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Divergencies in macroeconomic indicators in the euro area

Divergencies in macroeconomic indicators in the Euro Area

Briefing Paper for the Monetary Dialogue of February 2005 by the Committee on Economic and Monetary Affairs of the European Parliament with the President of the European Central Bank

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Universität Würzburg

1. In terms of growth and employment the macroeconomic performance of the Euro Area has been rather disappointing so far. In the years 1999 to 2004 the average growth rate of real GDP was 1.9% and thus less than the production potential. The output gap (measured by the OECD) which was zero in 1999 reached a value of -2.1 in 2005. The unemployment rate declined only marginally from 9.4% in 1999 to 9.9 in 2005. In the same period real GDP growth in the United States was 1.1 percentage points higher.

However, in the six years preceding EMU (1993-1998) average real GDP growth in the Euro Area was even lower (1.7%). The unemployment rate increased from 9.9% in 1993 to 10.2% in 1998 and the negative growth differential vis-à-vis the United States was 1.9 percentage points.

With this mixed outcome the situation in the individual member countries has now received more attention. There are obvious divergencies among the EMU countries. Are they a normal phenomenon of a monetary union or do they pose an additional challenge to macroeconomic growth and stability? And if this were the case, would it be possible for macroeconomic policy to cope with such disequilibria?

2. A brief look at the standard deviation of the most important macroeconomic indicators shows that in general divergencies have not increased in the time span of monetary union (Table 1).

First, there are important indicators where the divergencies have declined. This applies above all to nominal interest rates which in a currency union by definition become more or less identical. A marked convergence can also be observed for other nominal variables (inflation, compensation per employee) a development which also is to be expected for an area with a single currency. The remaining deviation in nominal variables is not higher than in the monetary union of the United States. [1]

Second, for real variables only a slight reduction in divergencies can be observed. For the foreign balance contribution to GDP the divergencies have somewhat increased.

Third, the only indicators where divergencies have increased after the start of EMU are the current account balances in % of the GDP and the private sector financial balances in % of the GDP (calculated as the difference of the current account and the budget balance). This shows that during EMU financial balances of the member countries have developed in a less synchronized way than in the period preceding EMU. This finding goes in line with the observation that the deviation of the long term real interest rates has also increased after the introduction of the common currency.

[1] See European Central Bank: Monetary policy and inflation differentials in a heterogeneous currency area, Monthly Bulletin, May 2005, p. 62.

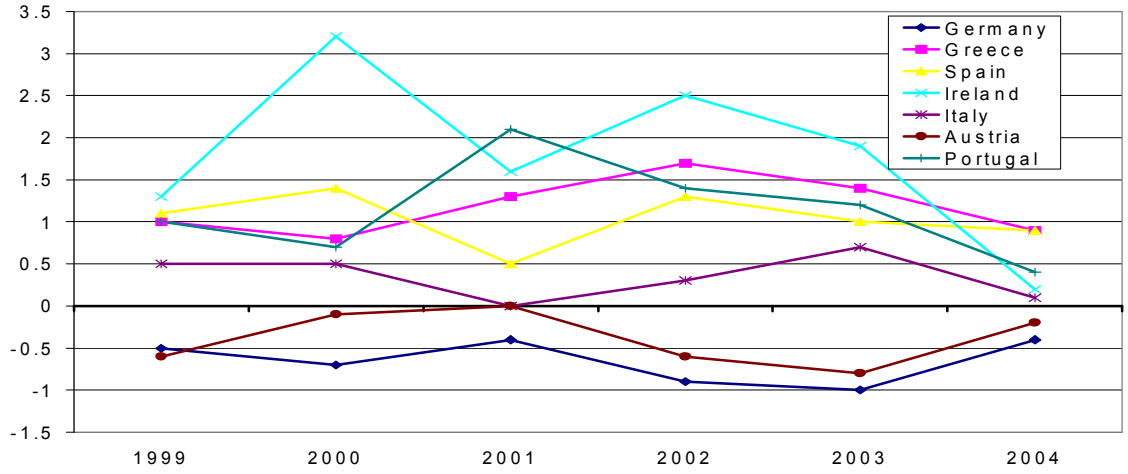
Table 1: Standard deviation of important macroeconomic indicators of the Euro Area in the years 1993-1998 and the years 1999-2004

	1993-1998	1999-2004
Real GDP	2.0	1.9
Inflation	2.1	1.0
Real total domestic demand	2.2	1.8
Foreign balance contribution	1.1	1.5
Current account in % of GDP	4.0	5.3
Compensation per employee	2.7	1.5
Budget balance in % of GDP	2.9	2.7
Private financial balances in % of GDP	3.3	3.9
Real short term interest rate	1.4	1.0
Real long term interest rate	0.8	1.0
Export volume	4.5	3.5
Import volume	4.1	3.0

Source: OECD, Economic Outlook and IMF, International Financial Statistics; data for real long term interest rate are without Greece; compensation per employee is for the business sector; private financial balances is the difference of the current account and the fiscal balance.

While the overall picture does not point to increasing divergencies within EMU, a specific feature of this currency area compared to the currency area of the United States is the persistence of the national inflation differentials. (Chart 1)

Chart 1: Differentials in annual HICP inflation in relation to the euro area average



Source: ECB, Monthly Bulletin, May 2005.

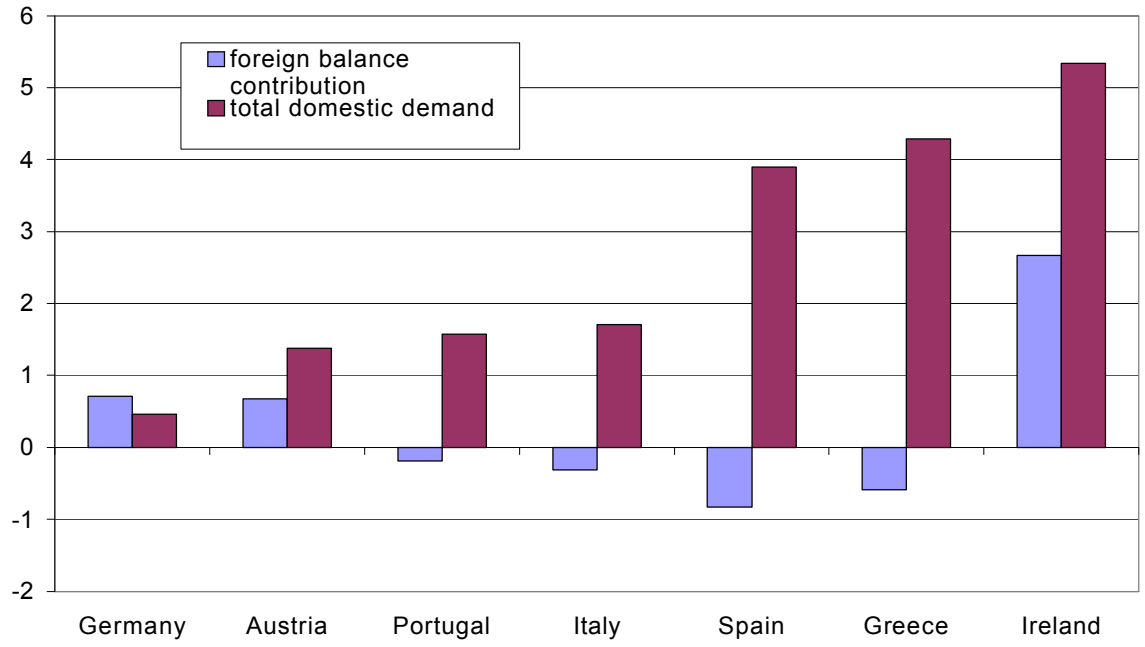
In its analysis of EMU inflation differentials the ECB (2005, p. 63) states:

"This persistence of inflation differentials seems to be a specific feature of the euro area. Looking at the 14 MSAs (metropolitan statistical areas; P.B.) in the United States, inflation differentials larger than 1 percentage point and lasting more than two years have been seen only in a few specific cases. By contrast, seven of the twelve economies in the euro area have recorded annual inflation rates remaining either consistently above or consistently below the euro area average since 1999."

In fact, in the period from 1999 to 2004 the national inflation rates of seven of the twelve member countries were persistently higher or lower than the EMU average. Countries with above average inflation rates are Greece, Spain, Italy, Portugal and Ireland. Countries with persistent below average inflation rates are Germany and Austria.

3. In a monetary union with an absolutely fixed exchange rate and a single nominal interest rate, persistent inflation differentials are identical with persistent differences in real interest rates and persistent changes in the real exchange rate. Thus, the group with above average inflation has been confronted with a combination of low real interest rates and an appreciating real exchange rate, in the group of the below average inflation rate the opposite has been the case. As a consequence, the first group has experienced a relatively strong domestic demand and a negative foreign demand contribution, while in Germany and Austria a weak domestic demand was accompanied by a strong foreign demand contribution. These different patterns of domestic demand and the foreign balance contribution are shown in Chart 2. As one can see, Ireland is somewhat different since a strong domestic demand was not paralleled by a negative foreign contribution.

Chart 2: Average growth rate of real total domestic demand and of the foreign balance contribution in the years 1999-2004 in EMU countries with persistent inflation differentials.

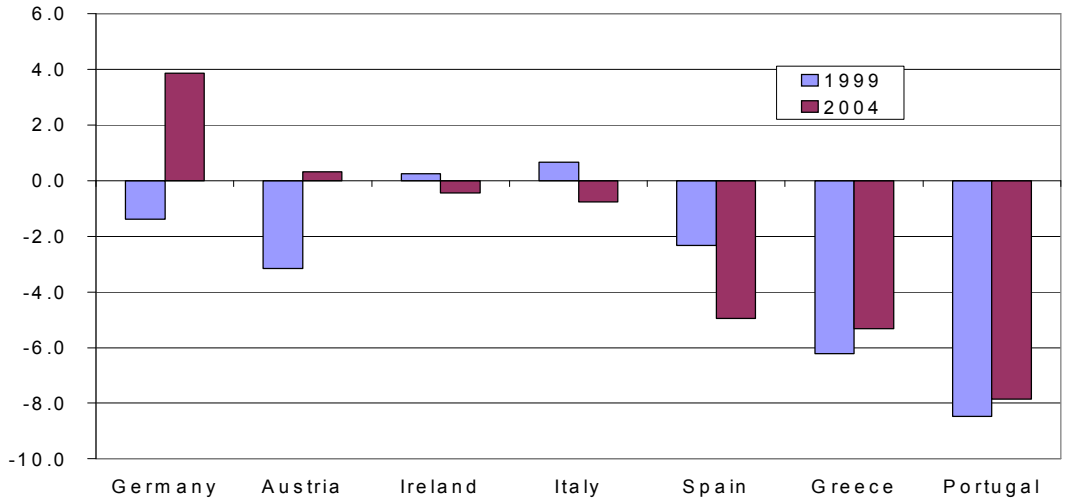


Source: OECD, Economic Outlook

The "split" economic performance in these countries is due to the effect of persistently diverging real interest rates on the financial balances of private households and enterprises

and due to the impact of diverging unit labor costs on their international competitiveness. Both developments are reflected in the development of the current account balances of these seven countries since the start of EMU (Chart 3).

Chart 3: Current account balances in % of GDP in the years 1999 and 2004 in EMU countries with persistent inflation differentials



Source: OECD, Economic Outlook

4. The impact of divergencies in real interest rates on the domestic economy becomes obvious if one looks at the development of the private sector financial balances. This indicator which reflects the monetary saving or dissaving of the private sector is calculated as follows: Private sector financial balances (in % of GDP) = Current account (in % of GDP) minus general government financial balances (in % of GDP)

As table 2 shows for the average of the years 1999 to 2004, in countries with relative high real long term interest rates the private sector was a net saver, while in countries with relatively low long term interest rates the private sector was dissaving.

Table 2: Average long term real interest rate and private sector financial balances in the years 1999-2004 in EMU countries with persistent inflation differentials

	Real long term interest rate	Private sector financial balances in % of GDP
Ireland	3.0	-2.2
Portugal	3.7	-5.0
Spain	3.7	-2.7
Greece	4.0	-2.9
Italy	4.5	1.9
Austria	5.1	-0.1
Germany	5.2	3.2

Source: ECB and OECD, Economic Outlook

A main explanation for this impact of real interest rates on private sector financial balances is the strong effect of real interest rates on housing markets. As Table 3 shows, in Germany housing prices declined at an annual rate of in the years 1996-2004, while they increased considerably in Spain and Ireland. This development was paralleled by corresponding changes in residential mortgage debt.

Table 3: Residential property prices and mortgage debt

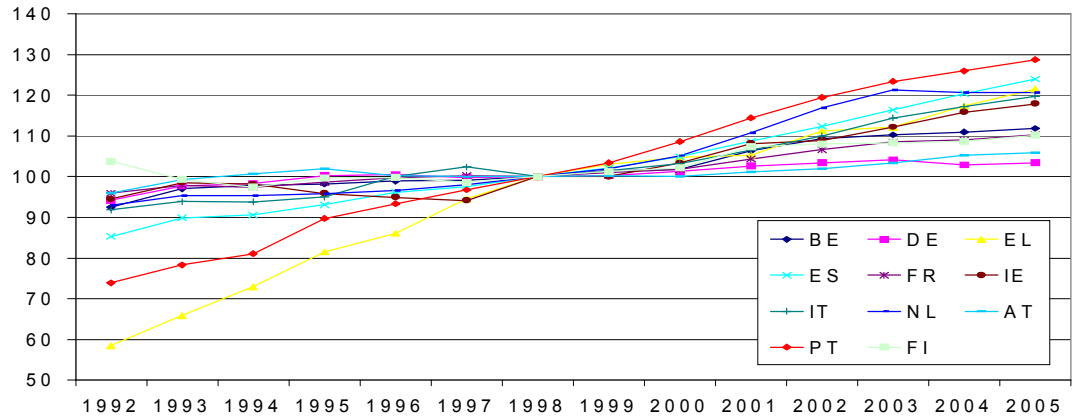
	Annual change in residential property prices		Change in residential mortgage debt
	1996-2003	**2004**	**2004**
Germany	-0.1	-1.0	-0.8
Italy	4.6	9.7	1.9
Spain	10.8	17.4	4.7
Ireland	14.4	7.84	9.5

Source: BIS, 75th Annual Report.

Thus, the strong increase in housing prices in some Euro Area member countries can be mainly explained by the persistent differences in inflation rates and, correspondingly in long term real interest rates.

5. The second effect of inflation persistence concerns unit labor cost developments of the member countries. As Chart 4 shows, unit labor costs exhibit a rather stable trend before and after the start of EMU.

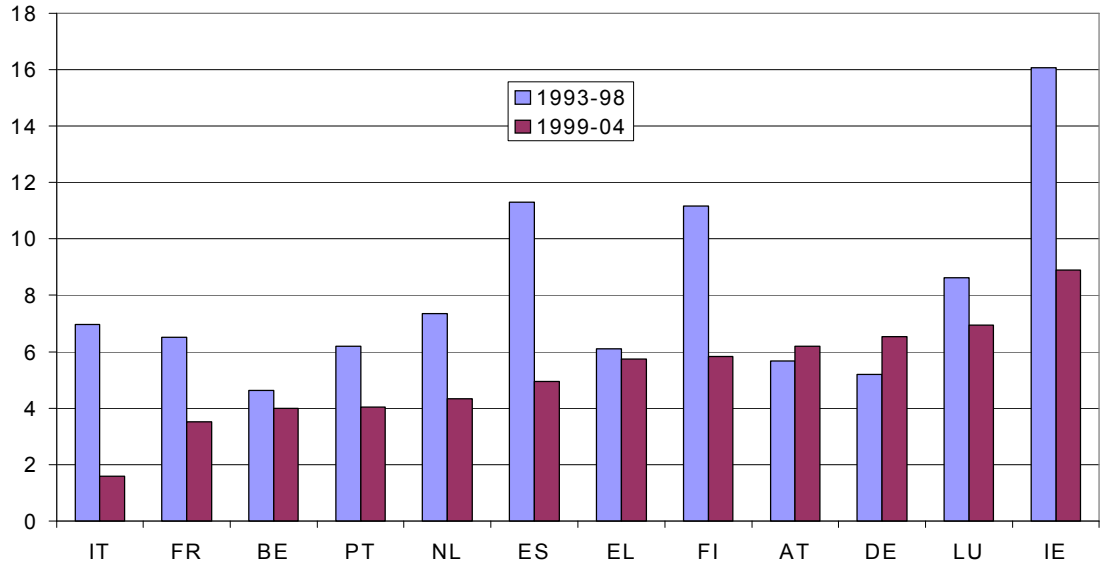
Chart 4: Unit labor costs (1999=100, total economy)



Source: European Economy, Statistical Annex

Since the adjustment mechanism of exchange rate changes is no longer available it is not surprising that the marked divergencies in unit labor costs have a strong impact on the international competitiveness of the EMU member countries. This is shown in Chart 5 which displays the growth rate of the export volumes before and after the start of EMU. In the countries with persistently high inflation export growth has been reduced markedly. In contrast, Germany and Austria, the two countries with persistent below average inflation, were able to increase the growth rate of their exports in volume terms.

Chart 5: Annual percentage change of exports of goods and services (1995 prices in national currency)



Source: European Economy, Statistical Annex

6. In sum, in a monetary union persistently diverging inflation rates have two main negative effects:

- Rising differences in unit labor costs lead to unsustainable divergencies in the competitiveness of its member countries.

- Persistent differences in real interest distort investment decisions and lead to asset bubbles in countries with below average real interest rates.

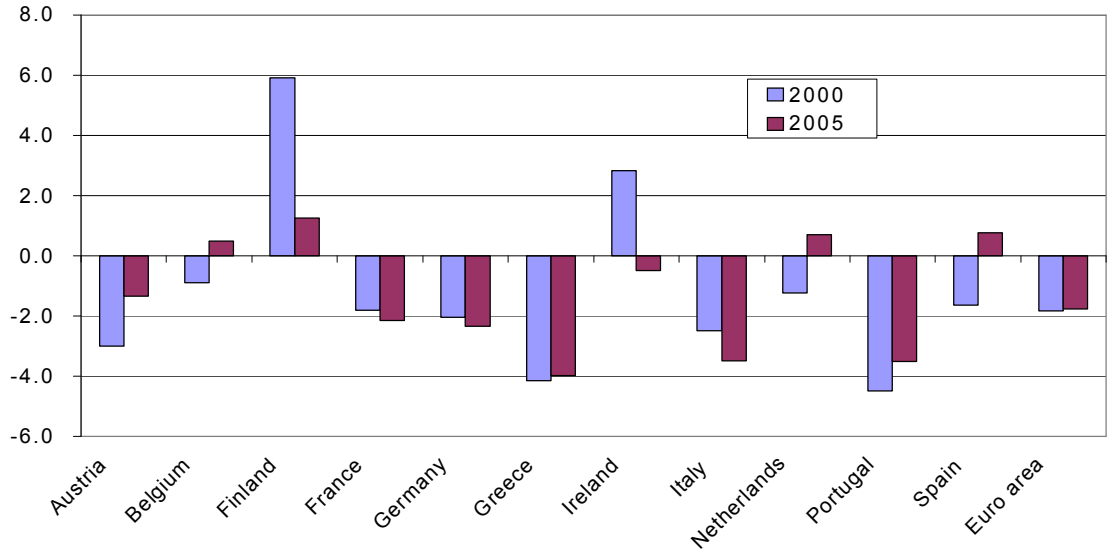
Since both tendencies are not sustainable they cause a misallocation of resources which is detrimental to all member countries. In countries with above average inflation, excess investment in the housing market can lead to financial problems of households and impairs the stability of the banking system. In addition, the international sector is unduly compressed. In countries with below average inflation, the domestic sector is suffering from an insufficient demand situation while the international sector is expanding above a sustainable level.

A part of this dismal adjustment process can already be observed in Portugal and in Italy. The erosion of international competitiveness has led to a deteriorating business confidence, a contraction of investment, and a pronounced wage moderation.

What can the common *monetary policy* do to avoid such processes? From the very logic of a monetary union, with its single interest rate the ECB can only target an average inflation rate for the Euro Area. An attempt to stop the inflation in the above average countries would drive the below average countries into deflation. And an interest rate reduction with the aim of stimulation the below average countries would additionally feed the bubble economy in the above average countries. Thus, the ECB in the last few years, the ECB has tried to maintain a balance between these conflicting requirements.

The second main macroeconomic lever is *fiscal policy*. In the inflationary countries, fiscal restraint could have helped to dampen the domestic demand situation, in the below average countries a fiscal stimulus could have been warranted. A brief look at the fiscal situation in the EMU countries shows that the room for maneuver of fiscal policy has been rather limited (Chart 6).

Chart 6: Cyclically adjusted general government financial balances in EMU countries in 2000 and in 2005 (in % of GDP)



Source: OECD, Economic Outlook

➢ In the below inflation average countries, a fiscal stimulus would have been warranted. But in Germany the limits set by the Stability and Growth Pact were exceeded already in 2002. In Austria, however, a more expansionary fiscal policy would have been possible.

➢ In the above inflation average countries, more fiscal restraint would have been warranted. The only country where an active fiscal response to the overheated economy can be observed is Spain which turned a structural deficit into a surplus. In Greece, Italy and Portugal deficits have been very high for several years and thus, a consolidation would have been justified in the last few years.

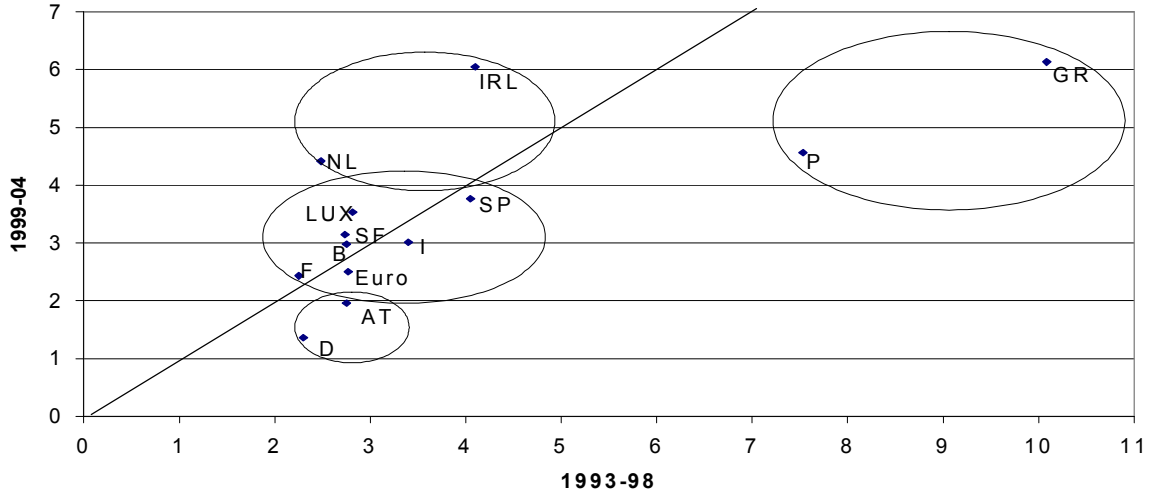
But when recommending a more restrictive policy stance for these countries one has to take into account the aggregate fiscal policy stance of the Euro Area. Chart 6 shows that over the whole period from 2000 to 2005 the overall fiscal policy stance of the Euro Area has remained completely passive. This performance stands in a strong contrast to the fiscal policy in the United States, the United Kingdom or Sweden where an anticylical policy stance can be observed. In other words, a more restrictive fiscal policy stance in the above inflation countries would have led to a procyclical fiscal policy stance for Euro Area would have additionally weakened the already unsatisfactory growth and employment performance of the Euro Area as a whole.

7. This leads to the role of wage developments in the Euro Area. The ECB (2005) has shown that wages are the most important determinant of the inflation differentials and it comes to the conclusion:

"that a substantial part of persistent divergence in price developments may stem from differences in wage developments and wage-setting mechanisms across euro area countries" (ECB 2005, p. 68).

Chart 7 shows the average increase of compensation per employee in the years before EMU (1993-98) and during EMU (1999-2004). Four different patterns can be discerned (Chart 7).

Chart 7: Average annual change of employment per employee in the years 1993-1998 and 1999-2004



Source: European Economy, Statistical Appendix

➢ In six countries (Belgium, Finland, France, Italy, Luxemburg and Spain) wage increases in the EMU period were almost identical with the increases in the six years preceding EMU. This can be explained as a form of backward-looking wage formation process. In the case of Spain and Italy, above average wage increases that were not supported by a corresponding productivity lead, which contributed to the continuing increase in unit labor costs.

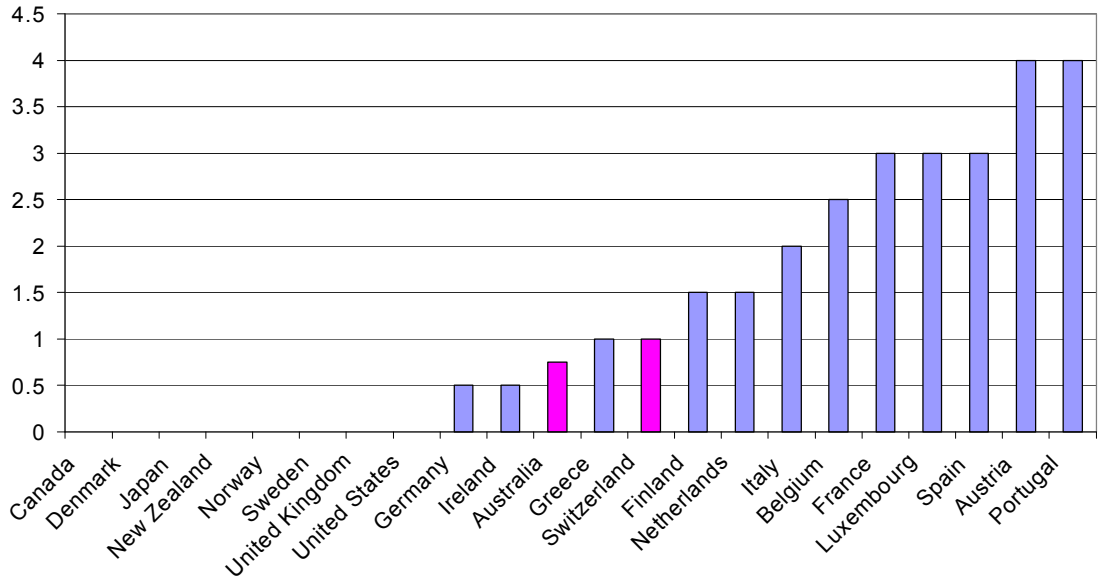
➢ In Greece and Portugal, wage increases were reduced significantly. However, from the high rates in the pre-EMU period, the reduction was insufficient to converge to the EMU average so that unit labor costs also increased too much.

➢ In the Netherlands and in Ireland, wages increased faster after the introduction of the Euro. Especially in the Netherlands, this was not warranted by the increase in productivity, which explains the strong increase in unit labor costs in Chart 4.

➢ In two countries (Germany and in Austria), a pronounced wage moderation can be observed which considerably improved the competitiveness of these two countries. In the case of Germany, this process was influenced by the raising unemployment problems and the general, but wrong, perception in the German debate, that the country had lost its international competitiveness.

Thus, one can say that wage developments in most EMU member countries did not take into account the important regime change that took place with the irrevocable fixing of intra-EMU exchange rates and the transition from autonomous interest rate policies to a single monetary policy. While one may be tempted to argue that wages are simply a reflection of market processes, the reality in most EMU member countries is characterized by rather strong government interference in the wage formation process. As Brandt et al. (2005) show, there still exist very comprehensive legal extensions of collective contracts in most EMU member countries. Their index of legal extension ranks from 0 to 4, the latter marking the most comprehensive form of legal extension (Chart 8). Compared to other OECD countries, the degree of legal extension is rather high in most EMU member countries.

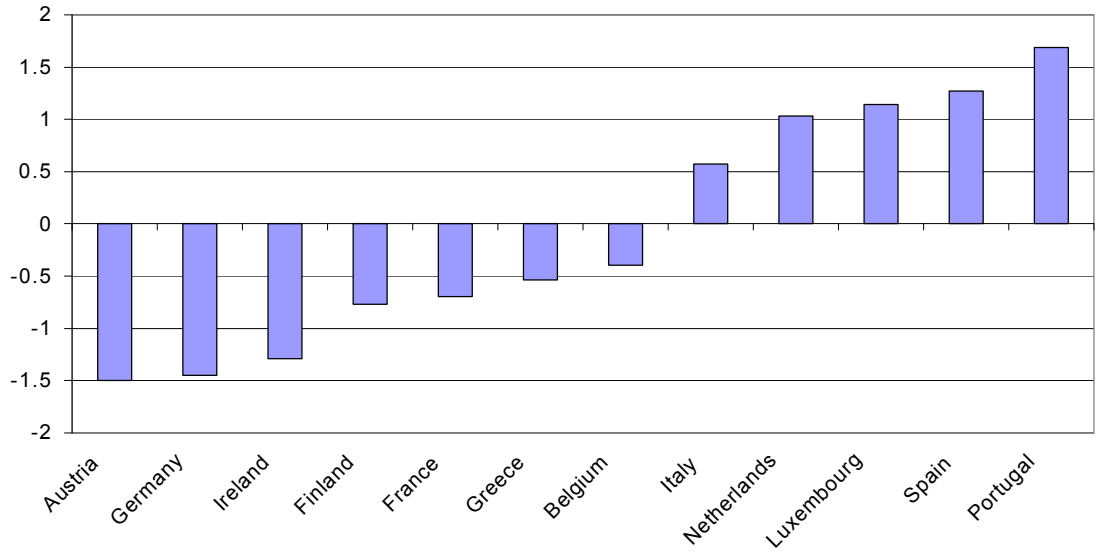
Chart 8: Index of legal extension of collective agreements



Source: Brandt et al. (2005), p. 41.

Thus, there is scope for a better co-ordination of national wage developments in EMU member countries. As a simple rule, national wage increases should include national productivity gains plus a compensation for inflation which should be identical with the ECB's target of price stability, i.e. roughly 2%. Such a formula would lead to a convergence of national inflation rates to the ECB's target value and it would avoid temporary disequilibria between external and internal demand which are difficult to balance ex post. Chart 9 shows the divergence between actual annual increases in compensation per employee in the years 1999-2004 and the increases that would have been affordable on the basis of national productivity gains and an inflation compensation of 2%.

Chart 9: Annual difference between actual compensation per employee and a hypothetical increase based on national productivity gains and an inflation compensation of 2 %



Source: OECD, Economic Outlook

The Chart shows that in the two low inflation countries wage moderation has played an important role. The opposite applies to Italy, Spain and Portugal where the high inflation rates can be attributed to "excessive" wage agreements. In the high inflation countries Ireland and Greece, high nominal wage increases were in line with productivity gains so that they did not endanger the international competitiveness of these countries.

Absent such a co-ordination it will become very difficult for countries like Italy, Portugal and Spain to correct their rather high unit labor costs. If one assumes for these countries

- that an adjustment of 10% vis-à-vis the EMU average is required within five years,
- that the productivity increase is 1%, in Italy only 0.5%, and
- that the inflation adjustment is 2%,

nominal wages in Spain and Portugal could be increased by only 1% per annum, in Italy only by 0.5%. While this would be already difficult enough, a continuing wage moderation in Germany and Austria would require an even stronger deceleration. With a wages in Germany and Austria continuing to increase about 1.5% per annum less than warranted by the productivity rule, the EMU average is reduced by about half a percentage point (given a GDP weight of Germany and Austria of 1/3 of EMU GDP). Thus, the permissible nominal wage increase in Spain and Portugal could be only half a percentage point. In Italy nominal wages would have to be kept constant for the next five years.

In sum, the most important policy response to persistent inflation differentials is not more structural reforms but a better co-ordination of national wage developments.

References:

Brandt, N., J. M. Burniaux and R. Duval (2005), "Assessing the OECD Jobs Strategy: Past Developments and Reforms", OECD Economics Department Working Paper No. 429.

European Central Bank (2005), Monetary policy and inflation differentials in a heterogeneous currency area, Monthly Bulletin May 2005, 61-78

Macroeconomic Differences within the EMU

Briefing Paper for the Monetary Dialogue of September 2005 by the Committee on Economic and Monetary Affairs of the European Parliament with the President of the European Central Bank

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IMK, Düsseldorf

Executive Summary

There are still many macroeconomic differences between EMU member countries. There is still no clear cut tendency for income per capita to converge and actual growth rates support this view. This is reflected in respective unemployment tendencies. One major reason for macroeconomic heterogeneity are persistent inflation differences rooting mainly in diverging wage developments. These imply significant changes of competitiveness that in the end could lead to a real deprecation race. Such a race implies deflationary effects. These should be fought in the first place by appropriate national fiscal policy and only when the race has started by monetary policy.

1. After the establishment of the currency union it was the general expectation that macroeconomic differences between member countries would shrink. This applies the foremost to the level of income per capita the most general measure of wealth. This indicator as all others too will be compared only among EU 12. Only these countries have been long enough members of the currency union to make a preliminary and basically descriptive assessment of the state of macroeconomic convergence. In particular it will be shown how macroeconomic reactions were during a phase of boom 1999/2000 and of the consecutive bust from 2001 to 2003. Furthermore one can see how fast these economies recovered after the economic slump. Looking at GDP per capita, that reflects the wealth differences, one sees that wealth convergence has not made much progress during the observed time span. One would expect countries being above average loosing some of that advantage, whilst those being below average move closer to it. The contrary is for many the case. (Table 1)

Table 1: Deviation[1] from average GDP per capita among EU-12

	average 1999-2004	1999	2000	2001	2002	2003	2004
Belgium	11,4	11,2	11,9	10,7	10,7	11,7	12,4
Germany	22,3	23,0	22,8	22,4	21,8	21,8	22,0
Greece	-55,0	-57,7	-56,9	-56,1	-54,9	-52,9	-51,7
Spain	-33,9	-34,7	-34,7	-34,1	-34,0	-33,0	-33,0
France	12,4	11,7	12,4	12,2	12,6	12,6	12,9
Ireland	12,7	3,1	7,9	11,2	15,0	18,4	20,1
Italy	-12,6	-12,8	-12,9	-11,7	-12,1	-12,6	-13,4
Luxembourg	110,6	101,0	109,9	108,3	110,2	114,6	119,1
Netherlands	11,5	13,3	12,9	12,2	10,7	10,2	10,0
Austria	24,8	25,5	25,2	23,9	23,8	25,2	25,4
Portugal	-52,8	-50,5	-50,5	-53,2	-53,4	-54,4	-54,5
Finland	16,7	13,8	15,3	14,6	16,5	18,9	21,1

[1] percent
Sources: Eurostat and IMK calculations

IMK.

2. Most notably Luxemburg and Ireland have significantly extended there above average standing, to a lesser extent this applies to Finland, Belgium and France. Vice versa Portugal and Italy have lost ground in catching up to the average. The positive examples in terms of convergence are Greece and Spain that have diminished their distance to the average significantly and on the other side Germany and the Netherlands that have lost some of their advantage. Austria has kept its relative position more or less unchanged. Given these findings one cannot speak of a general tendency to wealth convergence. This may be considered as no surprise since research has shown how lengthy these developments usually are (cf. Salla I Martin /Barro (1992), Blanchard/Katz (1993). The question is why on this shorter perspective resilience to convergence is so big. A look on other macroeconomic variables will reveal that there are some serious problems ahead for the EMU.

3. The expected kind of convergence should be accompanied by diverging growth rates. Those countries below average are supposed to grow above average and vice versa. As one could see growth rates of GDP basically mirror these convergence developments.[1] Those who have gained ground have done so because their growth rates were so high not because they may have lost population.[2]

Table 2: Differentials[1] in annual growth rates in relation to the euro area average

	average 1999-2004	1999	2000	2001	2002	2003	2004
Belgium	0,2	0,4	0,2	-1,0	0,0	0,6	0,9
Germany	-0,6	-0,8	-0,5	-0,5	-0,7	-0,7	-0,4
Greece	2,2	0,6	0,8	2,6	2,9	4,0	2,2
Spain	1,5	1,4	0,7	1,8	1,8	2,2	1,1
France	0,3	0,5	0,4	0,4	0,3	0,1	0,3
Ireland	4,9	7,9	5,5	4,5	5,2	3,7	2,5
Italy	-0,6	-1,1	-0,7	0,1	-0,5	-0,4	-0,8
Luxembourg	2,7	5,0	5,3	-0,2	1,6	2,2	2,5
Netherlands	-0,2	1,2	-0,2	-0,3	-0,8	-0,8	-0,3
Austria	0,1	0,5	-0,3	-0,9	0,1	0,7	0,4
Portugal	-1,1	1,1	0,1	-4,5	-0,5	-1,8	-1,0
Finland	1,0	0,6	1,3	-0,7	1,3	1,7	1,6
[1] percentage points							
Average Absolute Difference	1,28	1,76	1,33	1,46	1,31	1,58	1,17

Sources: Eurostat and IMK calculations

IMK.

Portugal, Italy, Germany and the Netherlands are those countries that have grown less than the EMU average. Two of these were above average with respect to wealth two below average. Hence this performance seems not to be very closely linked to their respective wealth position. The same consequently applies to those countries showing the highest growth rates. Ireland, Luxemburg, Finland and France were already above average, Greece and Spain were not. If anything, these findings would speak in favour of increasing returns to wealth and thus for divergence. Interestingly some countries show persistence in their growth performance i.e. they always deviate from average in the same direction. In the positive sense they showed since 1999 a permanently higher than average growth. This is the case for Ireland, Greece, and Spain and to a lesser extent for France. On the other side only Germany constantly grew less than EMU average. The overall differences of growth rates seem to be fairly constant over time. There is no clear cut trend.

[1] The other variable being the slowly moving population growth.

[2] That this not just a theoretical case is shown in the case of East Germany where convergence to West Germany is only achieved by a decreasing population. This phenomenon is called negative convergence.

4. The third macroeconomic indicator is unemployment. These figures reflect the growth performance and the initial employment situation in the respective countries.

Table3: Differentials[1] in annual unemployment rates in relation to the euro area average

	average 1999-2004	1999	2000	2001	2002	2003	2004
Belgium	-1,0	-0,6	-1,3	-1,2	-1,0	-0,7	-1,1
Germany	-0,3	-1,3	-1,0	-0,5	-0,1	0,3	0,6
Greece	2,2	2,8	3,1	2,9	2,0	1,0	1,6
Spain	3,0	3,7	3,2	2,9	3,2	2,8	2,1
France	0,8	2,6	1,9	1,0	0,7	0,5	0,2
Ireland	-4,0	-3,6	-3,9	-4,0	-4,0	-4,1	-4,4
Italy	0,7	1,7	1,9	1,2	0,3	-0,3	-0,9
Luxembourg	-5,5	-6,8	-5,9	-5,8	-5,5	-5,0	-4,1
Netherlands	-5,3	-6,0	-5,4	-5,7	-5,5	-5,0	-4,3
Austria	-4,5	-5,3	-4,5	-4,3	-4,1	-4,4	-4,1
Portugal	-3,4	-4,7	-4,1	-3,9	-3,3	-2,4	-2,2
Finland	0,8	1,0	1,6	1,2	0,8	0,3	-0,1

[1] percentage points

Sources: Eurostat and IMK calculations

IMK

Interestingly there seems to be a weak tendency for convergence. With the exception of Ireland that succeeded in reducing its unemployment ever further below the average the other countries have moved closer to the average. This is in particular the case for Germany where unemployment was slightly below average in 1999 and is now slightly above. Against the backdrop of its better growth performance Finland made the opposite movement. A special case is Italy despite the poor growth record the employment development was rather positive. The reason for this special there have been tax incentive for a rapid built up of employment. This measure led to very low productivity growth and it remains to be seen whether the effect is lasting.

5. What are the driving forces behind these heterogeneous performances? Three of the high performer (Ireland, Spain and Greece) were heavily subsidised by the EU. So one can attribute the success partly to an EU policy of cohesion. But more important is the interest rate advantages all these countries have faced. In due course of monetary convergence when relatively high inflation in most of these countries receded real interest rates converged the low level previously only achieved in Germany with its long tradition of price stability. Lower real interest rates are beneficiary for investment and consumption and tend to spur domestic demand what could be observed all the countries mentioned. Real interest rate convergence at the same time partly explains why growth in Germany could be expected to be relatively weak. Simply because Germany acted as monetary anchor and thus did not have the advantage of lower interest rates. They basically stayed at the same level as before monetary union. While this reasoning explains some of the growth differences there must be other forces at work. This can be shown by the case of Italy. Italy also had the interest rate advantage, even to a very significant extent. Nevertheless its growth performance is with the minor exception of one year well below average.

6. The missing forces become clearer when looking at inflation differences

Table 4

Table 1 Differentials in annual HICP inflation in relation to the euro area average

(percentage points)

	1999-2004 average	1999	2000	2001	2002	2003	2004
Belgium	-0.1	0.0	0.6	0.1	-0.7	-0.6	-0.3
Germany	-0.7	-0.5	-0.7	-0.4	-0.9	-1.0	-0.4
Greece	1.2	1.0	0.8	1.3	1.7	1.4	0.9
Spain	1.0	1.1	1.4	0.5	1.3	1.0	0.9
France	-0.2	-0.6	-0.3	-0.6	-0.3	0.1	0.2
Ireland	1.8	1.3	3.2	1.6	2.5	1.9	0.2
Italy	0.4	0.5	0.5	0.0	0.3	0.7	0.1
Luxembourg	0.5	-0.1	1.7	0.1	-0.2	0.5	1.1
Netherlands	0.8	0.9	0.2	2.8	1.6	0.2	-0.8
Austria	-0.4	-0.6	-0.1	0.0	-0.6	-0.8	-0.2
Portugal	1.1	1.0	0.7	2.1	1.4	1.2	0.4
Finland	-0.3	0.2	0.8	0.3	-0.2	-0.8	-2.0

Sources: Eurostat and ECB calculations.

The ECB has calculated them and there was an astonishing result. There were significant and persistent deviations from the EMU average. That there are differences should not be a matter of great concern, since there may be good reasons for it. The relative price of products produced in one specific country may change or the business cycle may be different. However all these reasons should lead to temporary deviations only, but they should not be persistent. How unusual this kind of phenomena are, shows a comparison with the US, a well established currency union. During the same time period deviations in major regions of the US were quite smaller and not persistent, although the US faced the same shocks as Europe. That shows the US economy has dealt with the shock with respect to inflation in a much less heterogeneous manner than the Euro area.

Table 5 : Inflation differentials in the USA
Deviation[1] of the annual inflation rates of the four census regions from the US average

	1999-2004	1999	2000	2001	2002	2003	2004
Northeast urban	0,3	-0,1	0,0	-0,1	0,5	0,5	0,8
Midwest urban	-0,2	-0,1	0,0	-0,1	-0,4	-0,4	-0,3
South urban	-0,2	-0,2	-0,2	-0,2	-0,3	0,0	-0,2
West urban	0,2	0,5	0,1	0,9	0,3	-0,2	-0,4

[1]percentage points

Source: U.S. Bureau of Labor Statistics

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What are the forces behind these persistent inflation differences. The ECB has shown in its Monthly Bulletin of May this year that labour costs development play a major role in that. Especially for Germany but also for Austria strong wage restraint has caused inflation to be always lower than in the other EMU countries. On the other hand wages are the driving force behind persistently higher inflation rates in Spain and Portugal. In Italy it was mainly low productivity that also provoked relatively high unit labour costs. In Ireland instead high profits hinting a buoyant a economic dynamics seems to be the main reason.

Table 6

Table 2 Results of the inflation accounting exercise for the period 1999-2003

	Final demand deflator			GDP deflator				Unit labour costs		
		Contribution to change			Contribution to change				Contribution to change	
	Total change in %	Domestic costs	Import costs 1)	Total change in %	Unit labour costs	Gross operating surplus	Net indirect taxes	Total change in %	Compensation per employee	Inverse labour productivity
	1 = 2+3	2	3	4 = 5+6+7	5	6	7	8 = 9+10	9	10
	Average annual growth in percentage points, unless otherwise indicated									
Euro area	1.8	1.0	0.8	2.0	1.1	0.6	0.2	1.9	2.6	-0.7
	Deviation from the euro area average 2)									
Belgium	0.1	-0.4	0.5	-0.4	0.1	-0.4	-0.1	0.1	0.5	-0.4
Germany	-1.0	-1.0	-0.1	-1.2	-0.7	-0.5	0.0	-1.1	-1.0	-0.1
Greece	1.5	1.4	0.1	1.5	0.2	1.0	0.3	0.4	3.5	-3.1
Spain	1.5	1.2	0.3	1.8	0.7	0.8	0.3	1.1	1.2	0.0
France	-0.7	-0.3	-0.4	-0.6	-0.2	-0.2	-0.2	-0.2	-0.2	0.0
Ireland	1.3	1.2	0.1	2.4	0.0	2.0	0.3	0.4	3.5	-3.0
Italy	0.8	0.8	0.0	0.5	0.3	0.2	-0.1	0.7	0.0	0.8
Luxembourg	0.3	-0.4	0.7	0.3	0.7	-0.6	0.2	1.4	3.3	-1.9
Netherlands	0.8	0.6	0.3	1.4	1.2	-0.1	0.3	1.9	1.5	0.4
Austria	-0.6	-0.6	0.0	-0.6	-0.8	0.4	-0.2	-1.4	-0.9	-0.5
Portugal	1.0	1.3	-0.3	1.6	2.0	-0.9	0.5	2.9	2.7	0.2
Finland	-0.8	-0.4	-0.4	-0.8	-0.2	-0.5	-0.1	-0.2	0.5	-0.7

Sources: European Commission, Eurostat and ECB calculations.
1) At the country level, import costs refer to intra and extra-euro area imports.
2) The figures in the table can be interpreted as follows: in the case of Belgium, for instance, the average annual change in the final demand deflator over the period 1999-2003 was 0.1 percentage point higher than in the euro area as a whole. The contribution from average import cost changes to the observed differential in final demand inflation was 0.5 percentage point, whereas the contribution of domestic costs was -0.4 percentage point.

7. Such a persistent inflation difference within a currency union has two major impacts. First of all it constitutes a significant change of real exchange rates. It means there is a real deprecation of an economy with persistent low inflation against the other members of the currency union. Therefore competitiveness of that economy rises accordingly. Germany has gained according different measures between four and nine percent in competitiveness since 1999.[1] This puts German exporters into a much better position and soaring German exports prove this. Economies with relatively high inflation rates instead appreciate in real terms. Their exports will suffer. One can see this already in the case of Spain, Italy and even France. Given that the German economy has been lagging behind in terms of growth such a boost to exports seems desirable at the first glance. On the other hand a persistently lower inflation within a currency union with equal nominal interest rates means that an economy faces high real interest rates. Those depress domestic investment and consumption. For an economy with the size of Germany that has a significant domestic market, the overall effect is negative. For small economies like Austria this would be different. Spain on the contrary benefits from such a constellation. For the currency union as a whole, these tendencies create in the longer run severe problems

8. If these trends continue Germany will not pick up in growth despite the real depreciation that continues to increase German competitiveness. Its grwth nad inflation differentials persist. However, the export performance of other countries starts to suffer and their economic activity looses steam. The probable reaction will be a wage and price restraint also in these economies in order to regain competitiveness. Then the race for real depreciation has started. Some indications of such a development are already in place. Current accounts of Spain, Italy and France are deteriorating and real wages on EMU average decrease. In end there exists the danger of deflation. This is a symmetrical situation compared to the seventies and eighties when nominal depreciation races were quite common among European countries leading then to high inflation rates. These situations have been mastered not at least by the currency union. But what is the remedy against a deflationary race?

[1] Cf IMK –Report 1/2005.

9. In the first line fiscal policy is requested to counteract asymmetrical developments. Hence German fiscal policy should be much looser than Spanish fiscal policy. The German economy would get an internal boost leading to higher growth speeding up wages and prices and ending real deprecation in due time, while the Spanish economy would be dampened by more restrictive fiscal stance. The Stability and Growth Pact (SGP) has prevented up to now that Fiscal policy could takes this role especially in the country with low growth and accordingly high public deficits. If this first line of defence cannot be hold, it remains only monetary policy to prevent deflation. But it has to react swift and significant in order to be successful. In particular it has to be on the alert already to detect the beginning of a depreciation race as early as possible. The present impression is that the ECB is not yet aware of these imminent dangers. That could prove detrimental in case of a too late reaction.

Topic 2

State of convergence of new ERM II members

The New EU Member States: Trading Off Exchange Rate Stability and Price Stability

Briefing Paper for the Monetary Dialogue of September 2005 by the Committee on Economic and Monetary Affairs of the European Parliament with the President of the European Central Bank

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Executive Summary

It is likely that EMU will be enlarged within two years time. Some of the new EU Member States - e.g. Estonia, Lithuania and Slovenia - have adopted already ERM (Exchange Rate Mechanism) II and will join EMU probably after a two-year period, as they do not have an opt-out clause. Having entered EU recently, the new Member States face a difficult decision. It seems likely that the divergence of inflation will be further increased in a larger monetary union. Although estimates of the so-called Balassa-Samuelson effect differ substantially, it seems likely that the new EU Member States will have higher inflation levels than the current countries in the euro area. The new EU countries will have to trade off exchange rate stability and price stability depending on their inflation differentials with the current euro area countries. This implies that the Maastricht Treaty convergence criteria for price stability and exchange rate stability are in their present form incompatible. This may lead to speculative attacks against some currencies of the new EU countries. The ECB should clarify how strong its commitment will be to intervening within ERM II to reduce the probability of these speculative attacks and how it will interpret the convergence criteria of price stability and exchange rate stability in formulating its advice to the European Council on euro adoption by the new EU countries. Finally, the rule of law is quite essential for strengthening the actual independence of national cantral banks in the new Member States. Central bankers in these countries have to learn to behave independently and politicians have to learn to accept this independent behaviour of central bankers. This learning process will take time, perhaps a generation, and should be fully supported by the ECB.

Introduction[1]

The purpose of this Briefing Paper is to discuss the implications of the upcoming enlargement of Economic and Monetary Union (EMU) in Europe. The current euro area countries will be joined soon by a number of new EMU entrants that have a substantially lower income per capita. As of May 2004 the Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Slovenia and Slovakia have joined the European Union (EU). These new EU Member States will be members of EMU with a so-called derogation. After a two-year waiting period, their convergence will be evaluated based on the Maastricht Treaty convergence criteria. It is likely that EMU will be enlarged within two years time. The majority of the new EU Member States - Cyprus, Estonia, Latvia, Lithuania, Malta and Slovenia - have adopted already ERM (Exchange Rate Mechanism) II in June 2004 and will join EMU probably after a two-year period, as they do not have an opt-out clause. We will mainly focus on this problem of trading off both and the role of the European Central Bank (ECB). First, we will assess the Maastricht Treaty convergence criteria and how consistent they are for the heterogeneous set of new EU countries. Then, we analyse the implications for the new EU countries of entering of the waiting room of ERM II. Furthermore, we evaluate the potential inflation differentials (*Balassa-Samuelson effect*) between the new EU countries and the euro area and its consequences for the ECB's decision-making process. Finally, we discuss the effectiveness of monetary policy in defending exchange rates during speculative attacks and the ECB's commitment to intervening within ERM II.

The convergence criteria: is there a trade off between exchange rate stability and price stability?

EU membership does not imply immediate membership of EMU. However, the new EU Member States have no formal derogation from EMU membership as obtained earlier by the UK and Denmark. In other words, the new EU members have an obligation to join EMU. Before they can enter EMU, the new members have to fulfill the criteria as stipulated in the Maastricht Treaty. However, whether and when the accession countries satisfy the Maastricht criteria will be to a significant extent at their discretion. After all, Sweden has thus far evaded the obligation to join EMU by not satisfying the exchange rate criterion. (Buiter and Grafe, 2002).

The Maastricht Treaty contains four convergence criteria:

1. *price stability*: an average inflation rate (measured on the basis of the consumer price index) that does not exceed by more than 1.5 percentage-points that of, at most, the three best performing member countries.
2. *sustainable fiscal position*, meaning that there is no excessive deficit. An excessive deficit exists if:

- the budget deficit is higher than 3 per cent of GDP, unless, either the ratio has declined substantially and continuously and has reached a level that comes close to 3 per cent, or the excess over the 3 per cent reference value is only exceptional and temporary and the deficit remains close to 3 per cent;
- the ratio of gross government debt to GDP exceeds 60 per cent, unless the ratio is sufficiently diminishing and approaching the reference value at a satisfactory pace.

[1] An earlier version of this Briefing Paper was published in: C. Detken, V. Gaspar and G. Noblet (2005), *The New EU Member States: Convergence and Stability,* Third ECB Central Banking Conference, 21-22 October 2004, Frankfurt-am-Main, April.

3. *exchange rate stability*, meaning that the currency has respected the 'normal' fluctuation margins of the Exchange Rate Mechanism (ERM), without severe tensions for at least two years (especially no devaluation on the initiative of the member country concerned).
4. *low interest rate*, meaning that the average long-term interest rate should not exceed by more than 2 percentage-points the interest rates in, at most, the three best performing countries in terms of price stability.

Although these criteria have been criticized for their lack of theoretical foundation (see e.g. Eijffinger and De Haan, 2000), the old EU countries have made it very clear that the new EU countries have to stick to this part of what is called the *acquis cummunautaire*. In this paper we will focus primarily on the convergence criteria of price stability (1) and exchange rate stability (3) and whether or not they are compatible with each other.

Many studies have addressed the question of the proper exchange rate regime for the new Member States in the period between entering the EU and becoming a (full) member of the EMU. The exchange rate regime is a key determinant of a country's macroeconomic stability, which affects the investment climate. Apart from the perspective of future EMU membership, the choice of exchange rate regime is therefore of great relevance for the accession countries. Table 1 shows the exchange rate regimes of the (potential) new EU members at this moment.

Table 1. Exchange rate regimes of (potential) new EU member states

Country:	**Exchange rate regime:**
Bulgaria	Fixed peg to euro (currency board)
Cyprus	*Exchange Rate Mechanism II*
Czech Rep.	Managed float to euro (inflation targeting)
Estonia	*Exchange Rate Mechanism II*
Hungary	Crawling peg to euro with band +/- 15% (implicit inflation targeting)
Latvia	*Exchange Rate Mechanism II*
Lithuania	*Exchange Rate Mechanism II*
Malta	*Exchange Rate Mechanism II*
Poland	Full float (inflation targeting)
Romania	Managed float (monetary aggregates targeting)
Slovakia	Managed float (monetary aggregates targeting)
Slovenia	*Exchange Rate Mechanism II*

Source: Adapted from De Haan, Eijffinger and Waller (2005).

An important (political) issue that will influence the timing of EMU membership is the interpretation of the exchange rate criterion as provided for in the Maastricht Treaty. A strict interpretation is that the new EU Member Sates should be a formal member of ERM II for *two or more* years following EU accession.[1] However, Buiter and Grafe (2002) argue that the exchange rate criterion can be satisfied without the candidate country being an ERM II

[1] At its meeting in Amsterdam in June 1997, the European Council decided to replace the 'old' Exchange Rate Mechanism of the EMS (ERM I) by the 'new' *Exchange Rate Mechanism Mark II* (ERM II). The ERM II offers the opportunity to stabilize exchange rates of EU members, which participate in EMU (the 'ins') and of those, which do not (the 'outs'). According to the Maastricht Treaty, each member state that is not yet allowed to participate in the euro area shall treat its exchange rate policy as 'a matter of common interest'. In principle, this should also apply to the countries with an opting-out clause, i.e. Denmark and the UK. Nonetheless, membership of ERM II is voluntary for all 'outs'. The operating procedures for ERM II have been laid down in an agreement between the ECB and the national central banks in the non-euro area. ERM II is designed as an *asymmetrical*, euro-centered exchange rate system. The main feature of ERM II is the wide fluctuation of $\pm$ 15 per cent between the euro and the currency of the country participating in the mechanism.

member. Italy and Finland (and later Greece) joined EMU right from the start, even though they had not spent two years in the ERM when they were admitted. More substantive, is the question of the proper exchange rate regime from an economic perspective. An important consideration in choosing an exchange rate regime is that the accession countries have to liberalize international capital flows as part of the acquis communautaire, making them more vulnerable to speculative attacks.

As follows from Table 1, the relatively smaller, new EU Member States - like Cyprus, Estonia, Latvia, Lithuania, Malta and Slovenia - have adopted ERM II and the relatively larger ones - the Czech Republic, Hungary, Poland and Slovakia - have chosen for (implicit) inflation targeting or monetary aggregates targeting. From the candidate EU-countries e.g. Bulgaria has opted for a currency board and Romania for monetary aggregates targeting. The Baltic states have waived the scope for fluctuation of their currencies within ERM II on their own initiative by retaining their previously existing currency board arrangements. These voluntary and unilateral commitments, however, do not place any additional obligations on the ECB. By contrast, Slovenia had previously allowed the exchange rate of its currency to fluctuate within a specific band around a depreciation path as part of a crawling peg system.[1]

A *currency board* can be considered as the most credible form of a fixed exchange rate regime as the own currency is convertible against a fixed exchange rate with some other currency(ies), which is codified, be it in a law or otherwise. The anchor currency is generally chosen for its expected stability and international acceptability. There is, as a rule, no independent monetary policy as the monetary base is backed by foreign reserves.

A currency board is a strong, 'doublebarrelled' commitment device (Buiter and Grafe, 2002). Through the currency peg it represents a commitment to price stability. Through the 'no domestic credit expansion' constraint, it represents a commitment to budgetary restraint. The value of these commitments depends either on the currency board arrangement being perceived as credible and permanent, or on the belief that, if it is abandoned, it will be replaced by something representing a comparable commitment to price stability and budgetary responsibility as a credible currency board, like the EMU.

At the other extreme, a country may choose a floating exchange rate regime with an independent central bank with some kind of an inflation targeting strategy. Berger, De Haan and Eijffinger (2001) show that a currency board becomes, *ceteris paribus*, more attractive under the following conditions:

- the imported foreign monetary policy is in the hands of an independent and conservative (i.e. inflation-averse) foreign central bank.
- the home country's central bank is relatively dependent and output-oriented compared to the foreign central bank.
- the correlation between the home and foreign country's output shocks is high.

Compared to a full-fledged central bank, a currency board is a cheap way of managing monetary policy. As pointed out by Buiter and Grafe (2002), all that is needed is a sufficient number of modestly skilled bank clerks who exchange, at a fixed rate, domestic currency for the foreign currency in terms of which the peg is defined. As a currency board implies that the central bank cannot (fully) act as lender of last resort, no country should consider a currency board unless it can afford to do without a lender of last resort. As this safety net for the

[1] From the launch of the euro at the beginning of 1999 up to Slovenia's entry into ERM II, its currency lost totally 21 % of its value against the euro. The success of Slovenia's ERM II membership will depend on whether the depreciation trend of its currency vis-à-vis the euro can be broken in a credible way.

financial sector is missing, a prerequisite for a currency board is a reasonably healthy financial system. Likewise, no country should consider a currency board unless it has a sound fiscal framework that will not require discretionary access to central bank financing by the general government.

A currency board runs the risk of a real misalignment. If a country's inflation remains higher than that of the pegging country, the currency can become overvalued (Pautola and Backé, 1998). While fixing the exchange rate is a fast way to disinflate an economy starting with a higher inflation rate, pegging the exchange rate will not necessarily reduce the inflation rate instantaneously to that of the pegging country. There are several reasons why inflation will not fall right away (Roubini, 1999). First, purchasing power parity does not hold exactly in the short run since domestic and foreign goods are not perfectly substitutable and the mix of goods and services in the countries concerned may differ. Second, non-tradable goods prices do not feel the same competitive pressures as tradable goods prices, thus inflation in the non-traded sector may fall only slowly. Third, as there is significant inertia in nominal wage growth, wage inflation might not fall right away. Often wage contracts are backward looking and the adjustment of wages will occur slowly. Finally, differing productivity growth rates may be reflected in differences in price increases (*Balassa-Samuelson effect*). If domestic inflation does not converge to the level of the pegging country, a real appreciation will occur over time. As Roubini (1999) points out, such a real exchange rate appreciation may cause a loss of competitiveness and a structural worsening of the trade balance, which makes the current account deficit less sustainable.

It follows from the preceding analysis that a currency board with a peg to the euro may be the proper exchange rate regime for accession countries on their road to full EMU membership. Apart from the (related) risk of misalignment, there may, however, be a serious problem. Together, the exchange rate and the inflation criterion restrict the scope for changes in the real exchange rate of the accession countries vis-à-vis the euro. Due to the Balassa-Samuelson effect, the accession countries may experience higher inflation than the euro area in case of a nominal fixed exchange rate. This even leads Szapary (2000) to argue that the inflation criterion of the Maastricht Treaty should be relaxed or reinterpreted. To examine whether this conclusion is justified, we will now first discuss the literature on the Balassa-Samuelson effect in the transition countries.

The implications of EMU enlargement: how large will the inflation differentials be?

It is often argued that due to the Balassa-Samuelson effect, transition countries have experienced a real appreciation of their real exchange rates. As a consequence of economic restructuring, many transition countries have experienced rapid productivity growth in their industrial sectors. As productivity growth in the traded goods sector exceeds that in the non-traded goods sector, non-traded goods prices increase due to the wage equalization process between both sectors. When productivity growth in the transition countries exceeds productivity growth in the countries in the euro area, the transition countries will have a higher inflation rate. According to Eurostat (2001), average productivity in manufacturing in transition countries was only about 40 percent of the EU average in 1998. Therefore, we can expect further high productivity growth.

This restructuring will, however, take some time. During this period, these countries will probably experience higher inflation than the current EMU countries. This raises two questions. First, how big are these inflation differentials between current and potential future EMU members? Second, what are the policy implications?[1]

There is clearly no consensus in the literature on the magnitude of the Balassa-Samuelson effect in the transition countries. Table 2 provides a summary of various recent studies. Estimates vary widely. Whereas Rogers (2001), for instance, estimates that the Balassa-Samuelson effect is likely to imply two additional percentage points of annual inflation in the accession economies, Égert (2002a,b) finds little evidence of a higher inflation rate due to the Balassa-Samuelson effect in the Czech Republic and Slovakia. The extremely high inflation differentials implied by sectoral productivity developments and labor shares for Hungary and Poland as reported by Backé, Fidrmuc, Reiniger and Schardax (2002) attract attention. According to these authors, their figures reflect mainly the massive gains in productivity in the tradable-goods sector that have been achieved during the 1990s in these two countries. They argue, however, that past figures are probably not a good guide for the future as convergence implies that productivity increases will tend to decelerate as higher productivity levels are reached.

These diverging outcomes are partly the result of differences in method. An important factor is that not all studies summarized in Table 2 are restricted to estimates of the Balassa-Samuelson effect. The literature has pointed out various other channels than can give rise to inflation differentials. Some of the studies take these into account. For instance, Halpern and Wyplosz (2001) have estimated the Balassa-Samuelson effect for a panel of nine transition countries also including demand factors. The same is true for Coricelli and Jazbec (2001), who, in addition, add a variable capturing structural misalignments. Pelkmans, Gros and Nunez Ferrer (2000) have followed a very different estimation procedure. These authors have based their estimation on relative price levels in accession countries compared to existing EMU member countries rather than on productivity growth differentials. The authors proceed in four steps. First, they regress the deviation of inflation rates of euro area countries form the euro area average on the relative consumer price levels of these countries. Next, they regress the relative consumer price levels of 29 OECD countries on the GDP-based comparative price levels of these countries (i.e. on ratios of the GDP measured in PPP and at current exchange rates). The coefficients of the independent variables in both equations are negative and highly significant. In a third step, Pelkmans et al. (2000) calculate the relative consumer price levels of the ten Central and Eastern European accession countries, based on their comparative price levels and the coefficient estimated for the OECD countries in the second equation. Finally, the authors use the coefficient estimated in the first equation for the euro area countries to compute the accession countries' inflation differentials form the average euro area, which are implied by their relative consumer price levels. Their results show on average an inflation differential of 3.8 percentage points between the accession countries and the euro area average due to estimated differences in the price levels.

[1] Apart from the impact of the Balassa-Samuelson effect on inflation differentials, there are other reasons why enlargement may lead to more asymmetries in the monetary union. First, business cycles in the accession countries may be out of line with the rest of the euro area. Furthermore, asymmetry in monetary transmission in comparison to the rest of the euro area may also make ECB policies more difficult. See for a further analysis: De Haan, Eijffinger and Waller (2005).

Table 2. Estimates of the inflation differentials (%) in the new EU countries

Study:	Countries:	Vis-à-vis	Size:
Jakab and Kovacs (1999)	Hungary		1.9
Pelkmans et al. (2000)	CEE 10	29 OECD countries	3.8
Rother (2000)	Slovenia		2.6 during 1993-98
Sinn and Reutter (2001)	Czech Rep. Hungary Poland Slovenia Estonia	Germany	2.88 6.86 4.16 3.38 4.06
Halpern and Wyplosz (2001)	Panel of 9 transition countries (incl. Russia)	Based on model for service-to-consumer goods price ratio	2.9-3.1 for the period 1991-99
Corizelli and Jazbec (2001)	Panel of 19 transition countries	Based on model for relative price of tradable goods	1 in the medium term (1990-98)
De Broeck and Sløk (2001)	Panel of transition countries		On average 1.5
Égert (2002a)	Czech Rep. Hungary Poland Slovakia Slovenia	Germany	0.648 0.303 for 1991-2000 2.589 1.295 for 1991-2000 3.245 1.901 for 1991-2000 -0.154 -0.075 for 1993-2000 1.321 0.661 for 1993-2000 [a)]
Égert (2002b)	Panel of Czech Rep., Hungary, Poland, Slovakia and Slovenia	Germany	With share of non-tradables as in GDP it ranges from 0.094 to 1.903 depending on time period and data. Estimates for 1996-2001 period range from 1.707 to 1.903. With share of non-tradables as in CPI the latter range from 0.810 to 1.059.
Backé et al. (2002)	Czech Rep. Hungary Poland Slovenia	Main trading partners [b)]	0.35 1995-2000 3.84 1995-2000 9.76 1995-2000 3.88 1995-2000

a) First column shows results using GDP deflator, second column shows results with CPI.
[b)] Under the assumption that there are no productivity-inflation differentials between tradable and non-tradable goods in the main trading partners, which seems unrealistic.

Source: De Haan, Eijffinger and Waller (2005)

As to the policy implications, the evidence reviewed suggests that accession countries with a fixed exchange rate regime may have problems in meeting the inflation criterion of the Maastricht Treaty. Countries with a somewhat more flexible exchange rate regime are unlikely to have problems to meet the Maastricht criteria for Balassa-Samuelson reasons. The Balassa-Samuelson effect is unlikely to exhaust the 15 per cent bands of the ERM II in two years. Some observers have argued that the convergence criteria should be modified (see e.g. Coricelli and Jazbec, 2001). One could, for instance, compare the inflation rates of the accession countries with those in the least developed EMU countries or allow for a higher than the 1.5 percentage-point differential. These suggestions have met little support from the current EMU countries. Admitting countries with relatively higher inflation rates could increase the HICP inflation in the euro area.

However, this argument should not be overstressed as the weight of inflation in the accession countries in the total euro area inflation rate is quite low. For instance, a 3 per cent difference in inflation rates between the 1998 Accession group and the rest of the euro area would only imply a 0.1% increase in the euro area's GDP-weighted inflation (Égert, 2002a).

Buiter (2004) warned very recently that forcing the new EU Member States to enter the ERM II waiting room for the euro is even "pointless and potentially dangerous". He thinks that creative reinterpretation is essential, if unnecessary risk to the financial stability of the EMU candidates is to be avoided. According to Buiter no monetary authority should be asked to pursue more than one nominal target. The simultaneous pursuit of three nominal targets (nominal exchange rate, inflation target and nominal interest rate target) greatly enhances the likelihood that a "major financial accident" will happen. He stated that EMU candidates should be allowed to have a free floating exchange rate between the time their date and rate for joining the euro are announced and the time their currency is locked into the euro. Buiter urged euro membership as soon as possible in the national interest of the new EU countries, noting that even the biggest country - i.e. Poland - is too small, too open and too financially vulnerable to run its own currency. Therefore, he concludes that without new rules for euro membership there are risks that the accession of a country being not ready for the euro could result in harm to other old and new EMU members.

Equally important is that the increase in the dispersion of inflation rates in the euro area may increase the risks implied by the decentralized set-up of the ECB. As the catch-up process of the new EU countries will continue after they have joined EMU, the enlargement of the monetary union implies more inflation divergence. If national considerations play a role in the behavior of national central bank governors in the Governing Council of the ECB, it may become more likely that the focus on euro-area-wide developments will be undermined. From this perspective, the future enlargement of EMU only underscores the need for reform of the ECB in the sense of strengthening the Executive Board at Frankfurt-am-Main vis-à-vis the presidents and governors of the National Central Banks (NCBs) within the Governing Council (see Eijffinger, 2003).

The effectiveness of monetary policy in defending exchange rates during speculative attacks: theory and evidence

The theoretical literature on the effectiveness of monetary policy in supporting a currency during episodes of severe speculative pressure can be distinguished into two groups, the 'traditional' view and the 'revisionist' view. The *traditional view* argues that the monetary authority can support the exchange rate by raising interest rates. Higher interest rates discourage capital outflows and appreciate the exchange rate. The *revisionist view* argues that when speculative attacks are accompanied by balance-sheet problems in the financial and corporate sectors, monetary tightening may have a depreciating effect on the exchange rate.

We start with summarizing the traditional view on the effectiveness of monetary policy in case of speculative attacks. Furman and Stiglitz (1998) raise two important concerns regarding the traditional effect of monetary policy. As the interest rate increase is likely to be temporary, the support of the exchange rate is also temporary. Moreover, a 1% expected nominal deprecation the following day would require according to Furman and Stiglitz no less than a 3678% annualized interest rate increase. In response to these doubts, the proponents of the traditional view argue that increases in interest rates might be able to strengthen the exchange rate permanently, through their effect on the expected future exchange rate.

Three possible channels of this effect can be distinguished. First, the Dornbusch (1976) 'overshooting' model of the exchange rate argues that an interest rate increase will lower inflation and will lead to a stronger expected future nominal exchange rate.[1] Second, Backus and Driffill (1985) and Drazen (2000 and 2003) explain how raising the interest rate could signal the willingness or ability of the monetary authorities to defend the exchange rate. When the interest rate returns to its initial level, the change in expectations persists, causing a permanently stronger exchange rate.[2] Finally, Furman and Stiglitz (1998) mention that a temporary interest rate defense provides policymakers with time to implement reforms that strengthen the exchange rate permanently.

The revisionist view, however, argues that tighter monetary policy affects the probability of bankruptcy and uncertainty about the future. Firms and banks will face higher costs of borrowing, which will decrease investments and profits. If they are negatively exposed to higher interest rates, their net worth will drop as well. Consequently, the probability of default in the corporate and banking sector goes up and this adverse effect may more than offset the traditional effects and cause the nominal exchange rate to depreciate instead of appreciate.

Empirical evidence on the effectiveness of monetary policy is mixed. Two approaches can be distinguished. The first approach assesses the time-series relationship between interest rates and exchange rates in one or more countries. Goldfajn and Baig (2002), using daily data, find little impact of interest rates on exchange rates or vice versa in the 1997/1998 Asian crisis countries. Dekle, Hsiao, and Wang (2002), based on weekly data, show a small supportive effect of interest rates on nominal exchange rates during the crises in Korea, Malaysia, and Thailand. Gould and Kamin (2001) also use weekly data and find that monetary policy did not significantly affect exchange rates in Thailand, Indonesia, Korea, Malaysia, Philippines, and Mexico.

The second approach looks at a large cross-section of currency crises or speculative attack episodes and determines whether raising interest rates had a supportive effect on the exchange rates in those periods. Furman and Stiglitz (1998) look at nine developing countries in the nineties and assess whether episodes of sustained high interest rates were followed by an appreciation of the domestic currency. Using daily data, they find a significant depreciating impact of interest rates on exchange rates in low-inflation countries. Goldfajn and Gupta (1999) ask whether a tightening of monetary policy made it more likely that the post-crisis real appreciation would take place through nominal appreciation rather than through higher inflation. Looking at crises episodes in 80 countries, they find that monetary tightening appreciates the nominal exchange rate, but only in countries with strong banking sectors. Kraay (2003) identifies episodes of severe speculative pressure preceded by relatively fixed exchange rates in 54 developed and developing countries. He asks whether high interest rates defend currencies during speculative attacks. Using monthly data, Kraay finds no impact of interest rates on the outcome of speculative attacks.

[1] Under that assumption of purchasing power parity (PPP) applies in the long run.

[2] According to Drazen, the opposite could also hold where raising interest rates signals the lack of other means to defend the exchange rate, for example because of a low level of reserves.

The empirical assessment of monetary policy effectiveness is likely to suffer from endogeneity. Regressing the exchange rate, as a dependent variable, on the interest rate, as an independent variable, might cause problems, as the interest rate (monetary policy stance) is likely to depend on third factors, some of which also affect the exchange rate. Kraay (2003) instruments for monetary policy but still finds no significant impact of monetary policy on the exchange rate. So, the empirical evidence of both time-series and cross-section approaches to the effectiveness of monetary policy in defending exchanges rates during speculative attacks is mixed and non-conclusive.

The operating procedures for ERM II: should the ECB and the non-euro area NCBs intervene intramarginally?

The operating procedures for ERM II, which have been laid down in an agreement between the ECB and the non-euro area NCBs, are quite crucial for defending the currencies participating in ERM II against speculative attacks. For each of these currencies a central rate vis-à-vis the euro and a standard fluctuation band of $\pm$ 15 % are defined, *in principle* supported by automatic unlimited intervention at the margins, with very short-term financing available. However, the ECB and the participating NCBs could suspend automatic intervention, if this were to conflict with their primary objective of maintaining price stability. Exchange rate policy cooperation may be further strengthened, for example by allowing *closer* exchange rate links between the euro and the other currencies in ERM II where, and to the extent that, these are appropiate in the light of progress towards convergence (European Central Bank, 2004). So, it is up to the ECB to decide whether it has a hard or soft commitment to exchange rate intervention *within* the fluctuation band of $\pm$ 15 % and on the basis of which conditions with respect to the country's fiscal and monetary policy. These *intramarginal* interventions will play, just like they did during ERM I, a crucial role in deterring speculative attacks against the ERM II currencies. A soft commitment of the ECB to intramarginal intervention may provoke speculative attacks in case the financial markets have serious doubts regarding the real and nominal convergence process of the country involved. On the contrary, a hard commitment to intervening within ERM II from the part of the ECB is only realistic when it is combined with *conditionality* in terms of fiscal and monetary policy. The question is, of course, whether or not (constructive or creative) ambiguity in intervention policy will be beneficial to the exchange rate stability of the ERM II currencies. I think that ambiguity - creative or not - will not be beneficial for exchange rate stability. Therefore, it is essential that the ECB will clarify how strong its commitment will be to intervening within ERM II to reduce the probability of these speculative attacks and how it will interpret the convergence criteria of price stability and exchange rate stability in formulating its advice to the European Council on euro adoption by the new EU countries.[1]

[1] Vice-President Papademos (2004) of the ECB advises the new EU Member States to focus monetary policy on price stability as the primary objective, both before and after ERM II entry. Participation in ERM II can play a very useful role in fostering policy discipline and consistency, but also in assessing the appropriateness of the "central parity" of a currency's exchange rate against the euro. According to Papademos this is essential for deciding on that currency's permanent conversion rate to the euro. Policy consistency over time and across policy areas is paramount for sustainable convergence. It will help to stabilize expectations, avoid shifts in market perceptions and improve credibility facilitating disinflation and progress towards real convergence. Nominal and real convergence are interdependent, can be mutually reinforcing, and should therefore be pursued in parallel.

The importance of central bank independence in the new EU Member States: does legal independence of non-euro area NCBs also imply actual independence?

Finally, the role of central bank independence in the new EU Member States should not be underestimated. The *fifth* implicit convergence criterion is the independence of the NCBs of these countries. They have to comply with the *legal* independence of their central banks in order to make the position of the central bank in accordance with the Maastricht Treaty and the Statute of the European (System of) Central Bank(s). What matters is, however, the *actual* independence of the central bank. Only the actual practice of central bank independence determines the effectiveness of monetary policy to assure price stability. Legal independence is a necessary but not sufficient condition for a truly independent central bank and can be seen as a fundamental basis for building the institutional climate needed for actual independence. The translation from legal independence into actual independence is primarily determined by the compliance with the law or the *rule of law* in a country. Eijffinger and Stadhouders (2003) have investigated empirically the impact of the rule of law on the rate of inflation. Several Institutional Quality Indicators (IQIs) are integrated in their empirical test between the rate of inflation and legal central bank independence. When a country has developed a credible institutional framework, the rule of law is expected to be relatively larger than in countries with an inadequate legal, political and regulatory framework. IQIs are used as a proxy for the rule of law to test empirically the potential interaction between legal central bank independence, the rule of law and inflation. These IQIs (*Repudiation of Contracts by Government, Rule of Law* and *Bureaucratic Quality*) measure some aspects of the credibility of the government to protect property rights and the enforcement of contracts. Eijffinger and Stadhouders find that the rule of law matters for the relation between legal central bank independence and the rate of inflation in a country. The individual IQIs are each significantly and negatively related to the rate of inflation for 44 developed and developing countries during the period 1980-1989. This result becomes stronger when two or three institutional quality indicators are combined. Although the IQIs are highly correlated to each other, a combination of IQIs may give a more complete picture of the qualitative institutional environment in a country. Therefore, the rule of law is quite essential for strengthening the actual independence of NCBs in the new Member States. Central bankers in these countries have to learn to behave independently and politicians have to learn to accept this independent behaviour of central bankers. This learning process will take time, perhaps a generation, and should be fully supported by the ECB.

Conclusions

It is likely that EMU will be enlarged in two years time. Some of the new EU Member States - e.g. Cyprus, Estonia, Latvia, Lithuania, Malta and Slovenia - will join EMU probably after a two-year period, as they do not have an opt-out clause. The new EU countries face a difficult decision in trading off exchange rate stability and price stability depending on their inflation differentials with the current euro area countries. This implies that the Maastricht Treaty convergence criteria for price stability and exchange rate stability are in their present form incompatible. This may lead to speculative attacks against some currencies of the new EU countries. The empirical evidence of both time-series and cross-section approaches to the effectiveness of monetary policy in defending exchanges rates during speculative attacks is mixed and non-conclusive. So, it is up to the ECB to decide whether it has a hard or soft commitment to exchange rate intervention within the fluctuation band of $\pm$ 1 % and on the basis of which conditions with respect to the country's fiscal and monetary policy.

A soft commitment of the ECB to intramarginal intervention may provoke speculative attacks in case the financial markets have serious doubts regarding the real and nominal convergence process of the country involved. On the contrary, a hard commitment to intervening within ERM II from the part of the ECB is only realistic when it is combined with conditionality in terms of fiscal and monetary policy. Ambiguity in intervention policy will not be beneficial to the exchange rate stability of the ERM II currencies. The ECB should clarify its commitment to intervening within ERM II to reduce these speculative attacks and its interpretation of the convergence criteria in formulating its advice to the European Council on euro adoption.

Finally, the rule of law is quite essential for strengthening the actual independence of NCBs in the new Member States. Central bankers in these countries have to learn to behave independently and politicians have to learn to accept this independent behaviour of central bankers. This learning process will take time, perhaps a generation, and should be fully supported by the ECB.

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State of Convergence of new ERM II members

Briefing Paper for the Monetary Dialogue of September 2005 by the Committee on Economic and Monetary Affairs of the European Parliament with the President of the European Central Bank

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Summary

Four of the new ERM II members have very sound public finances and the three Baltic countries have anyway linked their currencies tightly to the euro. Under these conditions they have shown strong growth for some time (a first indication that sound public finances and stable exchange rates are not an obstacle to growth). The latter should thus be able to fulfill the fiscal convergence criteria without a problem and continue to prosper once inside the euro area. Malta seems to present more of a problem. Its debt level is much higher (above the 60 reference value) and its deficit is still above 3%.

However, there might be a problem with the criterion concerning price stability. This criterion was specified more than a decade ago with the aim of starting EMU with a group of countries that were as close to price stability as possible. But as the euro now exists and has a good track record in terms of price stability this criterion it no longer makes sense to use the three best performers as a benchmark. Moreover, EU enlargement introduces a statistical effect which implies that this criterion is now becoming unduly restrictive. It should be slightly amended, basing it on the eurozone average, so that the threshold that is used to calculate the inflation criterion cannot be determined by special effects that might operating in some member countries during the reference year.

1 Inflation: Maastricht criterion in need of adjustment

It is well known that the new member countries are generally much poorer and engaged in a catch-up process. The higher growth rate during the catching up period is known to be likely to lead to higher measured inflation if exchange rates are fixed. The analysis in Gros et al. (2002) of this so-called Balassa-Samuelson effect suggests that the magnitude of the problem might be smaller than often feared. Newer estimates suggest that in equilibrium the new member countries should have an inflation rate about 1.5% above that of the eurozone. The problem thus exists, but it might not be so large if the inflation criterion were properly specified since the Maastricht criterion has already a margin of this order of magnitude built in. However, as argued below, the threshold is wrongly specified.

The Maastricht Treaty stipulates that the inflation rate in a prospective euro area member must be lower than the average of three best performing members plus 1.5 percentage points. The first point to note is that the Treaty just speaks about member countries. This means that the benchmark for the euro area entry is based on inflation not only in "euro" countries but EU members in general. And indeed, in the last years there was always at least one non-eurozone country in the group of best performers (see Table 1 below). It is difficult to see why membership in the euro area should depend on data of a country that stays outside.

Moreover, the criterion was originally devised because there was a clear need for a benchmark to start EMU with a group of low-inflation countries. In the absence of an absolute benchmark, the Treaty drafters devised the concept of three best performing countries. However, now that the euro area exists, a suitable benchmark is available – the average euro-area-wide inflation rate. It makes sense to judge the readiness of the candidates to join the euro area by comparing them to this indicator.

Furthermore, since the business cycles in the EU are not perfectly correlated, there is always a possibility that the benchmark will be driven by a small number of (potentially small) countries that by chance experience abnormally low inflation (e.g. because of a local recession or tax changes) even in a generally expansionary environment. This was the case in 2003, when the three member countries with the lowest inflation rate had on average deflation, implying an inflation criterion of only 0.5%. During the same year, Ireland, a happy euro-area member country, had an inflation rate of close to 4%, whereas a candidate country with an inflation rate of e.g. 1% would have failed to satisfy the inflation criterion.[1]

The forecasts for 2005, which would be the decisive data for a country that wants to join EMU in 2007, are somewhat reassuring in the sense that, by chance, the price stability criterion would be based on three euro area countries with inflation rates not far from the average. But even so, the threshold (2.9 %) would be equal to that of the highest eurozone country inflation (Greece) and might thus not allow countries like Estonia (3.4 %), Latvia (4.8) or Slovenia (3.3 %) to join euro. These figures are only forecasts for the current years, but if confirmed they might pose an unsurmontable obstacle for these countries. If the criterion had been changed to "eurozone average plus 1.5 %" (as proposed here) there would not be a problem for Estonia and Slovenia.

[1] *Until 2001 something similar has actually happened every year: the difference between the average of the three best performers and the highest eurozone national inflation was always above 1.5%.*

Table 1 Inflation: The eurozone and the new member countries

	2002	2003	2004	2005	2006
EU-25					
Average 3 best performing EU-25 countries	0.53 (De=Mt, Cz, Lt)	-0.93 (Lt, Cz, Fi)	0.9 (Nl, Fi, Lt)	1.4 (Dk, De, Nl)	1.3 (De, Nl, At)
Maastricht criterion	2.03	0.57	2.4	2.9	2.8
Eurozone					
Average	2.2	2.0	2.0	1.9	1.7
Highest inflation					
3 best performing countries	De, Be, At	De, Fi, At	De=Fr, Fi, Nl	De, Nl, At	De, Nl, At
Country with highest inflation	Ie (5.6)	Ie (3.8)	El=Es (3.1)	El (2.9)	El (2.8)
New members					
Average (unweighted)	2.58	2.31	4.01	3.25	2.81
Countries fulfilling criterion	Lv, Lt, Mt, Pl, Cz	Cz	Lt, Cz; (Cy)	Lt, Mt, Cz, Cy	Lt, Mt, Cz, Cy, Ee, (Sk)
Countries with lower inflation than Eurozone highest	Lv, Lt, Mt, Pl, Cz, Ee, Cy, Hu, Sk	Lv, Lt, Mt, Pl, Cz, Ee, (Cy)	Lt, Cz, Cy	Lt, Mt, Cz, Cy	Lt, Mt, Cz, Cy, Ee, (Sk)

Source: own calculations based on Eurostat data.

More in general, keeping the criterion without changes even after the EU enlargement would in reality mean to make it much stricter because with an increasing number of member states it becomes more and more likely that the three best performers are outliers, which are way below the eurozone average. This can be demonstrated in a straightforward way. Let us assume, for simplicity, that the inflation rate in all member countries has the same (normal) distribution. The mean does not interest us in this context, but the variance becomes decisive. Over the last years the standard deviation of inflation has, by chance, been very close to 1 (%). One can then calculate the probability that the average of the three best performers falls in a certain range, given a certain number of member states. The simple value for the standard deviation found above implies that enlarging the EU from 15 to 25 members means that the probability of the average inflation rates in the three best performing countries would fall below the mean by more than 1.5 standard deviations doubles from about 30% to almost 60%. This implies that with an EU of 25 members it becomes 60% likely that the Maastricht criterion on inflation is actually below the euro-area average. This would lead to an absurd situation: unless the criterion is changed one might have to exclude a country from eurozone membership when its inflation rate is actually below the eurozone average.

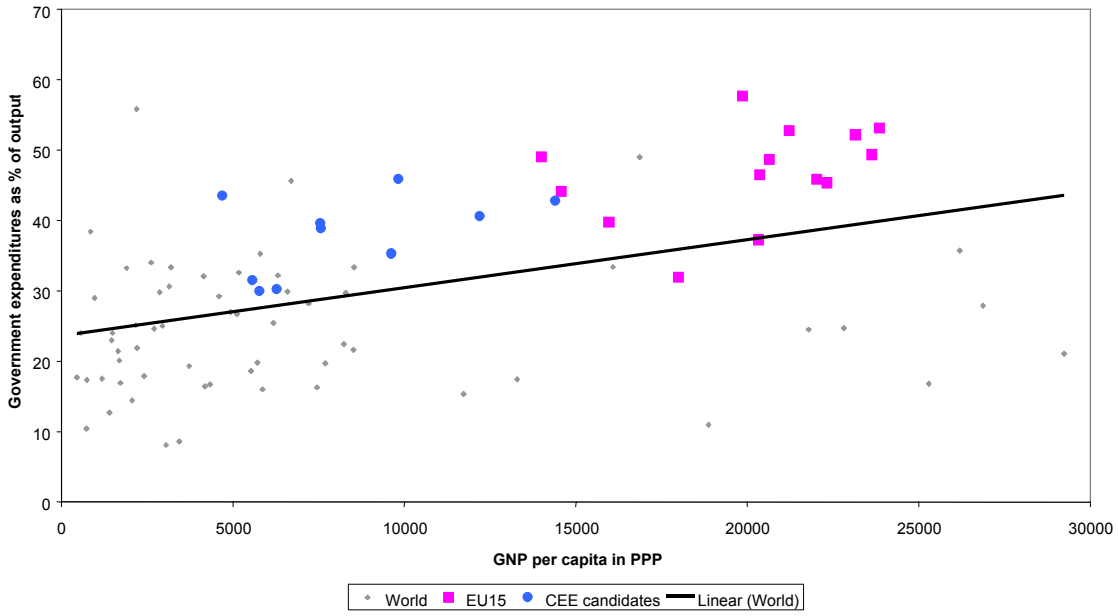
2 Fiscal challenge*?*

Most of the new member countries would not have any particular problems with fulfilling the debt criterion.The candidates in question (with the exception of Malta) also do not seem to have a particular problem with the fulfilment of the deficit criterion. This is in stark contrast to larger among the new member countries especially, the Czech Republic, Poland, and Hungary, which exceed the 3% threshold by large amounts. It is worrying, however, that no significant improvements are envisaged by some of them.

Achieving (and maintaining) a fiscal deficit below 3% is essentially a question of political will. Whether it has a short run cost in terms of lower output is disputed, but there can be little doubt that eliminating an "excessive deficit" brings long run benefits.

In this context one can also ask whether it is only the structure of public expenditures which is not suitable for the transition economies. It might also be that the size of government is too big given their level of economic development. This would further support the argument for radical fiscal reforms. Figure 1, relating per capita GDP measured in PPP and size of the government for 88 countries, attempts to provide at least a partial answer to this question. And indeed, it seems that all of the new member countries lie above the regression line which would mean that they cannot afford to have so extensive public sector at their level of development. [1]

Figure 13: Size of government and economic development



A crucial question for the future shape of fiscal policies in the new member countries is: Are there any longer-term (probably transition related) factors that would imply that these countries should continue running large budget deficits? It is often argued that such pressure might arise from the need to build a modern infrastructure in the new member countries economies, plus the pressure on their underdeveloped social system. Thus according to Wagner (2001), an effort to comply prematurely with the budget deficit criteria might lead to real divergence.

[1] However, several caveats have to be made. The fit of the regression is rather loose. And further, if only the EU and CEE countries are taken into account there seems to be hardly any relationship between the size of government and per capita output.

He argues that there is a trade-off between real and nominal convergence stemming from the need for the new member countries to support their catching-up process by building an appropriate infrastructure. He goes even further by saying that some of the transition countries might 'lag behind more and more, so that the other EU countries will politically be forced to bail these countries out. As soon as the financial markets assign high enough probability to this scenario, this may result in a significant EU-wide increase in interest rates and thus, at the worst, lead to an anticipatory recession.' (Wagner, 2001, p.31) However, these concerns seem grossly overestimated as the reliance on the government investment as a prerequisite for economic growth is clearly doubtful.

Moreover, one also needs to answer a question to what extent are the new member countries lagging behind the EU in terms of infrastructure. The public infrastructure of the new member countries is certainly less developed than that of current EU members. The new member countries have fewer motorways and paved roads per inhabitant and square kilometre, fewer fixed telephone lines, etc., but this does not immediately imply that they therefore need more investment in this area. What they have might actually be adequate for their level of development.[1] Poland for example has actually a larger stock of infrastructure than one would expect given its income per capita. It is thus difficult to argue that public infrastructure is the main impediment to growth.[2] Moreover, now that the CEE have joined the EU they are eligible for support under the regional policy, which is designed to finance this type of expenditure.

In the EU it is also often argued that the new member countries have an underdeveloped social security system. It is true that pension expenditures figure prominently in the current debate over the budget crisis in Poland. But the same could be said of most EU countries as well. Indeed, most of the indicators that should signal pressure for spending in the social sphere show little difference between the EU and the CEECs.

For example, there is no significant difference in the age profiles between the EU and most of the new member countries. The ageing problem is thus not worse for the new members. Poland actually has somewhat less of a greying problem than the EU. In terms of public spending on health and education (as a percentage of GNP), there is also little difference between the new member countries (around 5%) and the EU average (below 6%).

On the other hand, there will be considerable costs of complying with the EU standards (especially environmental). But this again will be co-financed by the EU.

[1] See Gros and Suhrcke (2000).

[2] There are more reasons to doubt the need for large public infrastructure spending: Within the EU one actually does not find any link between public investment and growth in GDP. Ireland, by far the fastest growing economy of the EU over the last decades, has a somewhat below-average ratio of public investment to GDP. Moreover, given the changes in financial markets that have taken place over the last decade, it is now generally recognised that most infrastructure projects could also be financed and sometimes even operated with substantial private sector involvement. Major projects, such as motorways, are already being undertaken on a mainly private sector basis in the candidates.

Table 1 Inflation: The EU and the candidate countries, pre euro-changeover data.

	1997	1998	1999	2000	2001
EU					
Eurozone	2.1	1.5	1.1	2.2	2.3
Average 3 best performing EU countries	1.2	0.7	0.6	1.3	1.8
Maastricht criterion	2.7	2.2	2.1	2.8	3.3
Highest inflation	5.4	4.5	2.5	5.3	5.1
3 best performing countries	At, Fr, Ie	At, De, Fr	At, Fr, Se	Fr, Se, UK	Dk, Fr, UK
Country with highest inflation	Gr	Gr	Ie	Ie	Nl
New members					
Average (unweighted)	10.3	8.6	5.2	6.6	5.4
Countries fulfilling criterion	0	0	Cz, Lt, Lv	Lt, Lv	Lt, Lv
Countries with lower inflation than Eurozone highest	0	Lv	Cz, Lt, Lv	Cz, Ee, Lt, Lv	Cz, Lt, Lv

Source: Gros et al. (2002)

References

Gros, Daniel, et al. (2002) "The Euro at 25", special report of the CEPS Macroeconomic Policy Group, Brussels, December.

Executive Summary

An assessment of the conduct of monetary policy in Europe must necessarily be made along two distinct and complementary lines. The first is a comparison with the policies followed in the past. The second line has to assess whether monetary policy is adapted to the new conditions that came into existence with the inception of the Euro. The picture with respect to these two criteria is mixed. Monetary policy has certainly improved with respect to the policies followed in the 1990s, during the run up to the euro. In fact, the ECB proved to be much more growth friendly than its predecessors. On the other hand, though, the challenges posed by the new environment, the management of a large open economy, have not been internalized by the ECB, that was less reactive than the Fed, and too focussed on current inflation. The tightening of monetary conditions in the euro zone, mainly due to the euro appreciation, was not sufficiently cautioned by monetary policy. Especially considering the poor economic performances of the euro zone in the past few years, we must conclude that monetary policy was not helpful in fostering growth recovery in the euro area. The ECB did not fully recognise its new responsibility of conducting the monetary policy of a "big country".

"La critique est aisée, mais l'art est difficile"

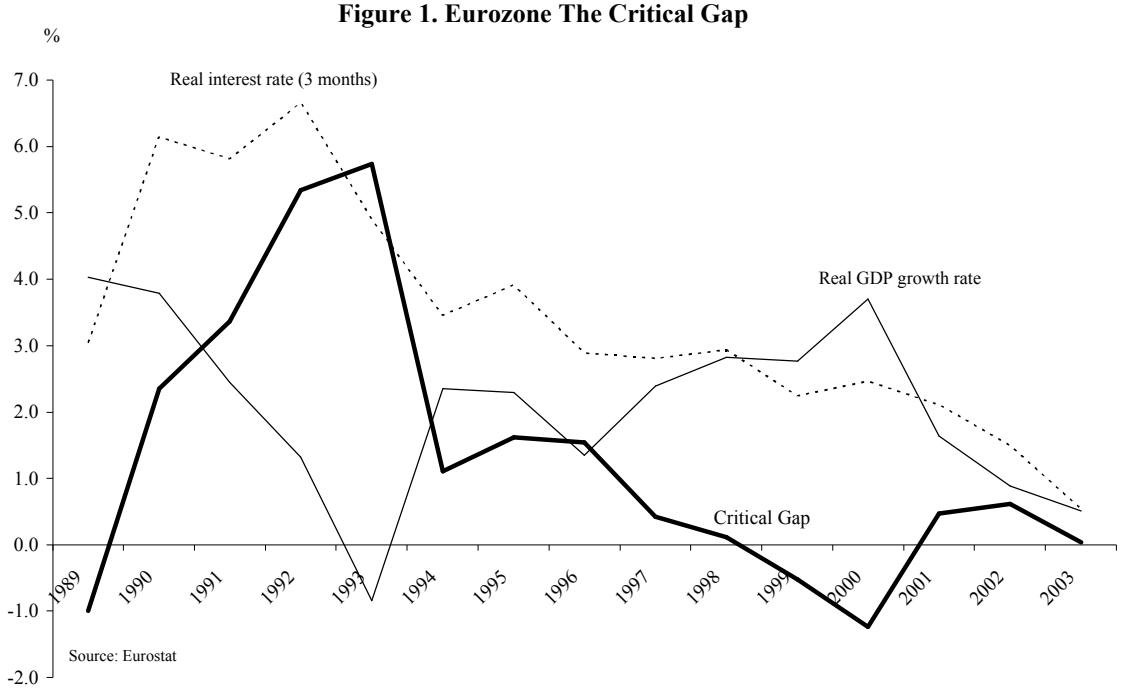
The most obvious way to assess monetary policy in Europe since the ECB came into existence is to compare it with the policies that preceded it, particularly in the years immediately preceding the inception of the euro. Nevertheless, such an analysis would necessarily be incomplete if we did not ask at the same time whether the policy framework put in place by the ECB is consistent with its environment. Such a dual assessment is all the more necessary, that the monetary union represented a regime change for Europe. Before, if we except Germany, monetary conditions in each single European countries of the EMS were determined by the exigency of keeping the exchange rate parity with the DM. No wonder then if most of the time, it was not adapted to internal economic conditions. Now, the ECB enjoys full monetary policy autonomy, and has to take into account the global effects of its policy. Thus, any assessment necessarily has to consider whether the ECB stood up to this increased responsibility. The natural benchmark against which to compare the ECB is of course the US Fed, the only other central bank that faces such a global responsibility.

To anticipate on the conclusions, if on one side the record of monetary policy under the ECB has considerably improved with respect to the policies followed in the 1990s, on the other it does not seem to have fully internalized the regime change, and has been too inertial if we consider its increased responsibilities.

A Comparison with the 1990s: A More Appropriate Monetary Policy

Figure 1 shows the short term real interest rate, and the growth rate, since 1989. It further reports the "critical gap", the difference between the two that can be seen as a first broad measure of the degree of restrictiveness of monetary policy (a more sophisticated measure will be discussed below).

Figure 1. Eurozone The Critical Gap



It is clear that since the run-up to the euro began, the monetary stance progressively became accommodating, and that since 1999 the critical gap remained stable at low levels. Thus, a comparison with past behaviour seems to show a monetary policy more growth friendly.

The ECB and the New Policy Regime

Limiting the assessment of ECB action to a comparison with past behaviours in Europe is not enough for at least two reasons. First, in general, evaluation should never be solely based on comparative terms; second, this is even truer when there is a regime change. Standard textbook analysis routinely separates the study of small open economies, facing external constraints, from the study of large economies. It is no doubt that with the Euro, the model of reference for Europe became the latter, reducing the constraints facing monetary policy, but at the same time increasing its responsibility. How did the ECB behave, faced with this new responsibility?

The First Years

The relatively short period since the European Central Bank came into existence was characterized by a number of important challenges for the authorities in charge with European economic policy management: the end of the internet bubble, the Afghan and Iraqi wars, the terror attacks of September 11, the droughts and the agricultural prices fluctuations, the animal diseases, the oil price fluctuations. The first three years of operation of the ECB were the object of a previous briefing paper (BP 1-2003, February[1]). The Bank was reactive to factors that directly affected inflation; thus, it was quite active in the years 1999-2000, in response to shocks in oil and food prices, and in trying to contrast the depreciation of the euro. On the other hand, it showed more inertia in reacting to shocks that firstly had an impact on income and employment, and only through that channel on prices: facing the US slowdown of 2001, and its consequences on output in the euro zone, it did react only slowly and under exceptional circumstances (notably the 9/11 events). In a sentence, the ECB strictly followed its main objective (price stability), but much less so its secondary one, the promotion of economic growth. While this behaviour could be justified by the institutional tasks of the ECB, it also showed two important problems with such a state of affairs. First, the objective of price stability was pushed too far, even when it was becoming evident to most observers that a cut in rates to sustain growth would not hamper the inflation objective of the ECB. Secondly, the excessive focus on inflation, unveiled an insufficiently forward looking attitude, as the future disinflationary effects of the slowdown were not taken into consideration. The briefing paper concluded by arguing that if the restrictiveness of the Bank's behaviour had to be explained by the attempt to establish a reputation, that attempt had not been entirely successful.

The Period 2002-2004

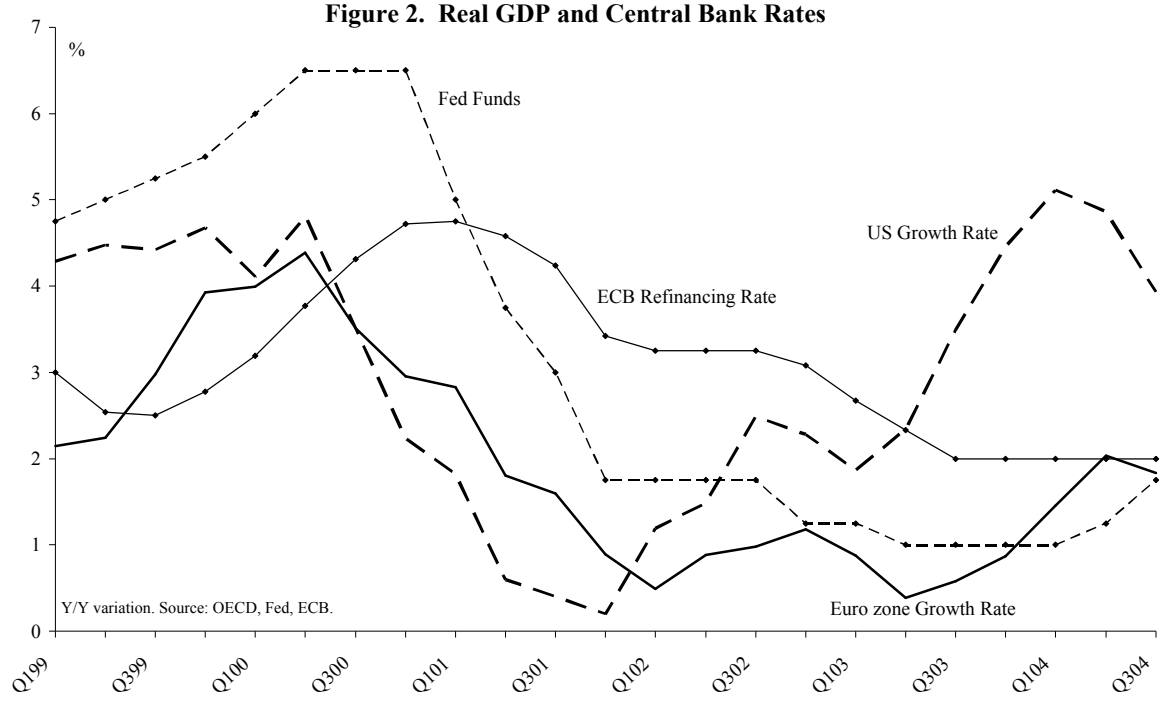
What are the main events that characterized the past two years, and against which we need to assess the conduct of monetary policy in the euro zone? We can enumerate three of them.

[1] http://www.europarl.eu.int/comparl/econ/pdf/emu/speeches/20030217/fitoussi.pdf.

(i) The prolonged stagnation of the European economy.

Figure 2 compares the growth performances of the US and of the Euro zone in the past few years. It clearly shows that, though deeper than in Europe, the recession on the other side of the Atlantic was very short lived, and followed by a growth recovery as soon as 2002, and impetuous growth in the two years 2003-2004. Europe, on the other hand, experienced a prolonged period of disappointing growth, with the three largest economies *de facto* stagnating. In spite of sluggish growth, since the first quarter of 2001, the ECB refinancing rate was always higher than the Fed Funds Rate, and the gap was closed only late in 2004, following the gradual rate increase in the United States.

Figure 2. Real GDP and Central Bank Rates



(ii) The stabilization of inflation

The second remarkable fact of the last two years is the stabilization of inflation. After the shocks of the years 1999-2001, inflation in Euroland fluctuated around 2%, the level targeted by the ECB (see figure 3). In fact, since April 2002, it oscillated between a minimum of 1.7% and a maximum of 2.4%. Much of this variation was furthermore due to the sharp increase of oil prices. If we consider core inflation, its level has been constantly below 2% since January 2003.

Figure 3. Inflation and ECB Rates

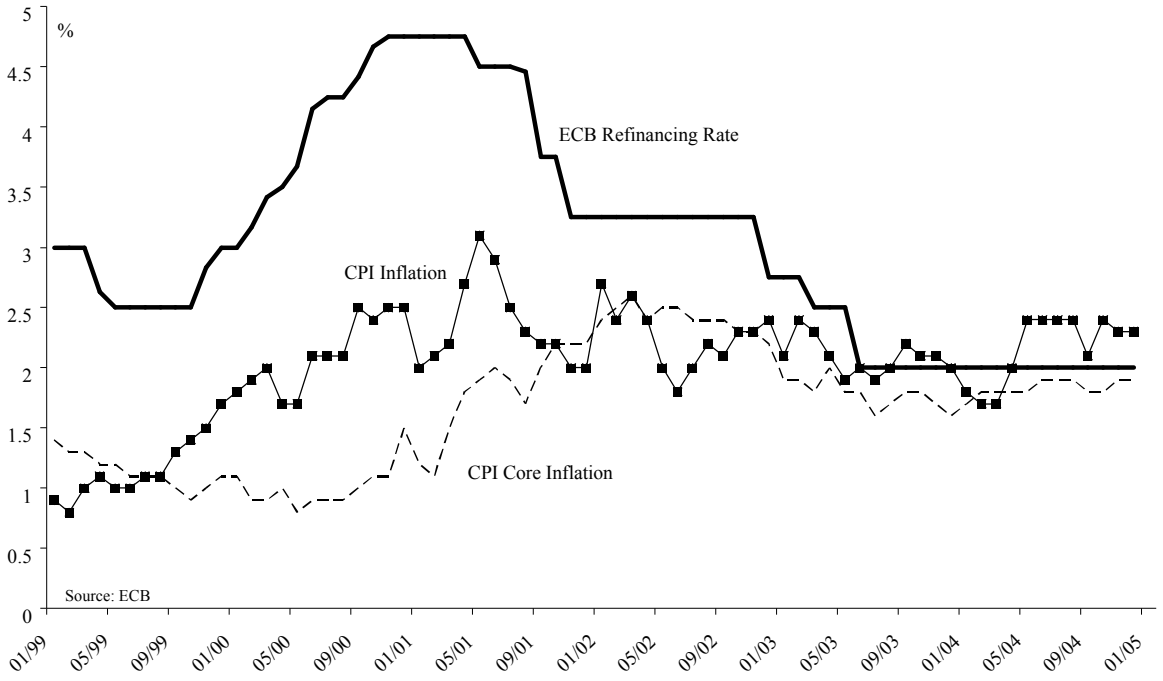
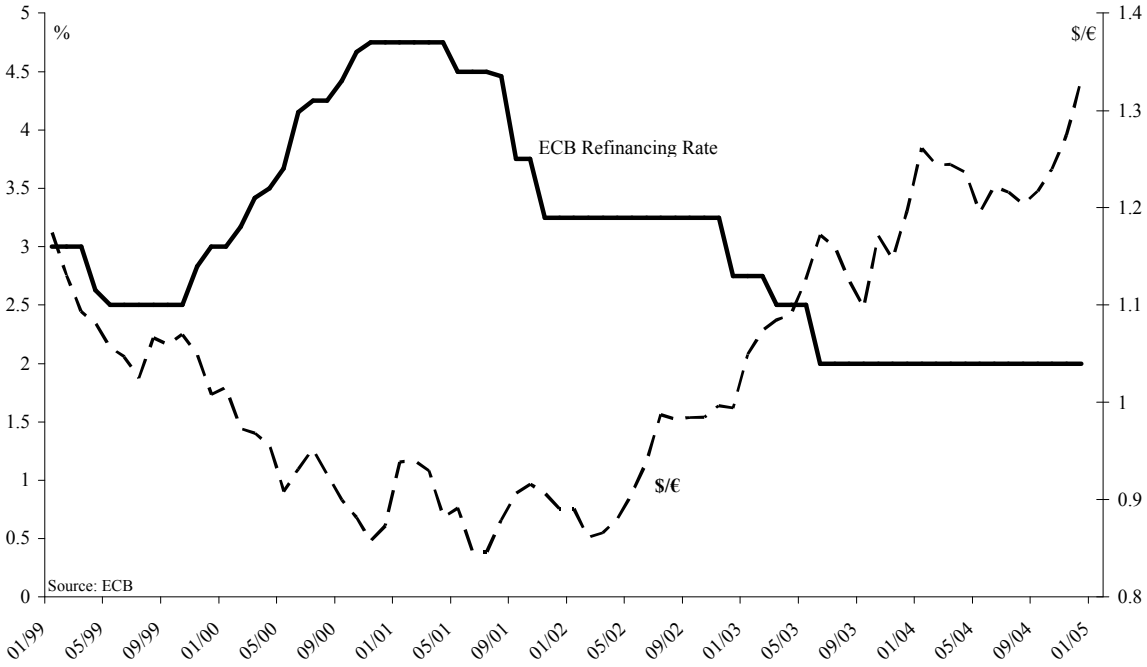


Figure 4. $/€ Exchange Rate and ECB Rates



(ii) The spectacular depreciation of the dollar

Since its minimum value (0.84 dollars for an euro) in July 2001, the exchange ratio between the US dollar and the euro has climbed almost 60% to its current level of around 1.30 (see figure 4). In the years 2003-04 the dollar depreciated by 35%. The euro also appreciated with respect to the currencies pegged to the dollar, in particular the Chinese Yuan. With some notable exceptions, European exports suffered from this exchange rate dynamics.

The ECB Inertia in a Changing World

The pattern that was appearing towards the end of 2001 – an extreme cautiousness of the ECB – has been confirmed by the policy followed since then. After the drop following the terror attacks, the main refinancing rate was left unchanged at 3.25% from November 2001 to November 2002. Then, over the following semester it was brought down to 2%, and since then (June 2003), it has been left unchanged. One could argue that this conduct was appropriate, given that the inflation rate was more or less regularly around its target level, and that the statutory mandate of the ECB is to maintain price stability.

Nevertheless, if we broaden the perspective, we obtain a somewhat different picture, in which the inertia of the ECB is harder to justify. Figure 5 exhibits the Monetary Conditions Indicator (MCI), built by OFCE (see box 1 for details on how the index is constructed). This indicator gives a synthetic measure of monetary policy tightness. It embeds both interest rates and the exchange rate; as such it is well suited to capture the remarkable appreciation of the euro. We can see that since 2002 monetary conditions have strongly loosened in the US, thanks to the strong depreciation of the dollar; not even the gradual tightening of monetary policy, over the past few months, has changed the trend. In Europe, over the same time span, the indicator of monetary conditions has been constantly tightening, mainly because of the euro appreciation that was not contrasted by an aggressive monetary stance. In other words, the combination of interest rates and the effective exchange rate is tighter today than it was in 1999, a period of higher growth.

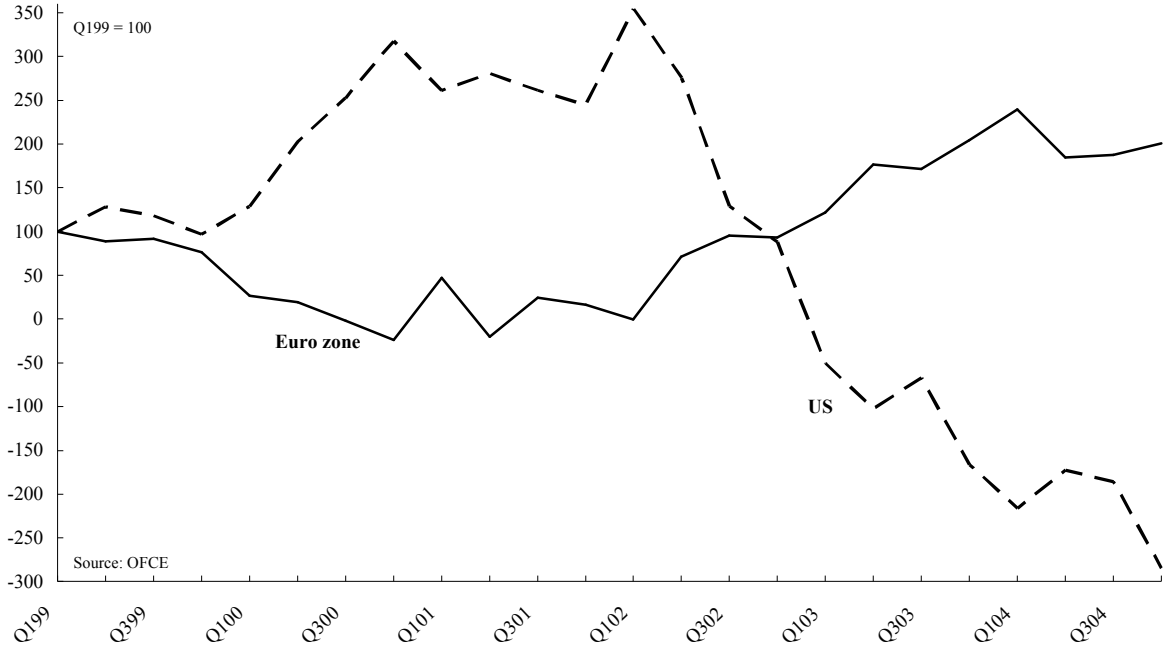
Box 1. The Monetary Conditions Indicator (MCI)

The MCI is aimed at giving a synthetic measure of the financial constraint faced by an economy. First it considers the deviation of real interest rates from the rate of growth (the "critical gap"), that affects the economy mainly through the investment function and the cost of credit. The second element is the effective real exchange rate, that represents an indicator of competitiveness.

The real interest rate variable is an average of the short term rate, determined by monetary policy, and the long term rate determined by the markets. By taking the critical gap, we obtain a relative measure that allows comparisons across countries. Comparability across countries is also the reason why the exchange rate variable is taken as a deviation from its 10 years average.

Finally, the weights come from the macroeconomic model OFCE uses for its forecasts: 1 for the interest rate, and 0.2 for the effective exchange rate.

Figure 5. Monetary Conditions Indicator



The second reason that calls for an in depth analysis of monetary policy is the inflation target *per se*. If it is true that inflation has been fluctuating around 2% in the past two years, justifying the stability of ECB rates with respect to its target, it is also true that precisely the decision of the ECB to set the target rate at 2% may be seen as the "original sin" of monetary policy in the Euro zone. In fact, the period of low inflation that preceded the inception of the single currency has created an historical anchor that in view of the following events proved to be too low, and hence induced a restrictive bias in monetary policy. I argued elsewhere[1] that a correct target rate for inflation should be 2.5% or 3%.

Fit for the New Role?

The preceding analysis gives a mixed picture of the ECB action. On one side, the bank showed more responsiveness to current economic conditions than the central banks of individual countries of the euro zone over the 1990s. On the other hand, though, the ECB policy did not prove to be completely adequate to the new regime introduced by the euro. Even if it can't be said that monetary policy was procyclical, it is quite evident that the overall monetary stance in the past few years was not supportive of growth. The bank did not seem able to meet the challenge posed on one side by its new capacity to influence global variables like the exchange rate, and on the other by the constraints on fiscal policy in the EMU that leave monetary policy as the only union-wide tool to sustain growth and income. It is not by chance that the other "large open economy", the US, statutory imposes growth as an objective for its central bank. The anomaly of the ECB statute, an exclusive focus on inflation, may be seen as a "small country" legacy and should be corrected. The European Constitutional Treaty is a missed opportunity in this sense.

[1] Fitoussi, J.-P., *La Règle Et Le Choix*. Paris, La république des idées, Seuil, 2002.

The inertia of the ECB, compared with the activism and the pre-emptive moves of the Fed may have two different explanations; one could think that the ECB correctly focused on inflation, and hence that its limited activism reflects the good accomplishment of its mission. Or, one could conclude, at the opposite, that the ECB has been unable to base its policy on anticipation of future events, as the Fed does, and that its inertia derives from a backward looking attitude (a "feedback policy"), unfit to the leading role monetary policy has to have in a currency union of such a big size.

Topic 3

Rising house prices

Housing bubbles and monetary policy.

Briefing Paper for the Monetary Dialogue of September 2005 by the Committee on Economic and Monetary Affairs of the European Parliament with the President of the European Central Bank

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Is There a Housing Bubble in the Euro Area?

The present global housing boom, affecting many OECD countries, is the biggest of all kind of bubbles in history. According to the Economist (2005) the total value of residential property in developed countries rose by more than $30 trillion in five years to over $70 trillion, an increase equivalent to 100% of their combined GDP and it is even larger than the global stock market bubble in the late 1990s that reached in five years 80% of GDP or the US stock market bubble in the late 1920s (50% of GDP) which ended in a depression.

Nominal house price have increased, in the last eight years since 1997, by 244% in South Africa, by 192% in Ireland, by 154% in the UK, by 145% in Spain, by 114% in Australia, by 87% in France, by 84% in Sweden, by 73% in the US, by 71% in Belgium and by 69% in Italy. By contrast, they kept flat in Germany and fell by 28% in Japan and by 43% in Hong Kong.

Real house prices have risen by 95% in the UK, by 75% per cent in Australia, and by 40% in the US, since 1997. Within the Euro Area, in the same period Ireland with an increase of 100% and Spain with 75% are the two that grew fastest, followed by France with 40%, Belgium with 30% Italy with 20% and the Netherlands with 15%, while in Germany they have fallen by 15%.

Price levels in terms of purchasing power are also very high. A new standard house costs approximately 9 times average per capita GDP in the UK, Japan and Australia, 6 times in the US, 5 times in Spain and 4 times in Ireland. Moreover, the bubble is very concentrated in certain areas or cities. In the US, the standard deviation of average home prices across metropolitan areas is of 57%, in the UK and Australia is 25%. A typical home in San Francisco costs now more than in London and the same than in Japan in the late 1980s.

In terms of disposable income, starting at 100% in the mid 1970s, house price indices have reached 145% of disposable income in Australia and the UK and 115% in the US, while they have fallen by 40% in Japan. Within the Euro Area, the highest is Ireland with 200%, Spain with 175%, the Netherlands with 160% and France with 125%, while in Italy have been kept almost constant and have fallen in Germany to 85% (Goldman Sachs 2004)

Finally, another measure of overvaluation of house prices is the ratio of prices to rents, that is, a sort of price/earnings ratio for the housing market. Just as the price of a share should equal the discounted present value of future dividends, so the price of a house should reflect the discounted present value of future benefits of ownership, either in terms of rental income or rent saved by the owner-occupier. US price to rents relationship is 35% above its historical average, UK prices are over 60%, Spain's are over 50% and Australia's over 70% (The Economist, 2005).

To bring this ratio to normal levels, either rents must go up or prices must fall. In previous house price booms the adjustment came through inflation pushing up rents while house prices remain flat. But today inflation is much lower making it more difficult, given that if rents go up by 2.5% a year, house prices will have to keep flat for 23 years in the case of the UK, for 20 years in Spain and for 12 years in the US, to bring this ratio back to normal. Therefore the inevitable adjustment to the present bubble will need to be borne mainly by a fall in house prices.

In sum, the housing bubble in the Euro Area is relatively smaller than in other European Union or OECD countries such as the UK, the US and Australia. Only Ireland, which is a small country and Spain have reached a relatively high bubble but in the largest three members of the Euro Area, Germany, France and Italy, the average bubble is still rather small or negative. In the case of Ireland it is understandable because its GDP per capita has been growing, in the last decade, faster than in any other EU country being able to catch up, from a level below Spain, to the second highest after Luxembourg, so, as a consequence, and helped by very low real interest rates, housing demand has been booming, exceeding the housing supply.

In the case of Spain, there are several factors which need to be taken into account. First, it is the country in the EU with the higher proportion of home owners (85%). Second, it never had in many decades such low or even zero or negative real interest rates levels, thus non house owners have taken this opportunity to borrow and buy new homes. Third, it is a country chosen by millions of EU citizens to buy second homes for holiday or retirement. For instance, in 2004, 40% of total foreign direct investment was on real state and mainly in housing. Something similar but with a lower relative proportion is happening in France and Italy, which may only in part explain their moderate increase in housing prices.

Nevertheless, a recent analysis of the global house price bubble by the IMF (2004) using a FAVAR model (factor-augmented vector auto-regression model) shows that although domestic interest rates play a key role in explaining house price movements, US house prices and interest rates are leading global house prices, suggesting that movements in both US house prices and interest rates are the key sources of world house price fluctuations. Thus, the present rise in short and long term interest rates in the US will eventually drive down house prices, not only in the US but also in the rest of the world, but according to the IMF, there is not yet compelling evidence that a drop in real house prices is in the offing, except in the UK and Australia where their central banks have been raising interest rates for quite sometime and they are already showing a falling trend.

What it is interesting in the IMF analysis of the global housing bubble is that while housing is generally thought to be a quintessential non-tradable asset, it suggests that house prices across countries are surprisingly synchronized, reflecting the key role plaid by global factors, primarily through global interest rates and economic activity. A key implication of this finding is that, just as the upswing in house prices has been mostly synchronized, it is likely that any downturn would also be highly synchronized, with corresponding implications for global activity. In particular, higher global interest rates will result in a slow down in house prices, the extent of which will differ across countries reflecting in part differences in their sensitivities of global developments but it will affect mainly those countries where house prices are out of line with fundamentals and to those with flexible interest rate mortgage contracts.

Economic Effects of Housing Bubbles

The present global housing bubble has been mainly demand driven, initially by improving fundamentals and therefore higher consumer confidence and later mainly by a situation of historically low interest rates, which have encouraged, on the one side, the young to take this low interest rate opportunity to borrow and buy a house instead of hiring it, on the other side, the home owners to borrow more on their mortgage or to buy a second home and finally, the investors in general to invest in housing as a better alternative than equities after their bubble burst in mid 2000. As house prices were going up, more households and investors joined the buying trend making it partly self-fulfilling.

The reason is that consumer confidence helps households buying new homes and higher home prices increase consumption because households tend to feel wealthier and are able to consume further by borrowing more on their mortgages. This trend has made possible for some countries, notably the US and the UK, to be able to sustain consumption rates and levels after the stock market bust in 2000 and to avoid a potential recession. Ordinarily, an unexpected increase in wealth causes a modest increase in consumption, as some but not all of the increase in wealth is spent immediately, thus making possible for consumption to be maintained for some time.

But there is an important difference between the effects of housing wealth and stock market wealth on income and consumption. For example, household wealth increases if equity prices rise due to an unexpected increase in profitability. A rise in productivity growth produces expectations of higher future dividend stream of public quoted companies which is then capitalized into today's share prices because higher company's profitability would mean that a higher stream of dividends could be paid out over time. As a result, the wealth of those households which held the shares increases, while any other households that buy shares at higher prices also receive higher dividends in the future and so are no worse off than they would have been with the lower prices and profitability. Thus, those households that held the shares when their prices jumped would benefit more from the income stream but without anyone else being worse off. Overall consumption would therefore rise, as households in aggregate would have higher lifetime income and would likely choose to spend part of their higher income today.

By contrast, housing wealth is different for several reasons. If house prices rise, the net wealth of house owners will increase, but they will also face higher costs of "housing services", because the user costs of housing increase with its price and so they will only benefit if they sell their home and move down to a smaller one. Furthermore, non house owners will have to pay more for housing services (either through higher prices to buy or through higher rents) and, unlike with equities, the future dividend stream is exactly the same after the price jump as before. Someone entering the housing market has to pay a higher price to get exactly the same stream of housing services as before the price jump and so is unambiguously worse off, in complete contrast with the equity case. Therefore, the increase in house prices is resulting more in a wealth transfer from non house owners to house owners than in an aggregate increase in total wealth. As different segments of the population might have different saving rates so overall consumption could change due to this wealth transfer. According to Carroll (2004) the effects of housing wealth on house owners' consumption are zero, if the costs of moving to another house are high and the possibility of increasing their debt for those who had previously credit constraints is limited.

Nonetheless, housing prices can still have a significant impact on consumption and overall activity, at least in the short run. One possibility is that households might misinterpret the house price rise. Home owners might look only at the value of their own house and feel wealthier, unless they are going to sell it and hire or buy a lower price home, while non owners might ignore the rise in the costs of housing services. Another possibility is credit constraints. Higher house prices might allow households to consume more if they were previously credit-constrained because of lack of collateral, therefore a rise in the value of their house allows them to borrow more at a lower interest rate than that of unsecured credit or even lower if they were not able to borrow at all. A third possibility is that the reduction in inflation means lower monthly payments for a given interest rate and so allows a higher leverage.

A fourth possibility is related to the perception of households about house prices. If house prices continue to rise, those who believe that house prices are fair will perceive that they have gained wealth at the new house price level and may likely to increase consumption and those who believe that they are too high may not cut consumption to offset a reduction in real lifetime wealth as they expect house prices to return to normal levels. A final possibility is the consumption effect of Mortgage Equity Withdrawal (MEW), that is, the difference between net unsecured net lending on housing and gross investment in housing by households. In other words, it is the cash flow freed up by transactions in housing assets and mortgage borrowing. This cash flow is positive when mortgage debt goes up by more than spending on housing assets, that is, when someone takes out a bigger mortgage on their existing house. The amount of money freed up in this way is available for consumption if needed. By increasing the borrowing on their mortgage, households borrow part of the increase in their housing wealth but not all of it, so they can get a net cash flow (MEW) plus an increase in their net equity in their house.

How and When the Housing Bubble may End?

Past housing bubbles have ended through sharp increases in interest rates, being the UK experience of the early 1990s the latest case in point. Other asset bubbles have often collapsed effectively under their own weight, without a substantial change in fundamentals such is the case of the technology bubble burst in 2000 or the Japanese real state bubble in early 1990s.

If mortgages have flexible or adjustable interest rate contracts, an interest rate increase makes automatically the debt service of the mortgage to increase as well as its relative weight in the disposable income of the household, making it more difficult to repay it, until the increase is high enough to reduce consumption in order to keep the mortgage payments, having, in the short run, a declining effect on house prices because it affects their overall demand. Past experience shows that house prices have never fallen prior to the increase in interest mortgage rates. A recent study of Goldman Sachs (2005) shows that increases in mortgage interest rates in the past both in the US, Japan, the UK and Australia, have taken an average lag of approximately 10 to 12 months to produce a real decline in house prices.

How large has to be the increase in mortgage rates to be effective on reducing house prices? The estimate by Goldman for the US is that they should go up above 6% to start housing prices declining. At the moment, with mortgage rates below 6%, new home sales are up 5.2% a year in 2005 so far and another indicator (the inventory-sales ratio) still stands at 4.1 months of supply. In Australia and the UK, where interest rates have been rising for quite sometime, prices are already falling.

In Australia house prices have fallen 20% from their levels in the end of 2003. In the UK, the evidence is mixed some surveys showing a reduction of 20% on the rate of growth of house prices, while others report falls for ten consecutive months, but the volume of sales has slumped by one-third in a year. House price inflation has also slowed significantly in Ireland, the Netherlands and New Zeeland.

The reaction by financial intermediaries, in the most sophisticated mortgage markets, is to develop new riskier forms of mortgage finance which allow buyers to borrow more. In the US, 42% of all first time buyers and 25% of all buyers made no down payment on their home purchases in 2004 and home buyers can get up to 105% loans to cover buying costs. Moreover, little or no documentation of a borrower's assets, employment and income is required for a loan. Interest-only mortgages are now in fashion, along with the so-called "negative amortization loans", that is, the buyer pays less than the interest due and the unpaid principal and interest is added on the loan. Even more, adjustable-rate mortgages, which leave the borrower additionally exposed to higher interest rates, have raised to 50% of all mortgages, mainly in those US states with the highest house prices. This kind of reaction makes the bubble to keep going but also may make that its inevitable fall or landing will be harder and with more negative consequences both for borrowers and lenders.

The IMF studies on how house-price busts can hurt economies (IMF 2003 and 2004) in 14 countries during 1970 and 2001, have identified 20 examples of busts when real prices fell by almost 30% on average. All but one of those housing busts led to a recession with GDP falling after three years to an average of 8% below its previous growth trend. The US was the only country to avoid a boom and bust during that period, but this time its situation is much more difficult. Japan provides the worst case. After its housing boom, property prices fell for 14 consecutive years by 40% from their peak in 1991, affecting badly to consumer spending and leading in part to a deflationary situation.

Within the Euro Area, the Netherlands is another interesting case. In the late 1990s, the booming Dutch economy was growing faster than in other member states and it was shown as a model of success. At the time, both house prices and household credit were rising at double digits, but later, house price inflation slowed down from 20% in 2000 to nearly zero in 2003, no doubt an impressive soft landing, yet consumer spending declined in 2003, pushing the economy into recession, from which it has not recovered yet.

The way mortgage interest rates are set is of crucial importance for the bust of the housing bubble and its effects on consumption. Countries with predominantly adjustable-rate mortgages (ARM) contracts are more affected by a reduction of consumer spending, because households bear the risk of higher interest rates directly through their higher mortgage payments and smaller remaining income. Empirical evidence suggests that countries with ARM have typically displayed higher house price growth and volatility than countries with fixed rate mortgages (FRM).

Why AMR predominate in some countries while FMR in others? Some households find advantageous to choose ARM because they expect to stay for a short period in a given house, allowing them to benefit from the low initial rates on AMR. Other, prefer FMR if they are not very sure about their long term lifetime income flows and they do not want to have future surprises. In general, evidence suggests that households are not well informed about the financial options available to them and thus tend to look for the most competitive rate, that is, with the lowest initial cost, and for the mortgage than they can understand better, ignoring longer-term income or wealth risks.

Eventually, the advice that households get about different mortgage products, greatly influence their final decisions. But the main problem is that lenders are the ones that supply the options and evidence from different surveys, done in the UK and in the US, shows that households apparently feel surprisingly that they have to meet the lenders criteria and not vice versa.

Then, what determines the type of mortgage contracts that the lenders prefer to offer?. Naturally, the underlying structure of the country financial market greatly influences the various funding possibilities and thus the risk-adjusted profits from mortgage contracts and their offerings. Where covered bond markets or mortgage backed securities are small and illiquid, mortgages tend to be funded through the use of short term deposits. Thus, in order to reduce potential interest rate risks produced by different re-pricing terms, short term interest rates are used to re-price mortgages at intervals close to that of deposits. This is the case of Australia, Spain and the UK, where ARM are prevalent. In the UK this system is also encouraged by the authorities by obliging building societies to fund at least 50% of mortgages with short term deposits.

Alternatively, countries with well-developed covered bond markets (securities issued based on the collateral (the mortgage loan) that remain on the balance sheet of the issuer of such bonds) or deep and liquid mortgage-backed securities (which are held off-balance sheet in a legally separated special purpose vehicle) tend to have a higher proportion of fixed rate mortgages (FRM) The most obvious case is the US, where the mortgage-backed securities market is aided by the perception of implicit guarantees of the dominant Freddie Mac or Fannie Mae mortgage institutions.

This system allows for lower funding costs and thus cheaper long-term mortgage pricing as some of the lower costs are passed onto consumers. Similarly, long-term fixed-rate mortgages are more prevalent in Germany and Denmark, where specialized private mortgage banks are granted licenses to issue long-term debt against their mortgages. In fact, in Denmark, the size of the mortgage-backed securities is larger than that of government debt. Surprisingly, Australia and the UK have fairly liquid long-term government bond markets but very few FRM offered and on the other side, in the Netherlands most mortgages are fixed-rate but banks mostly fund them with deposits.

Moreover, the existence of other financial markets to hedge prepayment risks, (the risk that the borrower may decide to prepay the mortgage before the term of the loan ends) is also important to lower the costs of fixed-rate mortgages since the longer the loan maturity, the more difficult it is for the lender to replace it with another one earning the same rate. Thus, markets where such contract provisions can be hedge through callable debt, either by an option on a swap, options on government debt and other derivative contracts tend to lower the costs to lenders and make prepayment easier contributing to the increased use of FRM. Accounting standards also help mortgage contract availability. Some countries permit the matching of an underlying portfolio of mortgages with the derivatives used to hedge the portfolio’s maturity and prepayment risks.

In sum, the supply of mortgage markets plays a large role in the preponderance of ARM or FMR in a country. But there is enough evidence to confirm that countries with predominantly FRM have better behaved housing prices and fewer negative spill-over effects in their economies when interest rates go up and house prices fall.

Housing Bubbles and Monetary Policy

The traditional consensus view about monetary policy stipulates that central banks should set interest rates in response to actual and/or forecast inflation as well as the output gap, but they should not react directly to asset prices (Bernanke and Gertler 1999 and 2001), (Goodfriend 2002), (Mishkin 2001) and (Taylor 1999). The main reasons for this conclusion are that asset prices are too volatile to be of much use in determining policy, that misalignments of asset prices are very difficult to identify and that systematically reacting to asset prices may be destabilizing.

Nevertheless, contrary to this current conventional wisdom and after the past experiences of Japan and the US with housing and asset bubbles in general, there is an increasing view that argues that incorporating asset prices more systematically into central bank's policy-making processes could potentially improve economic performance, by reducing output volatility and achieving as smooth a path as possible for inflation (Cecchetti, Genberg, Lipsky and Wadhwani (2000) and (2002) and (Goodhart and Hofmann 2000). Although housing and in general asset prices are difficult to measure, this should not be a reason to ignore them. There are situations where the emergence of such misalignments can be identified and can try to be avoided. Its identification difficulty is not necessarily greater than that associated with measuring potential output, a construct that is routinely taken into account by monetary policy-makers.

Even the Bank for International Settlements, in its 2001 Annual Report, takes a sympathetic view of the belief that monetary policy can have a role to play in reducing imbalances caused by occasional misalignments in asset prices, especially in emerging markets. It argues that the liberalization of financial markets has increased the scope for pronounced financial cycles, and that this financial instability has caused damages particularly serious in emerging market countries.

It stresses the particular role of housing and real state prices in inflation measurement and in asset misalignments and although it points to difficulties in identifying them, it argues that these difficulties need not rule out the occasional use of monetary policy as a response to them.

Therefore, a significant role should be given to asset prices, especially housing, when measuring core inflation, being an attractive complement both to conventional measures of inflation such as the consumer price index and to the process of policy implementation. Moreover, asset prices contain information about future inflation that can be incorporated into inflation forecasts used in monetary policy. Finally, asset prices are not only important in the transmission of inflationary impulses but they constitute sometimes the source of such impulses themselves.

It is also important to point out that these views do not recommend the targeting of asset prices by central banks or the inclusion of asset prices into the monetary policy objective. The idea that central banks should directly target a measure of inflation that includes asset prices, first advanced by Alchian and Klein (1973) is extremely difficult to implement given that first, monetary policy should only be concern with the money price of current consumption and not with the money price of current and future consumption where asset prices play a major determinant role and second, equity prices contain far too much noise to be useful because of their very high variability over monthly and annual horizons (Vickers, 1999). Housing prices, on the contrary, are much less volatile and contain significant information about aggregate price inflation and this is the reason why current measures of core inflation could benefit from an increased weight on housing, while ignoring equity prices.

There are two main arguments to include housing and other asset price developments directly in the policy formulation process to improve macroeconomic performance. The first, according to Cecchetti et al. (2000 and 2002), is based on William Poole analysis (1970) which states that a central bank should "lean against the wind" of significant asset price movements if these disturbances originate in the asset markets themselves to attenuate their influence on the real sector of the economy. In contrast, if the disturbance originates in the real sector, asset prices should be allowed to change in order to absorb part of the required adjustment.

The second argument is based on the notion that when significant asset price misalignments occur, they help to create undesirable instability in inflation and/or employment that maybe exacerbated when the misalignment is eventually eliminated. Therefore, a preemptive policy approach will tend to limit the size of the required eventual correction and thereby the medium term variability of inflation and output.

The difficulty of measuring misalignments in asset prices is not greater that the one needed to measure the size of the output gap or the equilibrium value of the real interest rate, concepts that are constantly used by the central banks in preparing inflation forecasts. The output gap estimates depend on measures of underlying productivity growth and the equilibrium risk premium. These inputs are also necessary to estimate stock price misalignments. This is the reason why implementing monetary policy also requires estimates of asset price misalignments even in the more conventional case where policy depends only on the inflation forecast and the output gap.

That is, reacting to asset prices directly could result in a smoother path for both output and inflation, regardless of whether or not a central bank employs a strict inflation targeting framework that puts virtually no weight on short-run output variability or a more flexible approach that gives more weight to real fluctuations.

Many analysts have expressed concern that central banks may have created potential moral hazard by creating expectations that they would take remedial policy action if asset prices fall. But this perception has probably arisen because market prices changes are, in fact, asymmetric. This perception may not happen or may be reduced if the central bank reacts to asset price movements in a symmetric and transparent way. The instrument that seems to be more adequate to respond to asset prices developments is the conventional interest rate policy. Experience has proven that traditional monetary policy is easier to implement and more effective that other alternative instruments such as the increase in margin requirements or policy signals to influence those movements.

Asset prices can be, as well, an excellent indicator to improve the reliability of inflation forecasts by central banks. The inflation targeting strategy is usually based on a forecast of inflation under the hypothesis that monetary policy is unchanged. If this forecast is above the target for the inflation rate, a more restrictive monetary policy stance will be called for and vice versa. Therefore, the success of this strategy will depend on how good is the inflation forecast. It is in this context that asset prices might have a role to play as useful information about future inflation. There is evidence of how asset prices signal future inflation. The BIS (1998) has shown, for a comparative study of fourteen central banks, how asset prices can be used in designing monetary policy. The results are not fully conclusive; in some countries have a more predictive power of inflation than in others.

Similar inconclusive results have been reached by Cecchetti, Chu and Steindel (2000) in a study applied to the US. Finally, Goodhart and Hofmann (2000) on the contrary, have shown that inflation, in a sample of major twelve OECD countries, is significantly affected by changes in the price of housing and equities as well as in the exchange rate and in the yield

spreads. Equity prices seem to be, even in a period in which they have reached very high levels, a relatively limited predictor of future inflation. The same happens to yield spreads. On the contrary, housing prices help, in the majority of the countries of the sample, to predict future CPI inflation.

The differences in the regressions results depend importantly on the country-specific contexts. In the UK, for example, simulations made with the Bank of England macro-econometric model show that a 10% increase of housing prices produces a rise in the RPIX inflation of 0.3% in year 1 and another 0.3% in year 2 confirming the importance of housing prices effects on inflation predicted by Goodhart and Hoffmann.

All this important research carried out in the last few years can lead to the following conclusions: First, monetary policy set in a flexible inflation-targeting framework should try to react only to asset and housing price misalignments and not indiscriminately to all asset price changes.

Second, it should react only to asset price misalignments that are not justified by underlying fundamentals. It is important not to react mechanically to all asset price misalignments regardless of their source. In the same way that an increase in inflation that is due to a fall in aggregate supply should in principle be treated differently from the same increase due to a jump in aggregate demand, an asset misalignment due to underlying real economic fundamentals such as a technology shock should not have the same response by the central bank as one due to a pure financial shock. There are obvious misalignments of asset prices that need a response. The Japanese housing price bubble in 1989 and the Nasdaq bubble in 1999 and early 2000 are extreme examples of obvious misalignments that needed an ex-ante preemptive monetary policy or an ex-post quick response.

Third, asset price misalignments should not be ignored simply because they are difficult to measure. The standard response to noisy data is to use econometric methods to extract the signal. Central banks deal with data that are extremely difficult to measure, like the output gap and the real interest rate, and use them routinely without being afraid of their difficulty. Housing prices are much less noisy that equity prices making much easier to timely identify and correct or preempt their misalignments.

Fourth, information contained in asset prices should be taken into account in inflation forecasts in so far as they have a direct or indirect impact on inflation in the future and they signal future volatility. The main problem is that inflation forecasts that enter in policy decisions often refer to a fixed horizon, usually two years, therefore, the full potential effects of such misalignments may not be captured or not given sufficient weight in policy decisions. Stock and Watson (2000) conclude that the role of asset prices in the formulation of monetary policy should be taken into account only in so far as they affect a fixed horizon inflation forecast.

Conclusions and Policy Recommendations

First, for all these reasons, it seems clear that the ECB should try to take into account asset prices and especially housing prices in its inflation forecasts and try to use them as an indicator or reference value in its policy decision-making.

Second, the present low and persistent levels of real interest rates in the Euro Area, together with the difficulty of achieving a "one-fits-all monetary policy" has encouraged the housing bubble in "peripheral" countries, such as Ireland or Spain, where growth and inflation rates are relatively higher not only because they are catching up in terms of GDP per capita, but also because, by definition, ECB monetary policy tends to be too lax for their fundamentals, given the relative weight of Germany, France and Italy in the measure of the harmonized CPI index of the Euro Area. Nevertheless, there are some signs, yet mixed, of a small slow down of house price inflation, mainly in Ireland.

Third, as I mentioned above, the Euro Area housing bubble is not yet as important as in other EU and OECD countries, it mainly affects to Ireland and Spain but not to its "core or central" member countries. It is still rather small in France and Italy inexistent in Germany and receding in the Netherlands, but in any case it is necessary for the ECB to be alert since it may be affected by a potential and expected synchronized fall in the global house price bubble as indicated by the IMF.

Fourth, there is a potential risk of a house bubble burst in Ireland and Spain if monetary policy keeps its stance at such low real interest rates, but their negative spill-over effect for the whole of the Euro Area may be small. This is the reason why these two countries should be introducing their own measures to avoid a negative shock in the balance-sheets of their financial institutions that could affect to their stability (the Bank of Spain is doing so for some time through imposing on them much higher loan provisions than needed, as a kind of automatic stabilizer) and a fall in consumer spending.

Fifth, it is understandable that it is going to be very difficult for the ECB to change its monetary stance unless the long expected economic recovery of the Euro Area finally happens, and there are at this moment some inconclusive initial signs that it may finally happen, in despite the present high oil prices and the relative temporary weakness of the euro.

Sixth, past world-wide evidence and present experience in the UK and Australia show that only quick but not too sharp interest rate increases can bring down housing prices after a certain lag of around four quarters without affecting negatively much activity and employment. This is the case of Australia and the UK. British home prices have started to fall after an quick increase of 1.25 percentage points without a sizable impact on employment and activity, although the Bank of England has reduce again interest rates lately. Australia has raise rates by exactly the same amount and unemployment is still at a 30 year low, yet house prices have fallen. Nevertheless, the fall in house prices is always affecting negatively consumer spending at least in the short run, this may be the reason for the Bank of England to have started a reduction trend in interest rates recently. For the ECB it is also important to take into account that the Australian and UK economies where also growing above potential when they decided to raise rates, what is not the case of the Euro Area.

Seventh, the ECB has to be also concerned at the moment with the huge increase in oil prices in a situation of a lower euro and be alert, if oil prices keep rising or stay at present levels, about the beginning of its "second round" effects on wages and prices once businesses try to pass through to prices their oil costs increases and trade unions try to react to their negative effects on workers disposable income. But, at the same time, the ECB must take into account that sharp increases in interest rates may have also a negative effect on real activity and employment, which can be totally counterproductive for the relatively weak economy of the Euro Area.

Eighth, given all these constraints, there must be a strong policy to tightening lending requirements and strengthening surveillance of financial entities as household debt maybe reaching unhealthy levels in some countries. More generally, policy makers should give increasing attention to developing mortgage market infrastructures: in particular Euro Area member countries should aim at creating the conditions for the introduction of a richer set of mortgage contracts by encouraging covered bond and mortgage-backed securities markets, as those in the US and Germany, while strengthening their financial sector regulation. Finally, they should assess the extent and desirability of their implicit/explicit guarantees to mortgage debt as it is the case of the US.

As Anna Schwartz (2002) has shown, it is crucial that central banks and regulatory authorities be aware of the effects of asset price inflation on the stability of the financial system. Lending activity based on asset collateral, such as housing, during the boom is hazardous to the health of the lenders when the boom collapses. One way the authorities can curb the distortion of lenders portfolios during asset prices booms is to have in place capital requirements that increase with the growth of credit extensions using the collateral that has escalated. Rather than trying to gauge the effects of asset prices on core inflation, central banks may be better advised to alert to the weakening of financial balance sheets in the aftermath of a fall in value of asset collateral banking loans.

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Rising house prices and monetary policy

Briefing Paper for the Monetary Dialogue of February 2005 by the Committee on Economic and Monetary Affairs of the European Parliament with the President of the European Central Bank

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Abstract.

It is argued that the recent rise in house prices is the biggest financial asset price boom in history. In this note, I look at how house prices are determined and how house price bubbles can occur. I discuss whether the recent increase in house prices is a bubble, whether monetary policy can cause a rise in the price of houses relative to other goods and what central banks should do in response to house price bubbles. Finally, I consider how central banks should take account of house prices in the price index used by central banks to measure inflation.

According to the *Economist*, the rise in housing prices in developed countries in the last five years is the biggest bubble in history, with the total value of residential properties increasing by more than $30 trillion: an amount roughly equal to to developed countries combined annual GDPs.[1] This compares with the global stockmarket boom of the late 1990s where the five-year increase was equal to about 80 percent of annual GDP. [2]

1. How are House Prices Determined?

Before proceeding with an analysis of the relationship between monetary policy and the house price boom, it is useful to consider how house prices are determined and how a house price bubble might arise. To keep matters simple, I abstract from uncertainty, depreciation and transactions costs.

Consider a household deciding whether to rent or to buy a house in period t. If the household rents the house it pays the time-t rent, denoted by Q(t). If it purchases the house it pays the time-t house price, denoted by Ph (t). If it opted to purchase, rather than rent, then at the start of period t + 1 the household owns a house worth Ph (t + 1) :The value to the household in period t of an amount Ph (t + 1) received in period t + 1 is Ph (t + 1) = [1 + i (t; t + 1)], where i (t; t + 1) is the nominal (after-tax) interest rate between period t and period t + 1: For the household to be indifferent between renting and buying, the time-t rent must equal the time-t house price minus the time-t value of the time-t + 1 house price. Thus

$$Q(t) = P_h(t) - \frac{P_h(t+1)}{1 + i(t, t+1)}.$$

[1] Briefng paper written for the Committee on Economic and Monetary A¤airs (ECON) of the EuropeanParliament for the September 2005 dialogue with the ECB.

[2] "In Come the Waves," Economist, 16 Jun 2005.

As a housing boom is a situation where house prices are rising relative to other prices in the economy, we are not interested in the absolute level of the house price, Ph (t), but rather the house price relative to the consumer price index. Thus, let q (t) and ph (t) be the time-t rent and the time-t house price divided by the consumer price index, respectively. Using this notation, equation (1) can be written as

$$q(t) = p_h(t) - \frac{p_h(t+1)}{1 + r(t, t+1)},$$

where r (t; t + 1) is the real (after-tax) interest rate between period t and period t + 1.[1]

The above theory, embodied in equation (2), does not give us the level of the relative house price, it only tells us how this price changes over time: we can find the time-t + 1 relative house price as a function of the interest rate and the rent if we know the time- t relative house price. There may be an infinite number of house price paths that are consistent with the above equation. However, it can be shown that only one of these house price paths depends solely on interest rates and rents. This path is the fundamental solution and its algebraic expression says that the time-t (relative) house price equals the time-t (relative) rent plus the present discounted value of the stream of all future rents, where the discounting is done using the real interest rates.

2. House Price Bubbles

All of the other non-fundamental solutions to equation (2) are known as bubble solutions. In these rational bubbles, the (relative) house price is a function of time as well as the fundamentals (the real rents, real interest rates and - in a more general model - variables such as depreciation, transactions costs, maintenance expenses and factors determining a risk premium). In a bubble, the relative house price rises over time solely because it is expected to rise and, in equilibrium, this belief is self fulfilling.

More generally, bubbles might be thought of as increases in prices that cannot be explained solely by changes in past, current and expected future fundamentals. Another example of how they might arise is a situation, known as a sunspot, where market participants believe that prices depend on (serially correlated) variables that ought to be, extraneous. The sunspot equilibrium can be consistent with rational expectations when these beliefs are self fulfilling. Bubbles can also arise as information cascades when there is imperfect information and, because the market does not aggregate private information perfectly, too much weight is put on a subset of market participants' information.[2]

Opinion is mixed on whether the recent relative house price rise is a bubble. Apparent financial asset price bubbles might actually be the result of non-stationary fundamentals or a non-linear adjustment process associated with nominal rigidities. Testing for bubbles is difficult. An econometrician must first specify a model. If financial asset prices are not explained by the model, the econometrician might claim that their rise is a bubble.

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[1] Using the Fisher equation, the nominal interest rate equals the real interest rate multiplied by one.

[2] See, for example, Lee (1998).

But, it might just be that the model is not correctly specified. Hamilton and Whiteman (1985) show that even small persistent undetected movements in fundamentals can lead to huge approximation errors. Thus, even when prices appear to be way out of line with the fundamentals or when the fundamentals (such as risk premia) are hard to observe, it is not possible to verify whether or not a bubble exists.

Perhaps the most convincing argument that the current house price rise is a bubble is the relationship between current house prices and current rents. As argued above, in the absence of uncertainty, if there is no bubble then the current house price ought to equal the present discounted value of the current and all future rents. Future rents and interest rates are unobservable, but one can calculate the ratio of current house prices to current rents and compare this with historical data. Using this measure, US house prices are out of line by 35 percent compared with data from 1975 - 2000; in Britain and Spain they are out of line by over 50 percent. [1] These numbers are an overstatement, however, if fundamental factors - such as building restrictions - imply that rents are expected to rise more sharply over time than they were in the past.

3. Can Monetary Policy Cause a Housing Boom?

In the short run, nominal rigidities imply that monetary policy can affect the price of houses, relative to other prices. This is because the central bank sets short-term nominal interest rates and with nominal rigidities this can affect the short-term real interest rate. For example, suppose that a central bank raised its short-term nominal interest rate. In the short run, the real interest rate might rise. Thus, the present discounted value of the stream of future rents would rise and the current house price would rise relative to the price of other goods in the economy. This rise would be temporary however. In the long run, monetary policy cannot effect real variables, including the real interest rate.

In the long run, if everything else besides monetary policy remains constant, rent and house prices (variables Q(t) and Ph (t) in equation (1), respectively) will rise at the same rate as other nominal prices in the economy.[2] The house price, relative to the price of other goods, (equation ph (t) in equation (2)) remains constant: in the long-run, monetary policy cannot cause a housing boom. As a consequence, it is not plausible that the current stance of monetary policy is responsible for the recent rise in house prices.

4. If the House Price Rise is a Bubble, What is the Risk of it Bursting?

If current house prices (relative to the prices of other goods) are too high to be justified by the present discounted value of the stream of current and future rents (relative to the prices of other goods), then either current relative house prices must fall, current and future relative rents must rise or real after-tax interest rates must fall. If the scope for after-tax interest rates to fall is limited and rents are not expected to rise sharply over time, then most of the adjustment will be borne by house prices.

Unlike equity prices, however, house prices are not likely to plummet. As it is costly for homeowners to move, house prices are apt to be "sticky" relative to the price of other financial assets. If the current house price rise is a bubble, the likely scenario is a slow decline in prices, followed by a long period of house-price stagnation.

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[1] "In Come the Waves," Economist, 16 Jun 2005.

[2] Suppose that monetary policy leads to inflation of $x\ (t - 1;\ t)$ percent between period $t - 1$ and year t and real interest rate is constant at r. Then a fundamental solution to equation (1) has $(1 + r)Q(t) = rP^h(t)$ for every t; hence, the house price, as well as the rental price of houses, rises at the inflation rate.

5. What Should Central Banks Do?

If the current house price boom is not a bubble, central banks can and should do nothing. As previously noted, central banks cannot systematically control real variables such as relative prices. Nor should they want to: relative price changes are the mechanism that ensures that a competitive economy allocates resources correctly.[1]

If the current house price is a bubble, then containing it -if this is possible -may be desirable for two reasons. First, because prices reflect factors other than the fundamentals, resources are allocated incorrectly. Second, bubbles may eventually burst and when they do this can lead to substantial output loss. Asset price collapses not only redistribute wealth, the associated restructurings and bankruptcies eat up real resources. Other asset price booms, such as equity and land price booms, that have occurred throughout Europe, Asia and Latin America since the 1980s were frequently followed by financial crises and sharp economic contractions. House price collapses have typically had longer and worse repercussions than other asset price collapses.

As a consequence of these costs, some people -such as Cecchetti, Genberg and Wadhwani (2002) -have argued that central banks ought to react to asset price misalignments, raising interest rates when asset prices are above levels justified by the fundamentals and lowering interest rates when asset prices are too low. However, even if central banks were sure that the current housing boom were a bubble, could they pop it? It seems unlikely that monetary policy would be effective as - by definition -bubbles are deviations from equilibria supported by fundamentals such as monetary policy. Using monetary policy to attempt to prick a bubble is not without risk and central banks have not demonstrated an aptitute for this task; a cautionary example is provided by the Bank of Japan's attempt in late 1989 to burst Japan's property and equity bubble by tightening monetary policy.

6. How Should House Prices Enter the Consumer Price Index?

A problem for central banks that has been made more pressing by the house price rise is how house prices should be treated in the price index targeted by the central bank. Ideally, price indices used by central banks should be a measure of the purchasing power of money over current consumption only.[2] Perhaps the best way to measure the price of a household's current housing consumption is to ask what it would cost to rent their house.

If we take account of uncertainty, then equation (1) can be written as:

$$Q(t) = P_h(t) - \frac{E_t[P_h(t+1)]}{1 + i(t, t+1)} + RP(t),$$

where *Et [Ph (t + 1)]* is the expected, or forecasted, value of the house price at time *t+1*, given information available at time t and *RP (t)* is a time-*t* risk premium.

[1] If rental prices are distorted, removing the distortions may be desirable, but is not a task for the central bank

[2] Including future consumption, as some economists have proposed, implies implicitely including the real interest rate. As argued, central banks cannot affect the real interest rate in the long run.

Unfortunately, using equation (3) to calculate the rental price is difficult as neither the expected time t + 1 house price nor the risk premium are observable. Succumbing to the temptation of ignoring the risk premium and using actual time-t + 1 house prices yields the perverse result that measured rents can be negative in times of house-price inflation.

The solution for the euro area might be to try to use actual rental prices: this is the method used in the United States. This would present challenges, however. The nature of the renter-occupied housing market varies across countries; it may be distorted, small or dissimilar to the owner-occupied housing market.

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Topic 4

Shifting the tax burden from direct to indirect tax

Shifting the tax burden from direct to indirect tax

Briefing Paper for the Monetary Dialogue of February 2005 by the Committee on Economic and Monetary Affairs of the European Parliament with the President of the European Central Bank

Jean-Paul Fitoussi

Summary

A consumption tax amounts to exempt savings from taxation. As such, it would have important distributional effects, first of all from the poor to the rich, but also towards capital intensive industries; and intergenerational, away from the very young (students) and the old. For what concerns long term effects, most studies show that a consumption tax would be moderately more efficient and much simpler than the income tax. Nevertheless with such a tax, the progressivity of the current system could not be replicated. Attempts to mitigate the regressive features of the consumption tax would unavoidably lower the efficiency gains, and significantly increase complexity. I conclude that the passage to a consumption tax has to be done on the basis of a judgement of value (how progressive should our tax system be?), and not based on technical arguments. Shifting to a consumption tax would also imply an extremely complex transition that could be characterised by unemployment and inflation. For monetary policy, monitoring the economy during this transition would be extremely complex.

Given the mixed picture that emerges from the analysis, I conclude asking why the consumption tax has taken such an echo in the current debate. May be because it is supposed to serve objectives that are not explicitly stated: either the objective of increasing competitiveness (but then, other tools like the exchange rate seem more straightforward and efficient), or the objective of reducing public spending.

Introduction

The recent debate on a substantial reform of the European tax system comes after the same matter has been discusses for almost a decade in the United States. On both sides of the Ocean, proponents of a radical reform argue that it would be possible to obtain a more "pro growth" and efficient system, and often see the switch to a consumption tax away from direct taxation as a mean to obtain such a goal. The literature on public finance pins down four main characteristics against which to evaluate a tax system: The first is its *efficiency*, i.e. its capacity to minimize the impact on private agent's decisions (on saving, investing, working, etc.). The less it distorts these decisions, the more efficient the system is. The second characteristic is *fairness*, i.e. the equality of treatment; then, a tax system must be *simple*, in order to be transparent to citizens, and not costly to manage for the administration. Finally, the tax system has to ensure *adequate revenue* to cover public expenditures.

In what follow I will try to assess the merits of a consumption tax compared to a system of direct taxation on the basis of these characteristics. Then, I will consider what would happen during the transition between the two systems, and analyse the consequences for the conduct of monetary policy. Before doing that, in the next section I will briefly describe how a consumption tax would work.

The Consumption Tax

The consumption tax is a tax on expenditure that can take many different but analytically equivalent forms (VAT, flat rate, retail sales tax). The difference with respect to the income tax is that by taxing expenditure it leaves out of the tax base savings. Thus, the choice of whether to tax consumption or income amounts to the choice of whether to tax savings or not.

Both in the US and in Europe tax revenues substantially come from income taxation, but while in European countries an important consumption tax exists (in the form of a VAT tax), in the US consumption taxes are negligible[1].

The income tax is progressive, so that the average tax rate is larger for the rich than for the poor. On the other hand, given that rich people typically save a larger percent of their income than poor people, a simple (proportional) tax on consumption would be regressive, in the sense that it will lead to a decrease of the average tax rate for the rich and an increase for the poor.

The regressive features of the simpler version of the consumption tax may be attenuated in various ways, e.g. by granting tax deduction to poor people, or imposing different tax rates on different categories of goods (as already happens with the VAT in Europe)[2]. Nevertheless, given the typical consumption structure of households in advanced economies, it would be impossible to replicate the progressivity of the current income tax system simply by modulating VAT rates or deductions. Thus, the passage from a progressive income tax to a neutral (at best) consumption tax would unequivocally reduce the overall progressivity of the system.

The change in income distribution is not the only important allocative effect of a consumption tax. Eliminating taxation on savings provides a powerful incentive to savings and investment, and is thus likely to boost output in firms and industries that make extensive use of capital, while depressing the labour intensive sectors.

Furthermore, by suppressing all tax deductions, exclusions and credits, a consumption tax would eliminate all distortions that were introduced for other policy objectives, and that presumably create an obstacle to the efficient allocation of capital among sectors. On the other hand, if the tax rates on different goods where to be differentiated in order to reduce the regressive effects of a consumption tax, then other relative price distortions would appear.
Other important distributional effects, like the double taxation of existing wealth, would appear during the transition between the two systems. I will come back on this later, also for a discussion of policy implications.

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[1] The only exception are state retail sales and tax exempt savings accounts. C. Alan Garner shows by means of examples that VAT taxes, retail taxes, or even a flat rate tax are all equivalent ways of taxing consumption ("Consumption Taxes: Macroeconomic Effects and Policy Issues", *Economic Review of the Federal Reserve Bank of Kansas City*, second quarter 2005).

[2] Empirical results on the regressivity of consumption taxes give mixed results. François Bourguignon and Dominique Bureau show that the VAT for France is not regressive even with the current architecture of only two rates. (*L'architecture des prélèvements en France,* Rapport du Conseil d'analyse économique, n. 17, Paris, 1999). The retail tax levied in most of the US states, with its single rate, is on the other hand regressive as expected (Feenberg, Daniel R., Andrew W. Mitrusi and James M. Poterba. 1997. "Distributional Effects of Adopting a National Retail Sales Tax." In James M. Poterba, ed., *Tax Policy and the Economy*, Cambridge, Ma, MIT Press.).

Assessing Benefits and Costs of a Switch to a Consumption Tax

As I argued in the introduction, assessing a tax system involves four main dimensions: efficiency, fairness, simplicity, and adequate revenues. To obtain a meaningful comparison of tax laws, we need to reason in "revenue neutral" terms, as most studies do.

A first important remark is that it exists a tradeoff between fairness and simplicity. The proportional consumption tax would be remarkably simpler than the income tax, but as we saw from the simple example before, it would be strongly regressive. To reduce this effect it is necessary to introduce deductions based on income, or complex systems of differentiated tax rates. Thus, a first conclusion is that the simplicity advocated by the proponents of consumption taxes does not come for free, but has to be paid giving up at least some of the fairness.

Efficiency considerations are at the core of arguments in favour of switching to a consumption tax. The economy would become more efficient, in the sense of producing more output per person, if reforming the tax code eliminated tax-related distortions in decisions to work, save, and invest. In fact, agents consider after tax revenues (wage or capital returns) when deciding how much to work and how much to save and invest. The income tax reduces the after-tax compensation for these activities.

While the gain in efficiency is straightforward in theory, an estimation of its actual amount proves to be a difficult exercise. In 2002 Jane Gravelle[1] surveyed several studies for the US; the long run change in real output obtained switching to a consumption tax ranged from 1.7 percent to 7.5 percent, depending on the assumption of the chosen model.

Among those attempts, the paper by Altig *et al*[2] proves particularly interesting because it also examines variants aimed at mitigating the strong regressive effects of a pure proportional consumption tax. Their model of the US economy has coherent theoretical foundations and a realistic representation of the existing federal tax system. The long-run percentage differences from a baseline path, which describes how the economy might perform under the current tax system, is remarkable for the pure consumption tax, almost a 10 per cent increase in the long run level of real output. The increase in real output reflects greater saving and investment as well as an increase in the labour supply. Nevertheless, these gains are strongly reduced when introducing corrections to the regressivity as the deduction would reduce the tax base (the increase of output would only be 4.5 per cent), or giving tax relief to owners of existing capital to avoid double taxation (more on this in the next section). In this case the benefits in terms of real output would become almost negligible, not even 2 per cent.

The simulations of Altig *et al* illustrate another tradeoff that emerges when comparing tax systems. Measures designed to improve the fairness of a consumption tax system may erode the long-term gains in economic efficiency. Adding special transition rules or deductions also may increase the complexity of the tax code.

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[1] Gravelle, Jane G. 2002. "Behavioral Responses to a Consumption Tax," in George R. Zodrow and Peter Mieszkowski, eds., *United States Tax Reform in the 21st Century*. Cambridge, UK: Cambridge University Press.

[2] Altig, David, Alan J. Auerbach, Laurence J. Kotlikoff, Kent A. Smetters, and Jan Walliser. 2001. "Simulating Fundamental Tax Reform in the United States," *American Economic Review*, June.

We can thus conclude that *a consumption tax is simpler and/or more efficient only if we are ready to sacrifice the redistributive role of the tax system. A choice that may be legitimate, but that first has to be clearly stated, for agents to know what they are accepting; and second, linked to that, has to be the object of a conscious political choice. It is not a technical matter.*

The Problems of Transition

The preceding section made it clear that switching to a consumption tax would not have significant positive effects in terms of simplicity and efficiency, unless we were ready to accept a strong reduction of the progressive features of the current system. Thus, we concluded that no system is unequivocally better than the other.

In addition to that switching to a consumption tax would also imply formidable problems linked to the transition between the two systems.

The first that we have already touched upon is the problem of existing wealth. All capital and wealth that exist at the moment of the transition originated from income taxed under the old system. When this wealth will finally be spent, under the new system, it will be taxed again. Thus, the passage to the new system has a very strong bias against the owner of that wealth (the old and the rich). This should be taken care by transitional provisions, that would as we saw greatly reduce the efficiency gains, and furthermore add to the complexity of the new tax code.

Exonerating savings from the tax base would also have another serious shortcoming in terms of intergenerational distribution. Over the life cycle, consumption exceeds revenues in the young age and in the old age. Thus, those in these classes would be the losers from the new system. While for the old this problem seems only linked to the transition (those who will be old in the future will have saved more), the problem of the young seems more structural, and potentially serious; in fact, by penalizing them, such a system may well penalize the accumulation of human capital, with negative effects on the long run growth potential of the economy.

Problems may also appear in the labour market. First of all, the shift of resources to capital intensive sectors is likely to cause important layoffs in the more traditional industries, at least in the short-to-medium run.

Problems for employment may also originate in the necessary adjustment of wages and prices following the introduction of a consumption tax. Such a tax requires the price of consumer goods to rise relative to wages. Consumers would pay a substantially higher price for goods that embed a much larger sales taxes. In the long run, and assuming that revenues for the government remain constant, the decline of income taxes would exactly offset the rise in consumption taxes, leaving households with the same purchasing power.

Nevertheless, during the transition such compensation would not be complete, and would depend on how the increase in consumer prices relative to wages occurs. If all the adjustment fell on prices, holding wages constant, there would exist serious risks of sustained inflationary pressures, as it would become unclear to consumers what the "correct" price level in the new system should be[1].

[1] The experience of the introduction of the Euro has precisely showed how the temporary ignorance of households was exploited by a non perfectly competitive distribution system, with permanent effects on prices.

If part of the adjustment were instead be accomplished by nominal wage changes, then the predictable resistance of workers would most probably cause stickiness, and hence a prolonged period of disequilibrium relative prices, and unemployment. Given the importance of the required adjustment, unemployment could be large, and the transition long.

Monetary Policy Behaviour

The long run effect of a consumption tax on interest rate is far from clear, depending on many contradictory effects. In fact, both supply and demand of loanable funds would change, and in addition the optimal debt/equity ratio for investment financing would be significantly different. Thus, the final long run effect on the equilibrium interest rates, and thus the necessary course of action for the central bank, is very hard to forecast.

Furthermore, the transition would entail a formidable challenge for monetary policy. We can assume that the central bank would not contrast the jump in prices necessary to achieve the new correct price-wage ratio. But what if instead the relative price change did not happen smoothly and unemployment appeared? And how to deal with private agents expectations? For example, consumers might anticipate their purchase of durable goods anticipating the future regime change. On the other hand, firms may postpone purchases of capital goods, because under the consumption tax investment would be cheaper. Furthermore, these effects would most probably change in intensity in different sectors and countries. Thus understanding whether the interaction of these behaviours would be expansionary or contractionary, and adjusting the path of monetary policy accordingly, may become an extremely difficult task.

If in addition the tax rate was not properly set from the outset at the level necessary to replicate the overall tax burden of the income tax, then the central bank would have to deal with the involuntary contractionary/expansionary fiscal stance, and with the expectations of successive adjustments that it would entail.

Conclusion

The preceding paragraphs have shown that the adoption of a consumption tax would not unequivocally improve upon the existing system based on an income tax, and that the choice to give up fairness in exchange for efficiency and simplicity needs to be political. I also argued that the problems posed by the transition are likely to be large and difficult to solve. Less radical changes of the current system, based on the income tax, may be designed to improve transparency and efficiency, without altering the basic characteristics of progressivity.[1]

We can therefore ask why such a vast debate developed in the past months about the proposal of switching to a consumption tax. The same "fundamental tax reform" has long been debated in the United States, where nevertheless the discussion appears to have more sense. The US current system is more biased towards income taxation, is less progressive than most European tax systems; furthermore, their economy has a chronic problem of low savings that may in the long run hamper its performance. For all these reasons, a consumption tax may be worth analysis and consideration. But in Europe none of these conditions is met. Savings are high, the current tax system is already a mixture of income and consumption tax (VAT), and the welfare state is still large.

[1] For a proposal regarding mainly but not only France, see the forthcoming report of the Conseil d'Analyse Economique, by Christian Saint-Etienne and Jacques Le Cacheux.

So why to discuss of a consumption tax for Europe? The only explanation is that proponents have in mind other consequences, not directly linked to the characteristics of the tax system.

A possible hidden scope for a consumption tax could be the attempt to boost competitiveness. In fact, taxing consumption means among other things taxing imports and detaxing exports. The modality chosen to implement such a tax in the EU would then become crucial. If the passage to a consumption tax was decentralized, i.e. if each European country was left free to set its own rates and to change them at will, then we would most likely assist to a wave of fiscal competition, a non cooperative "race to the bottom" in which each country would try to alter relative prices (the real exchange rate), making impossible a revenue neutral transition and seriously damaging public finances.

If instead such a process was managed at the European level, with the objective of improving competitiveness towards the rest of the world, other problems would arise. The first is that national tax rates would have to be set with the double objective of being revenue neutral with respect to national income taxes, and to be neutral in what concern intra European competitiveness. This seems an excessively ambitious objective for Europe, especially given the current decisional procedures. Furthermore, even assuming that such a centralized process was successful, it seems more straightforward and efficient to intervene on the nominal exchange rate than on relative prices, in order to improve competitiveness.

Another possible hidden explanation of the emphasis on the consumption tax is the attempt to reduce the size and the redistributive role of the government. A revenue neutral consumption tax would involve such large changes in prices, and transition problems, that it is plausible to expect, when implementing the tax, an outcome somewhere in the middle. Thus, we would observe a reduction in tax revenues, and at that point, the soundness of public finances would call for a reduction of government spending.

Such an agenda would be perfectly legitimate, if it were the outcome of a transparent democratic process. The problem is that, like for other reforms (namely the labour market), we are left with the feeling that they are introduced with the stated objective of solving specific "technical" problems (unemployment, or inefficient tax codes), but with the hidden objective of changing the social system of Europe without looking for democratic support.