OECD financial statistics for measuring the structure and size of the shadow banking system

Satoru Hagino and Liliana Cavieres[1, 2]

Introduction

OECD financial statistics[3] are useful tools for understanding financial structures of OECD countries and monitoring changes in their financial activities. The OECD financial accounts cover the entire financial sector of the economy and the Institutional Investors' Assets database focus on three main categories of financial corporations: investment funds, insurance companies, and pension funds, and provide data for further sub-classification. The OECD Working Party of Financial Statistics (WPFS) has been discussing the use of existing financial statistics and developing new type of financial statistics. Among various international projects of WPFS, developing data for securitisation as well as special purpose entities, often referred to as shadow banking, is one of the most important subjects in recent years. Thus this paper examines the usefulness of OECD financial statistics and discusses the outcomes of recent works done by WPFS, in particular, in the area of shadow banking.

1.   Usefulness of OECD financial statistics

(1) Cross-country comparison of activities of financial corporations

The OECD financial accounts, the financial balance sheets in particular, are very useful in comparing activities of financial corporations of OECD countries. By doing so, the importance of the financial sector as well as characteristics of its financial structure of OECD countries can be identified.

Among OECD countries, the United States has, in absolute terms, by far the largest financial assets and liabilities held by the Total economy, which is followed by Japan, United Kingdom, France and Germany (see Chart 1). In relative terms, i.e., comparing the financial assets as a percent of GDP, Luxembourg has the biggest size of assets (138 times the GDP) followed by Ireland (30 times) and the United Kingdom (18 times). The United States accounts for 9 times.[4]

---

[1]   OECD Statistics Directorate

[2]   Satoru Hagino and Liliana Cavieres are Secondees from the Bank of Japan and the Central Bank of Chile, respectively. Useful comments from Michèle Chavoix-Mannato are gratefully acknowledged.

[3]   Data can be retrieved from the OECD.Stat data browser http://stats.oecd.org/index.aspx. With respect to the dissemination of statistics, the OECD was the first international organisation to offer the full range of its statistical database in combination with analytical publications in a single website, Source OECD. The new version of source OECD, called OECD iLibrary, has been launched in June 2009. The OECD Statistics Portal, redesigned in 2009, provides quick access to a variety of data and methodological publications, including extracts from OECD.Stat, the Organisation's data warehouse. Moreover, through StatLinks, i.e. URLs shown under tables and graphs, users can go straight to spreadsheets providing the underlying data.

[4]   Figures are on a non-consolidated basis, except for those of Australia.

Chart 1

Financial Assets and Liabilities - Total Economy, 2010
(USD Bill.)
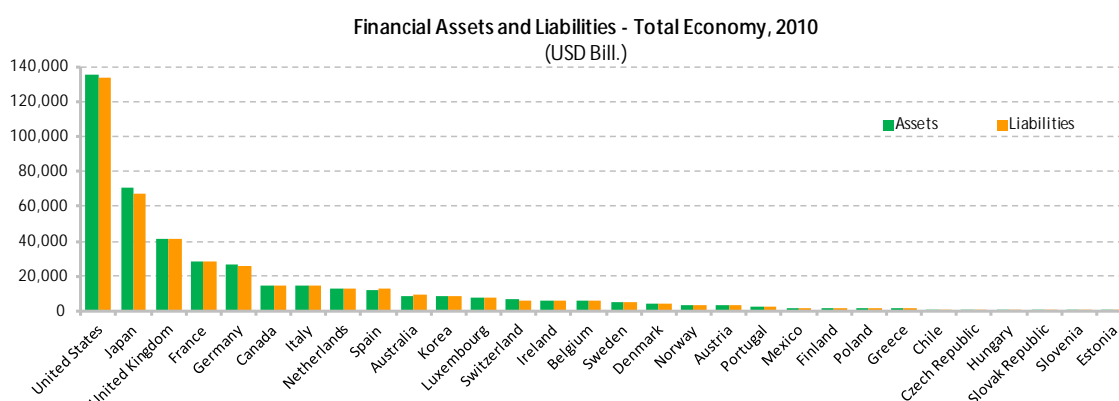
Source: Financial Balance Sheets, OECD.Stat

When the Total economy is divided into four sectors: Non-financial corporations (S11); Financial corporations (S12); General government (S13) and Households and NPISH (S14–S15), the Financial corporations sector holds the largest financial assets and liabilities, representing, on average, the share of slightly more than 50% of total financial assets and liabilities, respectively. In some countries, the Financial corporations sector represents even more important weights, e.g., 93% in Luxembourg, 78% in Ireland and near 70% in the United Kingdom and in the Netherlands. It is to be noted that these countries hold the largest financial assets as a percent of GDP. Households hold, on average, 27% of total financial assets while Non-financial corporations hold 15%. As regards the liabilities, the Non-financial corporations sector has a relatively greater importance, representing 30%, while Households and Government sectors have relatively less importance, both representing around 10% (see Chart 2).
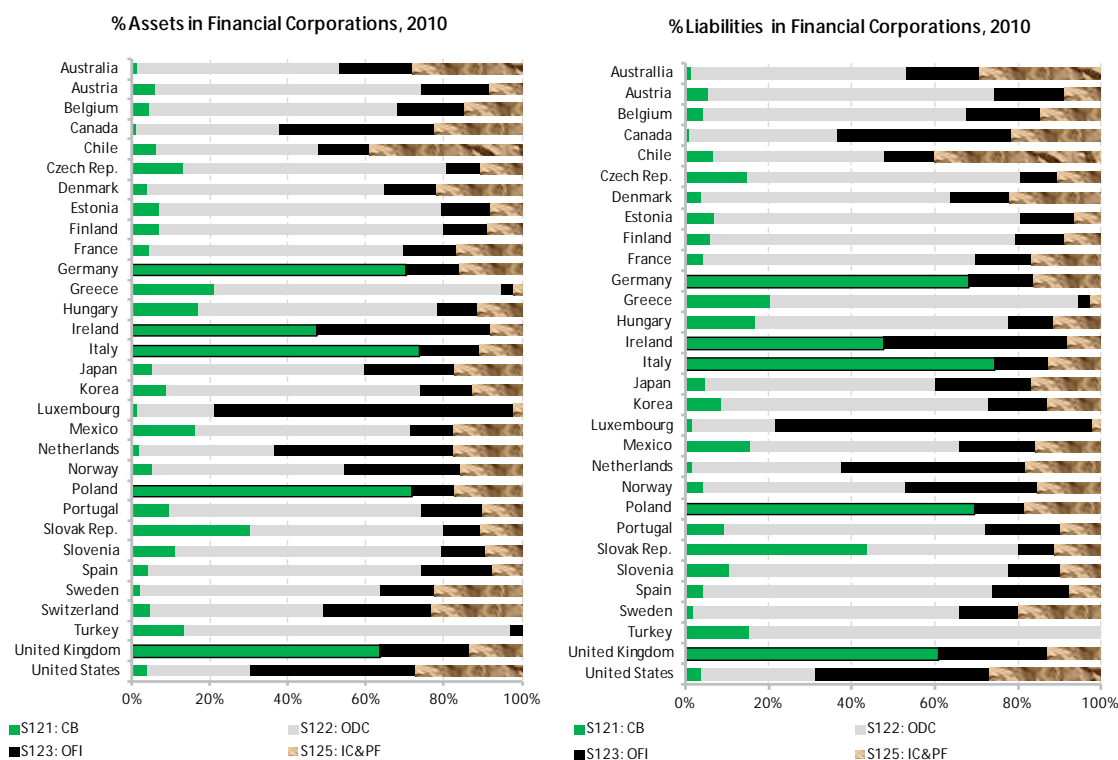
Chart 2
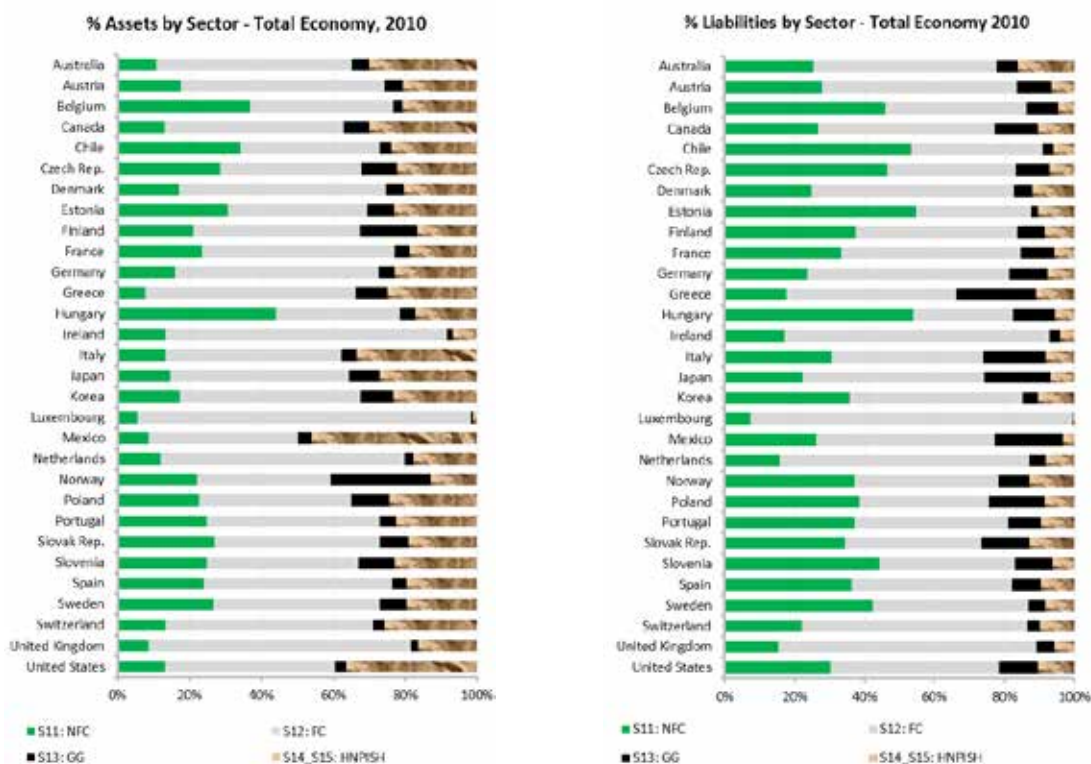
Source: Financial Balance Sheets, OECD.Stat

Within the Financial corporations sector, the most important sector in the size of financial assets and liabilities is the Depository corporations sector, which combines Central bank (S121) and Other depository corporations (S122) sectors. Depository corporations have a weight of slightly more than 50%, Other financial intermediaries (S123) represent approximately 30% and the remaining part corresponds to Insurance corporations and pension funds (S125)[5] (see Chart 3).

Turkey, Greece, Finland, Estonia and Spain have the largest weight of Other depository corporations in the Financial corporations sector. In terms of financial assets, Other depository corporations represent in these countries more than 70% (similar results have been found for liabilities). In contrast, the weight of Other depository corporations is below 30% in Luxembourg and the United States. These two countries, together with the Netherlands, record the largest share of Other financial intermediaries within the Financial corporations sector (77% in Luxembourg, 46% in Netherlands and 42% in the United States).

For Germany, Ireland, Italy, Poland and the United Kingdom, there is no data available for Central bank and Other depository corporations separately. They are considered as a combined sector, the Depository corporations sector. This sector holds more than 70% of assets in Italy, Poland and Germany. On the liability side, the weight of Depository corporations is more than 70% only in Italy.
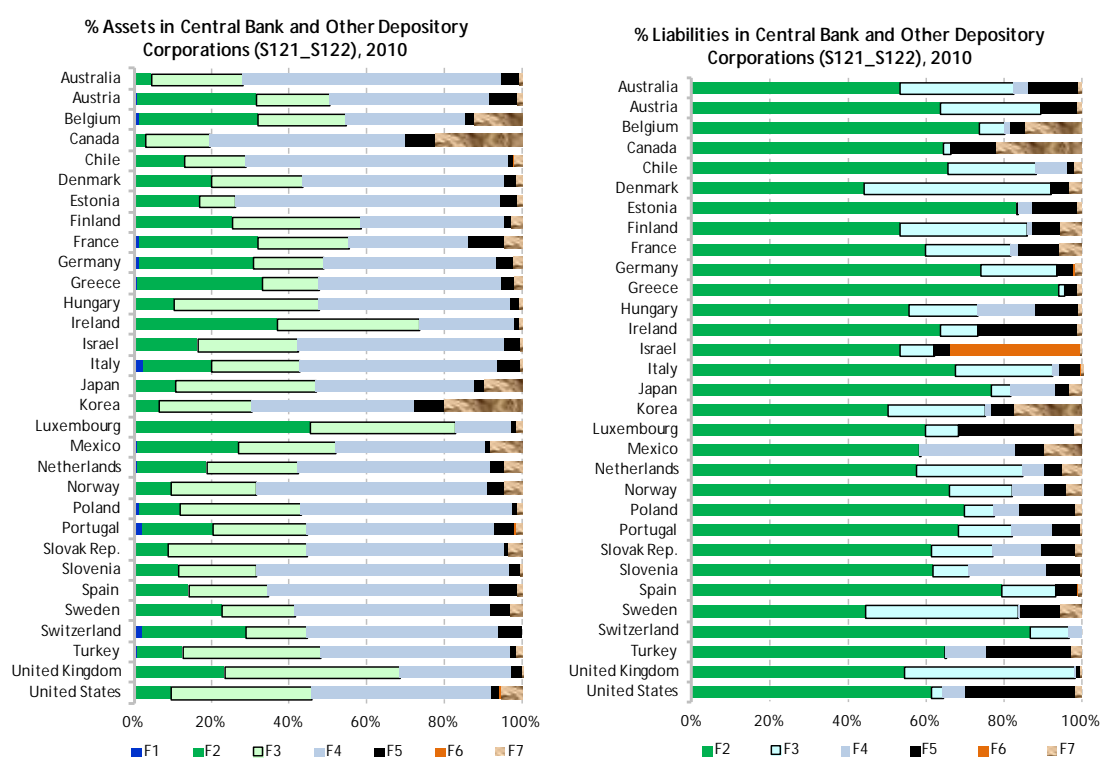
Chart 3

Source: Financial Balance Sheets, OECD.Stat

---

[5] Financial auxiliaries (S124) are not included in the calculation since they hold, on average, less than 1% of Financial corporations' assets. On the liability side, Financial auxiliaries represent even less.

Looking at the composition of total assets and liabilities held by Depository corporations by type of instrument, it is evidenced that the majority of assets consists of Loans (F4) and the majority of liabilities consists of Currency and deposits (F2) (see Chart 4). Other important components of financial assets are Securities other than shares (F3) and Currency and deposits (F2). On the liability side, Securities other than shares (F3) as well as Shares and other equity (F5) are the second and third elements in importance.

Estonia, Chile, Australia, Slovenia and Norway are countries where the majority of assets of Depository corporations are Loans (more than 60%). In contrast, in Luxembourg, Ireland and the United Kingdom, Securities or Deposits have more importance in the Depository corporations sector.

Chart 4

% Assets in Central Bank and Other Depository Corporations (S121_S122), 2010

% Liabilities in Central Bank and Other Depository Corporations (S121_S122), 2010
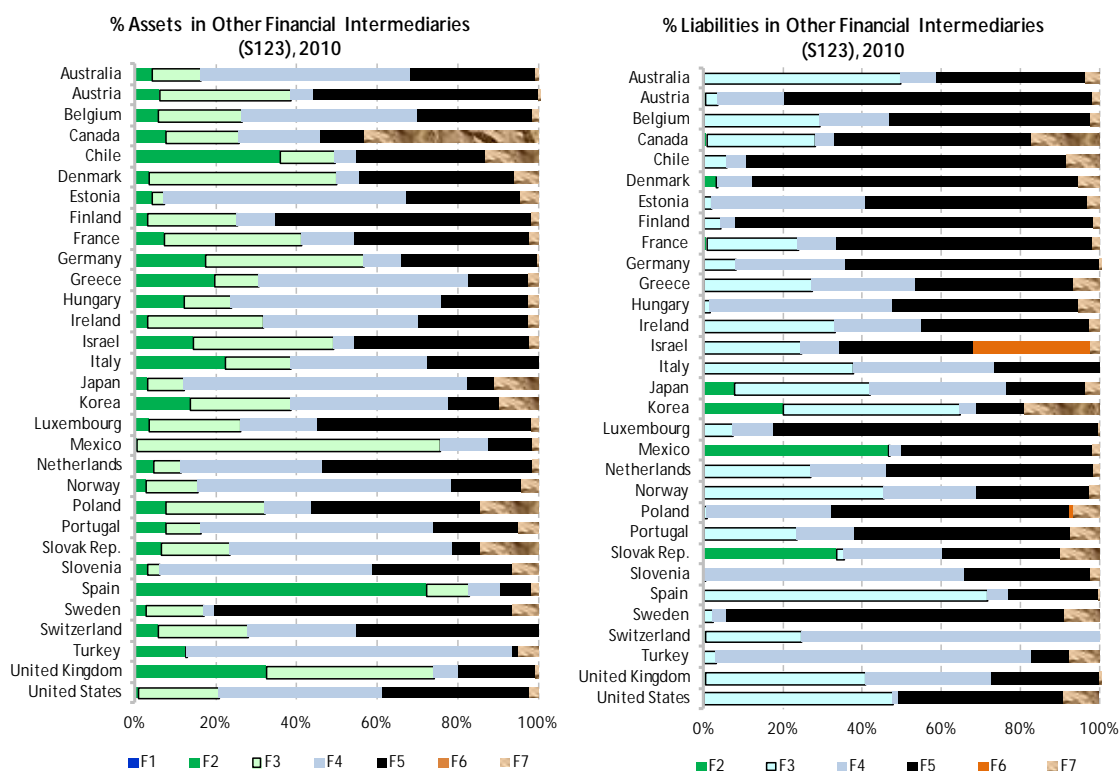
Source: Financial Balance Sheets, OECD.Stat

The asset composition of Other financial intermediaries is more diversified than Depository corporations. Other financial intermediaries invest in Loans, Shares and other equity, and Securities other than shares with similar weight (35%, 32% and 22%, respectively).

There are some countries in which Other financial intermediaries invest predominantly in certain assets. For example, Other financial intermediaries of Turkey and Japan invest in Loans, while those of Sweden invest in Shares and other equity and those of Mexico invest in Securities other than shares, in particular. In Spain, Other financial intermediaries hold a large amount of Deposits. Liabilities of Other financial intermediaries mainly consist of Shares and other equity (see Chart 5).

Insurance corporations and pension funds invest primarily in Securities other than shares and secondarily in Shares and other equity (see Chart 6). There are some differences among countries in the composition of assets. In Mexico, Insurance corporations and pension funds invest predominantly in Securities other than shares, while in Australia they invest higher portions in Shares and other equity. On the liability side, Insurance technical reserves (F6) are the most important for all countries except Mexico.

Chart 5

% Assets in Other Financial Intermediaries (S123), 2010

Legend: F1, F2, F3, F4, F5, F6, F7

% Liabilities in Other Financial Intermediaries (S123), 2010

Legend: F2, F3, F4, F5, F6, F7

Source: Financial Balance Sheets, OECD.Stat

Chart 6

% Assets in Insurance Corporations and Pension Funds (S125), 2010

Legend: F1, F2, F3, F4, F5, F6, F7

% Liabilities in Insurance Corporations and Pension Funds (S125), 2010


Legend: F2, F3, F4, F5, F6, F7
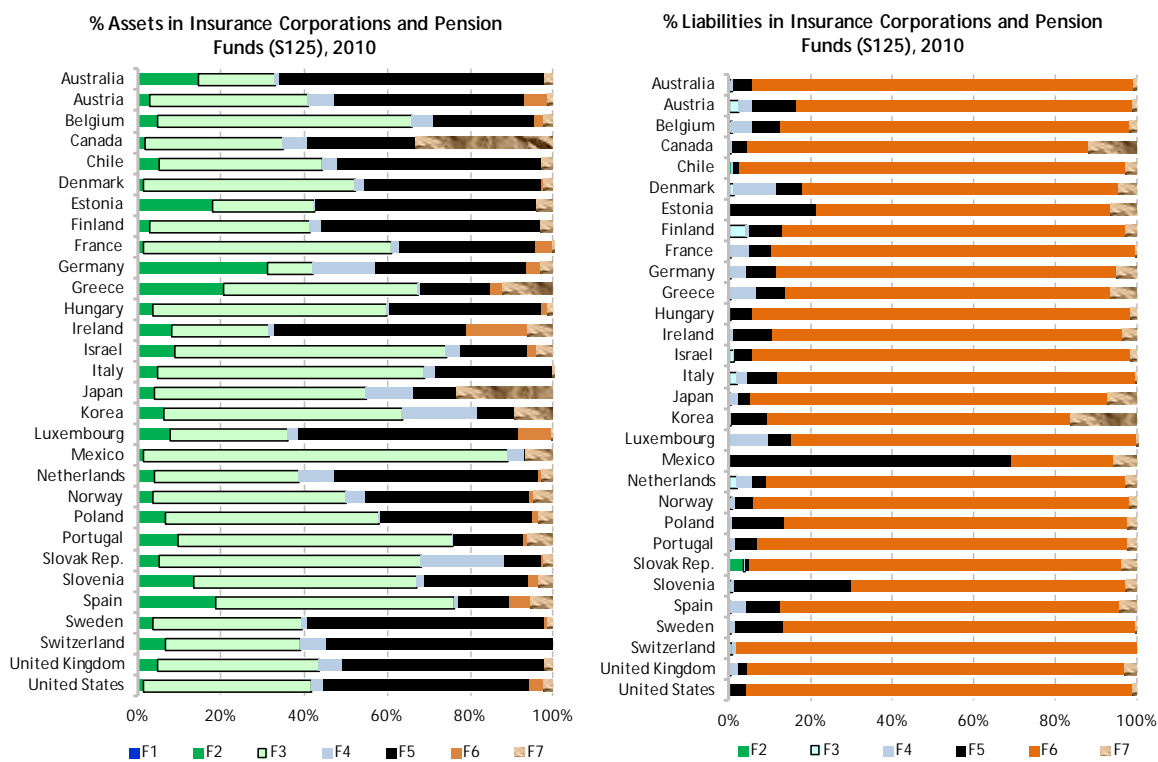
Source: Financial Balance Sheets, OECD.Stat

(2) Identification of structural changes in financial activities

One can observe changes of patterns over the time in the financial transactions as recorded in the OECD financial accounts. For example, net acquisition of financial assets can be positive or negative and the surplus/deficits can increase or decrease.

When analysing the effects of subprime crisis, it would be appropriate to focus on transactions from 2006 to 2010.[6] Its band of fluctuation appears particularly wide when comparing the transactions before and after the financial crisis of 2007-2008. Net acquisition of financial assets for Total economy showed a decrease in 2008 and reached its lowest level in 2009 in most OECD countries. Transactions recovered in 2010, with the exception of the United Kingdom, Netherlands, Spain, Italy, Sweden, Austria, Greece, Hungary and Slovenia (see Chart 7).

Chart 7
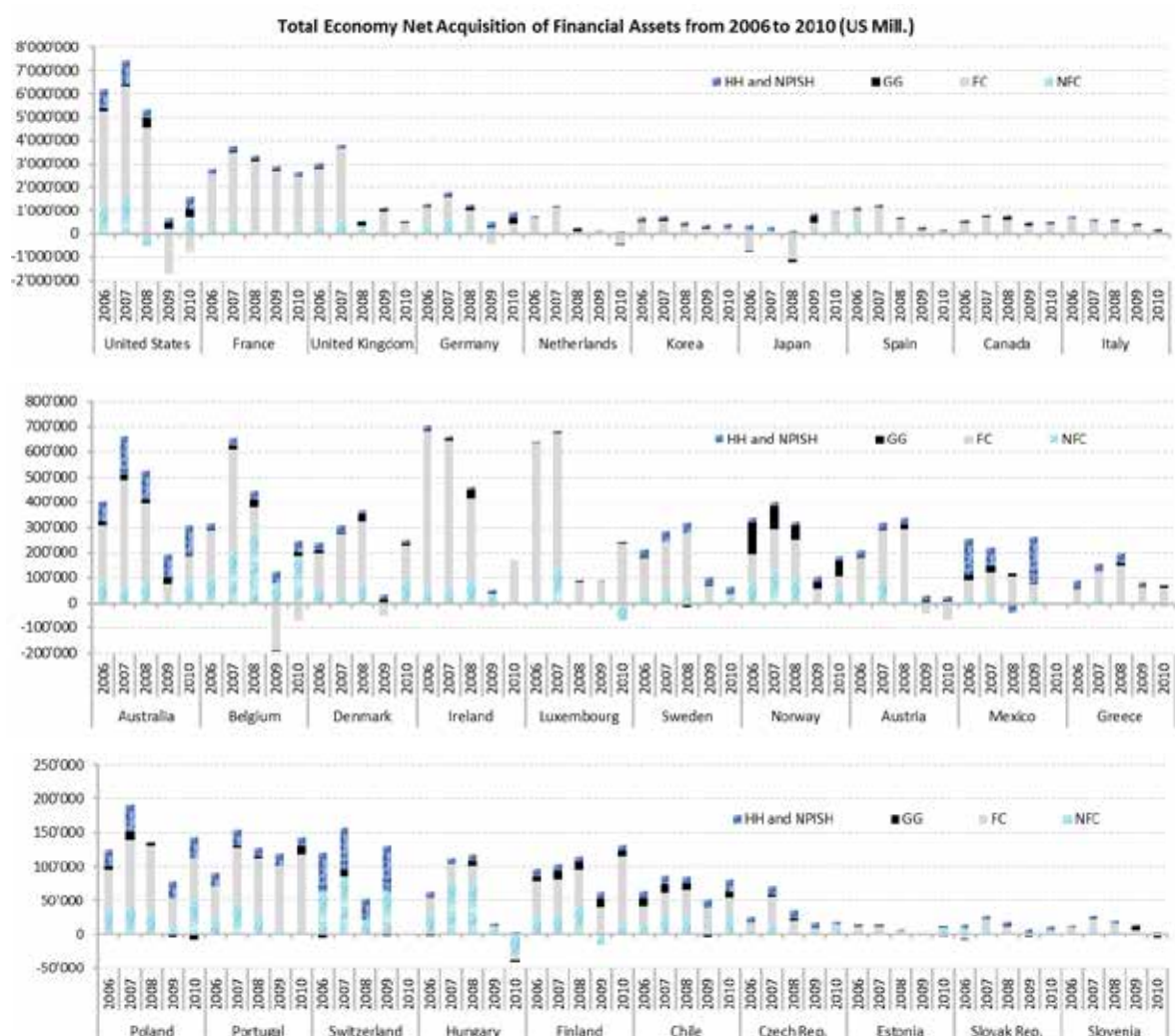
Source: Financial Accounts, OECD.Stat

---

[6] The subprime crisis started in 2007 with increasing sub-prime mortgage foreclosures, reached its peak in 2008 with Lehman Brothers' bankruptcy and spread negative effects to real economy during 2009. In 2010, economic recoveries started. As soon as data for 2011 become fully available, it should be further analysed since economies started to incorporate the effects of the following Government debt crisis in several European countries.

When focusing on the Financial corporations sector, similar pattern to the total economy can be observed in the evolution of financial transactions (see Chart 8).

Chart 8

Financial Corporations Net Incurrence of Liabilities from 2006 to 2010 (US Mill.)
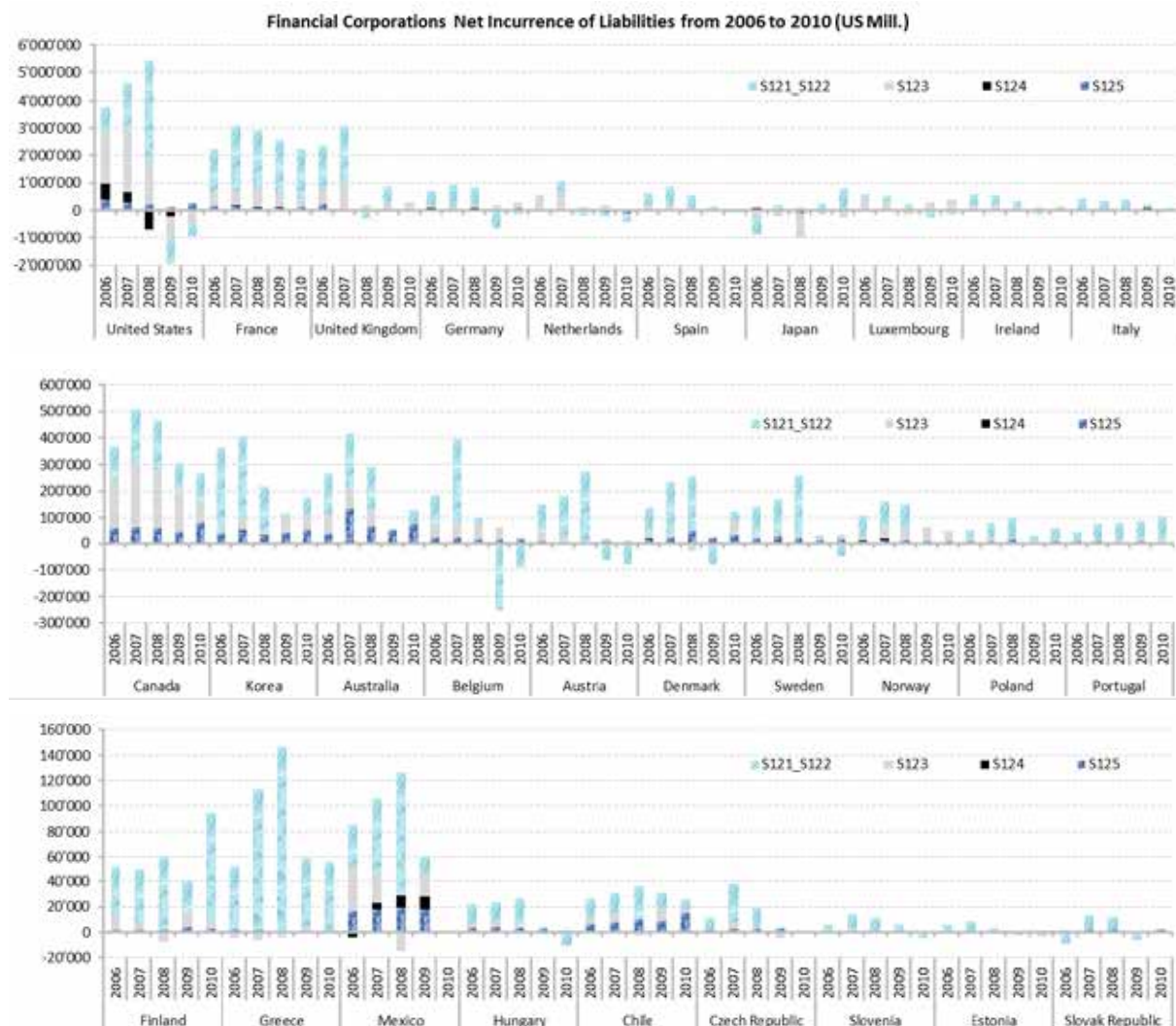
Source: Financial Accounts, OECD.Stat

When breaking down the Financial corporations sector into its sub-sectors and focusing on financial asset categories, it turns out that, for the Depository corporations sector (S121 and S122), the fall in the net acquisition of financial assets in 2009 derives from Loans (F4) and Deposits (F2) in most countries (see Chart 9). Ireland and Estonia showed the biggest decline between 2006 and 2009 (in relation to the stock of financial assets as of 2006, 30% and 25%, respectively). The United States, Germany and the United Kingdom also experienced substantial decline (15%, 12% and 7%, respectively).
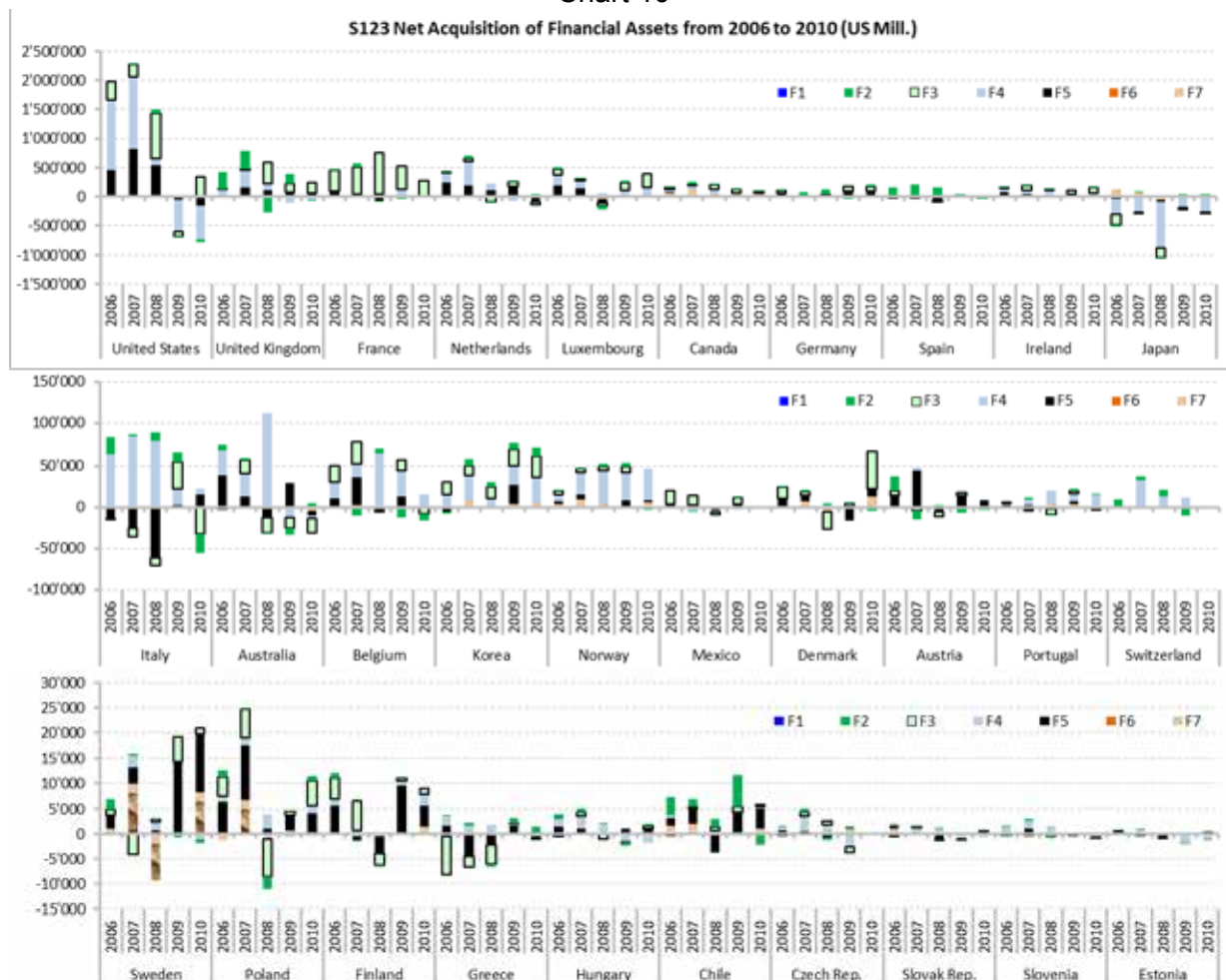
Chart 9

S121_S122 Net Acquisition of Financial Assets from 2006 to 2010 (US Mill.)
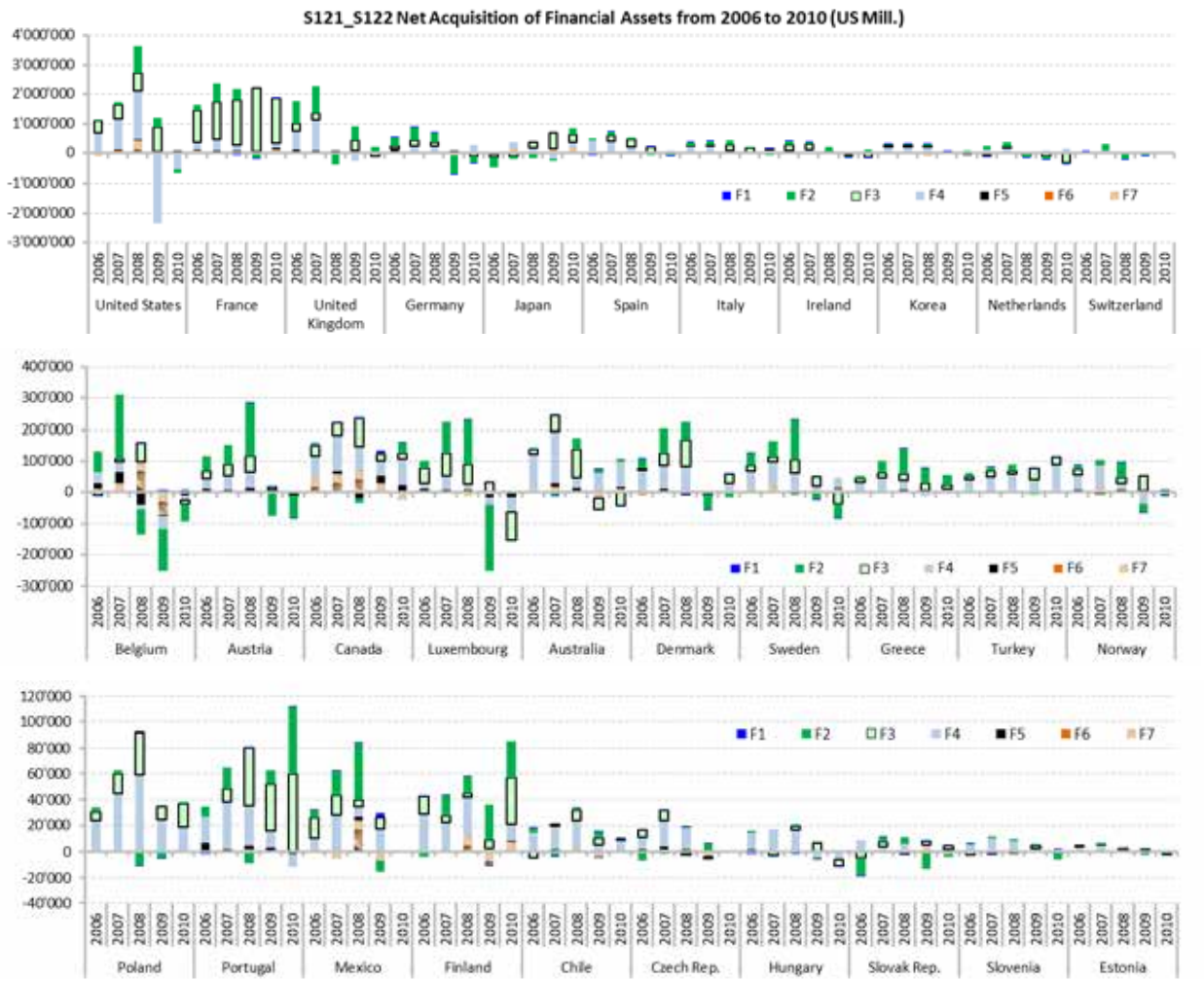
Source: Financial Accounts, OECD.Stat

Regarding Other financial intermediaries (S123), declines in Loans (F4) and Shares and other equity (F5) are mainly responsible for most of the fall in net acquisition of financial assets between 2006 and 2009. At the same period, Estonia showed the largest decline (36%). Slovak Republic and Hungary (22%). Spain (15%) and the United States (11%) also experienced a substantial decline (see Chart 10).

Chart 10

S123 Net Acquisition of Financial Assets from 2006 to 2010 (US Mill.)

Source: Financial Accounts, OECD.Stat

The fall of net acquisition of financial assets of Insurance corporations and pension funds from 2006 to 2009 derives mostly from Deposits (F2) and Other Accounts Receivable (F7) (see Chart 11). However, the impact of this fall is not as important as that of Depository corporations or Other financial intermediaries. Luxembourg (12%) experienced the largest decline compared to assets as of 2006, followed by Poland (11%).

Chart 11

S125 Net Acquisition of Financial Assets from 2006 to 2010 (US Mill.)
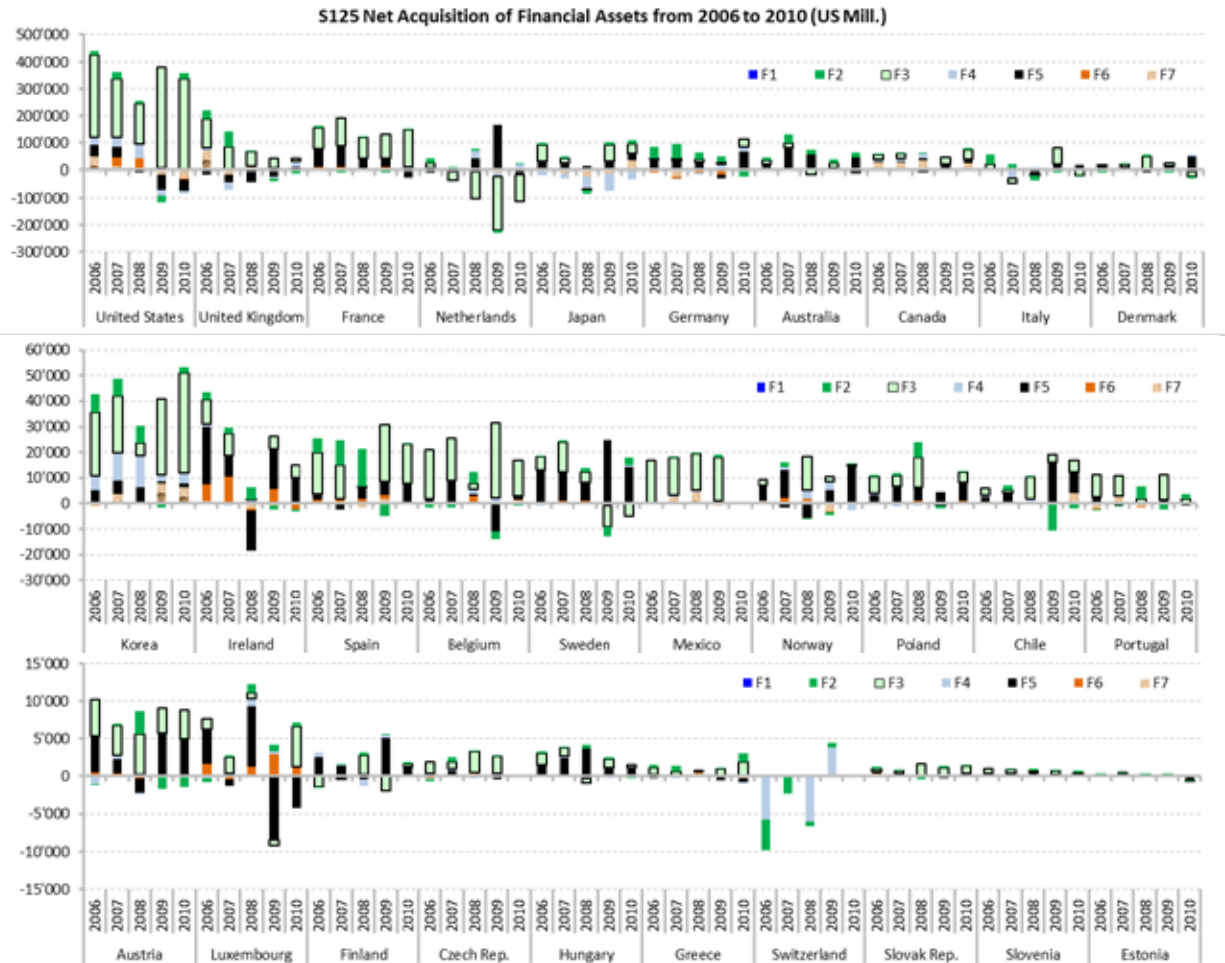
Source: Financial Accounts, OECD.Stat

(3) Detailed analysis on investment behaviours by institutional investors

The use of the Institutional Investors' Assets database has made it possible to analyze in more detail their investment behaviours. For these three main institutional investors: Investment funds, Insurance corporations and Autonomous pension funds, their investments[7] were mainly concentrated on Securities other than shares except financial derivatives (F33) and on Shares and other equity (F5). Their weights represent 39% of total assets, respectively, at the end of 2010.

Investment funds invest primarily in Shares and other equity (41%) and secondarily in Securities other than shares except financial derivatives (37%). In Estonia and Slovenia, investment funds have a highest preference for Shares and other equity. In contrast, in Iceland, Mexico, Israel and Turkey, investment funds preferred Securities other than shares except financial derivatives (see Chart 12).

The most important financial assets for Insurance corporations are Securities other than shares except financial derivatives. These instruments represented, on average, around 50% of their total assets. In Mexico and Portugal, the share of Securities other than shares except financial derivatives exceeds 70%.

---

7   Following definitions described above in point 1. (2).

Autonomous pension funds are, on average, more share-oriented. The weight of Shares and other equity is 51%, while that of Securities other than shares except financial derivatives is no more than 30%. This is typically the cases for Austria, Belgium, Estonia, Switzerland, Chile, Finland, the Netherlands and the United States.

Chart 12
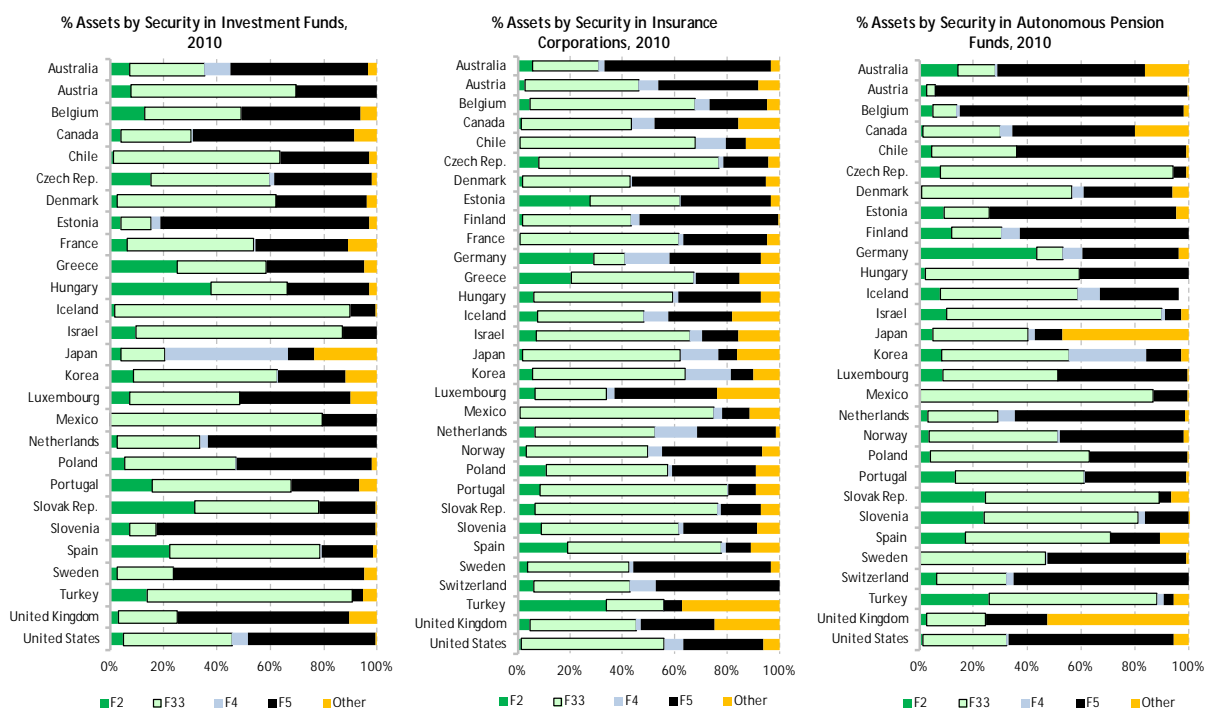
Source: Institutional Investors' Assets, OECD.Stat

By using Institutional investors' Assets database, one can distinguish investments to residents and those to non-residents.[8] As of 2010, three institutional sectors invested, on average, a slightly bigger portion of their assets in instruments issued by residents (52%). There were however some differences among sectors: Insurance corporations (62%) and Autonomous pension funds (61%) invest more portions in instruments issued by residents than Investment funds (33%).

Among OECD countries for the three institutional sector together, Poland (94%), Korea (92%) and Israel (88%) invests the largest portion in instruments issued by residents. In contrast, Luxembourg (9%) invests the smallest portion. Estonia (28%) and Portugal (36%) invest relatively smaller portion in such instruments.

Regarding Securities other than shares except financial derivatives, in which institutional investors invest the largest proportion of their assets, they, on average, invest 48% in such instruments issued by residents. In relative terms, Autonomous pension funds and Insurance corporations invest more portions in such instruments issued by residents (63% and 54%, respectively) than Investment funds (31%) (see Charts 13).

---

8   Such distinction is possible for Securities, Loans and Shares, which represented 85% of total assets.

Chart 13

Breakdown According to the Residency of Issuer

Securities Other than Shares Except Financial Derivatives, 2010
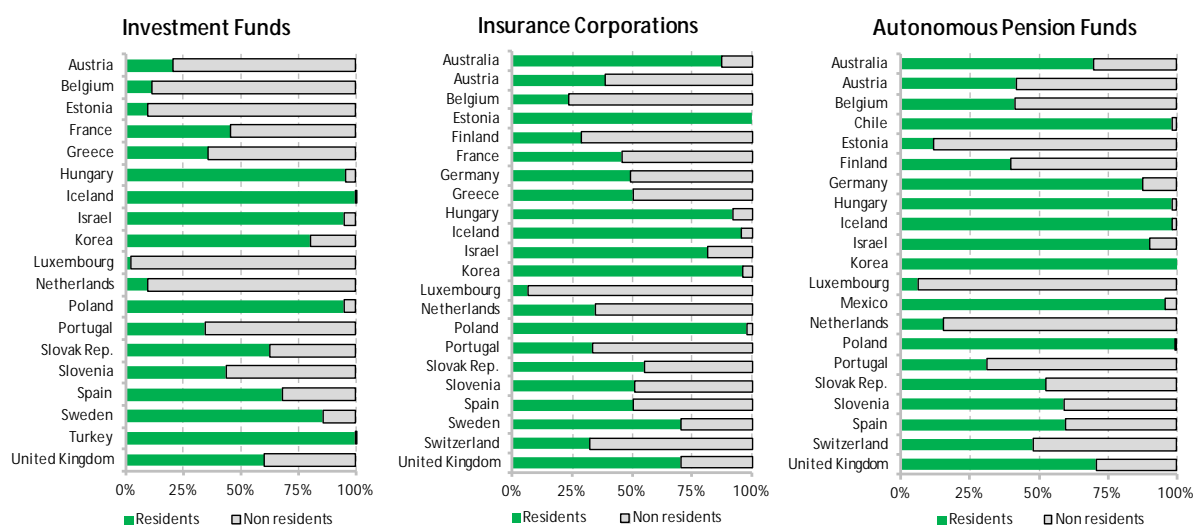
Source: Institutional Investors' Assets, OECD.Stat

Regarding Shares and other equity, in which institutional investors invest the second largest portion of assets, they, on average, invest 53% in such instruments issued by residents. In relative terms, Insurance corporations and Autonomous pension funds invest more portions in Shares and other equity issued by residents (70% and 60%, respectively) than Investment funds (34%).

Chart 14

Breakdown According to the Residency of Issuer

Shares and Other Equity, 2010
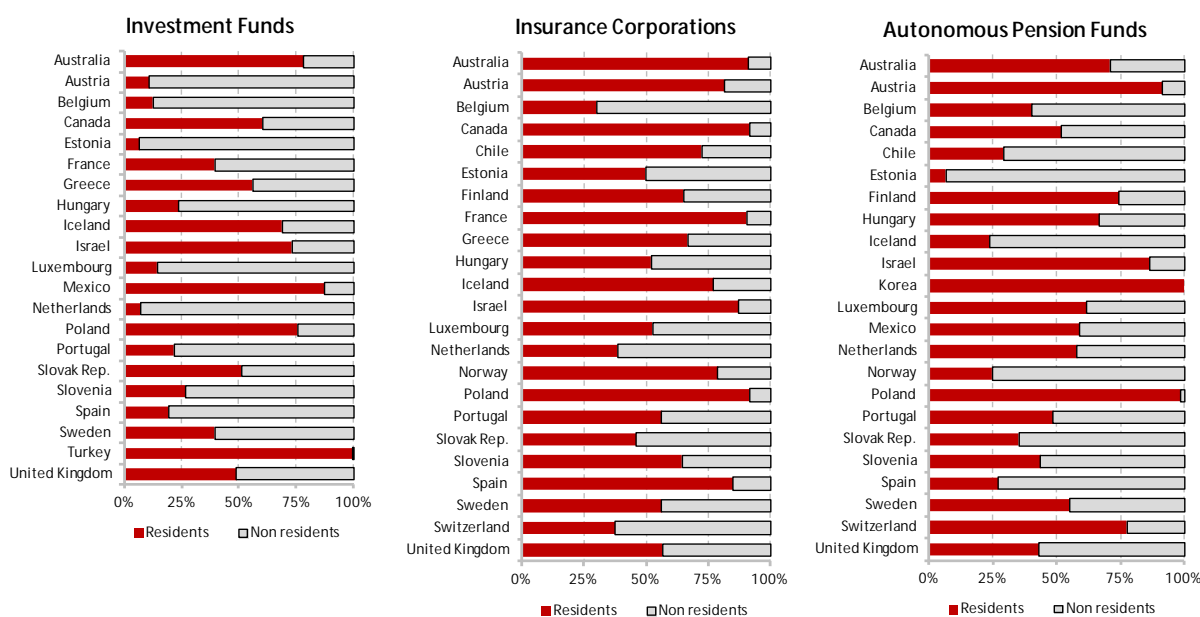
Source: Institutional Investors' Assets, OECD.Stat

Institutional investors invest very small portion of assets in Loans and they extend 87% of loans to residents. In this respect, there is only a small difference in the weights of loans to residents among insurance corporations, pension funds (85% for each one) and investment funds (89%) (see Charts 15).

Chart 15

Breakdown According to the Residency of Issuer

Loans, 2010
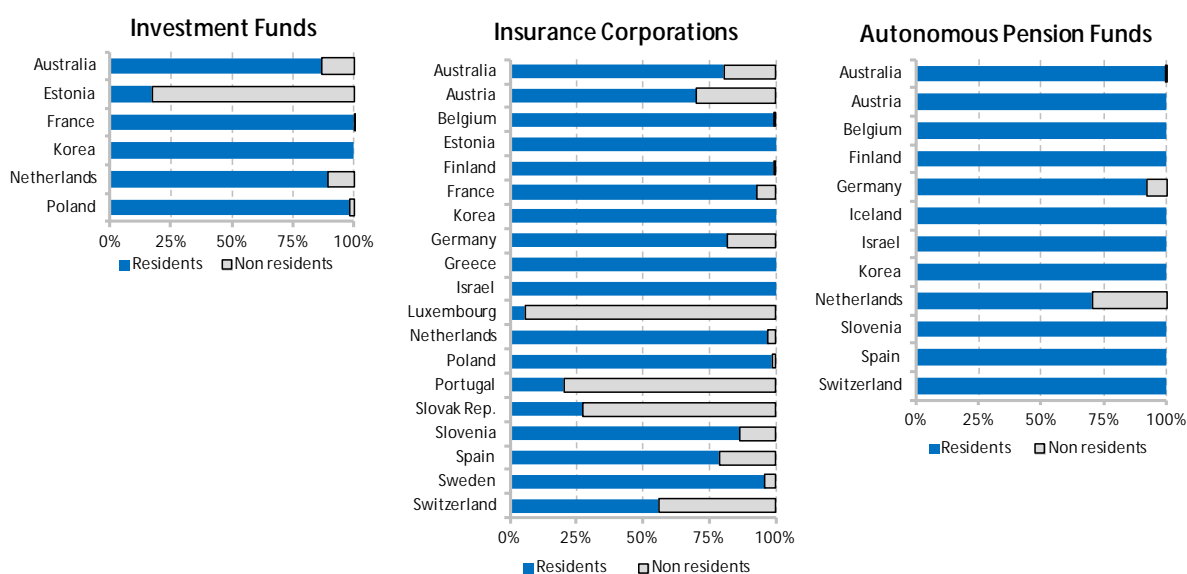
Source: Institutional Investors' Assets, OECD.Stat

2. Development of financial accounts and shadow banking data

(1) Development of OECD Financial Dashboards

The OECD Financial Dashboard presents financial indicators derived from OECD countries' annual financial accounts (transactions) and annual financial balance sheets (stocks). Its purpose is to analyse the behaviour and performance of the institutional sectors and to carry out cross-country comparisons. Such indicators are useful in monitoring the financial activity and positions of various institutional sectors of OECD economies.

For the Financial corporations sector, the ratios included in the Dashboards are the following: on one hand, Net financial transactions as a percent of GDP derived from the financial accounts (transactions); on the other hand, Financial net worth as a percentage of GDP; Debt as a percent of GDP; short-term financial assets to short-term liabilities ratio; debt to equity ratio; Leverage of the banking sector; Loans assets of the banking sector as a percentage of its currency and deposits liabilities; Financial intermediation ratio; Credit intermediation ratio, all of them derived from the financial balance sheets (stocks).

Among these ratios, leverage of the banking sector is quite useful to identify risky behaviours of this sector. Leverage is computed as the ratio of selected financial assets to total equity. Financial assets include currency and deposits, securities other than shares except financial derivatives, and loans. Total equity relates to liabilities in Shares and other equities, except mutual fund shares. This ratio is a measure of financial leverage and long-term solvency. It can be used to ascertain the overall financial stability of the banking sector. Banks engage in leverage by borrowing to acquire more assets, with the aim of increasing their return on equity. But a high leverage ratio may show an increased financial institution's exposure to

risks and cyclical downturns. For example, one can observe a sharp rise in the leverage of the Greek banking sector after 2010 (see Chart 16).

Chart 16

Leverage of the banking sector (S121+S122+S123)
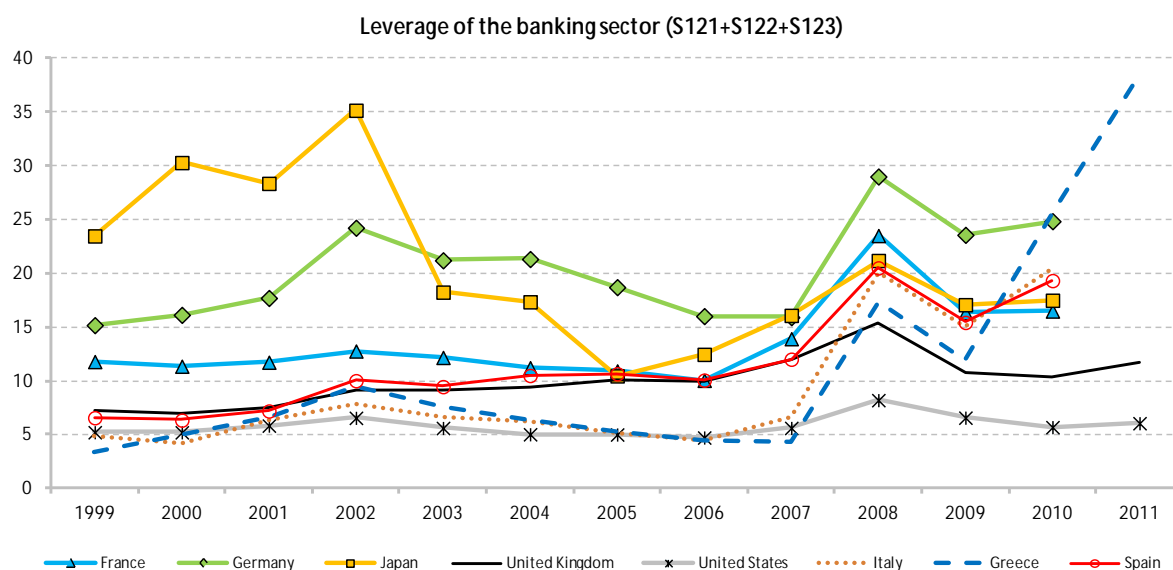
It is to be noted that, for the calculation of these ratio, the banking sector includes not only Central bank and Other depository corporations but also Other financial intermediaries. In order to understand the behaviour of shadow banking, Other financial intermediaries have to be separated from Depository corporations. By doing so, it becomes evident that the sharp rise of the Greek banking sector is due to that of Depository corporations (see Chart 17).

Chart 17

Leverage of Central bank and Other depository corporations (S121+S122)
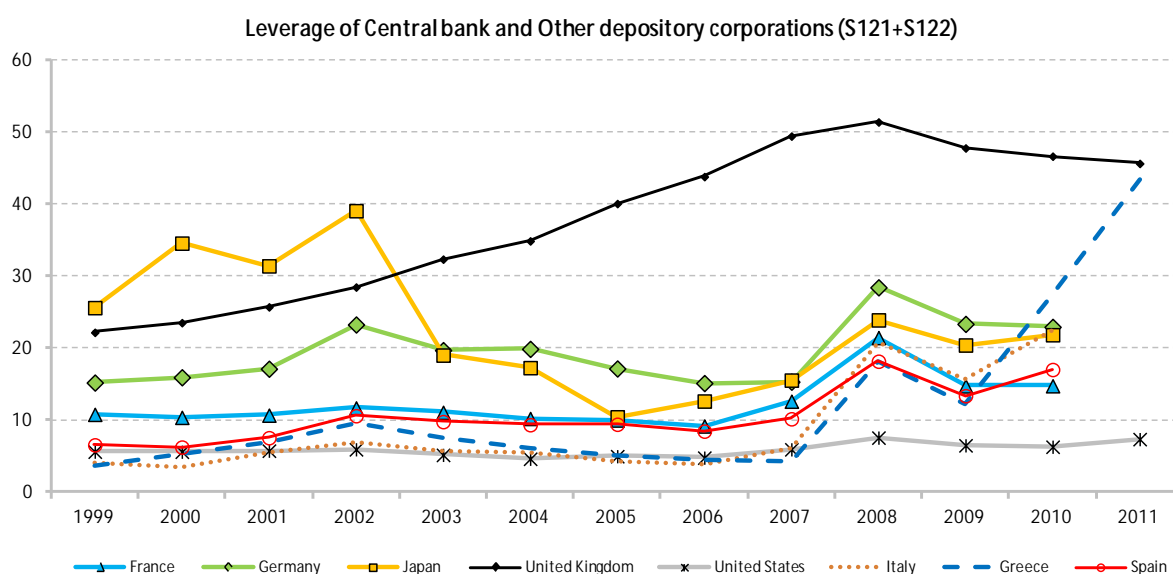
Also, one can identify a sharp rise of the leverage of French Other financial intermediaries from 2007 (see Chart 18).

Chart 18

Leverage of Other financial intermediaries (S123)
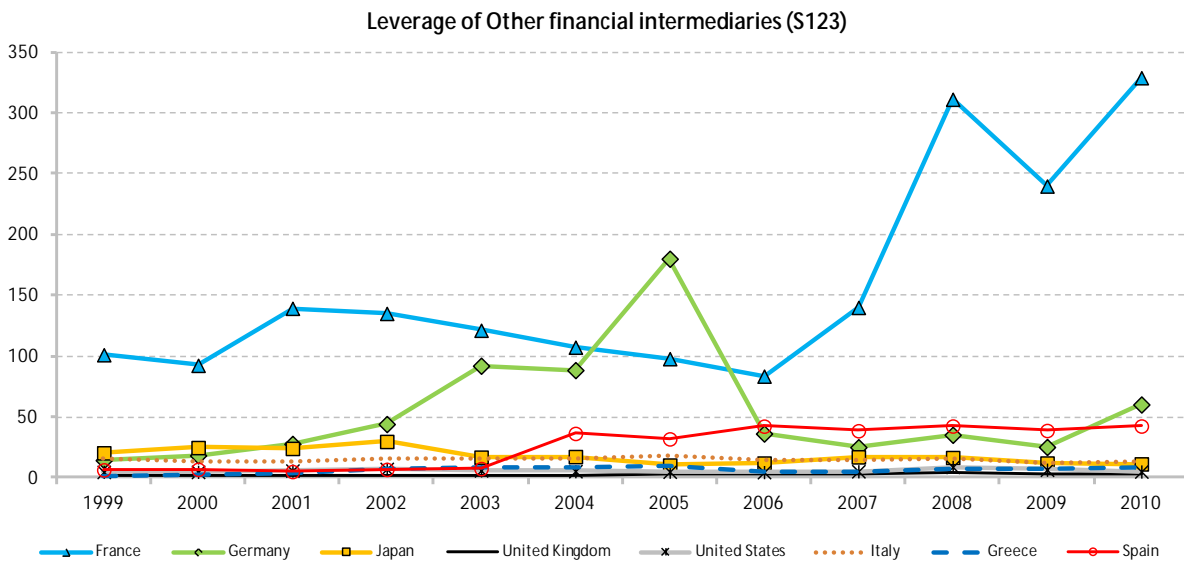
For the future, it is envisaged to expand the coverage of this dashboard by including mixed indicators such as gross debt to operating surplus, return on equity, households' total wealth as a percentage of their gross disposable income, in order to focus on the behaviour of specific sectors, and to calculate financial indicators on a quarterly basis.

(2) OECD WPFS Work on SPEs

In 2006, the OECD WPFS began to work on securitisation. This work was motivated by the increasing significance of this phenomenon, its growing impact on financial credit and monetary analysis, and the lack of systemic information with some degree of homogeneity. Since 2006, the WPFS has always included this topic on the agenda of its meetings in an attempt to better understand the different features of the securitisation process, its development in the various OECD countries and the best means to collect information on it.

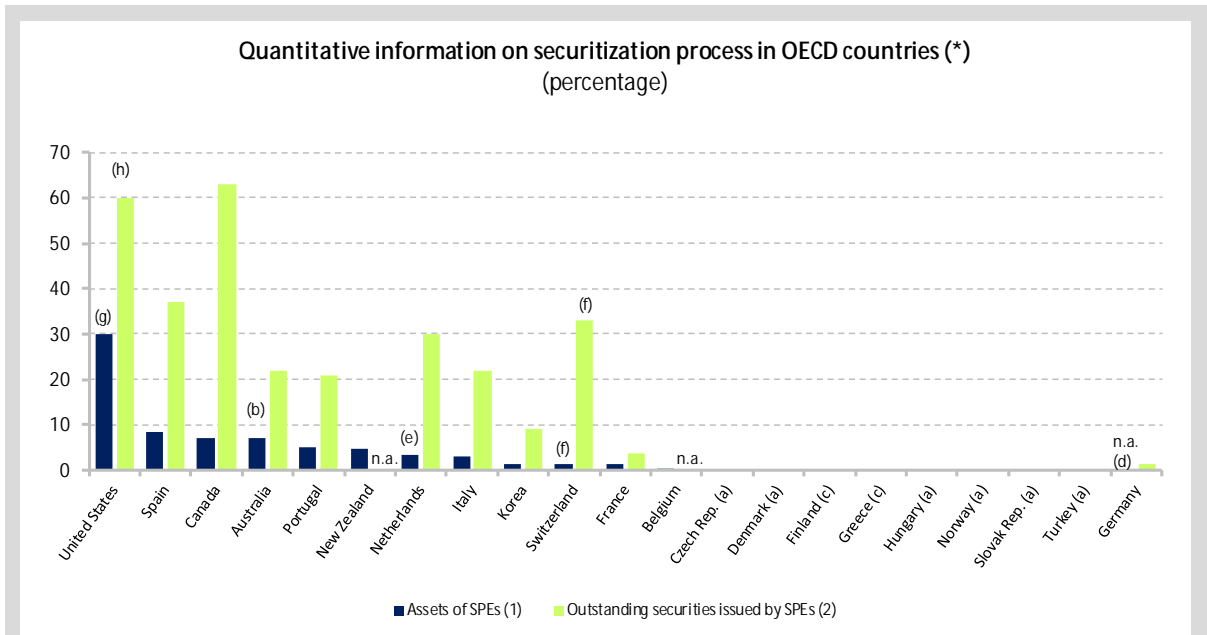The information on securitisation in OECD countries was collected through subsequent questionnaires. The first questionnaire was launched after the October 2006 WPFS meeting and included questions regarding the existence of securitisation process in OECD countries, the type of securitisation carried out through special purpose entities (SPE) or financial vehicle corporations (FVC), as well as questions related to the sources of information and available data.

In the 2007 WPFS meeting, the responses to the first questionnaire were summarised in a document from the OECD. It was concluded that, giving the implication of some securitisation operations for monetary and financial analysis, there was a clear demand for more information, both quantitative and qualitative, on the business of SPEs or FVCs. Therefore, an agreement on a new questionnaire to further understand the process in the different countries was reached. One of the most important results of the discussions was to get some quantitative information. The information included the assets of SPEs as a percentage of the total assets of financial corporations in the respective countries as well as outstanding securitisation amounts issued by SPEs as a proportion of all securities issued by financial corporations. This provided an idea of the importance of the securitisation process in OECD countries (see Chart 19).

Chart 19

Quantitative information on securitization process in OECD countries (*)
(percentage)

Legend:
- ■ Assets of SPEs (1)
- ■ Outstanding securities issued by SPEs (2)

Countries (x-axis): United States, Spain, Canada, Australia, Portugal, New Zealand, Netherlands, Italy, Korea, Switzerland, France, Belgium, Czech Rep. (a), Denmark (a), Finland (c), Greece (c), Hungary (a), Norway (a), Slovak Rep. (a), Turkey (a), Germany

(*) Information received until Sept. 2008

(1) Assets of SPEs as a proportion of the total assets of financial corporations
(2) Outstanding securities issued by SPEs as a proportion of all securities issued by financial corporations

(a) Countries that currently do not have any securitization processes
(b) Of the total consolidated assets of financial institutions
(c) Finland and Greece have securitization processes carried out by non-residents SPEs
(d) Only preliminary data available
(e) Excluding resident SPEs that securitize assets of non-residents originators
(f) Secured loans extended by Mortgage Bond Institutions to originators / covered bonds issued by Mortgage Bond Institutions; no data on other SPE available
(g) Assets of SPEs as a proportion of assets of sub-sector S123
(h) Outstanding securities of SPEs as a proportion of outstanding securities of sub-sector S123.

In the 2008 WPFS meeting, a second questionnaire was proposed for approval by the group to better understand the phenomenon. Its main points referred to accounting issues, main counterparties and problems of double counting; references to the synthetic securitisation; details of the structure of SPE-liabilities and questions related to the role that international organisations should play in trying to use homogeneous terminology, and to define involved entities, transactions and instruments. It also included some questions related to the valuation of assets and liabilities linked to securitisation, the treatment of write-downs and write-offs and more detailed quantitative information than that obtained from the first questionnaire which mainly included the SPE balance sheets for the period 2004 to 2008.

In the 2009 WPFS meeting, the results of the second questionnaire were summarized. The main conclusions were as follows: i) studies and reports on how securitisation was being developed in each country should be one of the avenues to be pursued; ii) as the WPFS meets only once a year, a workshop devoted to this phenomenon should be held in 2010; iii) in the future, the WPFS should work on a following-up of the securitisation process in the OECD countries, taking note of the new ECB regulations; and iv) the cooperation with all the international organisations should be strengthened and countries should encourage them to write guidance notes, manuals and practical examples.

The Workshop on securitisation took place at the Bank of Spain in May 2010. It brought together regular members of the WPFS, statisticians, analysts, supervisors, experts from accounting standard-setting institutions and from international organisations, and representatives from the industry and from international associations. It aimed at exchanging

views so as to better understand securitisation from various angles and to help improve the completeness and the usefulness of future statistics.

The issues discussed in the workshop were the following: i) the securitisation process from the standpoint of analysts, regulators and the industry; ii) the role of statisticians in the process, trying to delimit the securitisation phenomenon: definitions, agents who intervene (originators, SPVs or FVCs, administrators) and kinds of operation, trying to collect information and integrating the information collected into the financial accounts and other statistics. More specific questions were addressed for further discussions in a roundtable: i) the need to harmonise terms regarding operations, agents and practices; ii) the need to have harmonised legislation or at least a certain common methodology and uniform dissemination of statistics; iii) the need to exchange experience regarding difficulties met to collect information; iv) the need for OECD to collect/disseminate securitisation data for a selected group of countries, in line with the ECB request and v) thoughts about the securitisation after the crisis.

Among issues discussed above, the integration of available information on securitisation into the financial accounts is directly related to the statistics development. In some countries, SPEs have already been incorporated in the financial accounts but SPEs have not necessarily been separately identified. In this respect, it was suggested that either the OECD creates some subsectors for securitisation-related entities in the OECD financial accounts or it adds a new subsector in the Institutional Investors' Assets database, or it develops supplementary tables for other financial corporations. The rationale was that the OECD should focus on the collection of data for securitisation as an extension of the methodological surveys conducted in cooperation with the Bank of Spain. At the same time, there was an indication that coordination between international organisations is preferable rather than one organisation taking the lead, given that several international organisations are interested in data collection in this field.

Data collection issue is closely related to the implementation of SNA 2008 or ESA 2010. In these manuals, an additional subsector has been created for financial corporations: Captive financial institutions and money lenders, in which holding companies, SPEs, and corporations engaged in lending from own funds and/or to limited partners. Therefore, countries implementing the 2008 SNA or 2010 ESA may have to strengthen source data for SPEs. The OECD is willing to help those countries by providing more concrete guidelines on the scope and definition of such subsectors.

At this stage, it is not envisaged by the OECD to collect data on securitisation but rather to use the ECB data for EU countries and the new BIS data for non-EU OECD countries to avoid duplication. However, supplementary data for SPEs might be collected in the framework of the Institutional Investors' Assets database if the WPFS reaches an agreement to do so.

3. Conclusion

As demonstrated in Chapter 3, OECD financial statistics, which include shadow banking in the scope, are useful tools for identifying the activities of financial corporations as collectors of savings and suppliers of funds to financial markets.

By using OECD financial accounts, financial structure of countries can easily be understood. Although Depository corporations accounts for more than 50% in total financial assets on average, Other financial intermediaries are more significant than Depository corporations in some countries.

Regarding the asset composition, the majority of the Depository corporations' assets are Loans in general. Insurance corporations and pension funds mainly invest in Securities other than shares except financial derivatives or in Shares and other equities. The assets

composition of Other financial intermediaries is more diversified than Depository corporations as well as Insurance corporations and pension funds. Peculiarities of specific countries can be demonstrated by means of cross-country comparisons.

By using Institutional Investors' Assets database, their investment behaviours can be analysed in more detail. Institutional investors have a more than half of their assets in domestic-issued instruments. In particular, Insurance corporations and pension funds have more than 60% of their exposure to resident-issued assets. In some countries, however, institutional investors have a relatively large exposure to non-resident-issued assets.

OECD financial statistics could be useful not only in the analysis of past crises but also in the detection of future crises. For the detection of future crises, it appears useful to identify structural changes in financial flows by sector, based on the analysis of the 2007–2008 financial crisis. Also, leverages of financial corporations should be a useful indicator for understanding their behaviors. It is especially the case when the leverages are calculated for sub-sectors of financial corporations.

Immediately after the financial crisis, in 2009, the Financial Crisis and Information Gaps Report to the G-20 Financial Ministers and Central Bank Governors (G-20 Data Gap Initiative <DGI> report) was published. This report highlighted a number of areas in which statistics should be developed. Among them, the development of sectoral accounts is prescribed as one of the most important challenges. In this context, special emphasis has been put in three points.

The first emphasis is the data compilation of non-financial assets by sector. In the G-20 DGI report, the recommendation 15 states that the Inter Agency Group, which includes all agencies represented in the Inter-Secretariat Working Group on National Accounts, should develop a strategy to promote the compilation and dissemination of the balance sheet approach, flow of funds, and sectoral data more generally, starting with the G-20 economies. The sectoral data refers to integrated current and accumulation accounts as well as financial and non-financial balance sheets for institutional sectors and is termed as sectoral accounts. This framework covers both financial and non-financial assets. Data on non-financial assets such as dwellings are important because, by representing them in sectoral non-financial balance sheets, their stocks are identified and vulnerabilities of each sector can be better captured.

The second emphasis is the compilation of quarterly data. Based on the G20 report, countries are expected to report quarterly sectoral accounts in addition to annual sectoral accounts to the OECD. Although most OECD countries compile quarterly financial accounts and financial balance sheets, quarterly sectoral accounts including non-financial assets need to be further developed, overcoming the lack of detailed breakdown and improving the quality of data estimation.

The third emphasis is the identification of from-whom-to-whom information. Traditional financial accounts and financial balance sheets have been presented in two dimensional matrices; sectors in columns and categories of financial instruments in rows. Such presentation does not necessarily answer the questions of who is financing whom in what categories of financial instrument, due to the absence of the information of counterparty sectors. In order to answer this question, financial accounts and financial balance sheets have to be presented in three dimensional from-whom-to-whom matrices, covering the debtor sector and the creditor sector as well as categories of financial instruments. In this respect, the 2008 SNA describes that detailed flow of funds accounts are based on three dimensional tables. Similar tables are also proposed in the IMF Monetary and Financial Statistics Manual. As mentioned in Chapter 2 and 3, the Institutional Investors' Assets database have adopted partly the form of three dimensional matrices by distinguishing issuers of financial instruments into residents and non-residents. It is expected that the development of financial accounts and financial balance sheets will be advanced further in this direction.

The OECD is working on the improvement of statistics regarding institutional investors, which include insurance corporations and pension funds, as well as SPEs. Such work, which is carried out by central banks as well as national statistical offices and other government agencies, will also respond to the requests of G-20 and other parties for the development of statistics on shadow banking. In some countries, central banks might not have official mandates to collect data for other financial corporations. Nevertheless, the involvement of central banks and their cooperation with national statistical offices and other government agencies is indispensable for filling the existing data gap in these areas.

Annex:
Methodology of OECD financial statistics and reporting institutions

(1) OECD financial accounts

The financial accounts (flows) together with financial balance sheets (stocks) compose the OECD financial accounts, which belong to the System of National Accounts (SNA). In particular, the financial accounts are part of the accumulation accounts; they record, by type of financial instrument, the financial transactions between institutional sectors. The financial balance sheets, corresponding to the final sets of information of the accounts, record the stocks of financial assets and liabilities held by the institutional sectors, and give their net worth at the end of the accounting period. The OECD financial accounts permit analysts and policy makers to have a better understanding of the interactions between the real economy and the financial activities in OECD countries.

Institutional sectors are composed of those institutional units capable of engaging in transactions with other units, following the definitions of the SNA 1993. These are grouped together into five main categories, some of which are divided into sub-sectors:

· Non-financial corporations (S11): all resident non-financial corporations (that make up most of the sector) and non-profit institutions (NPIs) engaged in the market production of goods and non-financial services (hospitals, schools or colleges that charge fees that enable them to recover their current production costs, or trade associations financed by subscriptions from non-financial corporate or unincorporated enterprises whose role is to promote and serve the interests of those enterprises).

· Financial corporations (S12): all resident corporations that are principally engaged in providing financial services, including financial intermediation and auxiliary services, to other institutional units. The sector also includes NPIs engaged in market production of a financial nature such as those financed by subscriptions from financial enterprises whose role is to promote and serve the interests of those enterprises. There are five sub-sectors:

· Central bank (S121): the Central bank is the national financial institution that exercises control over key aspects of the financial system.

· Other depository corporations (S122): these corporations have financial intermediation as their principal activity. To this end, they have liabilities in the form of deposits or financial instruments (such as short-term certificates of deposit) that are close substitutes for deposits.

· Other financial intermediaries (S123): other financial intermediaries except insurance corporations and pension funds consist of financial corporations that are engaged in providing financial services by incurring liabilities, in forms other than currency, deposits or close substitutes for deposits, on their own account for the purpose of acquiring financial assets by engaging in financial transactions on the market.

· Financial auxiliaries (S124): they correspond to institutional units principally engaged in serving financial markets, but which do not take ownership of the financial assets and liabilities they handle.

· Insurance corporations and pension funds (S125). Insurance corporations: they consist of incorporated, mutual and other entities whose principal function is to provide life, accident, sickness, fire or other forms of insurance to individual institutional units or groups of units or reinsurance services to other insurance

corporations. Pension funds: they consist of only those social insurance pension funds that are institutional units separate from the units that create them. Pension liabilities arise when an employer or government obliges or encourages members of households to participate in a social insurance scheme that will provide income in retirement. The social insurance schemes may be organized by employers or by government, they may be organized by insurance corporations on behalf of employees or separate institutional units may be established to hold and manage the assets to be used to meet the pensions and to distribute the pensions.

·　General government (S13): this sector consists mainly of central, state and local government units together with social security funds imposed and controlled by those units. It includes NPIs engaged in non-market production that are controlled by government units or social security funds. There are four sub-sectors: central government (S1311); state government (S1312); local government (S1313) and social security funds (S1314).

·　Households (S14): the household sector consists of all resident households. These include institutional households made up of persons staying in hospitals, retirement homes, convents, prisons, etc. for long periods of time. An unincorporated enterprise owned by a household is treated as an integral part of the latter and not as a separate institutional unit unless the accounts are sufficiently detailed to treat the activity as that of a quasi-corporation.

·　Non-profit institutions serving households – NPISH (S15): this sector consists of all resident non-profit institutions, except those controlled by government, that provide non-market goods or services to households or to the community at large, free or at prices that are not economically significant.

To these five sectors, which together comprise the total economy sector, is added the rest of the world sector, which reflects transactions and assets/liabilities vis-à-vis non-residents.

Assets and liabilities are grouped into seven categories of financial instruments, most of them divided into sub-items, which are ordered according to their liquidity:

·　Monetary gold and SDRs (F1): Monetary gold (F11) is gold to which the monetary authorities (or others who are subject to the effective control of the monetary authorities) have title and is held as a reserve asset. Special Drawing Rights (SDRs) (F12) are international reserve assets created by the International Monetary Fund (IMF) and allocated to its members to supplement existing reserve assets.

·　Currency and deposits (F2): Currency (F21) consists of notes and coins that are of fixed nominal values and are issued or authorized by the central bank or government. Transferable deposits (F22) comprise all deposits that: a) are exchangeable for bank notes and coins on demand at par and without penalty or restriction; and b) are directly usable for making payments by cheque, draft, giro order, direct debit/credit, or other direct payment facility. Other deposits (F29) comprise all claims, other than transferable deposits, that are represented by evidence of deposit.

·　Securities other than shares (F3): debt securities are negotiable instruments serving as evidence of a debt. They include bills, bonds, negotiable certificates of deposit, commercial paper, debentures, asset backed securities, and similar instruments normally traded in the financial markets. Sub-instruments: Securities other than shares except financial derivatives (F33) and Financial derivatives (F34).

·　Loans (F4): Loans are financial assets that: a) are created when a creditor lends funds directly to a debtor, and b) are evidenced by documents that are not negotiable.

- Shares and other equities (F5): Equity and investment fund shares have the distinguishing feature that the holders own a residual claim on the assets of the institutional unit that issued the instrument. Equity represents the owner's funds in the institutional unit. In contrast to debt, equity does not generally provide the owner with a right to a predetermined amount or an amount determined according to a fixed formula. Equity comprises all instruments and records acknowledging claims on the residual value of a corporation or quasi corporation after the claims of all creditors have been met. Investment funds are collective investment undertakings through which investors pool funds for investment in financial or non-financial assets. Those units acquiring shares in the funds thus spread their risk across all the instruments in the fund. Sub-instruments: Shares and other equity, except mutual fund shares (F51) and Mutual fund shares (F52).

- Insurance technical reserves (F6): This category reflects the difference between net contributions or net premiums paid to the schemes (insurance, pension and standardized guarantee schemes) less benefits and claims paid out. Significant other additions to the reserves of the schemes come via other changes in the volume of assets and especially holding gains. There are five sorts of reserves applicable to insurance, pension and standardized guarantee schemes: non-life insurance technical reserves, life insurance and annuities entitlements, pension entitlements, claims of pension funds on the pension manager and provisions for calls under standardized guarantees. Sub-instruments: Net equity of households in life insurance and pension funds reserves (F61) and Prepayments of premiums and reserves against outstanding claims (F62).

- Other accounts receivable/payable (F7): Trade credit and advances (F71) comprise trade credit for goods and services extended to corporations, government, NPISHs, households and the rest of the world, and advances for work that is in progress (if classified as such under inventories) or is to be undertaken. Trade credits and advances do not include loans to finance trade credit, which are classified as loans. Other accounts receivable, except trade credits and advances (F79) include accounts receivable and payable, other than those described previously, which are not related to the provision of goods and services. This item covers amounts related to taxes, dividends, purchases and sales of securities, rent, wages and salaries, and social contributions. Interest that accrues but is not paid is included in this item only if the accrued interest is not added to the value of the asset on which the interest is payable (as is usually the case).

All above-mentioned assets categories have a counterpart liability, except for monetary gold and SDRs.

While, as a general rule, the OECD financial accounts are to be recorded on a non-consolidated basis, consolidated accounts are also useful for certain types of analyses, such as deriving a better account of the financial position of the various economy players, in particular for financial corporations and for general government. Thus, in consolidated accounts, all transactions and stock positions between sub-sectors of the same sector, as well as between institutional units if the same sub-sector, are eliminated.

Flow and stock data are reported to the OECD on an annual and quarterly basis, mostly by central banks or national statistics offices.

(2) Institutional Investors' Assets database

In the framework of a quality review of the Institutional Investors data collected by the OECD, and in order to ensure a better comparability between countries and a better consistency in data provided to users, in particular to policy-makers, the OECD carried comparisons between data provided for the Financial Accounts database (as part of the National Accounts database) and data provided for the Institutional Investors database.

This provoked discussions on the institutional investors' statistics in the OECD Working Party on Financial Statistics (WPFS) meeting in October 2004. It was then decided that, because of the increasing importance of institutional investors, the OECD pursues this activity and adds to the data collection on Financial Accounts a yearly table on institutional investors' financial and non-financial assets, to replace the previous questionnaire on Institutional investors.

The dataset includes a detailed breakdown of Investment funds, Insurance companies and Pension funds, and Other forms of institutional savings, as institutional sectors. This finer breakdown by type of investors has been established with reference to the SNA 1993, when possible. Within Investment funds, one distinguishes Open-end companies, further broken down into Money market funds and Other mutual funds, and Closed-end companies, of which Real estate funds. Within Insurance companies and pension funds, one distinguishes Insurance companies, further broken down into Life insurance companies and Non-life insurance companies, as well as Autonomous pension funds.

Financial assets included in Institutional investors statistics correspond to the assets requested in the previous database on Institutional Investors, i.e., Currency and deposits (F2), Securities other than shares except financial derivatives (F33) broken down by maturity, Loans (F4) broken down by maturity, Shares and other equities (F5) and Other financial assets. While the sub-classification of the above financial assets corresponds to 1993 SNA, a further split between resident and non-residents is requested. Securities other than shares except financial derivatives are subdivided into Securities issued by residents and Securities issued by non-residents; loans are subdivided into Loans to residents and Loans to non-residents; Shares are subdivided into Shares issued by residents and Shares issued by non-residents. In addition, information of Total non-financial assets is also included.

Stock data are reported to the OECD on an annual and quarterly basis, mostly by central banks, national statistical offices, or regulatory authorities.

(3) Institutional arrangements

Institutional arrangements for compiling OECD financial accounts and Institutional Investors' Assets database vary among OECD countries. In some countries, responsible bodies are central banks. In other countries, national statistical offices are entirely or partly involved in the compilation of these statistics. For example, in the United States and many EU member countries such as France and Germany, central banks compile OECD financial accounts. In Korea and Belgium, central banks compile the entire system of national accounts, which comprise the production, distribution of income, and accumulation accounts, and they are responsible for OECD financial accounts. These central banks convert OECD financial accounts data into Institutional Investors' Assets database with some additional data sources (see the Table below).

In Australia, Canada, and the United Kingdom as well as Finland, and Norway, the national statistical office is responsible for the entire system of national accounts (financial as well as non-financial accounts) and, as a consequence, is also responsible for OECD financial accounts and Institutional Investors' Assets database. In Japan, annual OECD financial accounts as well as Institutional Investors' Assets database are compiled by government's national accounts department,[9] using central bank's quarterly financial accounts. In Denmark, annual financial accounts and annual institutional investors' data are under the responsibility of the national statistical office, whereas quarterly financial accounts and quarterly institutional investors' data are under the responsibility of the central bank. In Chile and in Mexico, financial accounts are compiled by the central bank while supervisory authorities are

---

[9] Japan's national accounts division belongs to the Economic and Social Research Institute.

involved in compiling Institutional Investors' Assets database according to their scope of competencies.[10]

The field of financial accounts and financial balance sheets appears to be the border between the scope of central bank statistics and that of government official statistics. Historically, the pioneering work in this field, known as money flows in the United States, was conducted by Morris A. Copeland, a Cornell University economist, in 1952 and was then continued by the U.S. Federal Reserve in the name of flow of funds accounts. This was followed in the 1950's by central banks in Europe such as Bundesbank and the Bank of Japan. Main objectives of the compilation was to describe processes of intersectoral finance, i.e., to present numerous financial transactions taking place and financial stocks connecting among the various sectors of the whole economy. As a next step, financial accounts and financial balance sheets were incorporated in the System of National Accounts. The interconnection with the real economy became emphasized and the role of national statistical offices emerged. Thus, in some countries, such as Canada, the financial accounts were developed as an extension of the already established sectoral income and expenditure accounts.

Also, the variation in institutional arrangements among countries appears to have been related to the limitation of data collection by central banks. When the central bank of a country has difficulties in collecting data on other financial corporations, it may rather focus on the data collection from other depository corporations and leave the data collection from other financial corporations to the national statistics office of its country. For specific financial institutions such as insurance corporations and pension funds, regulatory authorities might be in a better position for collecting data. Thus, the involvement of regulatory authorities can be observed especially in the area of Institutional Investors' Assets database.

---

[10] In Chile, "Superintendencia de Valores y Seguros" prepares data for Investment Funds and Insurance Corporations and "Superintendencia de Pensiones" does for Pension Funds. In Mexico, "Comisión Nacional Bancaria y de Valores (CNBV)" prepares data for Investment funds, "Comisión Nacional de Seguros and Fianzas (CNSF)" for Insurance corporations and "Comisión Nacional del Sistema de Ahorro para el Retiro (CONSAR)" for Pension funds.

Table

Source of Information for Institutional Investors' Assets database

Country	Institution	Department	Survey / National Accounts (Financial Accounts)	Institutional Investors
Australia	Statistical Office (Australian Bureau of Statistics (ABS))	Financial Statistics Section	Primarily based on quarterly survey data	**Investment funds**: Based on quarterly ABS survey data **Insurance companies**: Based on quarterly Australian Prudential Regulation Authority (APRA) and ABS survey data **Pension funds**: the large funds which are sourced from the regulator APRA are based on quarterly survey data; and the small self-managed funds data is sourced from the Australian Tax Office (ATO) which generates estimates based on annual census data of funds. **Other forms of institutional savings**: is based on quarterly ABS survey data
Austria	Central Bank (Oesterreichische Nationalbank)	Statistics Department, External Statistics and Financial Accounts Division (supported by the Supervisory and Monetary Statistics Division)	Financial Accounts	**Investment funds**: Investment fund statistics, securities statistics **Insurance companies**: quarterly reports, balance sheets data, securities statistics **Pension funds**: quarterly reports, balance sheets data, securities statistics **Other forms of institutional savings**: MFI statistics, securities statistics, residual calculation

Country	Institution	Department	Survey / National Accounts (Financial Accounts)	Institutional Investors
Belgium	Central Bank (Banque Nationale de Belgique)	General Statistics	Financial Accounts (compiled in Financial Accounts Division)	**Investment funds + Insurance companies + Pension funds**: The data sent are extracted from the National Accounts which are based on exhaustive figures sent by the Belgian Banking, Finance and Insurance Commission (CBFA) (compilation based on information given directly by companies) **Other forms of institutional savings**: Our figures are based on balance sheets data
Canada	Statistical Office (Statistics Canada)	Income and Expenditure Accounts Division, Finance and Wealth Accounts Section	Data are drawn from surveys, integrated into the national accounts and then extracted from the National Accounts (financial accounts).	**Investment funds**: Quarterly Survey of Financial Statements – Investment Funds compiled in our Business and Trade Statistics Branch **Life Insurers**: Quarterly Survey of Financial Statements – compiled in our Business and Trade Statistics Branch Segregated Funds of Life Insurers Quarterly Survey of Financial Statements – compiled in our Business and Trade Statistics Branch. Property and Casualty Insurers Quarterly Survey of Financial Statements – compiled in our Business and Trade Statistics Branch. **Pension funds**: Survey of Trusteed Pension Plans compiled in our Social, Health and Labour Statistics Branch **Other forms of institutional savings**: N/A

Country	Institution	Department	Survey / National Accounts (Financial Accounts)	Institutional Investors
Chile	Superintendencia de Valores y seguros (SVS)	International Affairs Department	Information directly provided by companies	**Insurance**: data are based on the information directly provided by companies that report to the regulatory authority – SVS – their financial statements (in FECUs – Ficha Estadística Codificada Uniforme-) **Investment funds and Other forms of institutional savings**: The source used for compiling the financial data was the SVS web page, which contains information on investment funds, required by the SVS rules to them, specifically, their financial statements
	Superintendence of Pensions	Research	Data are compiled from information given directly by Pension Funds.	**Pension Funds**: Data are compiled from information given directly by Pension Fund Administrators (AFPs)
Czech Republic	Statistical Office (Czech Statistical Office)	Financial accounts section	Both	**Investment funds**: statistical questionnaires **Insurance companies**: statistical questionnaires, administrative data sources (supervisor) **Pension funds**: statistical questionnaires, administrative data sources (supervisor) **Other forms of institutional savings**: statistical questionnaires, administrative data sources (supervisor)
Denmark	Statistical Office (Statistics Denmark)	Government Finances	National Accounts	**Investment funds**: National Accounts-Annual Reports **Insurance companies**: National Accounts-Annual Reports **Pension funds**: National Accounts-Annual Reports **Other forms of institutional savings**: N/A

Country	Institution	Department	Survey / National Accounts (Financial Accounts)	Institutional Investors
Finland	Statistical Office (Statistics Finland)	Economic Statistics	Most of the data is based on financial accounts. The division of insurance companies to life and non-life insurance is based on survey data. Starting from 2008 this survey data is not yet available and thus the breakdown cannot be provided.	**Investment funds**: Mutual fund statistics compiled by Statistics Finland **Insurance companies**: Investment Portfolio Inquiry for Insurance Companies produced by the Federation of Finnish Financial Services **Pension funds**: Investment Portfolio Inquiry for Pension Institutions produced by the Finnish Pension Alliance **Other forms of institutional savings**: Investment Portfolio Inquiry for Pension Institutions produced by the Finnish Pension Alliance
France	Central Bank (Banque de France)	DGS-DSMF-SESOF	Données extraites des Comptes financiers	**Investment funds**: sources internes, Rapport annuel de l'Autorité des Marchés Financiers (AMF) **Insurance companies**: Autorité de Contrôle des Assurances et des Mutuelles (ACAM) **Pension funds**: Non disponible **Other forms of institutional savings**: Non disponible
Germany	Central Bank (Deutsche Bundesbank)	Economics	Financial Accounts	**Investment funds**: Main data sources are capital market statistics and banking supervision **Insurance companies**: Data from Federal Financial Supervisory Authority **Pension funds**: Data from occupational pension funds **Other forms of institutional savings**: There are no important other forms of institutional savings that is why this is not covered

Country	Institution	Department	Survey / National Accounts (Financial Accounts)	Institutional Investors
Greece	Central Bank (Bank of Greece)	Statistics	Financial Accounts	**Investment funds**: **Insurance companies**: **Pension funds**: N/A. Some retirement schemes of this kind are included in life insurance companies. **Other forms of institutional savings**: N/A
Hungary	Central Bank (Magyar Nemzeti Bank)	Statistics	The data are based on financial accounts and surveys collected to compile financial accounts	**Investment funds**: Survey on investment funds, security statistics **Insurance companies**: Financial account, on residual basis **Pension funds**: Survey on pension funds, security statistics **Other forms of institutional savings**: Survey on voluntary health fund and income replacement fund
Ireland	Statistical Office (Central Statistics Office)	Financial Accounts(Income Division), National Accounts	Data are based primarily on surveys and, in the case of money market funds data, regulatory returns to the central bank	**Investment funds**: Balance of Payments survey data and regulatory returns to the central bank **Insurance companies**: Balance of Payments survey data **Pension funds**: Balance of Payments survey data **Other forms of institutional savings**: Balance of Payments survey data

Country	Institution	Department	Survey / National Accounts (Financial Accounts)	Institutional Investors
Italy	Central Bank (Banca d'Italia)	Economic and Financial Statistics Department	Both sources are used	**Investment funds**: supervisory statistics **Insurance companies**: data provided by the supervisory Authority on insurance companies **Pension funds**: data provided by the supervisory Authority on pension funds **Other forms of institutional savings**: supervisory statistics
Japan	Economic and Social Research Institute (ESRI)		Quarterly data are compiled by the Bank of Japan	
Korea	Central Bank (Bank of Korea)	Flow of Funds team, Economic Statistics Department	Data are extracted from the flow of funds statistics (financial accounts)	**Investment funds + Insurance companies + Pension funds + Other forms of institutional savings**: Financial statement reports, flow of funds statistics survey reports and monetary financial statistics survey reports.
Luxembourg	Central Bank (Banque Centrale du Luxembourg (BCL))	Statistics	Data are calculated on the basis of surveys or supervisory authorities data. National Accounts are also used as source.	**Investment funds**: BCL data (quasi exhaustive survey) from 2008Q4 on. Before 2008Q4, data are calculated on the basis of Supervisory authorities data **Insurance companies**: Supervisory Authorities (Commissariat aux assurances (CAA)) **Pension funds**: Supervisory Authorities (Commission de surveillance du secteur financier (CSSF))

Country	Institution	Department	Survey / National Accounts (Financial Accounts)	Institutional Investors
Mexico	Comisión Nacional Bancaria y de Valores	Análisis de Información	From National Accounts	**Investment funds**: They send the information to the regulatory organism
	National Insurance and Surety Commission (Comisión Nacional de Seguros y Fianzas)	Research and Development General Direction	The insurance information is compiled from information given by companies.	**Insurance companies**: The insurance data correspond to the information given by insurance companies. We reported this information in the CNSF Statistical Yearbook and in the E-zine: Current Situation of the Insurance and Surety Sectors.
Netherlands	Statistical Office (Statistics Netherlands)	Financial institutions and Government	They are extracted from a Dutch statistic called Institutional investors. This statistic is almost fully consistent with the methodology of the National Accounts.	The supervisor on financial institutions, the Dutch Central Bank (DNB), delivers the greater part of data on the financial accounts of financial institutions. Relevant for Institutional investors are quarterly data on investment funds and on pension funds and insurance companies from the statistical department of DNB and yearly data on pension funds and insurance companies from the supervision department. **Investment funds**: Quarterly enquiry **Insurance companies**: Yearly data from supervision **Pension funds**: Yearly data from supervision **Other forms of institutional savings**: Annual accounts

Country	Institution	Department	Survey / National Accounts (Financial Accounts)	Institutional Investors
Norway	Statistical Office (Statistics Norway)	Financial market statistics – 940	The data are based on accounting statistics reported quarterly to Statistics Norway and, when possible extracted from financial accounts.	**Investment funds**: Investment funds accounting statistics and securities depository **Insurance companies**: Insurance companies accounting statistics and securities depository **Pension funds**: Pension funds accounting statistics, securities depositories and estimates based on insurance companies accounting statistics. **Other forms of institutional savings**: N/A
Portugal	Central Bank (Banco de Portugal)	Statistics Department	The same raw data as the one incorporated in Financial Accounts. Furthermore on Insurance Companies and Pension Funds it's considered the balance sheet data from Monetary and Financial Institutions, Balance of Payments and International Investment Position data and data from the Portuguese centralised securities database, sources that are used on Financial Accounts as well.	**Investment funds**: Raw data are compiled at the Banco de Portugal' Statistics Department as the result of a cooperation agreement with the corresponding supervisory body (Comissão do Mercado de Valores Mobiliários / Portuguese Securities Market Commission) **Insurance companies**: Data provided by the national supervisory body of this sector (Instituto de Seguros de Portugal / Portuguese Insurance and Pension Funds Supervisory Authority), which compiles it through direct inquires **Pension Funds**: Data provided by the national supervisory body of this sector (Instituto de Seguros de Portugal / Portuguese Insurance and Pension Funds Supervisory Authority), which compiles it through direct inquires **Other forms of institutional savings**: N/A

Country	Institution	Department	Survey / National Accounts (Financial Accounts)	Institutional Investors
Russia	Central Bank (Bank of Russia)	General Economic	Data are based on a survey. Data on insurance companies on quarterly data are produced from a sample survey using summing-up procedure.	**Investment funds** **Insurance companies**: Survey **Pension funds**: Survey **Other forms of institutional savings**
Slovenia	Central Bank (Banka Slovenije)	Financial Statistics	Both, survey and National Accounts	**Investment funds**: information given directly by companies from Dec. 2008, before 2008 from the National Accounts **Insurance companies**: information from the National Accounts **Pension funds**: information from the National Accounts **Other forms of institutional savings**: information from the National Accounts
Spain	Central Bank (Banco de Espana)	Statistics Department	Data are extracted from the National Accounts.	**Investment funds**: balance sheet, profit and losses account and other complementary information they report to their National Supervisory Authority (NSA) for supervisory and statistical purposes. **Insurance companies**: balance sheet, profit and losses account and other complementary information they report to their National Supervisory Authority (NSA) for supervisory purposes. **Pension funds**: balance sheet, profit and losses account and other complementary information they report to their NSA for supervisory purposes. **Other forms of institutional savings**

Country	Institution	Department	Survey / National Accounts (Financial Accounts)	Institutional Investors
Switzerland	Central Bank (Swiss National Bank)	Statistics	Financial assets: financial accounts. Nonfinancial assets: survey	**Investment funds**: Collective capital investment statistics **Insurance companies**: Bank balance sheets, securities statistics, direct investment statistics, insurance statistics **Pension funds**: Pension fund statistics **Other forms of institutional savings**: N/A
Turkey	Capital Markets Board of Turkey	Institutional Investors	The data sent are based on a survey.	**Investment funds**: survey
	The Undersecretariat of Turkish Treasury	General Directorate of Insurance	The data sent are based on a survey (data are compiled from information given directly by companies). The data reported are stock data.	**Insurance companies + Pension funds**: The main sources used for compiling the different categories of Institutional investors' financial data are insurance and occupational pension companies.
United States	Central Bank (Board of Governors of the Federal Reserve System)	Division of Research and Statistics Flow of Funds Section	Data are from the *Flow of Funds Accounts of the United States* (Z.1) produced by the Federal Reserve Board.	**Investment funds**: Investment Company Institute (ICI) data **Insurance companies**: A.M. Best (rating company) and SNL Financial **Pension funds**: IRS/DOL/PBGC form 5500 (private pension funds), Census Bureau (state and local governments), Federal Retirement Thrift Investment Board and National Railroad Retirement Investment Trust (federal government) **Other forms of institutional savings**: SNL Financial (REITs)

References

Andreasch Michael (2011), "New Financial Sector Delineation in ESA 2010: First Assessment for the Financial Accounts in Austria", OECD Working Party on Financial Statistics 25–27 October 2011

Eric Gonnard, Eun Jung Kim and Isabelle Ynesta (2008), "Recent trends in Institutional Investors Statistics", OECD Financial Market Trends 2008

Giovanini, E. (2008), Understanding Economic Statistics AN OECD PERSPECTIVE, Organisation for Economic Co-operation and Development Publishing

International Monetary Fund Statistics Department (2000), Monetary and Financial Statistics Manual

IMF Staff and FSB Secretariat (2009), "The Financial Crisis and Information Gaps Report to the G-20 Financial Ministers and Central Bank Governors"

Isabelle Ynesta and Belén Zinni (2011), "OECD Financial Dashboard", OECD Working Party on Financial Statistics 24–25 October 2011

Massimo Coletta and Belén Zinni (2011), "Insurance Corporations and Pension Funds", OECD Working Party on Financial Statistics 24–25 October 2011

Michèle Chavoix-Mannato (2010), "Working Party on Financial Statistics Proceedings of the Workshop on Securitisation Madrid, 27–28 May 2010", OECD Statistics Directorate Working Paper No. 38

Miguel Ángel Manéndez and Beatriz Sanz (2008), "The Securitisation process in the OECD countries. Summary of Responses to the OECD-WPFS Questionnaire and Discussion on the Follow-Up", OECD Working Party on Financial Statistics 13–14 October 2008

Noemi Fisch Tsekhman (2011), "The Classification of Holding Companies and Head Offices Problems encountered by the ICBS", OECD Working Party on Financial Statistics 25–27 October 2011

The Commission of European Communities, International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations and World Bank (1994)   System of National Accounts 1993

United Nations Economic Commission for Europe, European Central Bank and Eurostat (2010), The Impact of Globalisation on National Accounts

United Nations, European Commission, International Monetary Fund, Organisation for Economic Co-operation and Development, and World Bank (2009), The System of National Accounts 2008

Vito Natrella (1962), "The Flow-of Funds Approach to Social Accounting Appraisal, Analysis, and Applications", National Bureau of Economic Research