Strengths and Limitations of the French Financial Accounts for Analysis of the Last Financial Crisis from a Macroeconomic Viewpoint

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STRENGTHS AND LIMITATIONS OF FRENCH FINANCIAL ACCOUNTS FOR ANALYSIS OF THE LAST FINANCIAL CRISIS FROM A MACROECONOMIC VIEWPOINT

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Summary

This study aims at assessing the contribution of financial statistics to macroeconomic analysis. It deals with the strengths and limitations of national financial accounts, notably in the light of the various impacts of the recent financial crisis.

First, such statistics are a vital tool for detecting and quantifying financial trends, making relevant international comparisons and guiding government policymaking. They rely on a comprehensive and coherent analytical framework covering a broad spectrum of financial transactions and economic agents. The statistics are produced in accordance with the rules laid down in the 1993 *System of National Accounts* (SNA 93), which all countries acknowledge. Assessing assets at market value makes it possible to evaluate the financial wealth of all economic agents.

Second, this analytical framework also suffers from gaps, which are common to several countries. In many cases, published data provide too few details about financial transactions in particular, depriving analysts of important inputs for comprehension. The limitations and shortcomings of data sources (especially with regard to asset valuation, the breakdown between flows and revaluation, and complex instruments) means that estimates and assumptions must be made when compiling accounts, and this can impair understanding of the facts and give rise to substantial revisions. Internal inconsistencies, between the sources of information themselves, and external inconsistencies, between real and financial accounts, entail trade-offs and changes to certain data, and this too can weaken the analysis and the conclusions drawn. Publication lead times, which are still too long, preclude timely analysis of current developments.

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Outline

Introduction

The crisis that began to strike the world financial system in the summer of 2007 forcefully highlighted the need, in macroeconomic analysis, for high quality and timely statistics covering a broad spectrum of financial instruments and economic agents. Keen to draw as many conclusions from the crisis as possible, finance ministers from the G20 countries and central bank governors, meeting in November 2009[2], seized the opportunity to reaffirm the need for greater transparency and harmonisation between OECD countries of their published statistics, and especially of those relating to the realm of finance.

These objectives are of direct relevance to national financial accounts[3]. Established in line with the stipulations of international methodology manuals[4], including the 1993 System of National Accounts (SNA 93), they endeavour, within this framework, to describe the investment and financing behaviours of each resident economic agent, but also flows of capital with the Rest of the world. They use and supplement information provided by monetary statistics, statistics on the issuance and holding of securities and balance of payments statistics. They summarise these statistics, ensuring consistency, to the fullest possible extent, with (real) economic accounts. They can also be used to assess the financial wealth of each economic agent at market value.

For all these reasons, national financial accounts constitute an irreplaceable tool for quantifying financial trends, making international comparisons and guiding government policymaking. In particular, and along with the other statistics, they provide input for the deliberations of central bankers, with regard to monetary policy decisions, and for governments' fiscal policymaking, by providing a systematic description, in terms of flows and stocks, of the claims and debts of all institutional sectors. Nevertheless, the increasing number of market players, the growing complexity of financial transactions and financial globalisation are making this analytical framework more fragile, despite continuous progress in the coverage of financial statistics and improvements to methods of estimation. National accounting is a discipline in constant flux, which needs to adapt to innovations in accounting and finance.

This study will seek to outline the strengths and weaknesses of French financial accounts, focusing more particularly on how the accounts reflected the recent financial crisis. First, French banks will be studied, and in particular the changes to their balance sheets and their access to the interbank market. Next we shall look at how the crisis spread to the real economy through the effect on lending to the private sector and the household wealth effect. Last, we shall analyse the consequences of policies to support economic activity on the financial accounts of general government. We shall also make comparisons with a number of OECD countries.

1.   Banks at the core of the recent financial crisis

Banks are at the core of the financial system mainly in two ways. First and traditionally, they play the role of financial intermediaries for economic agents. In a nutshell, they take a portion of the savings of their customers, who possess surplus resources, and make it available to those who, on the contrary, have funding requirements not covered by their own savings (for example, by using household deposits to make loans to businesses). Secondly, and this activity keeps growing, credit institutions and similar

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[2]   See in particular the May 2010 joint report of the International Monetary Fund (IMF) and the Financial Stability Board (FSB) Secretariat entitled *The Financial Crisis and Information Gaps*: http://www.imf.org/external/np/g20/pdf/053110.pdf.

[3]   See Annex 1 on the main methodological principles of French national financial accounts. For the United States, a number of special adjustments have been made to improve data comparability (see Annex 2).

[4]   French national financial accounts are currently compiled according to the standards contained in the Eurostat manual on the "1995 European System of Accounts – ESA 95", as are those of the other euro zone countries. Both manuals (SNA 2008 and ESA 2010) are currently being updated for expected implementation in 2014.

intermediaries are also market operators that trade on capital markets for their own accounts and on behalf of their customers. In this connection, they hold substantial portfolios of financial assets, composed in particular of debt securities, equities and UCITS. At year-end 2009, for example, the aggregate portfolio of French banks was equivalent to over 80% of national wealth (GDP) – a figure by which its importance can be gauged.

In addition to the surveillance of banks on a microprudential basis, exercised essentially by banking supervisors, macroprudential tools have been developed in order to detect and assess systemic risks. National financial accounts, obviously supplemented by other statistics such as market data (interest rates, stock market indices, credit default swaps, etc.), offer further tool of analysis. Their macroeconomic scope and accounting principles, including the recording of assets at market value (see Annex 1), allow them to provide global but useful insights on the investment and financing behaviours within the various sectors of the economy.

Moreover, financial accounts are used for analytical purposes by numerous institutions. The International Monetary Fund (IMF), for example, compiles and publishes macroeconomic Financial Soundness Indicators (FSIs[5]) widely based on microprudential data but also partly based on financial accounts and , in order to supply the statistical information needed to assess the state of a country's financial system and financial institutions, as well as of the businesses and households that constitute the customer base for those institutions.

1.1. *The financial crisis affected bank balance sheets*

1.1.1. *Zooming in on the balance sheets of French banks*

On the face of it (see Figure 1), the crisis caused little change to the proportions of the main financial instruments (deposits, loans, securities and other instruments, including financial derivatives) carried on the balance sheets of French credit institutions (CIs), as reflected in the financial accounts. Deposits and loans continued to account for over two-thirds of their balance sheets – a proportion that varied very moderately between 2007 and 2009. The proportion of securities decreased. On the asset side, the proportion fell from 25.5% in 2007 to 21.5% in 2008, offset in particular by an increase in financial derivatives. It then rebounded to 23.9% at year-end 2009. For the most part, this movement reflects the rising value of portfolios, which is naturally correlated to stock market indices and interest rates. In national accounting, as stipulated by the SNA 93 and ESA 95 manuals, capital gains and losses (realised or unrealised), which include write-downs of the value of securities, are recorded in the revaluation account. In France, in contrast to the practice of other OECD countries, this information is published separately.

In 2008, the net financial wealth (aggregate financial assets less total liabilities) of French banks diminished by roughly 60% (see Figure 2). Broken down by components (flows, revaluation, change in volume), it can be seen – unsurprisingly – that revaluation's impact on amounts outstanding was substantial, and the impact of flows virtually nil.

Comments and analyses regarding these changes must be qualified, however, since the accounting sources that are used to compile the financial account of French banks are individual company accounts and not group accounts prepared from consolidated balance sheets valued directly at fair value according to IFRS standards[6]. For this reason, to value certain bank portfolios entails estimation. Apart from the

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[5]   Link to the IMF's FSI page: http://www.imf.org/external/np/sta/fsi/eng/fsi.htm.

[6]   In accordance with the accounting rules stipulated by the ESA 95 manual, French national accounts are prepared on the basis of non-consolidated company balance sheets (banks, non-financial corporations, insurance companies). Aggregate institutional sectors are therefore formed by the addition of each entity. The accounts of companies belonging to the same group are therefore not consolidated. In other words, "groups" can be studied only on the basis of financial accounts.

transaction portfolio, which is recorded in market value on the accounting statements collected, investments and fixed-asset portfolios are recorded at historical cost (acquisition cost). Their "valuation" is left to national accountants, who use market indices aggregated by broad category of securities (short-term debt, long-term debt, quoted equities, non-quoted equities, monetary UCITS and non-monetary UCITS), by currency and by geographic area. This simple and robust method offers the advantage of tying changes in portfolio values to movements in interest rates or stock market indices. Nevertheless, the use of more finely detailed statistics, such as information on bank portfolios broken down "security by security", would make it possible to value bank assets more accurately and to determine whether the banking sector "outperforms" or "underperforms" market indices. This level of detail is available for statistics on the insurance and UCITS sectors. In contrast, for banks this would require, *inter alia*, improvement in the quality of the data currently collected[7].

Figure 1: Assets of French banks broken down by broad category of financial instruments (in %)	Figure 2: Change in the net financial wealth of French banks and its contributions (year-on-year in %)

Source: National accounts; figures for 1997-2007 correspond to yearly averages.
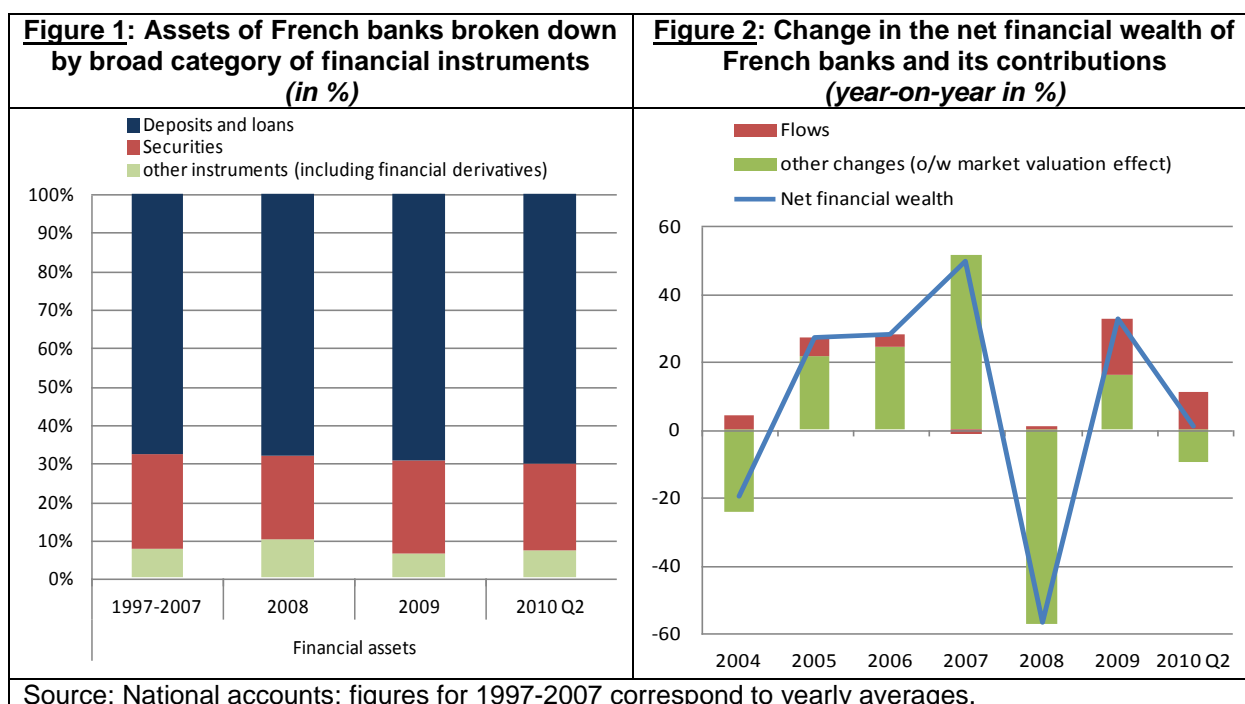
1.1.2. *Difficulties accounting for complex financial instruments: the example of financial derivatives*

Financial accounts cannot comprehensively reflect the complexity and consequences of the recent financial crisis on certain markets, such as the ones for financial derivatives (F.34).

Financial derivatives (FDs) – the financial instruments used commonly by banks today for a variety of purposes (to cover or take positions for example) raise several difficulties with regard to financial accounts due to the complexity of the products included in this category [conditional instruments, swaps, forward contracts, credit default swaps (CDS), etc.], their diversity, how they are accounted for and inadequacies stemming from the sources of information available to national accountants. Under the circumstances, it is unfortunately difficult to analyse such instruments.
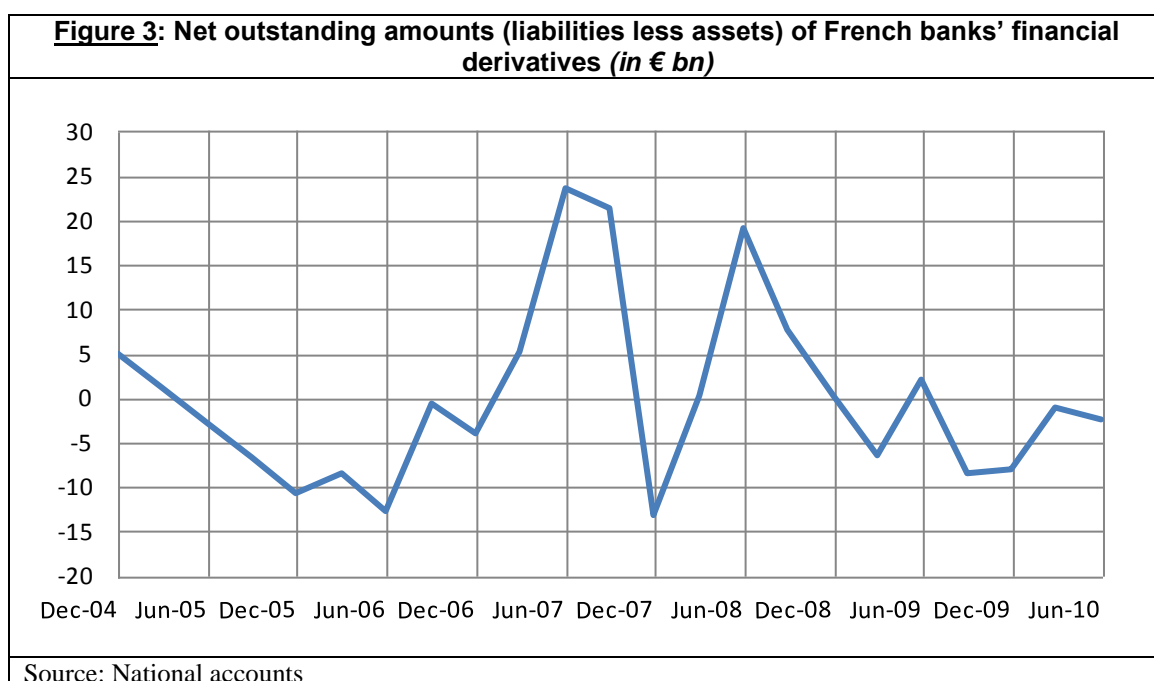
In practice, financial statistics are compiled primarily from data that credit institutions provide on conditional instruments, which are the only financial derivatives to be carried on the individual balance

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[7]   E. Pauly (2010) puts forward a number of possible ways to improve financial statistics.

sheets of French credit institutions at their market values. French accounting standards do not in fact call for systematic valuation at market value of other financial derivatives:

- The principle of prudence results in the non-incorporation of unrealised capital gains for over-the-counter instruments, except in respect of specialised management operations on a portfolio of transactions.

- Macro coverage does not call for interest rate swaps to be carried on balance sheets at market value.

In sum, the use of individual company accounts for credit institutions precludes compliance with the stipulations of international national accounting manuals: there is a real risk of understating the value of financial derivatives – other than conditional instruments – which must be carried at market value. Under the circumstances, the net position of French CIs, as buyers or sellers of FDs, established on the basis of incomplete accounting information, must be interpreted with caution (see Figure 3).

Figure 3: Net outstanding amounts (liabilities less assets) of French banks' financial derivatives *(in € bn)*

Source: National accounts

France is not an isolated case, however. For example: the European Central Bank (ECB) does not publish outstanding amounts of financial derivatives valued totally at market value. In contrast, in the United States[8], the Netherlands and the United Kingdom, among others, the data collected provides better input for regulatory requirements. Nonetheless, these countries publish only a portion of the information obtained.

It is therefore hazardous to attempt international comparisons of FDs on the basis of national financial accounts. It would thus seem necessary to improve the valuation of such financial instruments, which have become practically elementary in the banking business. One could point to the initiative of the

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[8]   Model for reporting US FDs: http://www.ny.frb.org/banking/reportingforms/TIC_D.html

Bank for International Settlements (BIS)[9], which since 1998 has published semi-annual FD statistics on the basis of a harmonised model and offering comparisons between the G10 countries and Switzerland.

1.2. *The financial crisis disrupted the workings of banks' traditional funding channel*

2.1.1. *The blocking of the interbank market*

In Europe, the recent financial crisis began with a drying up of liquidities on the interbank market. Each day, banks tap this market for resources vital to their operations. Beginning at year-end 2007, doubts over the solvency of various banks, a shroud over the actual proportion of "toxic" assets held by banks, and bank failures – in the United States in particular (such as Lehman Brothers) – led to a rise in premiums for the risk of bank-sector failure. This crisis of confidence ultimately brought the market to total paralysis.

Traditionally, banks refinance via the loans and deposits they exchange on the interbank monetary market at interest rates generally near to the prime rate set by the monetary authorities. In the national financial accounts, these transactions are reflected mainly in category F.29 ("Other deposits"). In France, published statistics offer a sufficient level of detail to set these apart more specifically[10].

Financial statistics (see Figure 4) illustrate the failings of the interbank market as from 2007, which required co-ordinated intervention by governments[11] and central banks. Whereas pre-crisis Banque de France funding of French CIs was limited to just a few billion Euros per year and paled in comparison with the liquidities obtained from other CIs, the contribution of the central bank funding rose in 2007 and 2008 to several tens of billions of Euros. Over that period, the central bank stepped in for the deficient interbank market, as illustrated by Figure 4, by supplying liquidity. Beginning in 2009, the normalisation of market conditions enabled CIs to start reimbursing the central bank.

The figure also highlights another phenomenon to which the financial crisis put a stop. It can be seen that prior to the crisis French banks had received substantial amounts of funding from their non-resident counterparties. This trend reversed in 2008, when French banks began to pay down their debt (see Figure 4: Net funding from non-residents).
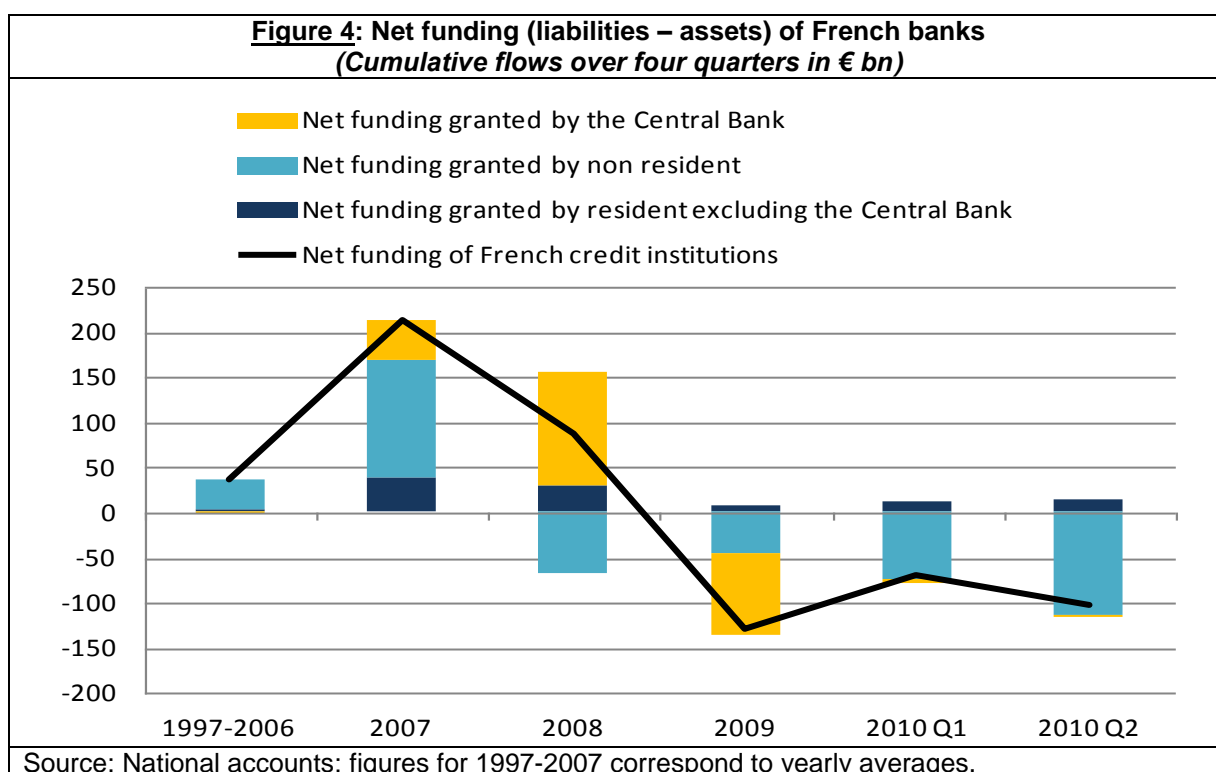
The difficulties recording such transactions in the financial accounts, as well as the very large amounts involved, call for prudence when analysing the phenomenon. It is often observed that the reporting of these instruments by CIs, in particular with regard to breakdowns between resident and non-resident counterparties, lacks spontaneous consistency (there is an imbalance between uses and sources). In other words, the two counterparties (sectors) to any given financial operation may report different measurable quantities. In such cases, a national accountant must make a choice and opt for one source rather than another, *i.e.* consolidate while striving to deviate as little as possible from any of the relevant sources available. Interpretation is also tricky because there may be a problem of territoriality (foreign subsidiaries).

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[9] Data published by the Bank of International Settlements: http://www.bis.org/statistics/derstats.htm. These statistics cannot be used by national accountants because they are compiled from all-area consolidated accounts for each banking group. In addition, they relate only to the over-the-counter market and not to organised markets.

[10] They are recorded in F.295 ("Funding between financial institutions") and F.296 ("Financial correspondents accounts").

[11] In France, as in most other developed countries, there were government measures to support banks via the creation of a State-owned equity investment company (Société de Prises de Participation de l'État, SPPE) to bolster share capital and a State-owned loan distribution company (Société de Financement de l'Économie Française, SFEF).

Figure 4: Net funding (liabilities – assets) of French banks
(Cumulative flows over four quarters in € bn)

Source: National accounts; figures for 1997-2007 correspond to yearly averages.

2.1.2. *Searching for "stable" resources*

Losses in the wake of the financial crisis, recorded in the aggregate by the French banking sector in 2008, reduced banks' capital and the quality of their solvency ratios. Thus weakened, they then sought to increase their "stable" resources.

Prompted by the banking supervisor, banks increased their equity. In most countries, governments instituted mechanisms to help them do so[12]. In the financial accounts, this is reflected in an increase in net issues of equity securities[13] (F.51 transactions), the amounts of which exceeded their pre-crisis levels as from 2008 (see Figure 5).

In addition to bolstering their equity, banks also sought to increase one of their other "stable" resources. In particular, they undertook advertising campaigns encouraging households to make more savings deposits (F.2 transactions), rather than alternative investments, by offering them above-market interest rates on savings accounts and certificates of deposit. Lastly, extension of the right to issue "Livret A" tax-free savings accounts[14] as from 1 January 2009 encouraged savings deposits (see Figure 6).

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[12] Creation in France of the Société de Prise de Participations de l'État (SPPE), which among other things purchased preferred shares issued by BNP Paribas and Société Générale.

[13] Quoted shares, unquoted shares and other equity.

[14] The Economic Modernisation Act of 4 August 2008 authorised all French credit institutions to distribute Livret A, in addition to the historical distributors (Banque Postale and Caisses d'épargne).

Figure 5: Net issues of equity securities by French banks (cumulative flows over four quarters, in € bn)	Figure 6: Non-financial agents' deposits with French banks (cumulative flows over four quarters, in € bn)

Source: National accounts
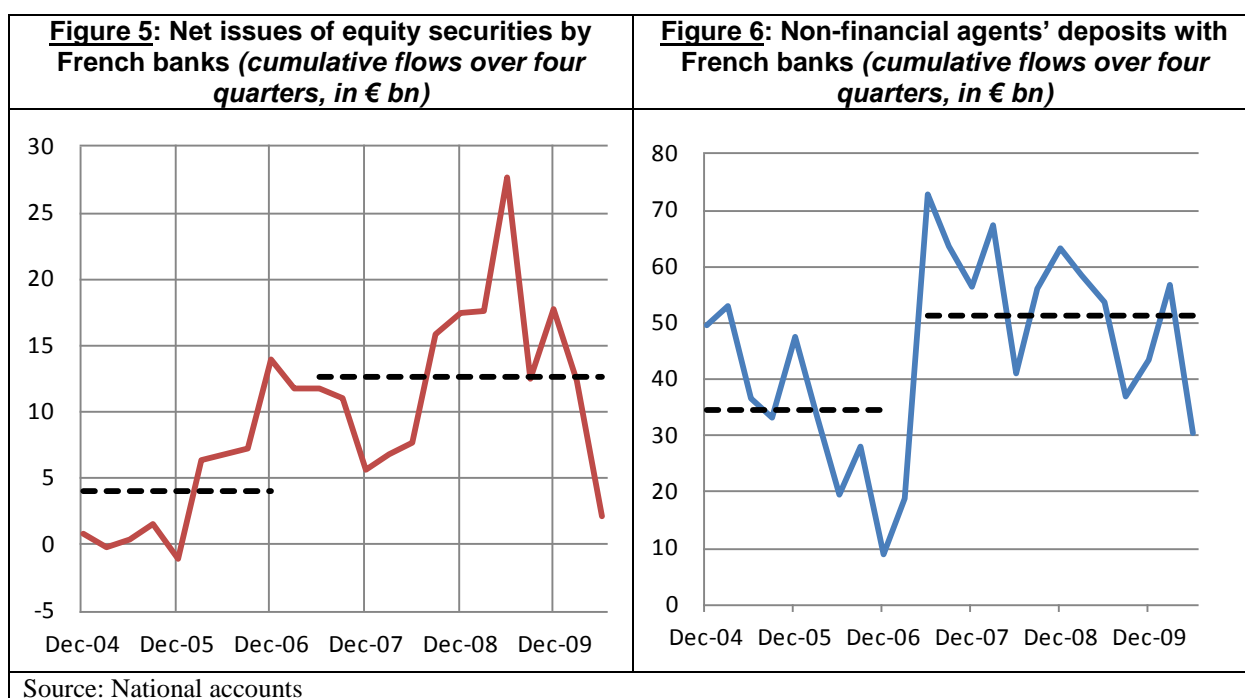
2. Spreading the crisis to other economic agents, primarily via the effects on lending and wealth

2.1. Analysing the credit channel

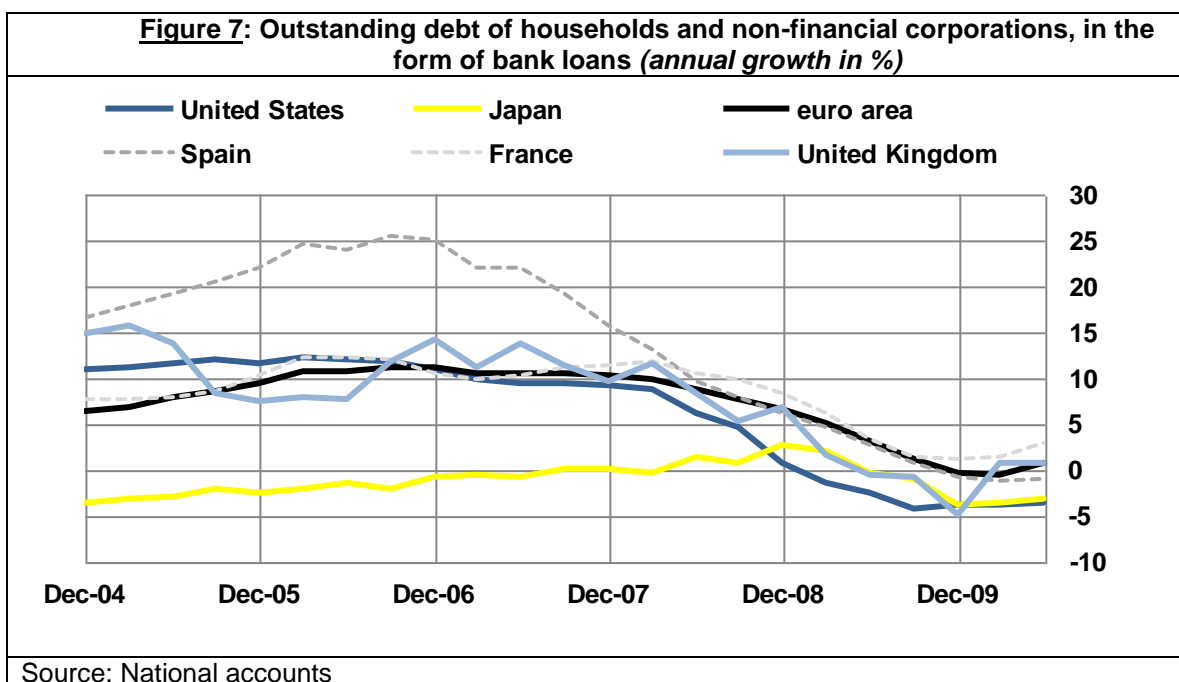#### 2.1.1. Contraction of loans to the private sector

The crisis spread to the private sector via bank lending. Partially as a result of banks' funding difficulties, the slowdown in bank lending to the non-financial private sector (composed of households[15] and non-financial corporations – NFCs) is one of the most visible manifestations of the recent financial crisis. This had a direct impact on an essential source of funding for these economic agents, and in particular for businesses that cannot access financial markets. In the financial accounts, these loans are recorded[16] at face value, with bank loans denominated in foreign currency converted to local currency at the exchange rate for the day in question. Nevertheless, these purely descriptive statistics cannot be used as such to conclude whether trends in lending mainly arise from supply-related drivers on or from demand-related factors.

Figure 7 traces the long-term trend in the annual growth rate of outstanding loans to households and NFCs by resident and non-resident financial institutions (indirect external financing[17]). It shows a high growth rate in the years prior to 2007 and then, in the months following the outbreak of the sub-prime crisis, a sharp slowdown in all of the countries under review (France, Japan, Spain, United Kingdom, United States and the euro area), if not a contraction (Japan, Spain, United Kingdom and United States) in 2009. More generally, the United Kingdom and the United States show an earlier and more pronounced downswing in outstanding loans.

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[15]   Including non-profit institutions serving households.

[16]   Financial transactions F.41 and F.42.

[17]   In the balance of payments, loans from non-resident financial institutions are put in the category "Other investments".

Figure 7: Outstanding debt of households and non-financial corporations, in the form of bank loans *(annual growth in %)*

Source: National accounts

The overall assessment is consistent with the one furnished by monetary statistics, which constitute one of the essential sources of financial accounts. However, financial data rely on a broader spectrum of data. With regard to sectors that provide funding, the statistics incorporate loans granted or carried by other resident financial intermediaries or non-resident financial agents, in addition to loans granted by monetary financial institutions. The financial accounts therefore provide a more exhaustive vision.

Compliance with and harmonisation of the rules governing the accounting treatment of financial transactions and the classification of sectoral entities (SNA 93 recommendations)[18], thanks in particular to the efforts carried out by international institutions (IMF, ECB, OECD), also make it possible to establish consistent international comparisons for a growing number of countries and over longer and longer periods of study (chronological series approach).

However, any analysis of the credit market that is based on financial accounts alone runs up against certain limitations stemming from the inadequacy of the information that is compiled and published.

During the recent financial crisis, some analysts considered securitisation – a financial technique whereby a bank can rid its balance sheet of claims (loans for example), and thus make savings in terms of equity, by packaging them into special purpose vehicles (SPVs) – to be one of the main reasons for the shifts in the distribution of loans (in particular to certain U.S. households having little or no solvency), which helped prompt and amplified the crisis. For that matter, these so-called "sub-prime" loans lent their name to the crisis. In the financial accounts, SPVs are classified as "Other financial intermediaries"[19], and the loans that they carry must be identified and reflected in the accounts. Yet a portion of these loans, albeit a limited one, is included in private securitised asset funds, which are subject to no reporting obligation. As a result, there may be some inadequacies and gaps in these statistics.

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[18]   For the United States, adjustments are necessary, especially in terms of institutional sectors, see Annex 2

[19] The "Other financial intermediaries" sector (S.123) includes investment firms, securitised asset funds and non-monetary UCITs.

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At the same time, the inadequate level of detail in published statistics precludes more extensive analysis, insofar as "securitised" loans are not set apart in published financial statistics. Important input for understanding the recent crisis, shedding some light on how CIs were able to grant loans massively while continuing to meet prudential solvency standards, eludes analysts. Similarly, while the nomenclature of financial instruments under current standards enables loans to be distinguished by maturity[20], *i.e.* short term (less than or equal to one year) or long term (more than one year), it provides no information on the purpose of loans (housing, investment, cash flow, consumption or other), in contrast to monetary statistics. And yet such a breakdown provides a wealth of information for macroeconomic analysis. In France, loans for investment and housing respectively have historically evolved similarly to business GFCF and household housing GFCF, which are two of the main "engines" of economic growth. In addition, more specifically with regard to NFCs, the various categories of firms are also not enumerated: in national accounting, they are consolidated without distinction as to size (VSEs/SMEs/large enterprises), whether they belong to the public or private sector[21] or their line of business. Nevertheless, this information would be necessary to put forward a more specific and qualified assessment of the financial position of NFCs. It is in fact highly probable that macroeconomic commentary about trends in lending to NFCs that are based on financial accounts alone are more reflective of the position of large enterprises (size effect) than of SMEs or VSEs, which nonetheless account for the greatest number of jobs, and whose access to market funding is difficult. This information exists elsewhere, and particularly in France[22], but it is not incorporated into national financial accounts.

Moreover, while the financial accounts do a satisfactory job of portraying a national economy's broad credit trends (acceleration, slowdown and turning points), it would seem necessary to supplement this representation of the financial economy with other sources of information. Financial statistics are descriptive, and as such they cannot resolve the problem of supply (restriction by banks of the loans they grant) and/or demand for credit[23] (reduction of the funding requirements of economic agents). Neither do they provide clear information on the quality of outstanding loans, since unrecoverable debt is reported under national accounting as "Other volume changes" (K10) but is not specifically set apart from any other components.

2.1.2. *Could financial accounts have been used to foresee the credit market crisis?*

It is legitimate to ask whether financial accounts have a predictive value, and to wonder whether the crisis and the excesses in certain markets might have been foreseen if the accounts had been consulted. In each of the countries studied, except for Germany and Japan, the figures for 2006 show double-digit annual growth rates in private-sector lending, which was higher than the long-term average (calculated over 10 years between 1997 and 2006) (see Table 1 below), but within a limit of approximately one standard deviation. It was therefore very likely that they would return to their average level. However, the magnitude of the slowdown in the credit market, and even of the contraction in the United States and the United Kingdom in particular, was very difficult to foresee on the basis of the data provided by the financial accounts, even though there were other warning signals.

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[20] The Flow of Funds statistics published by the Federal Reserve (Fed) provide a level of published detail far superior to what can be found in Europe, and information on the breakdown of loans by purpose is available. As a rule, the Fed compiles data according to nomenclatures specific to the organisation of its national financial system, in terms of both sectors and instruments. This nomenclature is more detailed than the one stipulated by the international standards that theoretically apply to national accounts.

[21] Additional detail has been requested in the new framework of SNA 2008.

[22] See business statistics compiled from the reporting of credit institutions at the Banque de France Risk Centre http://www.banque-france.fr/fr/statistiques/economie/economie-entreprises/credit-type-entreprise.htm.

[23] For France and the euro area, qualitative information is available through a quarterly survey – the Bank Lending Survey (BLS).

Table 1

| Loans to private non-financial sectors (annual growth in %)							
	2006	**2007**	**2008**	**2009**	**2010 Q2**	**average 1997-2006**	**Standard deviation 1997-2006**
United States	10,9	9,1	0,6	-3,9	-3,8	9,5	1,9
Japan	-0,9	-0,1	2,5	-3,9	-3,2	-3,1	18,2
euro area	11,0	10,2	6,4	-0,6	0,6	7,3	2,3
Germany	0,8	1,2	0,9	-1,6	-2,2	1,3	2,5
Spain	24,9	15,5	6,0	-1,0	-1,2	18,2	3,3
France	10,3	11,3	8,3	1,1	2,7	6,7	3,7
United Kingdom	14,1	9,6	6,7	-5,1	0,5	10,9	2,5
Source: National Accounts							

Before the crisis erupted, the level of household indebtedness was reaching unprecedented levels (see Figure 8), especially in the United States, the United Kingdom and Spain – three of the countries hardest hit by the crisis. However, Japan and Germany stood out as exceptions because of the decline in the indebtedness of their households, which reflected the particular situation of the real estate sector in those countries; in Japan, the market was still recovering after the real estate bubble burst in the early 1990s, and in Germany, the plentiful and competitive supply of rental accommodation made purchasing real estate less attractive[24].

Figure 8 :
Indebtedness of households, including NPISHs *(as % of GDP)*

Source: National Accounts

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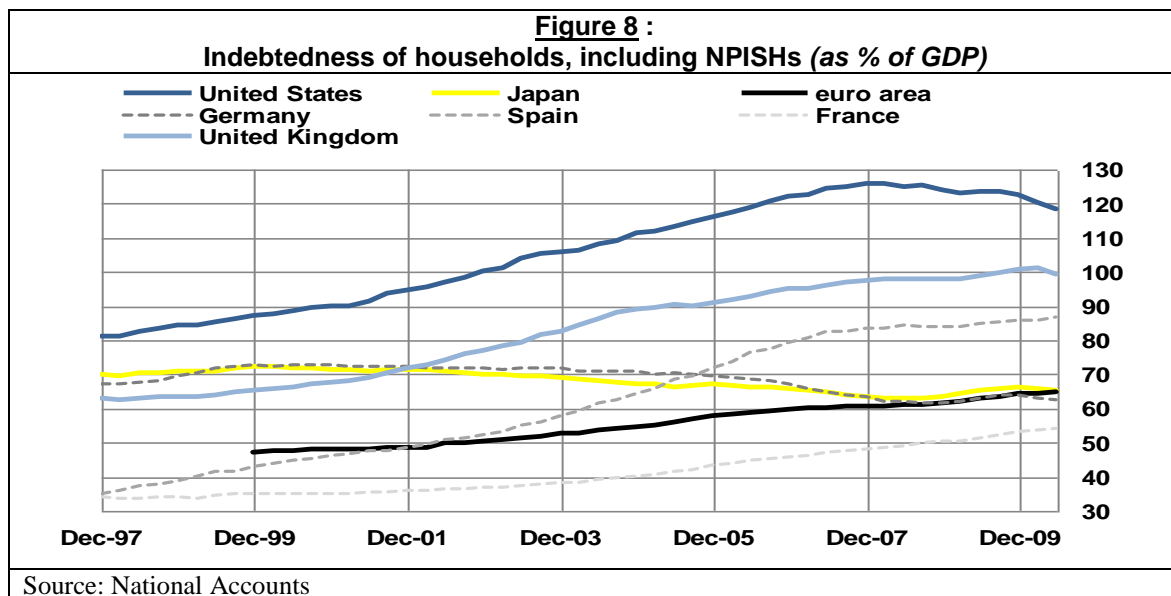
[24] The ownership rate stood at 46% in Germany in 2007 – one of the lowest in Europe. By comparison, it was 58% in France and 83% in Spain (source: Eurostat). In the United States, it stood at 67% in 2009 (source: Census Bureau).

Another factor might have given cause for concern. In 2006, the leveraging of household debt, as measured by the ratio of outstanding bank loans to financial assets[25] (deposits, securities, life insurance and pension funds), was reaching increasingly high levels as compared with previous years in the US/UK and in Spain (see Figure 9). In other words, the amount of their debt was increasing more rapidly than the value of the financial assets held[26]. Since the peak reached in 2008 due to the drop in markets, deleveraging has occurred in the United States and the United Kingdom but has still not taken place in Spain. In the other countries studied, the trends were more reasonable.

Figure 9: Ratio bank loans/financial assets of households (including NPISHs) (%)

Source: National Accounts
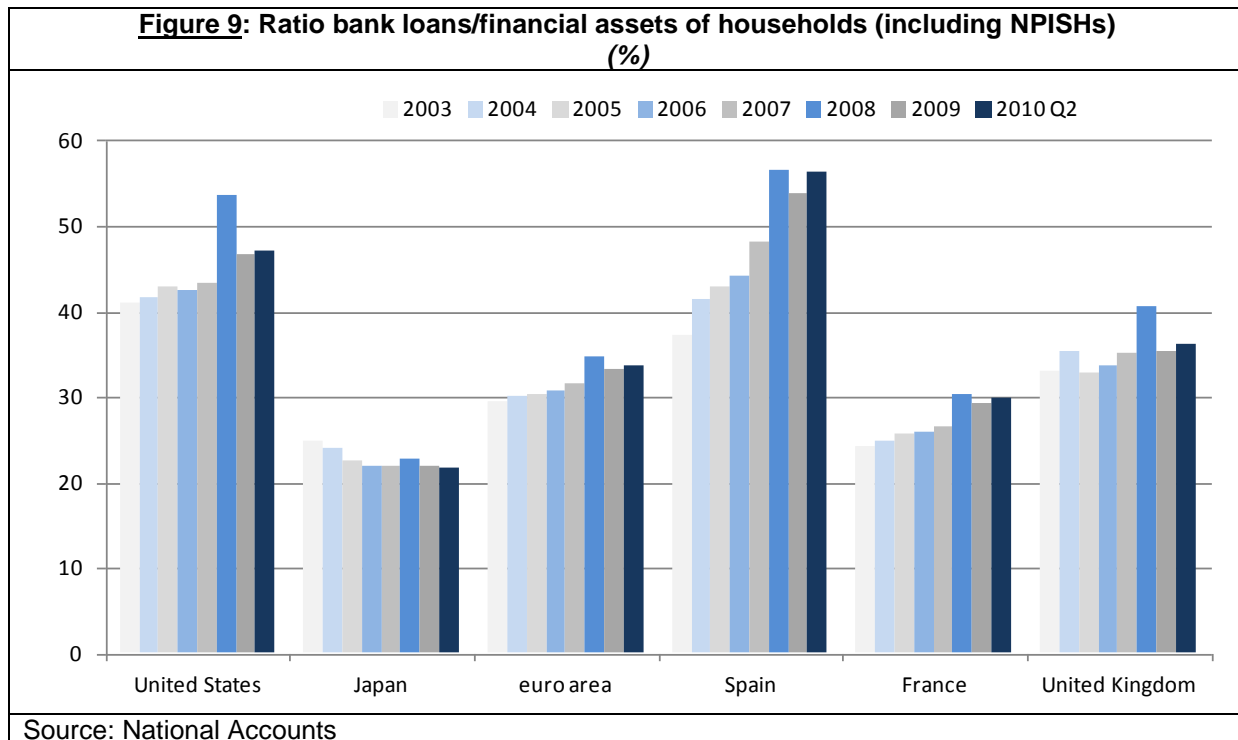
Unfortunately, these indicators can often be used only when it is too late and after the event has occurred[27]. Although most major countries have quarterly financial accounts, the publication lead time remains lengthy. Except for the Federal Reserve, which publishes *Flows of Funds* early, within 75 days, the other countries do not make these accounts available until three to four months after the relevant quarter. In addition, these are often subject to significant revisions. To analyse the financial situation on the basis of financial accounts alone remains problematic. The European Central Bank (ECB), aware of this problem, is seeking to reduce the production time for euro area quarterly accounts, which is currently 120 days, to 90 days. The fact of the matter is that, even though the ECB has rapidly available monthly data (M+20 days) on the money supply, deposits and credit (monetary and balance-of-payment statistics), information on asset prices (financial wealth effect) and the wealth of economic agents, which is provided by the financial accounts, has become indispensable for making monetary and economic policy decisions, given the magnitude and volatility involved.

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[25] Reserves for outstanding claims (F.62) and other accounts receivable/payable (F.7) are deliberately excluded from the calculation for all the countries studied because of the fact that they are estimates and cannot be used to pay a debt.

[26] If non-financial assets (housing and land) are included, there was a converse trend.

[27] See Palumbo, M.G. and J.A. Parker (2010), who emphasise this point in particular.
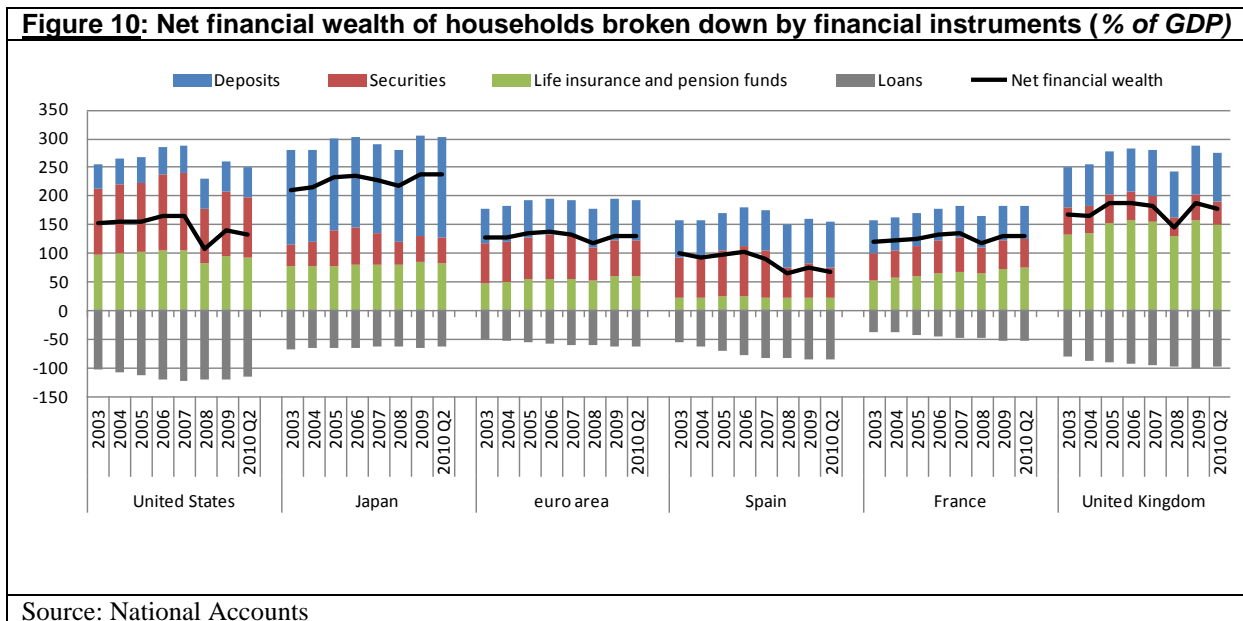
2.2. *Decline in the financial wealth of households*

The recent financial crisis has affected the financial wealth of households chiefly through the decline in the prices of financial assets.

Figure 10 shows the net financial wealth of households[28] as a share of GDP, along with its main components, *i.e.* deposits, securities (debt securities, equities, UCITS shares), life insurance and pension-fund assets, on the asset side, and debts in the form of bank loans[29], on the liability side.

In each of the countries studied, the changes in the financial wealth of households displayed common characteristics, including during the recent financial crisis, although the trends were more or less accentuated: sharp drop in 2008 (due to the subprime crisis) and a rebound in 2009. Thus, the crisis not only affected the value of the financial wealth of households but also its structure, since the share of risky assets fell mechanically in relation to deposits as a result of capital losses.

Movements in financial wealth also seem correlated to the stock market indices of the financial centres of the countries studied. The trends are more marked in the countries where a larger portion of financial wealth consists of securities held directly or indirectly via shares in funds, as in the United States and the United Kingdom. In these countries, the value of their wealth is also more volatile. It can also be observed that US/UK and Japanese households have more financial assets than households in continental Europe. We can make the assumption that pension, social security and education systems having different funding arrangements explain these differences in behaviour with regard to financial wealth.

Figure 10: Net financial wealth of households broken down by financial instruments (*% of GDP*)

Source: National Accounts

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[28] Including non-profit institutions serving households.

[29] Other accounts receivable/payable (F.7) are deliberately excluded from the calculation because they are highly volatile and very roughly estimated.

As a rule, financial statistics on households are prepared primarily on the basis of what is known as counterpart information. The account concerning households, for which there are few if any direct observations, is established on the basis of information reported by other sectors, mainly financial institutions. This approach makes it possible to obtain a satisfactory assessment of the amounts of deposits, life insurance and pension fund assets held by households, and of bank loans granted to them. On the other hand, the assessment of households' security portfolios (debt securities, equities, UCITS shares) and the breakdown by type of financial products is less accurate and subject to frequent revision. The statistics provided by financial accounts for these operations must therefore be used cautiously. In addition, estimating the market valuation and currency effects of these assets is made problematic by the fact that security-by-security information is quite often lacking, which means that they must be measured in the aggregate using exogenous market indices.

Estimating the value of unquoted shares is even more difficult. In French financial accounts, in line with Eurostat recommendations[30], unquoted corporate shares held by households are valued by applying to them the market capitalisation/equity ratio observed for quoted companies in the same sector, subject to the application of a marketability discount set at a flat rate of 25%. "Other equity", in particular shares in French "private limited companies" (SARLs), is valued on the basis of the net worth of the companies concerned. In France, this type of asset accounts for a significant share of household wealth (approximately 14% at the end of 2009).

Conducting a more precise analysis of household wealth on the basis of financial accounts also comes up against the limitations of the classification used for financial transactions, which requires aggregating various instruments. For example, a wide range of financial instruments are included under the heading "Other deposits (F.29)", such as savings accounts, certificates of deposit, cash accounts combined with securities accounts, homebuyer saving plans, etc. In France, even though the information published is more precise than what is requested by the national accounts manuals, products with different characteristics are included under the same heading. For example, to classify instruments according to the risk taken by households (capital loss), maturity (short-term, long-term) and liquidity (available, blocked) is complex and often entails assumptions, *e.g.* employee investment funds (blocked) are placed in the same category as UCITS shares (liquid), and no distinction is made between life insurance policies consisting of "euro" funds (no risk) and "unit-linked" funds (risky).

Another difficulty calls for caution when analysing investments of households and the decisions made (purchasing, selling). The financial accounts describe all the investment and financing flows of households. For this reason, they cover the entire range of financial instruments, with very few exceptions (such as stock options[31] held by employees, on which data are not compiled in France). However, the assessment of flows is quite often complicated, for the basic information that is collected is chiefly derived from balance-sheet data, which can be considered as stocks. For transactions that do not involve any revaluation (deposits and loans), the calculation of flows is easy, and is done by subtraction. For the others, and securities in particular, this is much more problematic. The assessment of flows and revaluation[32], the sum of which is equal to the variation in stocks between two dates, therefore must often be based on assumptions. It should be pointed out that the breakdown of flows and valuation is important, for it has a direct impact on households' financing capacity and needs.

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[30]   See in particular the article "The valuation of unquoted shares: A European test exercise", Durant D., Massaro R. http://www.oecd.org/dataoecd/15/25/34667026.pdf
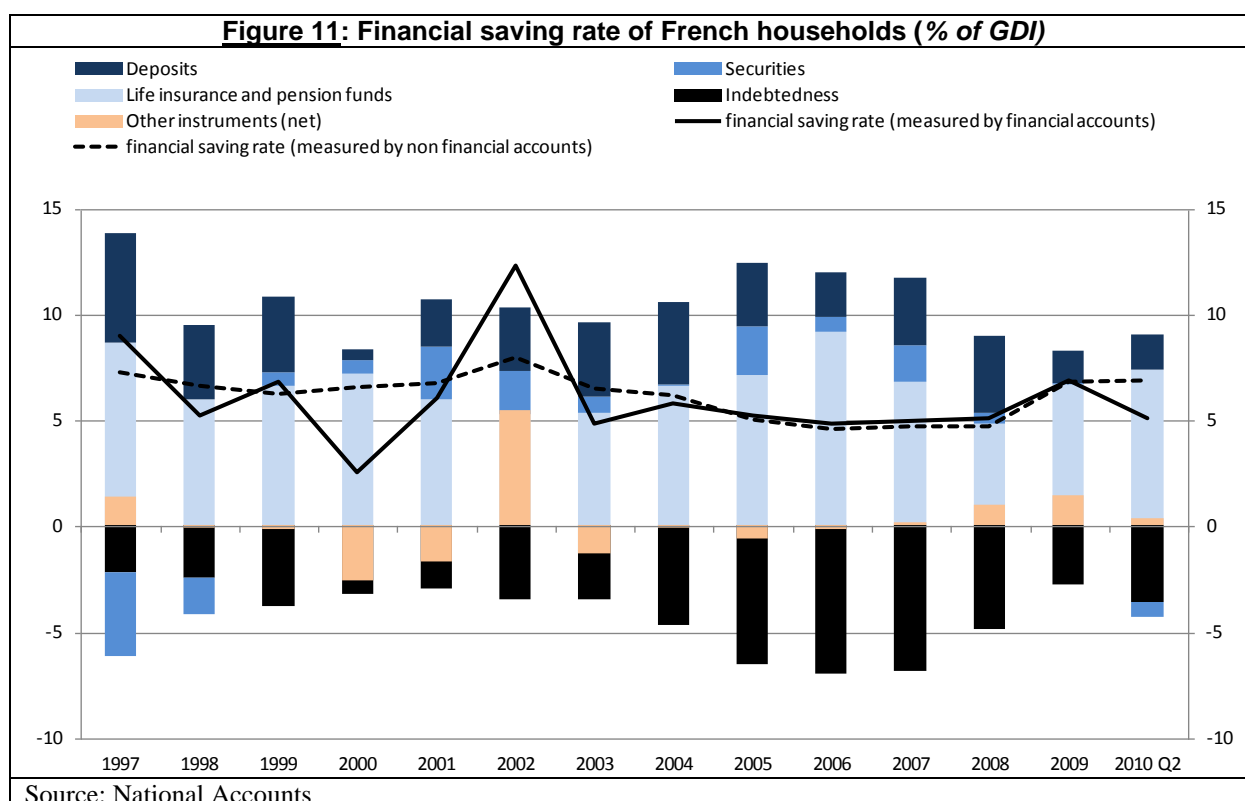
[31]   Additional information requested in SNA 2008.

[32]   Excluding change in volume.

The financial saving (B.9) of households can be measured using two sources:

- non-financial accounts: it is then equal to gross disposable income minus final consumption and investment (GFCF);

- financial accounts: total liabilities are subtracted from the total financial investments.

In theory, the balances of non-financial accounts, produced by the INSEE in France, and those of financial accounts, calculated by the Banque de France, should be equal. In reality, this is only rarely the case (see Figure 11), primarily because they are based on two different information systems. Eurostat and the ECB are encouraging EU countries, and France in particular, to reduce inconsistencies and produce integrated accounts.

Figure 11: Financial saving rate of French households (*% of GDI*)

Legend:
- Deposits
- Securities
- Life insurance and pension funds
- Indebtedness
- Other instruments (net)
- financial saving rate (measured by financial accounts)
- financial saving rate (measured by non financial accounts)

Source: National Accounts

3. Consequence of the crisis: massive government intervention to support the economy

3.1. *Sharp rise in government debt*

In many countries, to limit the negative impact of the recent financial crisis on the economy, governments have implemented plans to support the financing of the economy directed at banks and non-financial agents. These plans led to a sharp rise in general government (GG) debt, starting in 2008, following massive issues of debt securities.

Figure 12 shows movements in general government debt ratios, *i.e.* the ratios of outstanding debt, consisting of deposits, bank loans and debt securities recorded as liabilities at market value, to annually produced national wealth (GDP). Between 2007 and 2010, these rates rose by nearly 20 percentage points of GDP, following a similar pattern in each of the countries being reviewed.

The financial accounts provide an assessment of general government debt at market value. Accordingly, its cost can be measured with great accuracy at each maturity. However, when tensions arise in financial markets, this type of measurement also has the disadvantage of increasing the amount of "high quality" debt and decreasing that of lower quality debt. In fact, the "flight to quality" trend observed on the part of investors following the financial crisis (purchasing German, French and US treasury bonds) led to lower interest rates on these instruments, thereby mechanically raising their value[33]. In France, for example, four-fifths of the over €300 billion increase in the amount of debt instruments between the end of 2007 and the end of 2009 was due to new issues (flows), and the rest to their valuation.

To avoid this difficulty, the ratios of government debt in Europe are assessed at nominal value (see box below "Measuring general government debt"). Together with the government deficit, these are the two main public finance indicators that the Member States of the European Union report twice yearly to the European Commission under the Maastricht Treaty. In this connection, special attention is focused on the national accounts, and in particular the financial accounts for the portion concerning debt, on the basis of which general government accounts are established. General government is also the only institutional sector in France for which there is annual consistency between the non-financial and financial accounts.

Figure 12: Gross general government debt at market value *(% of GDP)*

Source: National Accounts

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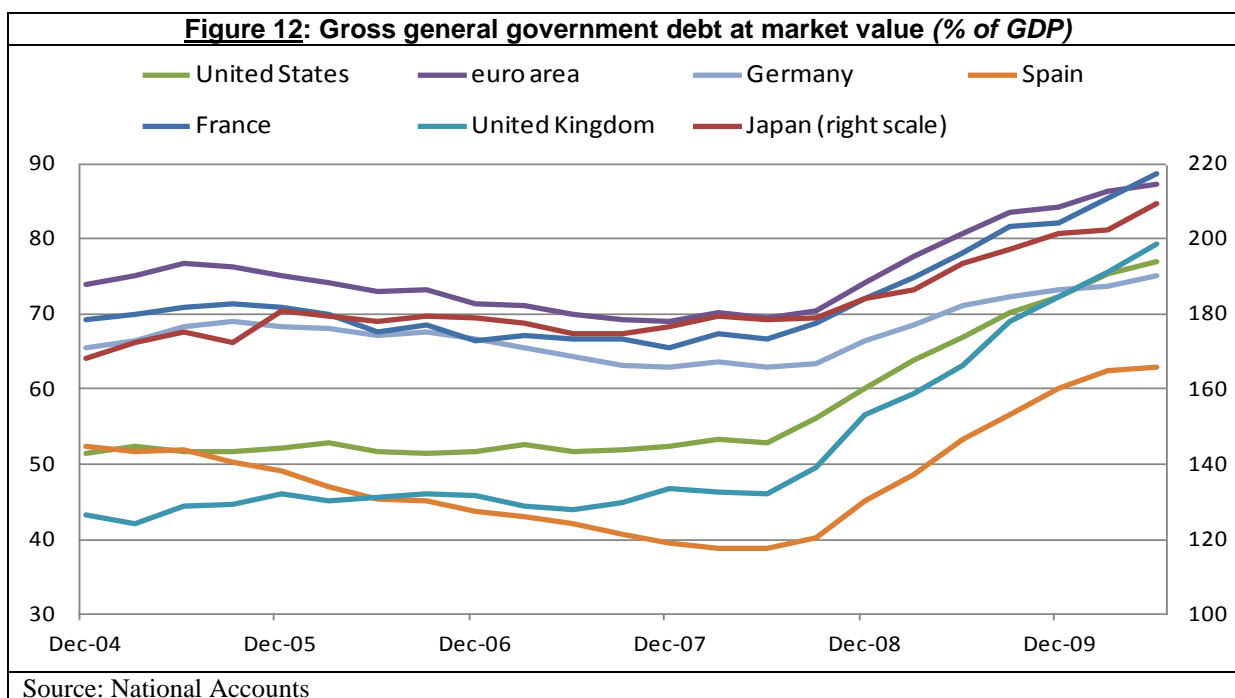
[33]   Conversely, when bonds are issued at lower rates, debt service (interest) decreases.

Box: Measuring general government (GG) debt

1. The boundaries of GG debt and consolidation

There are several co-existing definitions of indebtedness.

According to the ESA 95 Manual, government debt is equal to all unconsolidated liabilities of the general government sector (S.13): currency and deposits (AF.2), securities other than shares (AF.3) including financial derivatives (AF.34), loans (AF.4) and other accounts payable (AF.7), as well as, in some cases, shares and other equity (AF.5) and insurance technical reserves (AF.6).

However, for the purpose of the EU's Excessive Deficits Procedure (EDP) (Maastricht, 1992), as well as for the Stability and Growth Pact, another definition of government debt has been chosen[34]: "The stock of government debt is equal to the sum of consolidated liabilities of the general government sector (S.13) in the following categories: currency and deposits (AF.2), securities other than shares (AF.3) excluding financial derivatives (AF.34), and loans (AF.4)". Why was preference given to a narrower definition?

The reason for this is the wish to emphasise the debt instruments that are most accurately measured, and therefore the least frequently revised, and to facilitate comparison with other statistics (such as monetary statistics and those on securities issues). The other liabilities of GG, which are less well known and are often estimated (accounts receivable and payable and trade credits, etc.), were therefore not included for calculating the "Maastricht" debt.

2. Nominal value or market value?

The nominal or face value of a debt security corresponds to the amount that a borrower owes a creditor and that he is bound contractually to repay upon maturity, in addition to interest. By definition, the nominal value of a security does not vary over its lifetime.

The market value of a debt security is equal to its price on the secondary market (second-hand market). If interest rates are stable, the nominal value is equal to the market value. If interest rates fluctuate, its value changes and becomes different from its issue price. If market rates are higher (or lower) than the rate set when the transaction was concluded, then the market value becomes lower (or higher) than the nominal value of the security.

Under ESA 95[35], the stock of general government liabilities must be recorded in the national accounts at their market value. However, for the calculation of "Maastricht" debt, it was decided to calculate the stock of debt at its nominal value. This was certainly due to a desire not to see the level of government debt fluctuate with market forces and to be able measure the amount actually due at maturity.

In the figure below, the black line represents the difference between the debt of French GG assessed at market value and at nominal value, *i.e.* the effect of calculating the debt in terms of its market value rather than the nominal value. It can be seen that the market value of French debt is always greater than the nominal value over the period shown. Since 2007, the decrease in the interest rates of government bonds (dotted line), in connection with the "flight to quality" trend observed on markets, has raised the market value of French GG debt.

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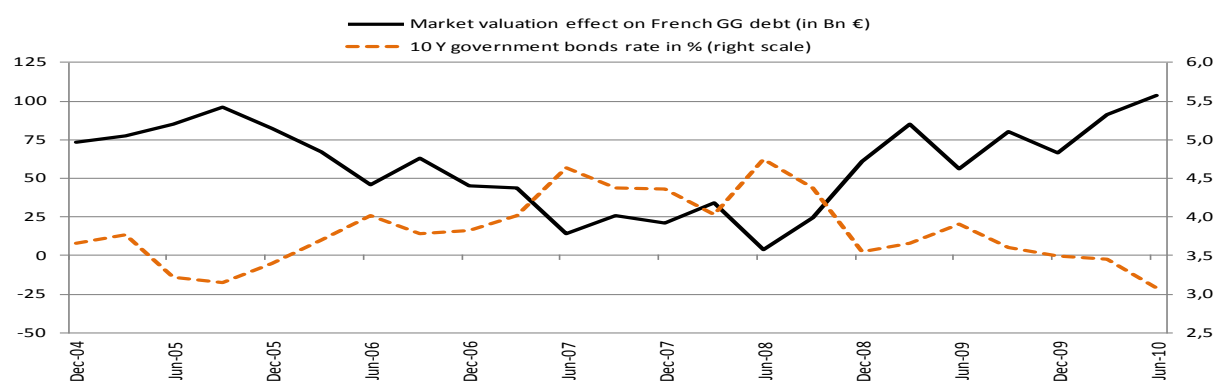
[34]   See http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/Annexes/naga_a_esms_an1.pdf (See in particular Part 5 of the ESA 95 Manual for Government Deficit and Debt).

[35]   Excerpt from ESA 95: §1.51 "Market prices are […] ESA's basic reference for valuation"; §7.01: "The stock of the assets and liabilities recorded in the balance sheet is valued at the market prices prevailing on the date to which the balance sheet relates".

3.2. A swelling of their balance sheets

Figures 13 and 14 show the net borrowing of French and euro area GG between 2007 and 2010 and each financial instrument's contribution thereto. Both show an expansion in the size of their balance sheets over this period. Unsurprisingly, the deepening of their net borrowing explains the increase in the amount of their resources and the massive recourse to the issuing of debt securities. Alongside these new liabilities, loans (such as those granted by governments to their automobile industries or banks) and securities (shares purchased to bolster the equity of CIs, etc.) were added to their assets, illustrating concretely the plans of support to the economy. In the first quarter of 2010, this trend diminished slightly.

Figure 13: Financial assets and liabilities of French general government (*cumulative flows over 4 quarters in € bn*)	**Figure 14: Financial assets and liabilities of general government in euro area** (*cumulative flows over 4 quarters in € bn*)
Source: National Accounts	
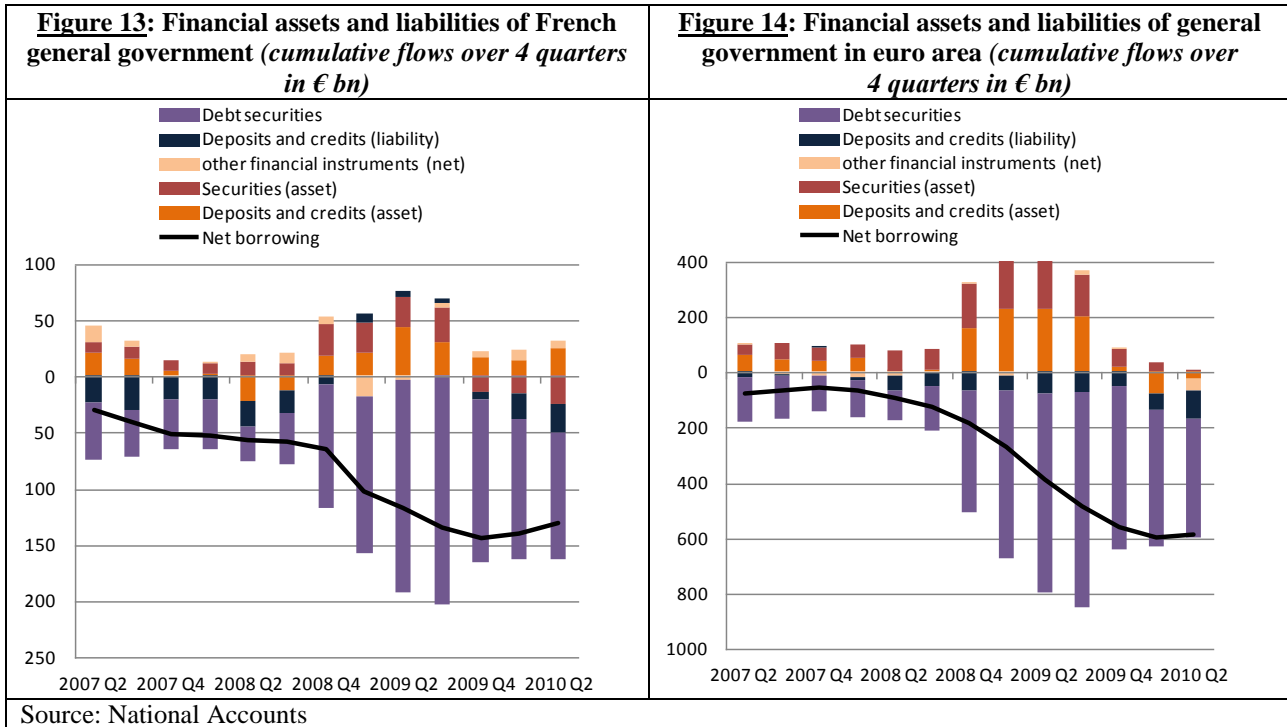
In addition to their contribution in terms of macroeconomic analysis, financial accounts are also a useful tool for policymaking purposes. In France, the role of the loan distribution company (*Société de financement de l'économie française*, SFEF), created in late 2008 by the French government, was to help credit institutions continue to distribute loans to households and businesses in spite of the liquidity squeeze that occurred in the interbank market. Specifically, the SFEF granted collateralized loans to banks, using funds stemming from the issuance of medium-term debt securities guaranteed by the French Government. Ultimately, even though the growth of lending slackened in 2009 (see Table 1, in section 2.1.2), the drop was limited and lower than in other OECD countries. The national accounts, and financial accounts in particular, helped authorities to fine-tune the programme by estimating[36], on the basis of growth assumptions, the funding needs of the non financial sector that, in their judgement, would not be met unless this support plan were established.

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[36]   See A. Babeau (2010), who emphasises the importance of macro-financial forecasts.

Conclusion

Financial accounts make it possible to trace, to some extent, the development of the recent financial crisis and its impact on the economy, on financing and investment flows and on the wealth of economic agents. However, the description that they provide is incomplete because of the imperfect nature of the sources of information (in particular for securitisation vehicles, security-by-security portfolios and the breakdown between flows and valuation) and an often insufficient level of detail in published statistics (regarding institutional sectors, financial transactions and revaluation)[37]; it is also difficult to use them to describe more complex financial operations (financial derivatives). In addition, the predictive value of financial accounts seems limited, mainly because publication lead-times are still too long, which put them at a disadvantage in comparison with other statistics (monetary, market statistics). Although they are above all an interpretative macroeconomic tool used after events have occurred, they nevertheless constitute a relevant, broad and indispensable framework of analysis for understanding economic developments, but they must obviously be supplemented with other statistics.

The implementation of a new, enhanced frame of reference for national accounts in 2014 (Manuals SNA 2008 and ESA 2010), the effort to achieve greater convergence between the various statistical fields (financial and non-financial, monetary, balance-of-payment, securities statistics, etc.), shorter production times and greater comparability between countries are all necessary developments that are being encouraged by Eurostat and the ECB in Europe, and that should help the French national accounts describe financial developments better.

Ultimately, in the light of the lessons learnt during the recent financial crisis, improving the relevance of financial accounts for macroeconomic analysis can primarily be achieved through two approaches, *i.e.*:

  ✓ reducing the time taken to publish data;

  ✓ broadening the information published in three fields:
    o the "who to whom" to establish the linkages between institutional sectors;
    o valuation effects in order to enhance the analysis of wealth;
    o financial transactions in order to better monitor so-called "risky" assets, *i.e.* those that entail a capital risk for the holder.

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[37] Nonetheless improvements have been achieved since 2008 with the implementation of new compulsory data collection concerning the assets and liabilities of domestic securitisation vehicles.

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ANNEX 1

Main methodological principles of French financial accounts

The quarterly financial accounts are produced as raw data, *i.e.* not adjusted for seasonal variations. They are established on an unconsolidated basis and are released 110 days after the end of quarter under review.

Financial accounts record all transactions (securities, loans, deposits) in net terms. For example, flows of issues of securities (or production of loans) are calculated as the difference between gross issues (production of new loans) and repayments.

The transactions are assessed at the price at which they were concluded. They are recorded on an accrual basis, *i.e.* at the time of operative event and not at the time when the payment is made. For this reason, the "accrued" interest is recorded as in business accounting. Financial accounts therefore show the unpaid interest accrued in order to ensure consistency with real accounts.

The stocks of financial assets and liabilities are assessed at current prices and recorded at identical values to assets and liabilities.

The stocks of deposits and loans are recorded at nominal value. When this value is denominated in a foreign currency, it is converted into the domestic currency on the basis of the exchange rate at the given date.

Quoted securities (bonds, quoted shares) and UCITS shares are recorded at their market value. Because of their specificity, shares in unquoted companies are valued by applying to them the market capitalisation/equity ratio observed for quoted companies in the same sector, subject to the application of a marketability discount set at a flat rate of 25%. "Other equity", in particular shares in French "private limited companies" (SARLs), are valued on the basis of the net worth of the companies concerned.

ANNEX 2

Adjustments required for US financial statistics

For the United States, unlike the euro area and the other countries studied, the sectors covered by the statistics of the US Federal Reserve (Flows of Funds) do not match exactly the definitions given in international manuals on national accounts. The comparability of US data with the data of other countries or areas can be re-established by using the following conversion table:

Institutional sectors of national accounts	Sectors of the US Federal Reserve
Non-financial corporations	*Non-farm non-financial corporate business*
Households	*Households and Non-profit organizations + Non-farm non-corporate business + Farm business*
General government	*Federal government + Federal government retirement funds + state and local governments + state and local government employee retirement funds*