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POLICY DEPARTMENT A: ECONOMIC AND SCIENTIFIC POLICIES

**EUROPEAN PARLIAMENT'S SPECIAL COMMITTEE ON THE
FINANCIAL, ECONOMIC AND SOCIAL CRISIS**

Impact of the Crisis on the Real Economy

NOTE

Abstract

This crisis came about because a bubble burst. Keeping this in mind leads to important considerations:

- 1) Europe (and in particular the Euro area) exhibited the same pre-crisis or 'bubble symptoms' (house price increase, excess credit growth) as the US.
- 2) The impact of the crisis on the real economy should be assessed on the basis of changes in unemployment and consumption (rather than only in GDP). A 'happiness' indicator, based on these two variables, has behaved in a quite different way across member countries.
- 3) If one looks at the crisis as the inevitable adjustment after a bubble one has to compare the present state of the economy to some 'normal' state (before the bubble) and not just to 2007, which represents the peak of the bubble (and therefore an unsustainable situation). Accounting for this leads to a quite different picture of the severity of the crisis.
- 4) Perspectives for the recovery? It does not seem that a credit crunch will impede a recovery as the ECB's survey of bank loan officers has returned to normal, pre-crisis (but also pre-bubble) levels. Credit growth is still negative, but a more meaningful measure of the credit market is the 'credit impulse', which has sharply improved over the last year and seems to have returned to 'normal' by the end of 2009.

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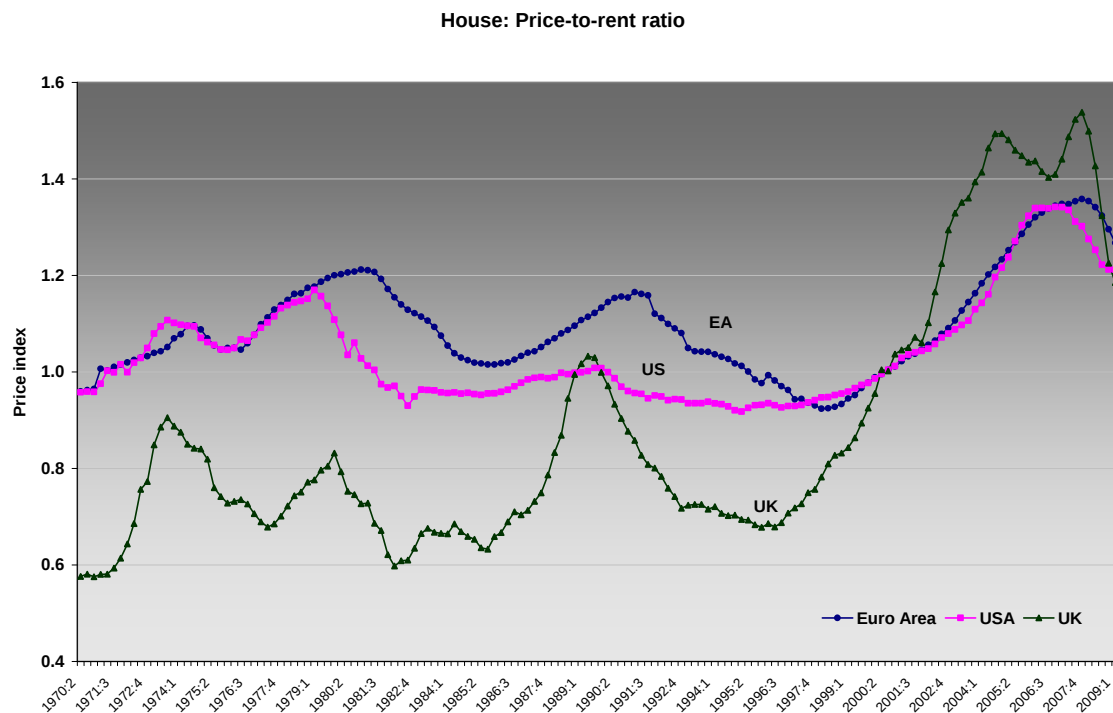
1. PROLOGUE

This crisis was caused by a combination of asset price bubbles, mainly in the real estate sector, and a credit bubble which led to excessive leverage. This is well known. What is less well known is that on both accounts the euro area was affected by both 'bubble' symptoms as much as the US. This fact can be illustrated by looking at indicators of house prices and leverage.

1.1. House prices

As shown in Figure 1, the price-to-rent ratio increased since 1997 as much in the euro area as in the US. The increase was even larger in the UK. The increase in house prices measured by some overall European average was thus somewhat higher than in the US.¹ On this account one can thus say that Europe experienced a real estate bubble at least as bad as that of the US.

Figure 1 Bubble symptom one: House prices



Note: Euro area index is defined as the weighted average (by GDP) of Germany, France, Italy, Spain, Finland, Ireland and the Netherlands.

Source: OECD, December 2009, and own computations.

¹ Unfortunately there is no reliable data on house prices in most of the new member countries.

1.2. Leverage

For a company leverage indicates the ratio between debt and equity. For a country leverage is better defined as the ratio of credit outstanding to GDP (which is a measure of the equity of a country).

Table 2 below shows some basic indicators of leverage defined this way (see also Alcidi and Gros, 2009). The table tells a simple story: In the euro area, the increase in overall leverage, measured by the (private) debt-to-GDP ratio, was actually somewhat higher than the one experienced in the US; only its distribution over different sectors was different.

Table 1. Bubble symptom tow: excess leverage

Debt-to-GDP ratio	Economy-wide		Non-financial corporate sector	
	EA	US	EA	US
1999	3.45	2.66	0.67	0.46
2007	4.46	3.47	0.92	0.49
2009q2	4.88	3.59	1.01	0.51
Change 1999-2007	1.01	0.81	0.25	0.03

Debt-to-GDP ratio	Financial sector		Households & small business	
	EA	US	EA	US
1999	1.55	0.79	0.48	0.88
2007	2.25	1.17	0.61	1.28
2009 q2	2.41	1.16	0.64	1.25
Change 1999-2007	0.70	0.38	0.13	0.40

NOTE: For the euro area the debt is computed as the sum of securities and loans, except for Monetary Financial Institutions (MFIs as defined by the ECB) where debt is given by debt securities issued plus deposits (intra-MFIs loans are not included). The financial sector in the EA is defined as MFIs, insurance corporations and pension funds and other financial intermediaries including financial auxiliaries. Economy-wide sector includes households, non-financial companies, financial sector and government both in US and EA.

Sources: ECB Statistical data Warehouse, Euro Area Accounts (closing balance sheet liabilities) & Federal Reserve Z1, December 2009.

Moreover, the latest available data suggest that there has been no progress so far on de-leveraging. The small reductions in debt achieved so far in the private sector have been more than compensated by the fall in GDP.

1.3. An ‘Anglo-Saxon bubble’?

Overall one must thus conclude that the bubble was not mainly a US phenomenon. The fact that both sides of the Atlantic showed the same bubble symptoms already suggests that the crisis should not have been expected to remain a US phenomenon.

The crisis became truly global, because of two main transmission mechanisms: the sudden rise in risk aversion (and financial market volatility) was transmitted worldwide as financial markets are highly integrated at the global level. Moreover, the sudden drop in demand, especially for capital intensive goods was transmitted rapidly along the global supply chain. Within Europe the integration of financial markets and supply chains is even stronger than globally, as consequence the crisis affected all member countries, even those which had not shown any bubble symptoms (i.e. had had stable house prices and no increase in leverage). It is thus not surprising that all member countries were affected by the crisis, even those without a bubble (e.g. Germany, where house prices and leverage had not increased).

However, it will be shown below that one has to be careful in measuring the impact of the bursting of the bubble (this is what this crisis really is) on the real economy.

2. HOW TO MEASURE THE IMPACT OF THE CRISIS ON THE REAL ECONOMY?

Although the crisis went global, it is still hitting different countries in quite different ways. It has now become a popular pastime to rank countries by the fall they experience in GDP and then pass judgment accordingly on their 'economic model'. But one should ask, particularly for this crisis, whether the fall in GDP is the appropriate measure for a cross-country comparison of the real world impact of the crisis. GDP refers to the amount of goods and services produced in a given economy. However, the GDP statistics have little real meaning for the wider public whose lives are affected much more by the amount of money can be spent in consumption and the job stability. What happens to consumption and employment should represent a better indicator of the impact of the crisis than changes in GDP.

These considerations apply in particular to the EU given that economic policy is still determined mostly at the national level and large heterogeneity of effects has emerged. A comparison of Germany with US and Spain provides a good example of the degree of heterogeneity in the consequences of the crisis.

A key factor behind cross country heterogeneity is the existence of different growth models of each country. It is apparent that Germany's huge current account has provided a cushion and allowed consumption to remain constant. During 2009 German GDP has fallen by about 5%, but consumption remained roughly unchanged. The discrepancy between consumption and production is due to two factors: the current account surplus has declined by about 3 percentage points of GDP and investment has fallen by about 2 percentage points of GDP (this means a fall in investment of about 10%). These two factors account for the 5 percentage points difference between the growth rate of GDP (-5%) and consumption (0).

In the US, the current account swing is in the other direction. As consequence even though US GDP declined by less (according to the IMF and the Commission by about 3-4%) than in Germany, US consumption had to fall. Despite an improvement of about 2% points of GDP in 2009 in the US current account deficit, domestic absorption fell by about 5% (3% decline in production plus 2% decline in net resource transfer from abroad). This is a much more painful adjustment than in Germany. Part of this overall decline in domestic absorption has fallen on investment.² Yet since consumption accounts for roughly 70% of GDP, consumption had to fall considerably as well. In the US consumption had been increasing trend wise by about 2.5 to 3% in recent years. US consumers will thus have to accept a swing in the growth rate of consumption from plus 3% to minus 1-2 %, a change of over 4 percentage points. By contrast in Germany consumption had in any event been stagnant since about 2001 with little change brought about by the crisis.

The wide difference in terms of the current account in the starting positions of Germany (+6% of GDP) and the US (-6% of GDP) implies that in Germany stable consumption is sustainable in the longer run even in the case that GDP does not recover³ while, in the US consumption has to fall even if there is to be a sustained recovery.

² In 2009, US investment fell by more than 15% (year-on-year change).

³ Many commentators have recently argued that Germany should rethink its export-led growth model because this model did not prevent a fall in its GDP, which was even larger than the US or France, for example. However, is this model so bad if it allowed Germany to carry on consuming in the midst of the most severe recession in 70 years while consumers elsewhere have to tighten their belt considerably?

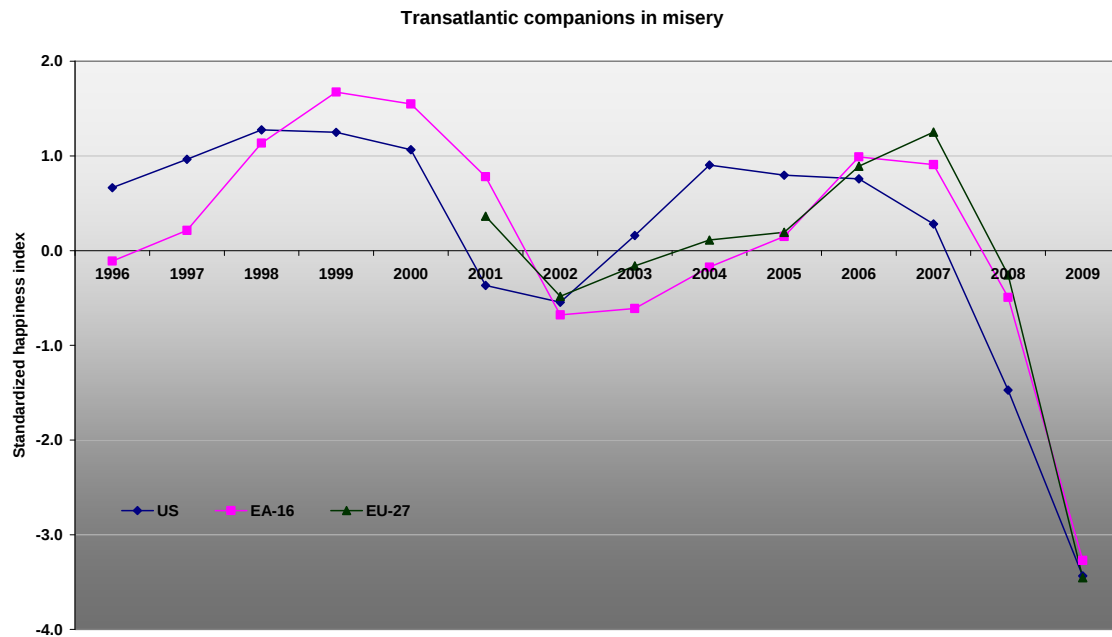
But why do German consumers continue to spend? The best answer is: “why not?” German consumers did not rely on credit or on inflated house prices to finance their expenditure. By contrast consumers in the US (or Spain) had little choice but to spend less when the value of their houses tumbled and access to credit become more difficult.

Another reason why German consumption remains stable is the performance of the labour market: employment has not fallen noticeably so far in Germany. This leads to the second indicator of how much the crisis really hurts: the unemployment rate. Here again there are wide differences across countries. In Germany unemployment has so far increased only marginally (by 0.3%, from 7.2% in October 2007 to 7.5 in October 2009), compared to an increase of 4.4 percentage points over the same time period in the US (from 5.8% to 10.2 %) or over 8 percentage points in Spain (from 11.4% to 19.3%).

What is the reason for these differences? German enterprises have invested strongly in the skills of their labour force and therefore hold on to their skilled workers even if some of them are temporarily not needed. Generous provisions providing financing for temporary part-time work also help to stabilise employment. But other European countries have similar labour market rules. The key difference here is that in Spain most of the increase in employment over the last decade was in low-skilled workers in the construction and tourism industries. Since these sectors are contracting, Spanish enterprises see no reason to retain these workers, which do not possess the highly specialised skills necessary for globally competitive manufacturing. Moreover, these workers were usually hired on the flexible fringe of the Spanish labour market using temporary or other atypical contracts.

Putting consumption and unemployment together in one index, one obtains a quite different picture from the one revealed by just looking at GDP. Figure 2 shows a transatlantic comparison of the ‘happiness index’. This is simply the combination of the growth rate of real consumption and the increase in the unemployment rate with negative sign. In order to make these two series comparable they have first been ‘standardised’⁴ so that a value of minus four means that the index has fallen four standard deviations below its average – which should be an extremely rare event.

⁴ In the usual way, that is by subtracting the mean and dividing by the standard deviation. Mean and standard deviation are computed using observed data over the period 2004-2009.

Figure 2 Standardized 'Happiness Index': US and Europe

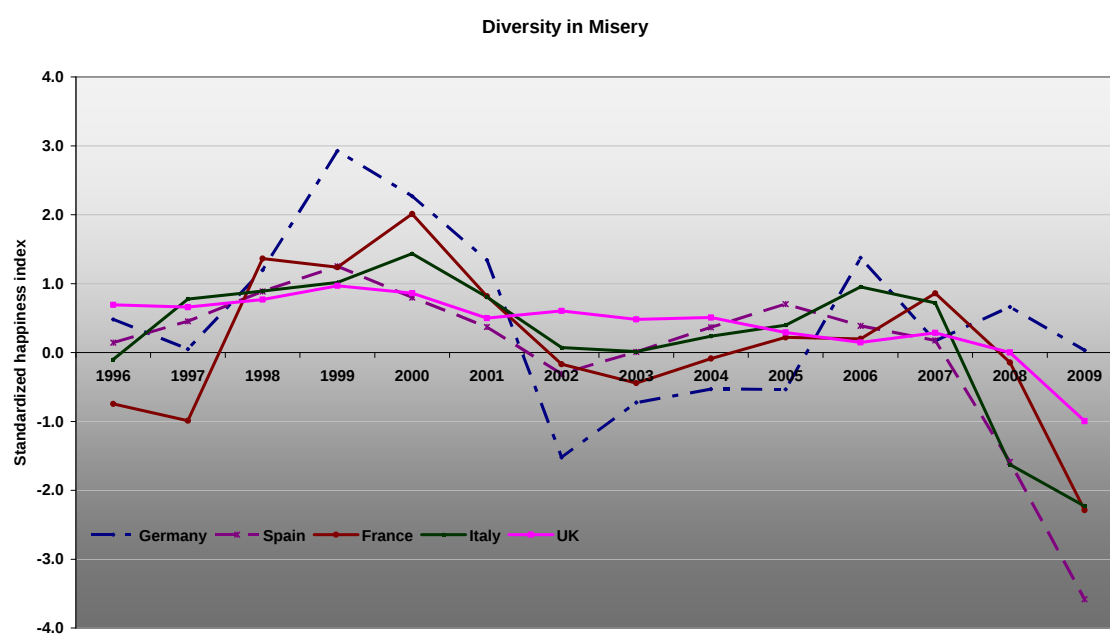
Sources: Data for growth in consumption extracted from Eurostat, December 2009 and for rates of unemployment, from AMECO (database of DG Ecofin, European Commission), December 2009.

Standardizing the variables this way has the advantage that it takes into account the expectations of what constitutes a 'normal' or acceptable economic performance that are usually based on the actual data over the last years. The misery index based on standardized variable represents thus the element of surprise in the combination of negative growth and unemployment experienced by the economies under consideration.

On this account, Europe does only slightly better than the US. The difference is small because unemployment is used to be much more stable in Europe. Although unemployment had increased much less in the euro area than in the US this translates into a similar deterioration because with the lower variance in Europe such an event is equally exceptional.

As already discussed above, the euro area data average out both bubble-led (e.g. Spain) and export-led economies, such as Germany. As shown in Figure 3, strong differences exist within the euro area, with a clear hierarchy: Germany is better off than all the others, with little deterioration in its index while Spain is at the other extreme. Its value of -3.6 implies that the current combination of consumption growth and unemployment is 3.6 standard deviations below the average – which should be an extremely rare event if disturbances are normally distributed. Italy and France are between these two extremes.

Figure 3 Standardized 'Happiness Index' for major EU countries



Sources: *Idem*

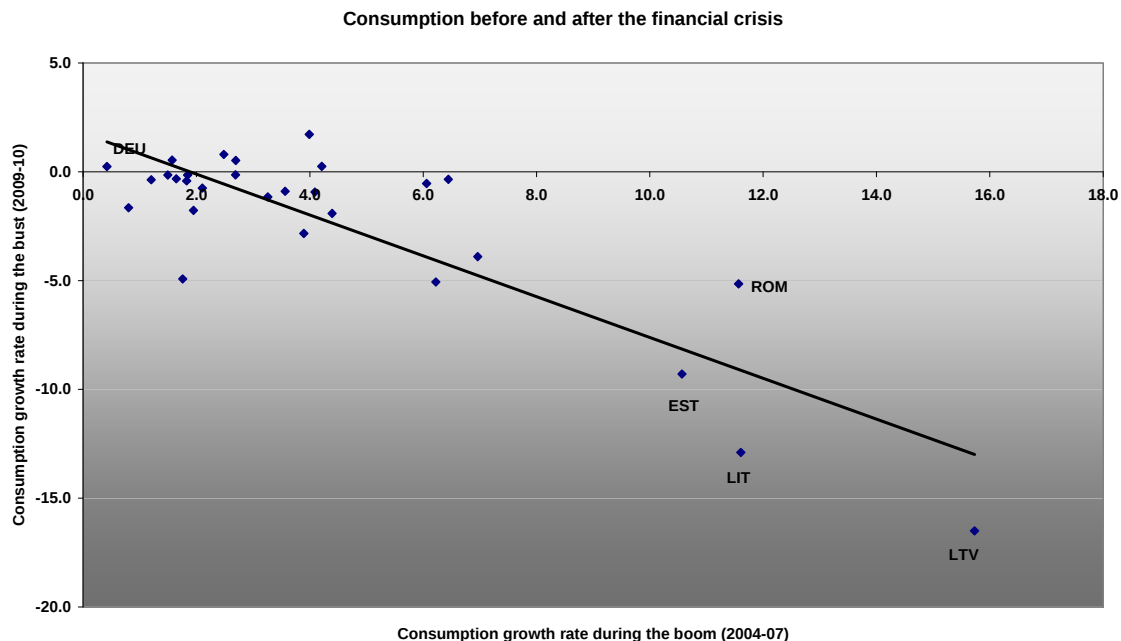
3. BOOM AND BUST: WHAT GOES UP HAS TO COME DOWN?

The previous section argued that a combination of consumption growth and (un)employment is a better indicator than GDP in measuring the impact of the crisis on the real economy. However it may be misleading to look at changes in these variables only since the outbreak of the crisis, the reason being that those years do not constitute an appropriate benchmark. This is obviously true for the availability of credit. By common consent, credit was excessively ample during the boom in many countries of the European periphery. Consumption and investment were largely financed by capital flows which, with hindsight, were only forthcoming because risk aversion (and risk recognition) was distorted by the credit boom.

Evidence of this is provided by the consumption paths. Across member countries there is strong negative correlation between the change in consumption over the period 2009-10 and the last two years before the bubble burst: consumption is now falling most in those countries where it had increased most during the boom. The Baltic States represent the extreme case: consumption increased at double digit rates until 2007 and is now falling also at double digit rates. By contrast consumption is essentially stable in Germany, where it had not increased noticeably even during the bubble years.

Figure 4 plots the data for all EU-member countries. The horizontal axis shows the average annual increase in consumption in 2005-2007 (the peak of the bubble) and the vertical axis shows the corresponding values now that the bubble has burst (2009 actual data and forecasts for 2010 by the Commission).

Figure 4 Financial crisis: consumption during the boom and the bust in EU countries

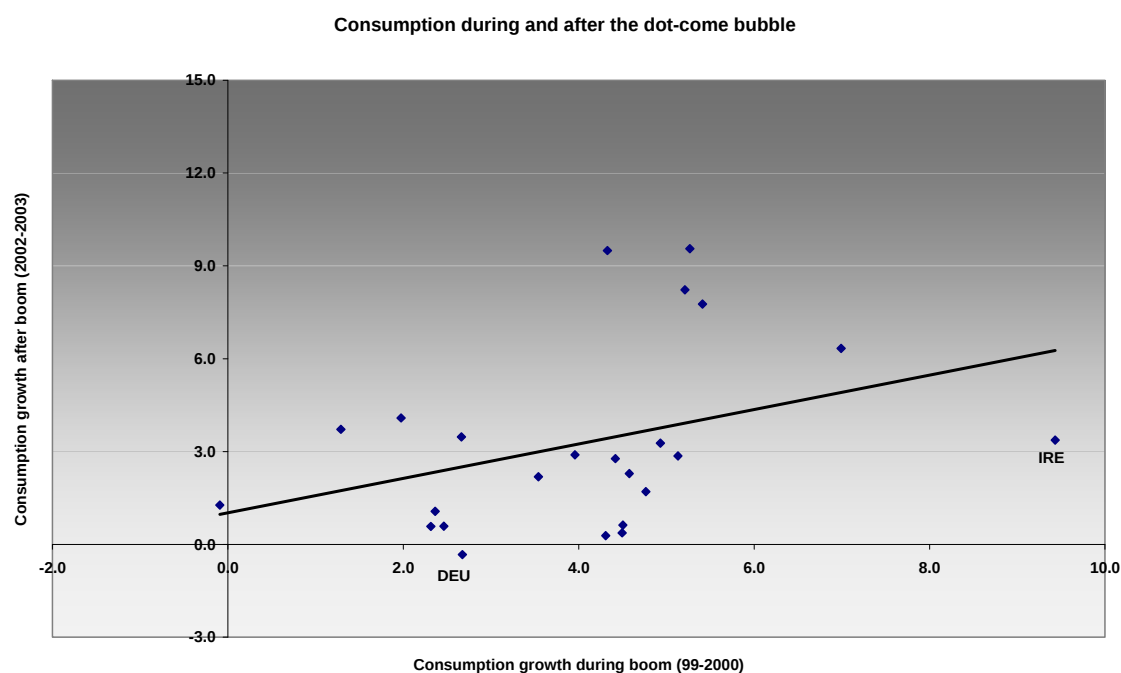


Sources: *Idem*

The present crisis is clearly different from the aftermath of the dot-com bubble since the correlation between pre- and post-bubble (i.e. during the downturn of 2001-2) growth of consumption is positive. Figure 5 shows, for comparison, the same data (average annual growth of consumption) for the dotcom boom and bust years.

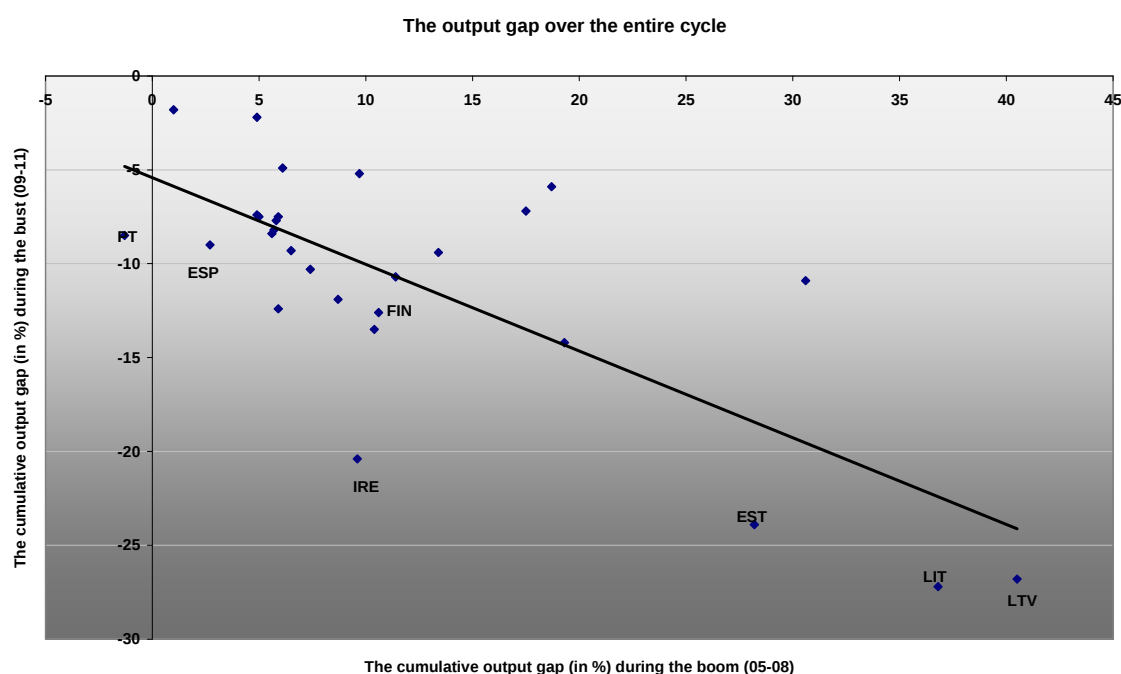
Not only is the correlation positive, there is also much lower cross-country variability during the dot-com episode than now.

Figure 5 Dot-com crisis: consumption during the boom and the bust in EU countries



Sources: *Idem*

Figure 6 Cumulative output gap during the boom and the bust



Source: *European Commission Economic Forecast, 22 October 2009, Output gap relative to potential GDP (deviation actual output from potential output as % of potential GDP 1992-2001)*

There is thus clear evidence that this crisis represented in many respects a return to more stable, 'normal' conditions.

It is always difficult to measure what rate of growth of consumption (and GDP) would be sustainable. However, there is one variable which gives some information about the extent to which the economy is operating at a 'normal' level of activity. This is the output gap. Of course there exist many different measures of the output gap. We use here the most recent data from the Commission (ECFIN). The data in this respect (shown in Figure 6) portray a similar pattern as for consumption: The countries with the strongest boom (highest output gap) also have (and are expected to have) the strongest fall (highest negative output gap).

Of course, a crisis implies adjustment but, by itself, does not just lead to a return of normal conditions. As the boom supported 'above normal' levels of activity for some time, large negative output gaps are expected to persist for a while. Table 2 shows the cumulative output gain during the boom represented by the sum of the output gap during the last three boom years (2005-2008) compared to the loss of output (relative to normal) for the first three years of the bust, while Table 3 reports similar (end of period rather than cumulative) data for unemployment.

Table 2 Cumulated output gap by country groups

	Boom: 2005-2008	Bust: 2009-2011	Boom plus bust
Old Members	6.2	-9.6	-3.4
New Members	20.7	-13.0	7.6
EU	6.5	-9.0	-2.5
Euro area	5.6	-8.4	-2.8

Sources: Own computations based on European Commission Economic Forecast

The key message from this table is that in terms of the output gap the new members are still in positive territory (overall they benefited from the 'package' boom and bust), whereas 'old' member states (and of course euro area) show a 'net loss'.

In terms of unemployment the crisis seems destined to leave a net negative legacy everywhere with forecasted rates higher than pre-boom levels. Yet as of 2009, new member states, on average, still exhibit a net gain in the sense that their unemployment rates were still (at 10.1 %) somewhat below the value before the boom (2004) when they stood at 10.4 %.

Table 3 Unemployment rate during the boom and the bust

	Before the boom 2004	Peak of the boom 2007	2009	Forecast 2011
Old Members	7.1	6.0	8.0	9.2
New Members	10.4	6.4	10.1	11.1
EU	9.0	7.1	9.1	10.2
Euro area	9.0	7.5	9.5	10.9

Sources: AMECO and own computations

As far as financial market indicators are concerned, risk aversion increased dramatically during 2008/9. This explains the sharp contraction in investment and consumption in 2009, but with financial market indicators rapidly returning to average pre crisis, or even better than average values, one would also expect a rapid recovery. However, this is not materializing. One reason can be summarized under the heading balance sheet constraints: over-indebted consumers and firms cannot consume and invest until they have worked off their debt overhang.

However this can only be a partial explanation because the debt data by sectors (see Table 1 above and Alcidi and Gros, 2009) suggest that, while firms might have some problems, the household sector does not look over-indebted in the euro area (at least not on average).

Another reason is that the credit bubble has been going on for so long that households (and firms) have accumulated an overhang of durable consumption goods (e.g. in some of the new member countries) and of fixed capital (especially housing in Spain and Ireland).⁵

This is a key point: in analyzing the impact of the crisis on the real economy one must start by understanding the build up of the bubble that preceded the crisis. In fact it might turn out to be erroneous to expect that once the recovery starts the global economy will go back to pre-crisis levels. Those growth rates were to some extent fake and attainable again only if new bubbles were to be fuelled.

That the bubble distorted the view of what is 'normal' can also be seen from the fact the official estimates of the output gap changed considerably over the last year. For example, the Commission estimated as late as early 2008 that in the preceding year, 2007, the euro area had not substantially exceeded its potential level as it estimated then the output gap for 2007 at only 0.2 % (= excess of actual output over potential). One year later, after the crisis had broken, the estimate of the output gap for 2007 was revised up to 2.5 %. This shows how bubbles can distort the view of what is 'normal'. The dotcom bubble had a similar effect. In early 2000 it was thought that the euro area economy still had a lot of slack because the output gap was estimated at -2%, today this value has been revised to +1.2% (implying that already in 1999 there was no slack in the euro area economy because actual output was already above potential).

As an aside one should keep in mind that this overestimation of potential output was at least partially responsible for the overoptimistic targets set in the Lisbon Strategy.

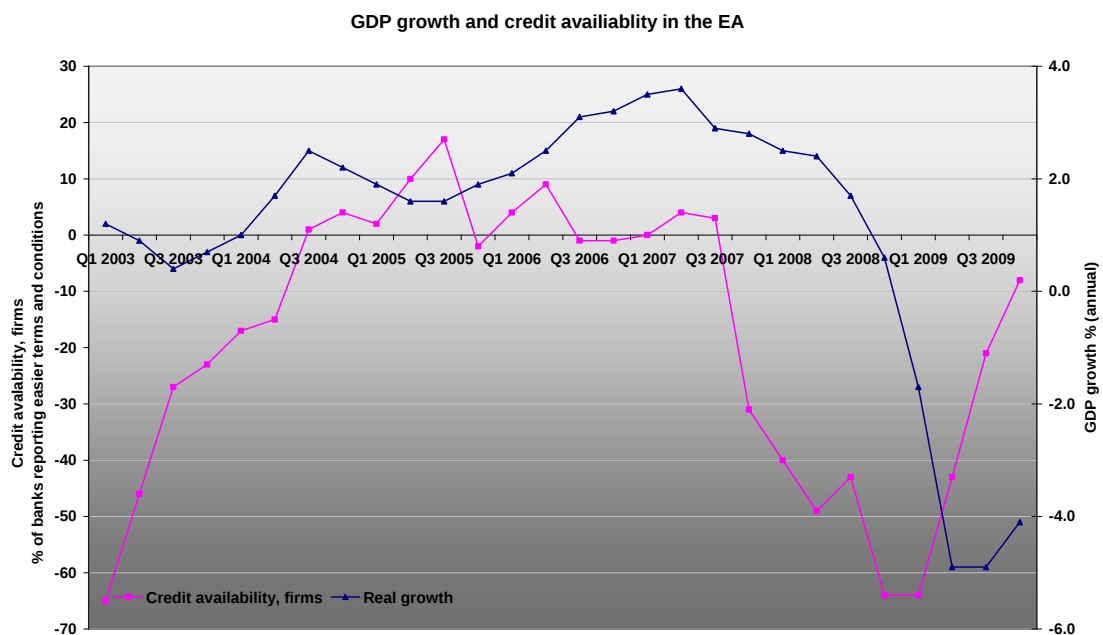
⁵ See Gros (2007) for estimates of the huge housing overhang in Spain and Ireland.

4. CREDIT CRUNCH?

It is difficult to determine whether the recovery is held back by the limited availability of credit. According to loan officer surveys of the ECB, banks have continued to tighten their credit standards also over the 3 quarters of 2009 but at smaller pace so that this indicator is back to a level comparable to the pre-boom years, which did not impede a recovery from the post dot-com bust (and the 9/11 shock). See Figure 7.

It is apparent, however, that a rapid deterioration in credit availability preceded the current downturn. As already mentioned above, credit availability has now returned to the pre-bubble level, but a lead in the recovery similar to the post dot-com bubble-bust is not observable and the pick up in economic activity remains so far largely unsatisfactory.

Figure 7 Real growth and credit standards in the euro area



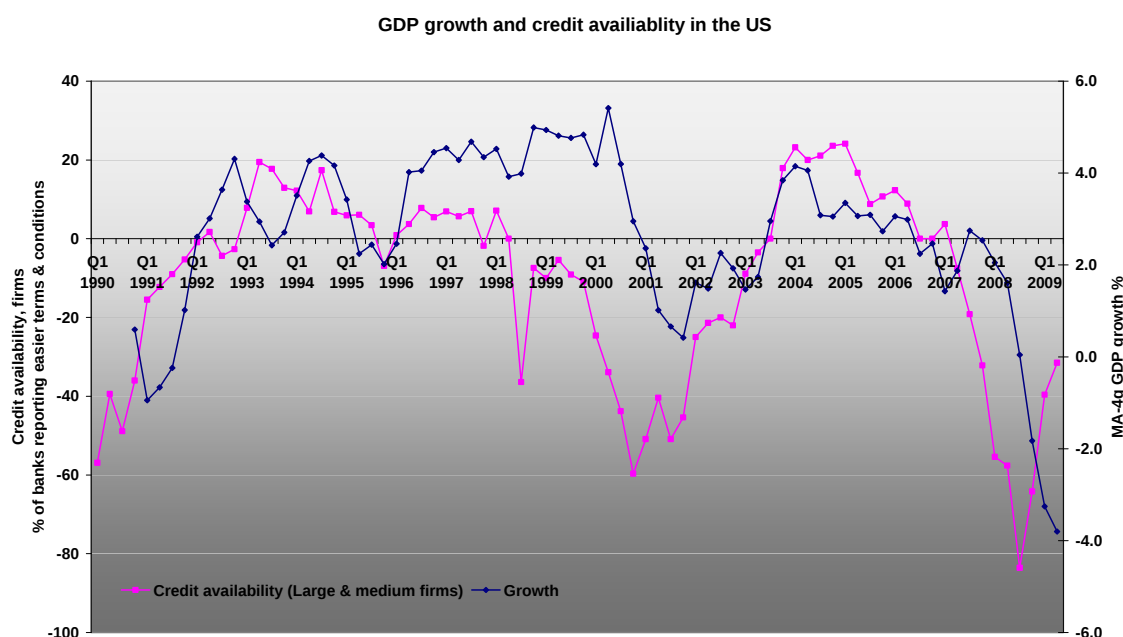
Sources: ECB Bank lending survey, 28 October 2009, variable represented (with a minus sign): Net percentage of banks responding to the following question: over the past three months, how have your bank's credit standards as applied to the approval of loans or credit lines to enterprises changed?

The sparse available data on the reasons given by banks for not granting credit also do not suggest that there is a fully fledged credit crunch. According to the banks surveyed the reluctance to lend is mainly determined by the expectations that adverse economic environment will continue for some time, and only to a lesser extent to supply-side constraints related to banks' access to funding.

In principle bank lending surveys (both the ECB and those of the Federal Reserve) measure changes, i.e. the proportion, in loan officers reporting higher lending standards with respect to the previous quarter. In order to measure the level of credit availability one should thus, at least in theory, consider not the changes reported each quarter, but the cumulative change since the start of the series. However, in reality it turns out that the cumulative changes only predict continuous tightening⁶ and changes reported each quarter constitute a better indicator.

One reason for considering changes in credit availability as the more relevant predictor of future economic activity is that this is in reality what disrupts investment plans of firms (and thus affects the change in actual investment). In fact, lenders tend to tighten standards in a very abrupt fashion but ease up very smoothly. When credit standards are tightened loans plummet immediately and continue to do so at least until there is sign of easing. Usually also output falls shortly after bank lending terms, but it does not recover immediately even if credit becomes again more freely available.⁷ In this sense the change in bank lending standards is an asymmetric predictor of economic growth. This contributes to explain how the recovery which started in 2003/4 could take place while tightening was still going on. On a similar vein, the ECB, in its last Financial Stability Report, stressed that, given the general economic outlook, banks seem still very cautious in extension of new loans.

Figure 8 Growth and credit standard in the US



Sources: Federal Reserve Bank, Survey on bank lending practices, October 2009.

The (qualitative) surveys of loan officers can only indicate a certain improvement in credit availability. However, as has been widely reported, money and credit growth turned negative (on an annual basis) at the end of 2009. Does this imply that the recovery cannot start (or last) because of a lack of credit? This should not be the case.

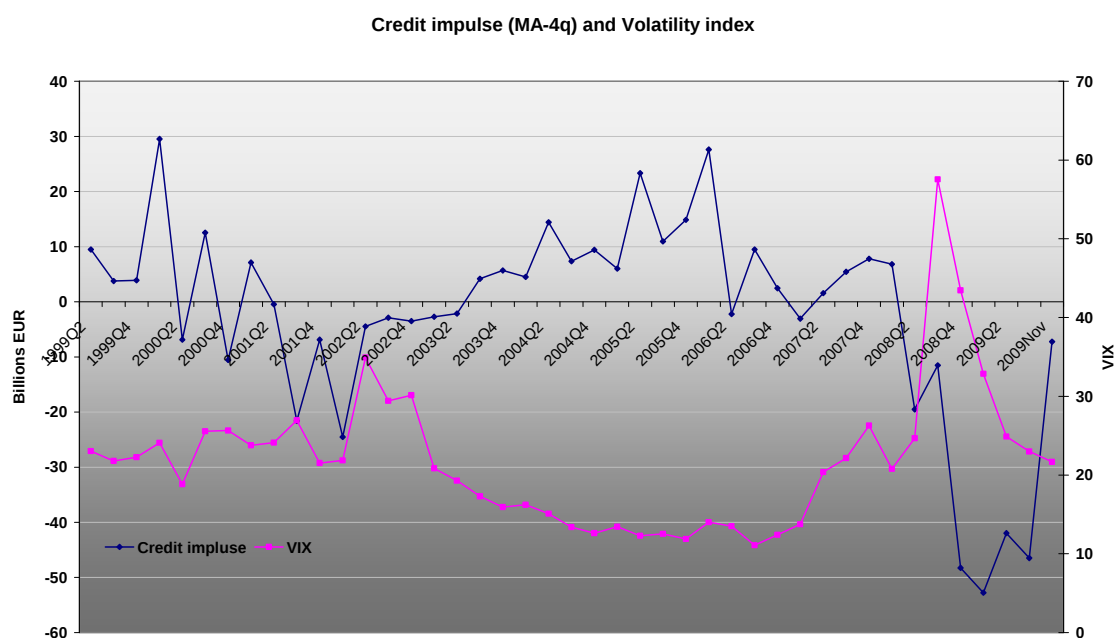
⁶One has to keep in mind that this is a qualitative survey, i.e. collection of opinions, which are likely to be biased in the aim of pleasing the surveyors or conditioned by the fear that their input will be used for supervisory purposes. For a detailed investigation of the value of these surveys and their power in predicting both lending and output growth see Lown et al. (2000).

⁷ Similar considerations apply to the survey of the Federal Reserve, which is available for a longer time period, recovery started in 2002 while credit tightening (although at a decreasing rate) was still in place.

The reason is simple: much of economic activity (for example investment) requires credit. However, investment is a flow and should be related to the flow of credit (not the stock of credit outstanding).⁸ If one looks for indications from financial markets for a recovery one should look at the change in the flow of credit, also called the credit impulse.

The most recent available data on the credit impulse suggest, as shown in Figure 9 below, that we may have reached a turning point as the values have turned sharply recently and the latest observation on the credit impulse is close to the historical average. However this should be taken with a grain of salt. It is basically only the last observation (November 2009) that drives this conclusion. However, it is clear that the deterioration has stopped. In addition the VIX, or volatility index, also shown in figure 9 suggests that stock market volatility has returned to the pre-bust period average. Given that in the past lower stock market volatility has been correlated with a higher credit impulse one can thus expect that the recovery in credit conditions is likely to continue.

Figure 9 Credit impulse and stock market volatility



Note: Credit impulse is defined as the second difference ($\Delta C_t - \Delta C_{t-1}$) of total loans extended, by euro area MFIs, to non-financial corporations and households. VIX is an index of stock market volatility traded on the CBOE.

Source: ECB statistical Warehouse.

⁸ This is argued forcefully by Biggs and Mayer (2009).

5. CONCLUDING REMARKS

A recurrent theme of this contribution has been that one should see the present crisis in the light of the bubble which preceded it. It is thus not appropriate to look simply at the fall in GDP to measure the severity of the crisis. Instead one should compare the present situation to some pre-bubble period if one wants to use a proper benchmark.

Viewing this crisis as a violent adjustment from an unsustainable bubble leads thus to a different view. It implies that the recovery will not depend only on financial markets returning to normal, but also on the amount of excess capacity which has been created during the bubble. As there might now be significant excess capacity in several sectors (housing, durable consumption, etc.) investment might remain sluggish for some time to come. This legacy from the bubble, more than official 'stimulus' programs will be decisive for the speed and durability of the recovery.

SELECTED REFERENCES

Agnello, Luca and Ludger Schuknecht (2009), *Booms and busts in housing markets: determinants and implications*, ECB Working Paper No. 1071, European Central Bank, Frankfurt, July

Alcidi C. and D. Gros (2009), *Why Europe Will Suffer More*, Intereconomics Vol. 44, No.4 July/August 2009

Biggs, M., T. Mayer and A. Pick (2009) *Credit and Economic Recovery*, Deutsche Bank, Mimeo

European Central Bank (2009) Financial Stability Report, December 2009

Gros, D. (2007), *Bubbles in real estate? A Longer-Term Comparative Analysis of Housing Prices in Europe and the US*, CEPS Working Document. 239, CEPS, Brussels

Gros, D. (forthcoming), "Comments" on Charles Wyplosz, "Ten Years of EMU: Successes and Puzzles", prepared for the Conference "Spain in EMU", organised by Banco de España, Madrid, 27 February 2009

Lown C. S., D. P. Morgan and S. Rohatgi (2000), *Listening to Loan Officers: The Impact of Commercial Credit Standards on Lending and Output*, Federal Reserve Bank of New York Economic Policy Review July 2000

Berkmen P., G. Gelos, R. Rennhack, and J. P. Walsh (2009), *The Global Financial Crisis: Explaining Cross-Country Differences in the Output Impact*. IMF WP/09/280