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## Why Europe Will Suffer More

*Europeans have a tendency to call the financial crisis a US problem, or a crisis precipitated by the “Anglo-Saxon” model. The data suggest otherwise. Moreover, the corporate sector in Europe has a much lower capacity to finance investment from internal sources of funds, which implies that a recovery of investment in Europe will be much more difficult than in the USA, as long as the banking sector remains weakened by excessive levels of leverage. The cost of the crisis could thus be much larger in Europe than in the USA.*

The analysis of the global imbalances has emphasised the interplay between global demand and supply of assets and the integrated nature of the financial system as major factors explaining the financial crisis. In this story the USA and emerging market economies (EMEs) are the main characters while Europe only plays a secondary role. On this ground there is a tendency to see Europe as simply suffering side effects of a crisis born elsewhere. This would be a mistake. The literature on the financial crises has demonstrated that almost all major crises have been preceded by a combination of two phenomena: an increase in leverage (or credit expansion) and an unusual increase in asset prices.<sup>1</sup> These two alarm signals could be observed not only in the USA but in Europe as well. Yet, unfortunately, they were largely ignored on both sides of the Atlantic.<sup>2</sup> First, contrary to a widespread perception, Europe accumulated more imbalances than the USA. Second, the higher reliance of the European corporate sector on external financing suggests that it will take longer for Europe to recover.

The following paper examines separately both indicators of looming financial instability: credit expansion (or leverage) and the asset price bubble. Moreover, it investigates the transatlantic differences concerning the role of the financial sector for investment and draws the policy implications.

### Credit Expansion

Generally low standards of risk aversion invite financial institutions to increase credit, which happened on a large scale on both sides of the Atlantic, feeding

excessive levels of leverage. A high level of leverage is an essential ingredient in any major financial crisis and the present one is not an exception. In financial markets, leverage is defined as the ratio of debt to equity financing; when this ratio increases in general the capacity of a firm to absorb losses declines and hence its fragility is boosted.

In macroeconomic terms, leverage is better defined as the ratio of credit to GDP. Leverage defined this way increases when credit expands without a consistent adjustment in GDP. Since regular cash flows will be proportional to GDP, this implies that many agents have issued promises to pay a certain nominal amount but do not necessarily have the “expected” regular cash flow to honour these promises.<sup>3</sup> It is impossible to establish an absolute benchmark for leverage, as different financial systems can support quite different ratios of credit to GDP. However, changes over time, especially rapid and persistent increases in this ratio, constitute alarm signals which have been identified as reliable predictors of financial crisis.

<sup>1</sup> See for example R. Adalid, C. Detken: Liquidity shocks and asset price boom/bust cycles, ECB Working Paper, No. 732, European Central Bank, Frankfurt, February 2007; L. Alessi, C. Detken: ‘Real time’ early warning indicators for costly asset price boom/bust cycles: A role for global liquidity, ECB Working Paper, No. 1039, European Central Bank, Frankfurt, March 2009.

<sup>2</sup> On the reasons for this see P. De Grauwe, D. Gros: A New Two-Pillar Strategy for the ECB, in: CEPS Policy Brief, No. 191, CEPS, June 2009; and Jacopo Carmassi, Daniel Gros, Stefano Micossi: Causes of financial instability and the remedy: Keep it simple, in: Journal of Common Market Studies, forthcoming special issue on the financial crisis.

<sup>3</sup> For the classical description of leverage schemes leading systems towards instability see H. Minsky: Stabilizing an unstable economy, 2008, McGraw Hill.

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## ECONOMIC TRENDS

**Table 1**  
**Debt-to-GDP ratio**

	Economy-wide		Non-financial corporate sector		Financial sector		Households and small business	
	EA	USA	EA	USA	EA	USA	EA	USA
1999	3.51	2.66	1.61	0.79	0.48	0.88	0.67	0.46
2007	4.54	3.47	2.32	1.17	0.61	1.28	0.92	0.49
2008	4.73	3.46	2.42	1.17	0.61	1.24	0.97	0.49
Change 1999-2007	1.03	0.81	0.71	0.38	0.13	0.4	0.25	0.03

Notes: Economy-wide includes households, non-financial companies, the financial sector and government both in the USA and the EA. For the USA debt is intended as defined in the Federal Reserve Z<sub>1</sub>, for the EA 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 currency and deposits. The financial sector in the EA is defined as MFIs, insurance corporations and pension funds and other financial intermediaries including financial auxiliaries.

Sources: ECB Statistical Data Warehouse, Euro Area Accounts (closing balance sheet liabilities) & Federal Reserve Z<sub>1</sub>, March 2009.

This warning signal was certainly flashing in Europe before 2007-08.<sup>4</sup> The increase in overall leverage, measured by the debt-to-GDP ratio, was broadly similar to the one experienced in the USA; only its distribution over different sectors was different.

As shown in Table 1, the rise in the economy-wide leverage has been higher in the euro area (EA) than in the USA. Between 1999 and 2007, the increase amounted to about 100 percentage points for the EA, and “only” to 81 percentage points in the USA. Similarly leverage in the non-financial corporate sector augmented by more (25 percentage points, 1999 to 2007) in the EA than in the USA (where the increase was only 3 percentage points).

Yet, the most relevant differences between the USA and the EA come in the leverage of households and the financial sector. As one would expect, leverage increased considerably in the USA household sector (40% percentage points) but augmented very little in the EA.

As far as the financial sector leverage is concerned, this is at a much higher level in the EA and increased by much more than in the USA (about 70 percentage points compared to 40). This is the key underly-

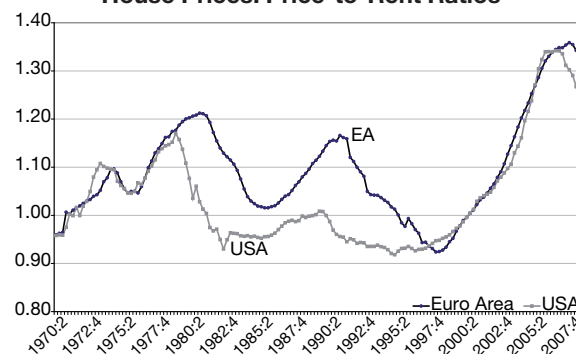
<sup>4</sup> We leave aside the question why the build-up of the credit boom was ignored. Inflation-targeting by central banks was probably one key reason. According to Borio and Lowe, a low-inflation environment increases the likelihood that excess demand pressures show up in the form of credit growth and asset prices bubble rather than in goods price inflation. If this is the case, inflation-targeting central banks with a “myopic behaviour” could contribute to financial instability. Cf. C. Borio, P. Lowe: Asset prices, financial and monetary stability: exploring the nexus, in: BIS Working Paper, No. 114, Bank for International Settlements, Basel 2002; cf. P. De Grauwe: Keynes’ Savings Paradox, Fisher’s Debt Deflation and the Banking Crisis, in: CEPS Working Document, No. 319, CEPS, forthcoming July 2009; and cf. P. De Grauwe, D. Gros, op. cit.

ing cause of the widespread stress in the European banking system. The crisis might have originated in the USA, but the European financial sector was very fragile and exposed to losses from USA (and other) assets.

### Asset Price Bubble

Another reason why Europe was as exposed as the USA to this crisis is that Europe experienced the same real estate price bubble as the USA. Figure 1 provides evidence of it by showing the house price-to-rent ratios which (like the price/earnings ratio for stocks) should be stable over longer periods. It is apparent that since the mid-1990s house prices have increased by almost exactly the same relative amount, reaching an unprecedented level on both sides of the Atlantic. The main difference between the USA and the EA is

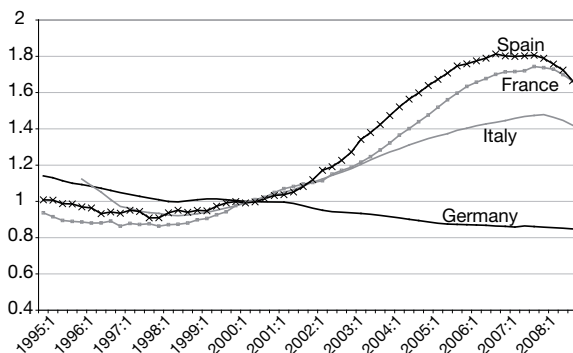
**Figure 1**  
**House Prices: Price-to-Rent Ratios**



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

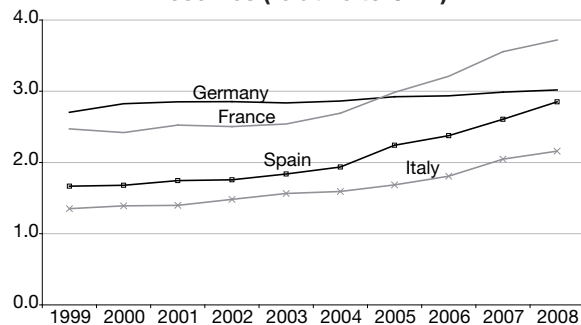
Source: OECD, May 2009, and own computations.

**Figure 2**  
**House Prices: Price-to-Rent Ratios**



Source: OECD, May 2009.

**Figure 3**  
**Total MFIs' Liabilities other than Capital and Reserves (relative to GDP)**



Sources: ECB Statistical Data Warehouse, MFIs' accounts.

that since 2006-07 house prices have declined more in the USA.

This suggests that on average the EA suffers from the same crisis symptoms as the USA in terms of leverage and a house price bubble. It was only the trigger event of the crisis that took place in the USA.

The comparison undertaken here is mainly between the USA and the EA because of data availability and because both are of a similar size. The data for the UK show similar symptoms: leverage increased as well and house prices increased by as much as in the EA.

Data are scarce on house prices for the new member states and in their case it is much more difficult to establish a longer-term historical norm against which to judge the housing sector. In some of the smaller new member states (especially in the Baltics and the Balkans), however, it is clear that large house price and construction bubbles emerged and have now burst leading to very sharp contractions in economic activity.

All in all it would thus appear that the average for the full EU27 would not be much different in terms of house prices and leverage increases from the EA average. However, the EA averages hide important differences across countries, both in terms of leverage and house prices.

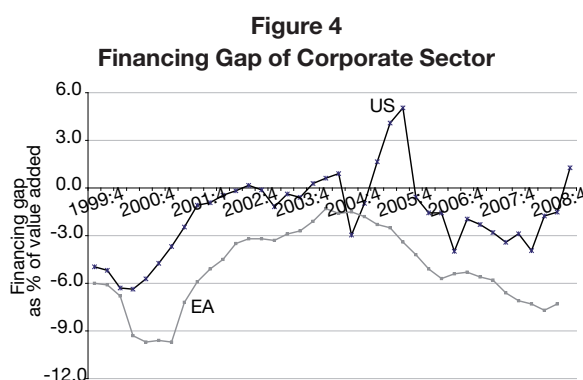
#### Asymmetries within the Euro Area

Figure 2 shows that within the EA there are enormous differences in terms of the evolution of house prices (relative to rents), which have been stable in Germany but increased by over 80% (and thus more than in the USA) in France and Spain.

A similar picture emerges when one looks at the degree of leverage (Figure 3). The evolution of credit growth shows similar differences: leverage (as measured by MFIs' assets relative to GDP) was high, but stable in Germany, whereas it increased considerably in those countries where house prices increased most (in France and Spain).<sup>5</sup>

The large differences within the EA are probably due to a combination of a fundamental asymmetry in the initial conditions between Germany and the rest of the members and differences in the structure of national financial markets. The fundamental asymmetry in initial conditions was created by the construction boom in Germany following unification. This boom peaked in 1995, when construction constituted about 14% of that country's GDP. At this point wages also started to increase, which in turn led the Bundesbank to hike interest rates considerably, thus precipitating currency crisis throughout Europe and triggering a sharp recession. From 1995 the German economy remained weak as its construction sector contracted slowly but continuously until about 2005 (when it had shrunk to about 8% of GDP). By contrast, other countries in the EA experienced a real estate boom over this period with rising house prices and increasing construction activity supported by the lower interest rates brought about by the euro. Different characteristics in national financial markets (e.g. the availability of mortgages indexed on short-term rates, different loan-to-value ratios etc.)

<sup>5</sup> At first sight, it might thus be surprising that the German banking system was also hard hit by the crisis. But the German banking system was affected also because it intermediated the large current account surplus of the country by investing in what appeared then as a most promising instrument, namely US securitised household debt. German banks, and thus also indirectly German savers, had to take large losses when the US bubble burst.



Note: Financing gap is defined as internal cash flows minus capital expenditure.

meant that this easing of financial conditions had quite differentiated impacts on different member countries.<sup>6</sup>

#### The Importance of the Financial Sector to Investment

A financial system that needs to reduce leverage has a tendency to restrict the availability of credit. How important is this to the economy? This depends of course on the financing needs of the various sectors in the economy. European consumers traditionally have been large savers (with the exception of Spain). They do not need credit to maintain consumption.

However, the corporate sector is in a completely different situation. It typically needs access to external financing to maintain investment. But in this area again it appears that the situation in the USA is better.

During most of the past decade, the USA corporate sector had a much smaller financing gap than did the European sector (see Figure 4). During the first quarter of 2009, the USA corporate sector actually became a net saver because its profits (or rather the net cash flows from current operations) were larger than expenditure for investment. This implies that from now on, the USA corporate sector does not need to receive new credit (from banks or other sources) in order to maintain investment at least at the present level. There are of course large differences within the USA corporate sector, with some parts registering a large cash flow surplus (e.g. the tech sector) and other parts (e.g. the automobile sector), a large deficit. But the com-

mercial paper market, which continues to function, can recycle the surplus funds for enterprises such as Microsoft to those firms in need of funds.

The situation in the European corporate sector is quite different. It can finance only about one third of all investment from internal sources and thus has still a considerable financing gap of around 6% of its value added. This implies that the corporate sector in the euro area needs a continuing flow of new credit just in order to keep investment going at the present level. Europe thus faces the unpleasant reality of having a financial sector with a stronger need for deleveraging in combination with a corporate sector that is more dependent on external finance than its US counterpart.

#### Conclusions

This crisis has often been labelled a "US crisis" and European policymakers still have a tendency to argue that this crisis started in the USA and that Europe was an innocent bystander which was hit only because financial markets are integrated. This attitude is of course politically convenient because it implies that European policymakers have no responsibility for this crisis. However, the numbers tell a different story: an unprecedented credit boom was allowed to develop in Europe.

Our analysis of the two main indicators of financial stress (credit boom and real estate bubble) suggests that this crisis might have started in the USA, but even more combustible material had accumulated in Europe, so that it is likely that the cost will be higher here and the recovery slower than on the other side of the Atlantic.

Costello et al. suggest that this crisis might lead to a considerable fall in potential output for the euro-zone.<sup>7</sup> This seems indeed highly likely considering the European combination of a highly leveraged financial sector and a corporate sector dependent on external financing.

In the USA the household sector is more vulnerable than in Europe. But the no recourse feature of USA mortgages and relatively liberal personal bankruptcy laws imply that the debt overhang of USA households might be resolved more quickly than the debt overhang of Europe's corporate sector. In the USA the losses on credit to households are up to 10 times larger than in

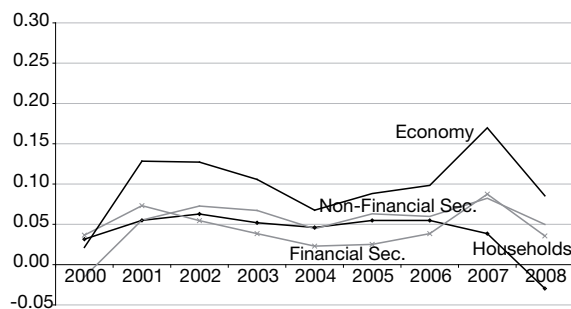
<sup>6</sup> Cf. Daniel Gros: "Comments" on Charles Wyplosz, "Ten Years of EMU: Successes and Puzzles", prepared for the Conference "Spain in EMU", organised by Banco de España, Madrid, 27 February 2009, forthcoming; cf. Alessandro Calza, Tommaso Monacelli, Livio Stracca: Housing finance and monetary policy, in: ECB Working Paper, No. 1063, European Central Bank, Frankfurt, July 2009.

<sup>7</sup> Cf. D. Costello with A. Hobza, G. J. Koopman, K. McMorow, G. Mourre, I. P. Székely: EU reforms to increase potential output, Voxeu.org, 15 July 2009 (<http://www.voxeu.org/index.php?q=node/3771>).

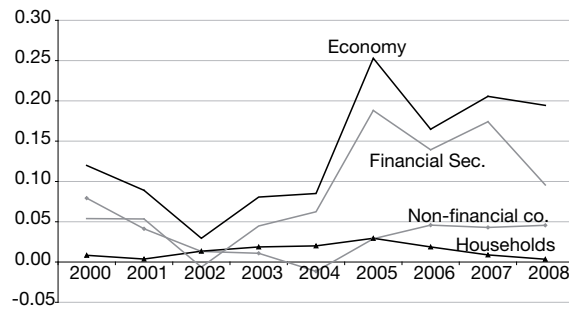
### The Credit Boom Over Time

Not only has the leverage of the financial sector (and of the economy as whole) increased by more in the euro area than in the USA, over time it also exhibits higher volatility. Figures A1 and A2 show the first difference of the leverage indicators for the various sectors already used for Table 1 above. Figure A1 shows that in the USA leverage started to increase considerably already in 2001, with the pace actually somewhat declining over time (except for the spike in 2007). By contrast Figure A2 shows that in the euro area leverage really took off only after 2004, but then at increased rates (at around 20% per annum), which are usually associated with credit booms in emerging markets.

**Figure A1**  
**The Growth of US Leverage Indicators over the Last Decade**



**Figure A2**  
**The Growth of Leverage Indicators in the Euro Area over the Last Decade**



Europe,<sup>8</sup> but a large part of credit to USA households had been securitised and sold abroad. These losses are thus borne also by European investors (especially banks from Germany, the country with the highest savings surplus). The market based system of the USA resulted in a higher level of stress when the crisis broke, but a market based financial system is also much quicker in recognising losses. Banks, especially if highly leveraged, always try to delay loss recognition; but this only prolongs the problem as it makes them reluctant to extend new credit. By contrast, a market based system can return to normal levels of credit flows more quickly because past losses matter much less – even more so if they have been borne largely by foreign investors.

What does this analysis imply for macroeconomic policy? At first sight, one might be tempted to argue that the need for expansionary policies is even stronger in Europe than in the USA. But this is not as straightforward as one might think.

An expansionary fiscal policy is useful, especially in the USA because it can “substitute” for falling demand for household construction and sustain consumption (via transfers to households). In Europe deficit spending also might sustain demand, but this cannot really

substitute for the missing investment that translates into a lower future capital stock and lower productivity growth. In Europe particular care should thus be taken not to crowd out private investment, which is already weakened by difficult access to credit.

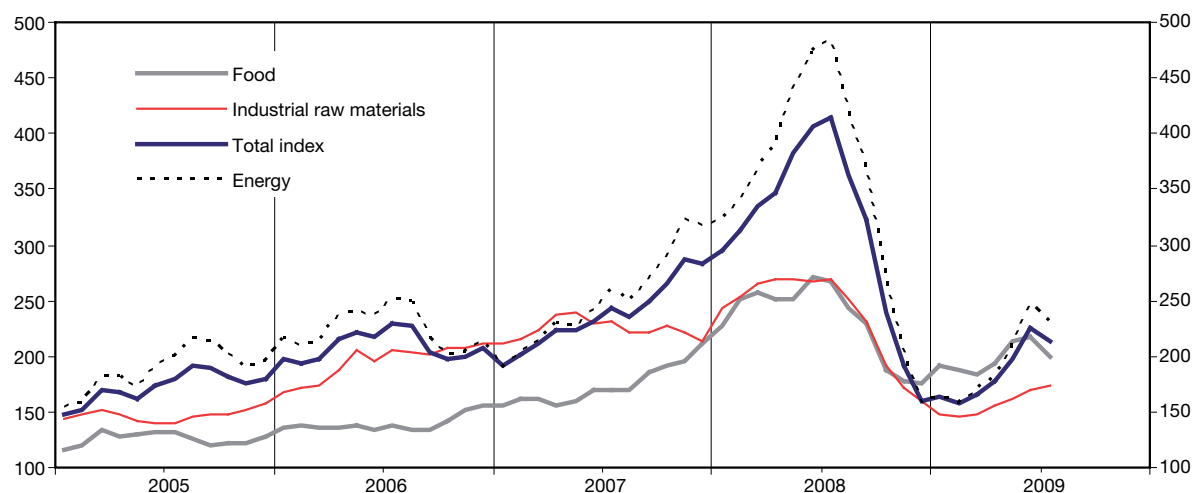
On monetary policy, the need for an expansionary policy is also evident, but one again has to think about what the ultimate aim is. In the USA the ultimate aim of policy is to lower interest rates. The central bank can directly control only short-term interest rates, which it has driven to very close to zero. But longer-term interest rates are determined in the market for longer term securities. Hence the Federal Reserve has embarked on a programme to buy T bills, a policy that is also called quantitative easing (QE). The analysis presented here suggests that in the EU the key problem might be the availability of credit, not the level of longer-term interest rates. It thus makes sense that the ECB has so far refused to push its policy interest rate to zero. But the ECB has also implemented its own version of quantitative easing by lending banks an unprecedented amount (over €400 billion, much more than the Fed has done in terms of QE) at its policy rate (1%) for a maturity of one year.

Our analysis suggests that this is the right approach and that probably further QE of this type is needed in Europe until lending conditions return to normal.

<sup>8</sup> Cf. Maria Gerhardt: Consumer Bankruptcy Regimes in the US and Europe, further effects and implications of the crisis, in: CEPS Working Document, No. 318, Brussels, July 2009.

## HWWI Index of World Market Prices of Commodities<sup>1</sup>

(2000=100)



Commodity Groups <sup>1</sup>	2008	Jan. 09	Feb. 09	Mar. 09	Apr. 09	May 09	June 09	July 09 <sup>2</sup>
Total Index	315.8 (33.4)	163.4 (-44.7)	157.6 (-49.5)	166.2 (-50.2)	176.7 (-49.2)	198.3 (-48.3)	226.2 (-44.4)	213.6 (-48.4)
Total, excl. energy	236.0 (12.9)	161.6 (-32.2)	157.6 (-37.7)	158.4 (-39.7)	167.0 (-36.5)	176.8 (-32.8)	184.4 (-31.2)	181.9 (-32.1)
Food total	233.0 (34.3)	192.4 (-15.3)	187.0 (-25.6)	184.0 (-28.3)	194.1 (-22.9)	212.7 (-15.3)	217.5 (-19.5)	199.5 (-25.3)
Industrial raw materials	237.4 (5.7)	148.1 (-39.2)	144.8 (-42.9)	147.2 (-44.5)	155.1 (-42.2)	161.1 (-40.0)	169.9 (-36.3)	174.2 (-35.1)
Agricultural raw materials	150.7 (-3.5)	109.8 (-31.9)	104.6 (-34.5)	104.5 (-35.7)	107.2 (-33.6)	112.0 (-30.8)	116.7 (-29.0)	121.7 (-26.4)
Non-ferrous metals	242.2 (-11.1)	124.9 (-50.0)	121.6 (-56.1)	128.4 (-56.9)	144.5 (-51.1)	151.8 (-46.4)	167.1 (-39.4)	170.2 (-39.2)
Iron ore, steel scrap	482.2 (60.8)	323.9 (-31.1)	326.2 (-30.9)	324.6 (-33.0)	326.2 (-36.5)	331.9 (-39.3)	335.3 (-38.8)	341.1 (-37.4)
Energy	354.4 (41.6)	164.3 (-49.1)	157.6 (-53.8)	169.9 (-53.9)	181.4 (-53.3)	208.6 (-52.7)	246.4 (-48.1)	229.0 (-52.7)

<sup>1</sup> On a US dollar basis. averages for the period; figures in brackets: percentage year-on-year change. <sup>2</sup> Up to and including 24th July.

Further information: <http://www.hwwi-rohindex.org/>

### Correction:

The following footnote was mistakenly omitted from the article by L. Fontagné, T. Mayer, G. I. P. Ottaviano: Of Markets, Products and Pices: The Effects of the Euro on European Firms, in: *Intereconomics*, Vol. 44, No. 3, June/July 2009, p 149:

“Data used to construct Belgian figures have been provided by National Bank of Belgium. For confidentiality reasons, it has been clearly impossible to pool data from different sources and calculations have been performed independently for the various countries by the people cited in the article.”