

Stephan Schulmeister

Growth Dynamics Exposed to Conflict Between Easy Monetary Conditions and Fiscal Restriction

Medium-term Forecast for the World Economy Until 2017

The readiness of the ECB to stabilise interest rates on government bonds of highly-indebted euro area countries by market intervention has led to a significant fall in these countries' bond yields since the summer of 2012. Uncertainty about the resolution of the euro area banking, interest rate and debt crisis remains nevertheless high. The exchange rate of the euro should therefore continue to ease gradually, to an average \$ 1.21 per € by 2016. The benchmark price of oil (Brent), after a cyclical retreat to \$ 100 per barrel in 2012, is expected to rebound to around \$ 114 by 2017. Nominal interest rates, both short- and long-term, will be at their lowest level since World War II on average over the projection period. Fiscal restraint is set to continue in the EU, even if the implicit dampening impact on output and employment may be given greater consideration than in the recent past. In such a scenario, the EU economy should recover from its cyclical downturn of 2012. Until 2017, EU-27 GDP is projected to grow by an average 1.4 percent per year, while in the USA demand and output should keep on a somewhat more dynamic trend (+2.4 percent p.a.). World trade is expected to expand by almost 6 percent per year until 2017, more than twice as fast as over the period 2007-2012 marked by the financial market crisis.

For definitions of terms used see "Methodological references and glossary of terms" in this volume and <http://www.wifo.ac.at/wwadocs/form/WIFO-BusinessCycleInformation-Glossary.pdf> • The author is thankful to Stefan Ederer for useful and constructive comments. The data were processed and analysed with the assistance of Eva Sokoll • E-mail addresses: Stephan.Schulmeister@wifo.ac.at, Eva.Sokoll@wifo.ac.at

The assessment of the medium-term outlook of the world economy hinges crucially upon the assumptions with regard to the solution of those problems that currently weigh most on economic growth: in the industrialised countries these are high budget deficits and further increasing government debt ratios, as well as the overall economic repercussions of the crisis resolution strategies, notably the drastic rise in unemployment.

The euro area economy has not recovered in a sustained way from the slump in 2009 that followed the financial market crisis. As early as 2011, demand and output growth slackened again, in the wake of a massive increase in interest rates on government bonds in Greece, Ireland and Portugal. Neither the establishment and subsequent increase of the European Financial Stability Facility (EFSF), nor the bond purchase programme of the ECB could prevent the spreading of upward pressure on interest rates to Spain and Italy in 2011. Such "interest epidemic" was greatly amplified by speculation on default of these countries via credit default swaps (Figure 6; see also *Schulmeister, 2012*).

The countries concerned reacted to this upward drift by tightening fiscal policy. Also the other EU countries moved towards fiscal restraint, as the financial market crisis of 2008-09 had massively weakened public sector balances, not only via the operation of automatic stabilisers, but substantially also via cyclical stabilisation programmes and bank rescue operations imposed by the crisis.

The massive increase in public debt, the synchronised fiscal retrenchment in the EU and the deepening euro area crisis heightened general uncertainty and dampened corporate and private household demand such that despite rising exports, area

Euro area relapse into recession

GDP suffered a setback of 0.3 percent already in 2012. Four years after the onset of the financial market crisis, total euro area output thereby undershot the level of 2008 by 1.5 percent. Meanwhile, the unemployment rate ratcheted up from 7.7 percent to 11.4 percent, and the government debt ratio from 67.8 percent to 91.3 percent. Over the same period, GDP in the USA gained 3.2 percent, with unemployment "only" moving up from 5.8 percent to 8.1 percent of the labour force. However, government debt as percent of GDP rose 10 percentage points more than on average in the euro area, from 70.3 percent in 2008 to 103.5 percent in 2012. Nevertheless, in those euro area countries that were hit most by the financial market crisis and subsequently implemented the most rigorous budgetary cuts (Greece, Ireland, Portugal, Spain), the public debt ratio has moved up even faster than in the USA.

In view of these developments, the policy of fiscal restraint as key strategy for the reduction of public debt appears questionable. The EU nevertheless sticks to this policy: the more public finances weakened in the euro area crisis countries, the more the fiscal reins were tightened. In spring 2011, the "Euro-Plus-Pact" was agreed which obliges the member countries to adopt a "debt brake" along the lines of the one implemented in Germany. This move was followed in autumn 2011 by the "six-pack" which reinforced the rules of the Stability and Growth Pact. In March 2012, 25 out of the 27 member countries (only the UK and the Czech Republic declined to join) agreed on the Fiscal Compact that adds a new deficit rule to the debt brake rule.

The Fiscal Compact entered into force in January 2013. Its application in a situation where most EU member countries are in recession or stagnation may delay or even prevent a recovery and thereby weigh also on growth prospects over the medium term. The danger derives not from the – in itself appropriate – goal of reining back public debt, but from the path towards this goal, which is defined by two rules:

- The structural (cyclically adjusted) deficit of each participating country must not exceed 0.5 percent of GDP (deficit rule).
- Government debt ought to be reduced each year by one-twentieth of the difference between the actual debt/GDP ratio and the reference value of 60 percent of GDP (debt rule).

If the European Commission assesses a lasting violation of these rules, sanctions will automatically be imposed on the country concerned.

While the debt rule will only be applied as soon as the deficit has remained below 3 percent of GDP for three years and the country is no longer subject to the Excessive Deficit Procedure (this holds currently for only 8 out of the 27 EU member countries), the new deficit rule will hold permanently, unless in the case of "exceptional circumstances" such as a "severe recession". Any deviation must nevertheless be only "temporary" and must not jeopardise the "sustainability of public finances over the medium term".

The way in which the application of the two Fiscal Compact rules influences medium-term economic developments will largely depend on the estimation method of the structural deficit by the European Commission.

The structural budget balance is derived from the actual balance by adjusting for the cyclical component, i.e., that part of the budget balance which is explained by the deviation of GDP from potential (or full employment-)output¹. This deviation (as percent of potential output) is the output gap. The cyclical component is estimated by the European Commission at around 50 percent of a given output gap².

¹ In addition, one-off effects are excluded, which can be disregarded here.

² These budgetary sensitivity parameters differ across countries and average 0.48 for the euro area, according to Larch – Turini (2009, S. 8).

Tightening of fiscal rules in the EU

Danger of negative feedbacks

If the output gap is, say 10 percent (since GDP is 10 percent below its full-employment level), the cyclical component of the budget balance would be around 5 percent. At an overall deficit of 6 percent of GDP, the structural balance would be -1 percent. According to the deficit rule of the Fiscal Compact, the country concerned would have to reduce its deficit by at least 0.5 percent of GDP.

Figure 1: Output, unemployment and public finances in Spain



Source: Eurostat.

Potential output is estimated by the European Commission on the basis of a Cobb-Douglas production function which approximates the relationship between the input of labour and capital and the productivity of these two factors³. The available amount of labour (in hours) is estimated on the basis of the concept of "natural" (or equilibrium or structural) rate of unemployment, as developed by *Friedman* (1968). If in a cyclical recession, triggered for example by an oil price shock or a financial market crisis, unemployment rises, without subsequently falling back to its original level, the price mechanism on the labour market has apparently not worked properly, as either wages have not fallen enough or other rigidities have prevented labour demand from matching supply. The structural unemployment rate must therefore have increased.

³ This kind of production function is frequently used in the literature and in econometric model building, since it is mathematically straightforward. It implies economically inter alia substitutability between capital and labour input: thus, if wage cost declines by 10 percent relative to the cost of capital, the same volume of output will be produced by a 10 percent higher labour input and a correspondingly lower capital input (a wage cut will thereby raise labour demand).

This unemployment rate is also the one, at which the rate of inflation remains stable, either overall inflation (non-accelerating inflation rate of unemployment – NAIRU) or wage inflation (non-accelerating wage rate of unemployment – NAWRU). The European Commission estimates the NAWRU as the rate of unemployment at which the wage dynamics does not accelerate. Since every solidifying unemployment is considered to be structural, the NAWRU is estimated by the trend of the actual unemployment rate (using the Kalman filter; *D'Auria et al., 2010*).

The impact which the estimation procedure for potential output as applied by the European Commission has on fiscal consolidation requirements is illustrated here by the example of Spain. Figure 1 shows the actual trend of output and unemployment in Spain and the estimated values of NAWRU, potential output, output gap and cyclically-adjusted budget balance (all data are taken from the European Commission Autumn 2012 Economic Forecast).

After a period of strong and stable economic growth between 1999 and 2007, where the budget balance swings to a surplus and the government debt ratio declines to 40 percent of GDP, the international financial market crisis and the burst of the Spanish real estate bubble triggers a severe economic crisis: the unemployment rate rises over the period from 2007 to 2009 from 8.3 percent to 18.0 percent, with the NAWRU ratcheting up to 15.1 percent. Thus, only 85 percent of the labour force are still available for production (15 percent are structurally unemployed). The growth of potential output is thereby reduced: in spite of an unemployment rate close to 20 percent, the European Commission estimates the output gap for 2009 at only 4.2 percent. Only about 2 percentage points of the actual budget deficit of 11.2 percent of GDP "inflicted" upon the government by the financial market and real estate crisis can thus be considered and accepted as cyclically-induced (Figure 2).

The swift rise of the deficit that is deemed structural requires massive cuts in government consumption and public transfers (the latter remain flat while the number of unemployed has more than doubled). The economy therefore relapses into recession in 2012, with unemployment rising further as well as the NAWRU, leaving the output gap unchanged at 4.6 percent of GDP: although 25 percent of the labour force cannot find a job, the Spanish economy could produce only 5 percent more than it actually does, according to the estimation method of the European Commission, while 21.5 percent of the workforce are considered as structurally unemployed and no longer employable. Since the largest part of actual unemployment is attributed to the structural component, also the largest part of the budget deficit is considered to be structural (Figure 1). Hence, additional consolidation measures are required, which lower the deficit, but at the cost of further rising unemployment.

With unemployment rising and GDP receding, the Spanish public debt ratio rises drastically (paradoxically to a large extent as a consequence of the consolidation measures taken after the cyclical slump). According to the projection by the European Commission, government debt jumps from 53.9 percent of GDP in 2009 to 97.1 percent in 2014; over the same period, the structural (cyclically-adjusted) deficit will not even be cut by half, narrowing from 9.4 percent of GDP to 5.3 percent (Figure 1).

If the Spanish government debt ratio rises to about 120 percent of GDP by the time that the structural deficit has dropped to 0.5 percent of GDP, the required amount of consolidation, according to the debt rule, would be 3 percent of GDP per annum over the two following decades in order to reach the reference value for the debt ratio of 60 percent of GDP.

Implementation of the Fiscal Compact may dampen medium-term growth of the European economy in a lasting way in particular if policy were to try and achieve a structural deficit below 0.5 percent of GDP quickly and by means of radical budgetary cuts (like in Spain): 25 out of 27 EU member countries exhibited in 2012 a cyclically-adjusted deficit above 0.5 percent of GDP, with the euro area average at 2.2 percent of GDP and the EU average at 2.7 percent (Table 1). If all these countries were to tighten consolidation simultaneously, negative feedbacks would reinforce each other. Since moreover, output in most EU countries is flat or shrinking and

unemployment at the highest level since World War II, the economy may slip into a downward spiral if policy would focus on fiscal consolidation only⁴.

Table 1: Unemployment, output gap and government finances

2012

	GDP growth	Unemployment rate		Output gap	Budget balance		Government debt
	Changes from previous year in percent	In percent		As a percentage of potential output	As a percentage of GDP		As a percentage of GDP
		Actual	NAWRU		Actual	Cyclically adjusted	
Euro area	- 0.4	11.3	10.2	- 2.3	- 3.3	- 2.2	92.9
Germany	+ 0.8	5.5	6.2	- 0.3	- 0.2	0.2	81.7
France	+ 0.2	10.2	9.7	- 2.3	- 4.6	- 3.4	90.0
Italy	- 2.3	10.6	9.7	- 3.2	- 2.8	- 1.4	126.5
Spain	- 1.4	25.1	21.5	- 4.6	- 8.0	- 6.3	86.1
Netherlands	- 0.3	5.4	4.5	- 2.7	- 3.6	- 2.2	68.8
Belgium	- 0.2	7.5	7.5	- 1.3	- 3.1	- 2.7	99.9
Austria	+ 0.8	4.5	4.3	- 0.5	- 3.2	- 2.6	74.6
Finland	+ 0.1	7.9	7.2	- 2.0	- 2.0	- 0.6	53.1
Ireland	+ 0.4	14.8	13.5	- 1.5	- 8.4	- 7.9	117.6
Portugal	- 3.0	15.5	13.7	- 4.3	- 5.0	- 4.1	119.1
Greece	- 6.0	23.6	14.8	- 13.0	- 6.8	- 1.5	176.7
UK	- 0.3	7.9	7.3	- 3.4	- 6.2	- 6.4	88.7
Sweden	+ 1.1	7.5	6.5	- 1.0	- 0.2	0.6	37.4
Denmark	+ 0.6	7.7	5.9	- 3.3	- 4.0	- 0.3	45.4
Poland	+ 2.4	10.1	8.3	- 1.4	- 3.4	- 2.9	55.5
Czech Republic	- 1.3	7.0	6.9	- 2.2	- 3.5	- 2.5	45.1
Hungary	- 1.2	10.8	10.8	- 3.2	- 2.6	- 2.0	78.4
EU 27	- 0.3	10.5	9.4	- 2.5	- 3.6	- 2.7	86.8

Source: Eurostat, Ameco.

This danger should not be disregarded since the EU fiscal rules, from the Maastricht criteria to the Fiscal Compact, just like the Commission's estimation method for structural deficits, assume no dampening impact on the real economy from consolidation⁵. By contrast, the International Monetary Fund emphasises the significance of negative multiplier effects and claims that they have been underestimated in the past: thus, the fiscal multiplier would actually range between 0.9 and 1.7, rather than being around 0.5 as generally assumed. Accordingly, a consolidation measure of the amount of € 1 billion would reduce GDP by between € 0.9 and 1.7 billion (*International Monetary Fund*, 2012, Box 1.1, p. 41ff)⁶.

The neglect of feedback effects of a restrictive fiscal policy (as well as of a fall in real wages) derives from a monetarist foundation of the EU fiscal policy rules. According to the monetarist theory, the government has full control over its budget balance, the latter thus not being also the result of macro-economic developments, triggered inter alia by fiscal policy measures themselves. While the monetarist view admits the possible occurrence of shocks that weaken the budget balance, it claims that a subsequent cut in government spending will crowd in private demand, thereby restoring budget balance.

⁴ A simulation with the Oxford econometric model suggests that strict implementation of the Fiscal Compact rules will significantly slow the pace of medium-term growth, particularly when compared with a strategy of keeping interest rates on euro area government bonds at 2 percent by means of issuing eurobonds (*IMK – OFCE – WIFO*, 2012).

⁵ Thus, the comprehensive presentation of deficit and debt rules and of the options for their improvement/tightening in *European Commission* (2011) makes no reference to potential negative feedbacks on growth and hence the possibility of consolidation targets being missed.

⁶ A detailed analysis of the underestimation of the fiscal multiplier has recently been presented by *Blanchard – Leigh* (2013).

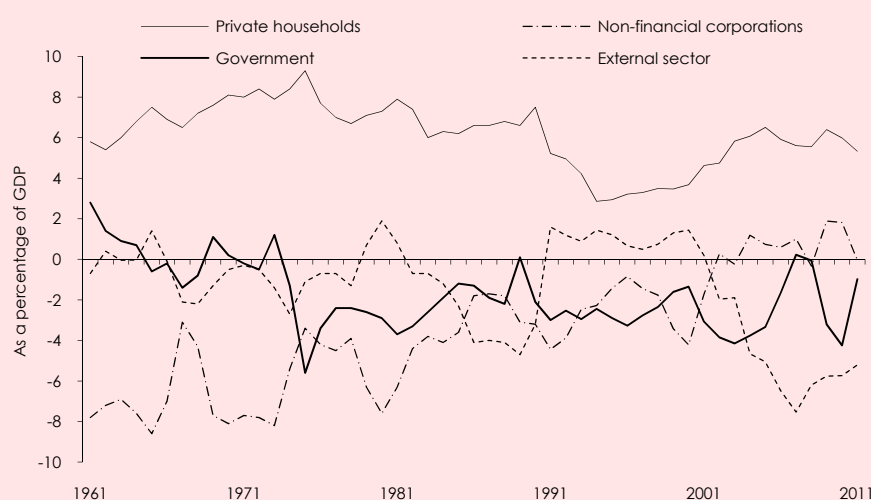
Public finances and overall economic development

In the context of monetarist theory, government indebtedness and unemployment have entirely different roots and are thus independent from each other: a longer-term increase in public debt is primarily caused by excessive government spending, whereas rising unemployment is driven by excessive wage cost and regulation that prevents market forces from matching demand with supply.

Empirical evidence reveals this perspective as questionable, since the government financial balance changes in inter-action with the balances of the other sectors (the aggregate of all sector balances cancelling out to zero). If, say, the corporate sector substantially cuts its credit demand (deficit) as a result of lower investment or the household sector increases its savings (surplus) by restraining consumption, the government will "suffer" a deterioration of the budget balance (unless the external sector sees its financial balance weakening, i.e., the country concerned manages to improve its current account).

Figure 2 illustrates these connections, taking the example of developments in Germany since 1960 (the financial sector as intermediary accumulates no substantial surpluses or deficits and is thus not separately displayed in the Figure). In 1966-67 and 1973-75, the financial deficit of the corporate sector declined, while the government balance deteriorated, more clearly in 1973-1975 than in 1966-67 (in the former case, the balance of the external sector weakened as the German current account improved; in the latter case, the opposite was true).

Figure 2: Financial balances in Germany



Source: Deutsche Bundesbank. Non-financial corporations and government: 1995 adjusted by one-off effect of liquidation of "Treuhandanstalt", 2000 adjusted by one-off effect of UMTS licences.

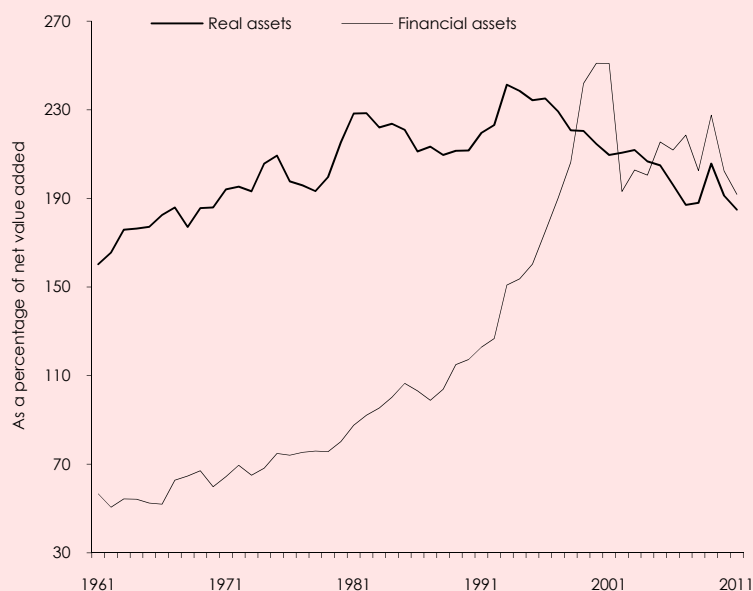
These developments do not tell much about the underlying causal relationships; yet, the assumption that the recession of 1967 and the oil price shock of 1973 and the subsequent cyclical slump were behind these shifts in financial balances, can claim higher plausibility than the view that the restraint in corporate credit demand was driven by higher fiscal deficits.

Likewise, between 1980 and 1985 (after the second oil price shocks and the ensuing recession), and between 2000 and 2004, the German corporate sector heavily reduced its demand for credit. In a first reaction, the fiscal deficit widened, before narrowing as from 1982 and 2003, respectively, since the German economy managed to markedly increase its external surpluses, notably after 2003. Part of the reason was the policy of wage restraint in Germany that boosted exports, while the countries in southern Europe put the emphasis on higher domestic demand.

This asymmetry exacerbated markedly the current account imbalances within the euro area and confronted the southern European countries after 2007 with a double deficit problem: budget deficits jumped as a consequence of the financial market crisis and the severe slump of the real economy in 2009, while current account defi-

cits were high (for rising imbalances within the euro area see *Ederer, 2010, 2011, Horn – Joebges – Zwiener, 2009, Niechoj et al., 2011*). Meanwhile, corporate credit demand receded substantially (*Schulmeister, 2012*). In such circumstances, fiscal consolidation reduced economic growth more than budget deficits, leading to ever higher public debt ratios.

Figure 3: Capital formation by non-financial corporations in Germany



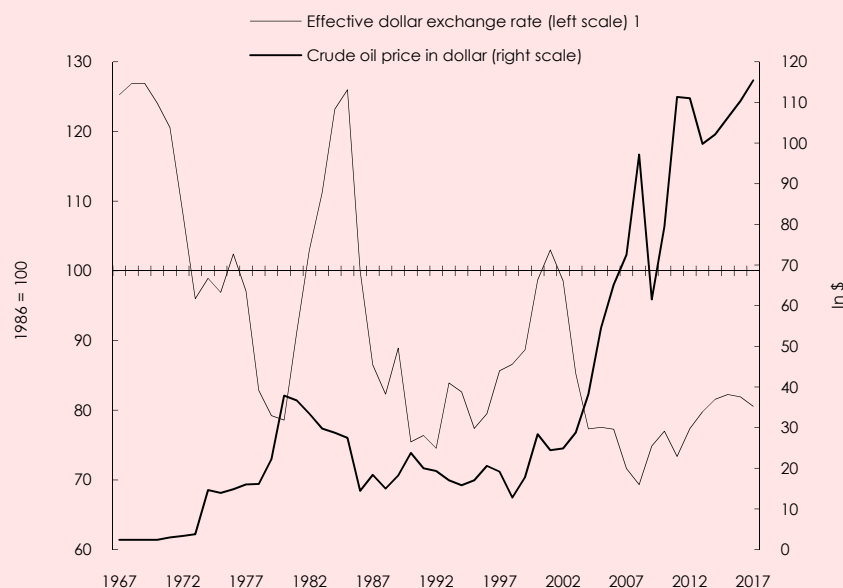
Source: Deutsche Bundesbank, Destatis; WIFO calculations.

With regard to the long-term shifts in financial balances, two periods may be distinguished: up to the first oil price shock of 1973, the deficits of the corporate sector corresponded more or less to the surpluses of private households (with the exception of the recession of 1967; Figure 2). At fixed exchange rates, stable commodity prices and interest rates firmly below the rate of GDP growth (Figure 5), profit seeking focused on the real economy; companies absorbed as investment loans the savings of private households and transformed them into real capital and (thereby) jobs. With unemployment declining and full employment being reached at stable economic growth, government debt ratios abated steadily, although social welfare programmes were extended (Figure 5).

After the fixed exchange rate regime had been abandoned in 1971, basic economic parameters changed fundamentally in several stages. The two dollar devaluations of 1971-1973 and 1976-1979 were followed by two oil price shocks (Figure 4). The latter not only triggered a recession each time, but also led to higher inflation on a sustained basis. Central banks responded by driving up interest rates massively: since 1980, key interest rates in Europe exceed the rate of GDP, while the reverse had been the case in the two decades before. Heavily fluctuating exchange rates and commodity prices (Figure 4) dampened entrepreneurial activity in the real economy and, together with the stock market boom of 1982-2000, encouraged financial market speculation. The latter was fuelled also by the creation of financial derivatives since the 1980s.

Economic activity was further weakened by the "dynamic budget constraint": if the interest rate exceeds the rate of GDP growth, debtors (corporate sector, government) may only borrow less than the amount of interest they have to pay on existing debt (i.e., they have to run a primary surplus), otherwise debt would rise faster than GDP. For this reason, firms curbed borrowing and real investment in a lasting way since the early 1980s, thereby achieving a primary surplus.

Figure 4: Dollar exchange rate and oil price



Source: OECD, IMF, Oxford Econometrics. – ¹ Relative to DM, Franc, Pound sterling, Yen.

Private households normally accumulate a primary surplus, i.e., they save more than they receive in interest payments. Since the sectoral primary balances add up to zero, the government can run a primary surplus only if the "fourth", external sector maintains a high primary deficit. This, in turn, can be achieved only by single countries via high current account surpluses, like Germany. Given that the current external account of the European economies is in the aggregate close to balance, the government debt ratios have followed an upward path since the interest/GDP growth rate differential has swung from negative into positive territory (Figure 5; Schulmeister, 1995).

All these changes in parametric conditions caused a shift of long-term corporate profit seeking from investment in real capital towards such in financial assets. Accordingly, the German corporate sector has reduced its financial deficit as from the early 1970s, even accumulating surpluses since 2004 (Figure 2).

From a systemic perspective, a lasting consolidation of public finances in the entire EU can only be successful if private households reduce their surpluses (which can hardly be achieved through expenditure restraint) and/or if the corporate sector maintains a sizeable financial deficit. This requires a change in incentives in favour of real and human capital formation, while discouraging financial investment and speculation.

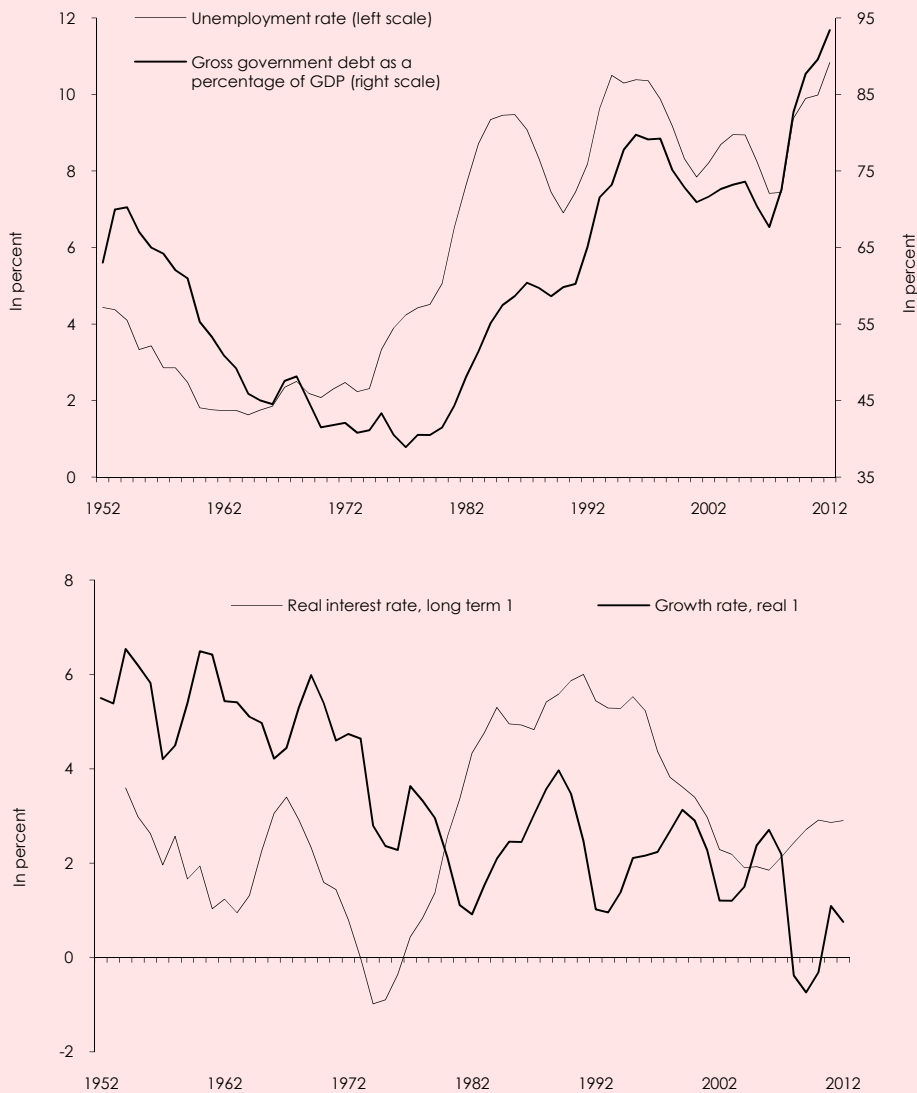
The decline in corporate borrowing for the purpose of financing real investment and the increase in financial investment is clearly reflected by the long-term trend of corporate real versus financial assets in Germany (Figure 3). Up to the early 1970s, asset accumulation was focussed on real capital, moderated only temporarily by the first oil price shock of 1973. After the second oil price shock, the stubborn recession of 1980-1982 and the swing towards a positive interest/growth rate differential corporate real assets fell against the sector's net value added, along with booming financial assets. Since the short-lived recovery around 1990 (supported also by German re-unification) real capital accumulation has been heading down almost steadily.

Job creation has been impeded in a sustained way by this development. Productive jobs, unlike working-poor jobs, require an appropriate endowment with real capital, albeit differing from branch to branch.

From a systemic point of view therefore, the trends of government debt and of employment have a common determinant (see also Schulmeister, 1998), namely the attractiveness of real versus financial capital accumulation. If incentives of profit

seeking favour activities in the real economy, the corporate sector will transform private household savings into real capital and jobs. Government finances are close to balance, with a negative interest/GDP growth rate differential the public debt ratio will decline, as will the rate of unemployment (like in the 1950s and 1960s; Figure 5).

Figure 5: Interest rate, GDP growth, unemployment and public debt in Western Europe



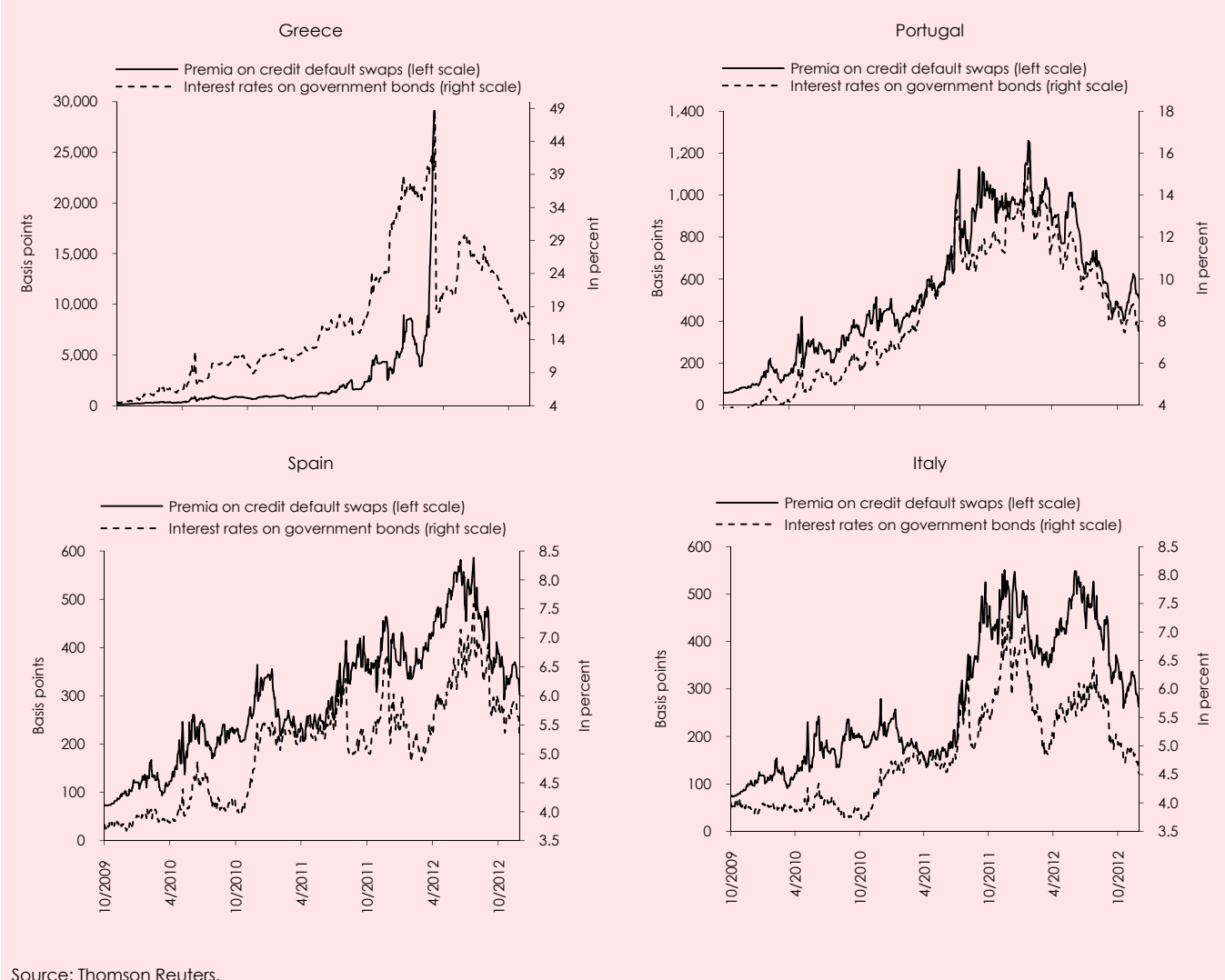
Source: OECD. – ¹ 3-year moving average.

If, however, a change in framework conditions causes a shift of profit seeking towards financial asset accumulation, real investment and GDP growth will decline, accompanied by rising unemployment and public indebtedness, such as since the 1970s (Figure 5). From this perspective it appears poorly promising to address the problem of government debt independently from that of unemployment. As long as the systemic nature of both issues and thus the incentives for real versus financial investment are not taken into consideration, a policy primarily geared towards fiscal consolidation will drive up unemployment to such an extent that the fiscal targets will consistently be missed. This is confirmed not only by the experience of the southern European countries since 2009, but also by the evidence of a close long-term connection between unemployment and government debt since the 1950s (Figure 5).

Since the outbreak of the financial market crisis, economic conditions in Europe have progressively deteriorated. The severe recession of 2009 as well as counter-cyclical stimulus programmes and bank rescue operations have led to a jump in public debt, which triggered speculation on default of certain euro area countries, pushing up bond yields for Greece, Ireland, Portugal, Spain and Italy. Policy responded by massive budgetary cuts that led to a fall in GDP in the countries concerned and, to a lesser extent, in the entire EU in 2012.

From this experience, policy has drawn a lesson, albeit with some delay, and taken new initiatives. First, the European Financial Stability Facility (EFSF) was established and later reinforced to become the European Stability Mechanism (ESM). Particularly noteworthy was the change of course in monetary policy: as of 2010, the European Central Bank (ECB) had started to purchase government bonds on the secondary market in order to dampen the rise in interest rates. In summer 2012, it adopted the Outright Monetary Transactions (OMT) programme whereby the ECB pledges to buy, under certain conditions, euro area government bonds to an unlimited extent. This announcement gave rise to a sharp decline in CDS premia and bond yields (Figures 6 and 7).

Figure 6: Premia for credit default swaps and interest rates on 10-year government bonds

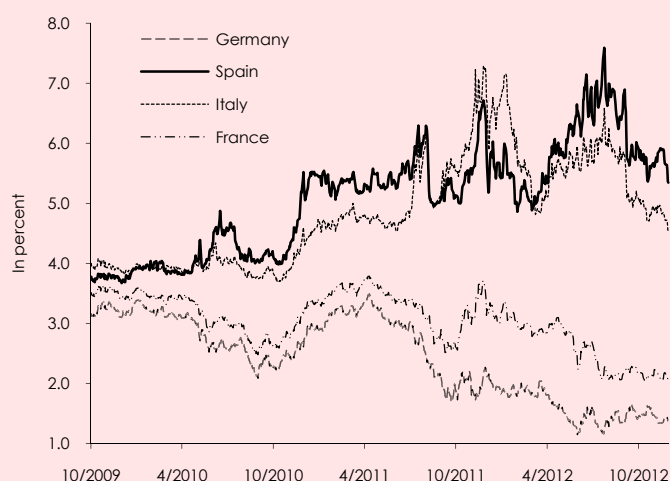


The present forecast assumes that also fiscal policy will change course, given the experience of drastic fiscal retrenchment in Greece and its consequences. Thus, the pace at which countries are supposed to reach the target of a structural deficit of 0.5 percent of GDP is likely to be reduced (the Fiscal Compact does not set a deadline in this respect). At the same time, policy will take expansionary measures. This

may be supplemented by a modification of the estimation method for structural deficits by the European Commission, in order to limit the danger of negative feedbacks (although EU-27 GDP edged down in 2012, the Commission sees the actual unemployment rate hardly above the structural rate, as approximated by the NAWRU; Table 1).

The ECB will keep monetary policy at a markedly expansionary stance over the next five years, allowing a further narrowing of the still-high interest rate differentials among euro area countries.

Figure 7: Interest rates on 10-year government bonds



Source: Thomson Reuters.

The present forecast has been established by means of the global model of Oxford Economic Forecasting (OEF). It consists of partial models for 46 countries or regions (among which almost all industrialised countries), and interactions between them are represented by export- and import functions for goods and services.

The OEF model version of November 2012 served as the starting base. It expects for the next few years no massive consolidation efforts, in line with the assumption of the latest WIFO short-term forecast. Nevertheless, for the US economy, given the persistent uncertainty about the medium-term budgetary outlook, the OEF projection appears somewhat optimistic when assuming, in the basic scenario, GDP growth of 2.5 percent for 2013, accelerating to 3.3 percent by 2015. Accordingly, US private consumption will likely expand more slowly than projected by the OEF model.

Conversely, WIFO sees for the euro area somewhat better prospects than the basic version of the OEF model. This holds in particular for countries which did not relapse into recession in 2012, like Germany, France, Belgium, Austria and Finland. In these countries, private consumption should prove somewhat more dynamic than implied by the OEF model results.

On the basis of these assumptions, new model results have been obtained which serve as the basis for the present forecast. The latter corresponds for 2013 and 2014 to the WIFO short-term forecast of December 2012, with minor deviations for a few variables (Kaniovski – Pitlik – Schiman, 2013). The present forecast derives from an econometric model simulation, whereas the short-term forecast results from a combination of different methods.

Table 2 summarises the key parametric conditions for the world economy. Nominal interest rates will remain significantly lower until 2017 than in any five-year period since 1945. This holds particularly for short-term rates which on average for the period 2013-2017 will be as low as in the USA (0.2 percent versus 0.3 percent), largely due to the expansionary monetary stance of the ECB. In the previous five-year pe-

Main forecast results

**Extraordinarily low
interest rates**

riod, the short-term euro interest rate averaged 1.7 percent, markedly exceeding the respective dollar interest rate of 0.9 percent.

Table 2: Global economic framework conditions

	Exchange rates		Short-term interest rates		Long-term interest rates		Crude oil price (Brent) In \$	Dollar interest rate, real ¹ As a percentage of GDP
	\$ per Euro	Yen per Euro	Dollar As a percentage of GDP	Euro As a percentage of GDP	Dollar As a percentage of GDP	Euro As a percentage of GDP		
Ø 1993-1997	1.23	132.5	5.1	6.0	6.5	7.6	17.9	5.0
Ø 1998-2002	0.99	118.3	4.6	3.8	5.3	4.9	21.7	7.0
Ø 2003-2007	1.25	141.9	3.4	2.8	4.4	4.0	51.8	- 5.8
Ø 2008-2012	1.37	122.5	0.9	1.7	2.9	4.0	92.1	- 2.9
2012	1.28	102.3	0.4	0.6	1.8	4.0	111.0	5.1
2013	1.24	106.6	0.3	0.6	1.8	3.7	99.8	3.8
2014	1.22	114.0	0.3	0.3	2.2	3.4	102.1	- 0.3
2015	1.19	114.5	0.3	0.1	2.9	3.5	106.2	- 1.3
2016	1.20	117.5	0.3	0.1	3.3	3.7	110.4	- 1.4
2017	1.21	119.4	0.3	0.2	3.1	3.6	115.4	- 2.3
Ø 2013-2017	1.21	114.4	0.3	0.2	2.6	3.6	106.8	- 0.3

Source: Oxford Economic Forecasting, WIFO. – ¹ Short-term dollar interest rate, deflated by overall world trade prices.

Long-term interest rates will stay higher in the euro area than in the USA, mainly due to the lasting debt crisis and the related high bond rates for problem countries like Spain and Italy. The model nevertheless predicts a steady narrowing of the interest rate differential vis-à-vis the USA from 2.2 percentage points in 2012 to 0.5 percentage point in 2017. The debt and interest rate problems in the euro area should thus abate to some extent in 2013: the interest rate differential vis-à-vis the US diminishes from 1.5 percentage points in 2012 to 0.6 percentage points in 2013, according to the Oxford model (Table 1).

Table 3: Trends of global trade

	Ø 1992-1997	Ø 1997-2002	Ø 2002-2007	Ø 2007-2012	2012	2013	2014	2015	2016	2017	Ø 2012-2017
	Year-to-year percentage changes										
Exchange rate 4 reserve currencies per dollar	+ 2.8	+ 2.9	- 6.2	+ 1.6	+ 5.4	+ 3.1	+ 2.3	+ 0.8	- 0.4	- 1.7	+ 0.8
World trade prices	- 0.1	- 2.4	+ 9.2	+ 3.2	- 4.6	- 3.6	+ 0.5	+ 1.6	+ 1.6	+ 2.6	+ 0.5
Oil	- 0.2	+ 5.4	+ 23.8	+ 8.9	- 0.3	- 10.1	+ 2.3	+ 4.1	+ 3.9	+ 4.6	+ 0.8
Other commodities	+ 2.5	- 4.2	+ 12.7	+ 4.0	- 9.7	+ 1.3	+ 0.9	+ 1.1	+ 0.5	+ 2.8	+ 1.3
Manufactured goods	- 0.4	- 2.7	+ 7.3	+ 2.1	- 4.6	- 3.1	+ 0.1	+ 1.2	+ 1.4	+ 2.1	+ 0.3
World											
Exports	+ 7.4	+ 5.0	+ 8.0	+ 2.5	+ 2.9	+ 4.0	+ 6.3	+ 6.2	+ 6.2	+ 6.0	+ 5.7
Imports	+ 8.0	+ 6.2	+ 8.9	+ 2.3	+ 2.0	+ 4.2	+ 6.6	+ 6.6	+ 6.3	+ 6.0	+ 5.9
Industrialised countries											
Exports	+ 7.7	+ 5.1	+ 6.5	+ 1.9	+ 3.1	+ 3.4	+ 5.5	+ 5.4	+ 5.4	+ 5.1	+ 5.0
Imports	+ 7.8	+ 6.3	+ 6.8	+ 0.9	+ 1.4	+ 3.1	+ 5.6	+ 5.6	+ 5.3	+ 5.0	+ 4.9
USA											
Exports	+ 9.5	+ 1.1	+ 7.3	+ 3.4	+ 4.1	+ 4.0	+ 7.3	+ 8.1	+ 8.1	+ 8.6	+ 7.2
Imports	+ 10.3	+ 6.9	+ 6.2	+ 0.4	+ 3.6	+ 3.4	+ 7.4	+ 7.7	+ 6.9	+ 6.3	+ 6.3
Japan											
Exports	+ 4.8	+ 2.6	+ 9.7	- 0.3	+ 2.2	+ 2.4	+ 7.1	+ 7.2	+ 6.6	+ 5.4	+ 5.7
Imports	+ 7.6	+ 2.8	+ 5.6	+ 1.6	+ 5.8	+ 4.4	+ 7.5	+ 5.8	+ 5.5	+ 5.6	+ 5.8
Germany											
Exports	+ 5.3	+ 7.4	+ 8.5	+ 2.4	+ 4.7	+ 4.3	+ 4.4	+ 4.5	+ 4.8	+ 4.4	+ 4.5
Imports	+ 3.9	+ 5.9	+ 8.3	+ 3.4	+ 3.0	+ 4.8	+ 5.4	+ 5.1	+ 5.2	+ 4.6	+ 5.0
Russia											
Exports	+ 2.6	+ 7.4	+ 8.6	+ 0.8	+ 1.1	+ 2.9	+ 5.0	+ 6.7	+ 6.0	+ 5.8	+ 5.3
Imports	+ 3.5	+ 4.3	+ 20.8	+ 5.0	+ 5.5	+ 6.5	+ 9.0	+ 8.2	+ 7.7	+ 7.6	+ 7.8
China											
Exports	+ 16.0	+ 14.8	+ 21.6	+ 3.3	+ 2.4	+ 6.2	+ 8.6	+ 9.1	+ 8.7	+ 8.2	+ 8.2
Imports	+ 13.8	+ 17.9	+ 16.4	+ 4.3	+ 2.5	+ 7.6	+ 7.3	+ 8.0	+ 9.1	+ 9.2	+ 8.2
OPEC											
Exports	+ 1.9	- 0.3	+ 0.9	+ 2.5	+ 4.3	+ 4.4	+ 4.3	+ 4.4	+ 4.6	+ 4.4	+ 4.4
Imports	+ 1.7	+ 2.4	+ 15.6	+ 7.4	+ 8.8	+ 7.5	+ 7.5	+ 7.0	+ 6.5	+ 5.9	+ 6.9

Source: Oxford Economic Forecasting, WIFO.

The euro exchange rate should moderate to \$ 1.21 per € by 2017, primarily owing to the markedly weaker cyclical profile in the EU compared with the USA⁷. Because of the still subdued economic activity in the industrialised countries in 2013 (GDP is expected to gain only 1.2 percent, as in 2012; Table 4), the reference price for crude oil (Brent) should edge down to \$ 100 per barrel, but rebound to around \$ 115.4 by 2017 (Figure 4, Table 2). Prices for other raw materials should also outpace those of manufactured goods, although by a limited margin (+1.3 percent per year on average for the period 2012-2017, against +0.3 percent; Table 3).

For the period until 2017, the model predicts an expansion of global trade by 5.7 percent p.a., more than twice the rate observed for the period 2007-2012 overshadowed by the financial market crisis and the cyclical slump (Table 3). In 2013, world trade may grow by only around 4 percent in view of the international cyclical sluggishness; thereafter, the momentum should accelerate to 6 percent per year, matching the long-term trend maintained up to the financial market crisis.

Despite a slight appreciation of the dollar (which nevertheless remains under-valued as measured by the purchasing power parity of internationally-traded goods and services), US exports will grow faster over the medium term than US imports (by 7.2 percent against 6.3 percent p.a.). For major surplus countries like Germany, Russia and the OPEC countries, the model predicts higher growth of imports than exports (Table 3).

Accordingly, current account imbalances should diminish over the next five years: for the USA, the model anticipates a drop in the external deficit by some \$ 90 billion to a total \$ 370 billion by 2017. Germany's surplus is set to fall by \$ 80 billion to around \$ 140 billion. China (\$ 473 billion) and the OPEC countries (\$ 333 billion) will continue to accumulate by far the highest surpluses.

Compared with the period from 2007 to 2012 that was dominated by the financial market and euro area debt crisis, GDP growth for the industrialised countries will pick up markedly as of 2014 until the forecast horizon (Table 4). On average over the entire 5-year period, GDP is expected to grow by 2.0 percent per year. The pace should accelerate most in countries that have suffered the strongest setbacks in the previous period (Japan, UK, Italy). While growth in Italy is set to remain anaemic, a projected average rate of 0.6 percent per year would still be a clear improvement from the contraction observed over the last five years (-1.5 percent).

Like in the past 20 years, total output growth in the USA, at projected 2.4 percent p.a., will be somewhat above the average for all industrialised countries, and below-average in the euro area and Japan (+1.1 percent and +1.5 percent p.a., respectively). In the six largest of the new EU member countries (Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovak Republic), the expected growth pace of 3.1 percent per year will be distinctly higher than the average for the entire EU of 1.4 percent p.a.

China and India will continue to enjoy until 2017 economic growth far above the average (Table 4). The expansion in China will nevertheless moderate from 9.2 percent per year during the period 2007-2012 to 7.9 percent per year from 2012 to 2017. For India, the OEF model predicts medium-term GDP growth at 7.7 percent per year.

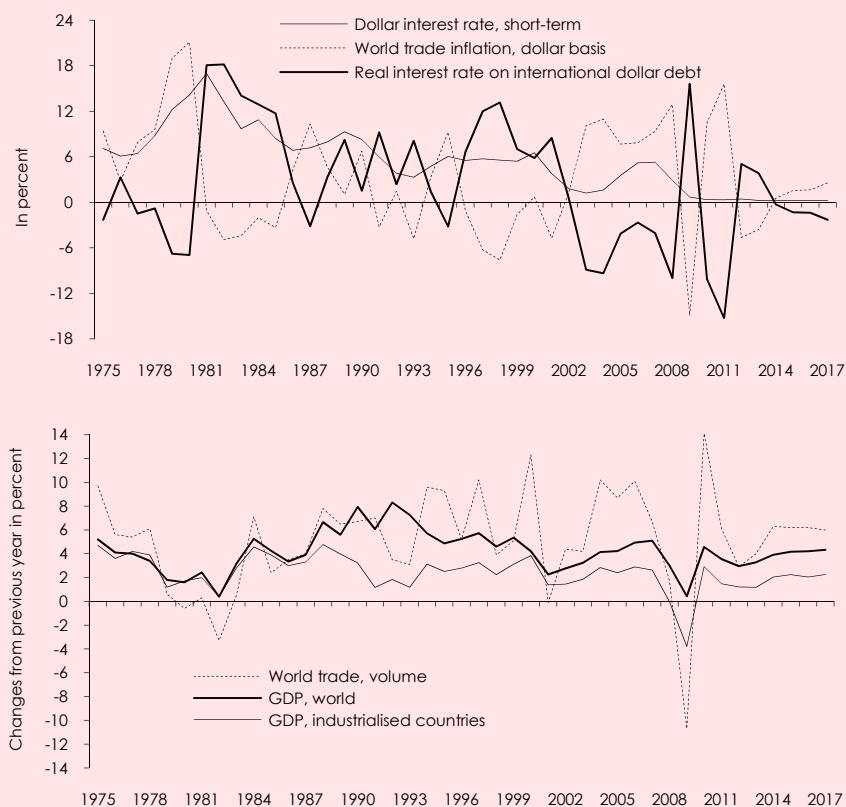
Mainly due to high oil prices, GDP growth in the OPEC countries, at an expected 4.4 percent per year, should turn out about as high as in the past ten years. Also for the Latin American economies, the OEF model yields growth at a similar pace (+4.1 percent) as the one recorded since 2001. Likewise, growth in Africa is not expected to abate (+4.9 percent; Table 4).

Revival of world trade

GDP growth gaining momentum

⁷ In this regard, the model forecast deviates most from the WIFO short-term forecast which assumes a constant exchange rate, thus considering a random walk as the most likely outcome.

Figure 8: Trends for the global economy



Source: Oxford Economic Forecasting, IMF, WIFO.

Table 4: Economic growth by groups of countries

	Ø 1992-1997	Ø 1997-2002	Ø 2002-2007	Ø 2007-2012	2012	2013	2014	2015	2016	2017	Ø 2012-2017
	Year-to-year percentage changes										
World output (GDP)	+ 5.8	+ 3.8	+ 4.3	+ 2.9	+ 3.0	+ 3.3	+ 3.9	+ 4.2	+ 4.2	+ 4.3	+ 4.0
Industrialised countries ¹	+ 2.6	+ 2.4	+ 2.5	+ 0.3	+ 1.2	+ 1.2	+ 2.0	+ 2.2	+ 2.0	+ 2.3	+ 2.0
USA	+ 3.5	+ 3.2	+ 2.7	+ 0.6	+ 2.1	+ 1.7	+ 2.4	+ 2.8	+ 2.4	+ 2.7	+ 2.4
Japan	+ 1.6	+ 0.1	+ 1.8	- 0.3	+ 1.6	+ 0.7	+ 1.4	+ 2.0	+ 1.2	+ 2.0	+ 1.5
EU 27	+ 2.2	+ 2.6	+ 2.5	- 0.1	- 0.2	+ 0.4	+ 1.5	+ 1.6	+ 1.8	+ 1.8	+ 1.4
Euro area	+ 1.6	+ 2.5	+ 2.2	- 0.2	- 0.4	+ 0.1	+ 1.1	+ 1.2	+ 1.4	+ 1.5	+ 1.1
Germany	+ 1.2	+ 1.7	+ 1.7	+ 0.7	+ 1.0	+ 1.2	+ 1.8	+ 1.5	+ 1.5	+ 1.3	+ 1.5
France	+ 1.4	+ 2.6	+ 2.0	+ 0.0	+ 0.1	+ 0.5	+ 1.3	+ 1.1	+ 1.2	+ 1.3	+ 1.1
Italy	+ 1.5	+ 1.8	+ 1.3	- 1.4	- 2.4	- 1.0	+ 0.4	+ 0.9	+ 1.3	+ 1.3	+ 0.6
UK	+ 3.6	+ 3.2	+ 3.1	- 0.5	- 0.1	+ 1.2	+ 2.3	+ 2.4	+ 2.5	+ 2.5	+ 2.2
6 new member countries ²	+ 3.3	+ 2.9	+ 5.4	+ 1.6	+ 1.1	+ 1.8	+ 3.2	+ 3.5	+ 3.7	+ 3.5	+ 3.1
Poland	+ 5.8	+ 3.3	+ 5.1	+ 3.4	+ 2.4	+ 2.3	+ 3.4	+ 3.3	+ 3.5	+ 3.3	+ 3.2
Czech Republic	+ 2.2	+ 2.2	+ 5.6	+ 0.3	- 1.1	+ 0.7	+ 2.8	+ 2.7	+ 2.3	+ 1.7	+ 2.0
Slovakia	+ 3.9	+ 2.7	+ 7.1	+ 2.1	+ 2.3	+ 2.5	+ 3.0	+ 2.9	+ 3.0	+ 3.3	+ 2.9
Hungary	+ 1.4	+ 3.9	+ 3.3	- 0.9	- 1.3	+ 1.2	+ 2.0	+ 1.8	+ 2.4	+ 2.6	+ 2.0
Russia	- 5.7	+ 4.0	+ 7.5	+ 1.8	+ 3.4	+ 3.3	+ 4.0	+ 4.1	+ 4.3	+ 4.7	+ 4.1
China	+ 11.4	+ 8.2	+ 11.6	+ 9.2	+ 7.4	+ 7.1	+ 8.0	+ 8.4	+ 8.2	+ 7.7	+ 7.9
India	+ 6.3	+ 5.5	+ 8.6	+ 7.3	+ 5.6	+ 6.3	+ 7.6	+ 8.2	+ 8.1	+ 8.1	+ 7.7
OPEC	+ 1.9	+ 2.1	+ 6.7	+ 3.6	+ 3.5	+ 4.5	+ 4.6	+ 4.4	+ 4.2	+ 4.2	+ 4.4
Africa	+ 3.3	+ 3.4	+ 5.1	+ 3.3	+ 2.7	+ 4.1	+ 5.1	+ 5.2	+ 5.1	+ 5.0	+ 4.9
Latin America	+ 4.3	+ 1.5	+ 4.8	+ 3.5	+ 2.7	+ 3.5	+ 4.5	+ 4.3	+ 4.1	+ 4.0	+ 4.1

 Source: Oxford Economics, WIFO. – ¹ 29 OECD countries. – ² Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovakia.

Every forecast based on an econometric model implies that behavioural patterns observed in the past on the part of firms, private households and policy actors in response to changes in economic variables remain valid also in the future. This assumption is particularly problematic at this juncture where challenges have

**Uncertainties
surrounding the
forecast**

emerged that did not exist in the estimation period of the model (since 1980). Among these challenges are interest rate speculation or the debt crisis in several euro area countries.

Apart from the – inevitable – shortcomings of econometric forecasting methods which prove all the more serious after a severe economic crisis, the present forecast carries one particular uncertainty, i.e., the assumption that fiscal policy in the EU will henceforth give greater consideration than in the recent past to the dampening effects of too harsh and too lopsided consolidation strategies. This does not call for abandoning the objectives of the Fiscal Compact, but rather for a policy that combines fiscal retrenchment with growth-stimulating measures.

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Growth Dynamics Exposed to Conflict Between Easy Monetary Conditions and Fiscal Restriction

Medium-term Forecast for the World Economy Until 2017 – Summary

The projection of global developments until 2017 has been established by means of an econometric model for the world economy (Oxford model). It is assumed that fiscal policy in the EU will in future give greater consideration to the demand-dampening effects of too swift and too one-sided consolidation measures than it has done in the recent past and will hence add growth-stimulating incentives to the policy stance. Uncertainty about the handling of the financial market, banking and debt crises in the euro area is set to last for still some time. Thus, the euro exchange rate against the dollar is expected to moderate to \$ 1.21 by 2017. The reference price for crude oil (Brent) should edge down to \$ 100 per barrel in 2013, but rebound to around \$ 115 by 2017. Interest rates in the USA as well as in Europe will on average over the forecast horizon keep at the lowest level since World War II.

These conditions will allow global economic activity to pick up steadily, once the cyclical weakness in the industrialised countries of 2012-13 has been overcome. World trade is expected to expand by nearly 6 percent p.a. until 2017. Growth of US exports will exceed import growth over the medium term. For the external surplus countries Germany, Russia and in the OPEC, the model suggests the reverse, i.e., imports outpacing exports. Hence, current account imbalances should diminish in the medium run. Growth of world demand and output will recover markedly after 2013, rising to 4 percent per year in a medium-term perspective. Like over the past 20 years, GDP in the USA (+2.4 percent p.a.) will rise somewhat above the average pace for all industrialised countries (+2.0 percent), while growth in the euro area and in Japan will lag somewhat behind (+1.1 percent and +1.5 percent p.a., respectively). In the six largest of the new EU member countries, the projected growth momentum of +3.1 percent per year is significantly stronger than for the EU as a whole (+1.4 percent per year). China and India are set to remain on the fastest path of growth (+7.9 percent and +7.7 percent p.a., respectively). For the other developing and rising economies, the model projects annual growth at 4.4 percent (OPEC), 4.1 percent (Latin America) and 4.9 percent (Africa).

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