wage mark-up (a temporary real wage decline) in southern Europe triggers a sharp rise in employment and – in tandem with this – growth in investment in this region. Aggregate output increases in the medium term. Thanks to the relative real wage decline, goods in southern Europe can be produced more cheaply and therefore their price competitiveness within the euro area improves. Export volumes rise as a result of this real depreciation. However, at the same time, real imports also increase because growth in output induces higher domestic demand. The current account hardly changes initially, while in the medium term it improves slightly. In Germany, there is a slight improvement in the current account balance in the short term, owing to growth in imports being weaker than that of exports.

In the case of permanent wage moderation (permanent real wage decline), the expansionary effects on employment, investment and aggregate output in southern Europe become more intense and more prolonged. Consequently, the current account in southern Europe even deteriorates owing to increased investment.

Common results

Correction in the labour market as a characteristic of wage moderation

The simulations using NiGEM and the Bundesbank's DSGE model illustrate that dampened wage growth primarily affects the domestic labour market by reducing underemployment. Furthermore, the creation of new jobs necessitates an expansion of the capital stock and leads to a sharp rise in investment. By contrast, the redirection of the international flows of goods as a result of the shift in the relative prices plays only a subordinate role in quantitative terms. The simulations with both models show that, contrary to expectations, the nominal current account balance can even deteriorate. However, because this is due to an increase in the domestic economy's performance and not, for example, to excessive domestic demand, this is not an unsustainable development.

Where there is high unemployment, wage moderation is thus likely to pave the way to increased employment and growth. By contrast, more moderate wage development is, in some cases, a less suitable means of correcting large current account deficits. This essentially requires excessive domestic demand to be curbed.

18 The supply of labour in the model is positively dependent not only on the real wage but also on the marginal utility of consumption, since the economic agents' propensity to work decreases with increasing prosperity.
19 Since employees in the model have a certain degree of market power, they demand a wage mark-up, the size of which depends on their market power.