

# Institutional investors in the euro area accounts

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## 1. Introduction

The euro area accounts (EAA) present a comprehensive overview of all economic transactions, financial flows and balance sheets in the euro area by institutional sector. The European Central Bank (ECB) and the Statistical Office of the European Communities (Eurostat) have been compiling and publishing the accounts since June 2007 on a quarterly basis following the methodological framework of the 1993 System of National Accounts (SNA 93) and the 1995 European System of Accounts (ESA 95). Balance sheets and transactions of institutional investors are covered in the EAA.

The EAA rely mostly on statistics already collected and compiled for other purposes. The main value added of the accounts consists in assembling such data in a coherent framework to facilitate global analysis. Interlinkages between economic and financial developments and between institutional sectors are revealed in the EAA with clarity not attainable by the simple use of the individual statistics. By way of example, this paper illustrates the analytical use of the EAA in relation to institutional investors by proposing an alternative measure of household portfolios in which third-party institutional investors are consolidated out.

This note is organised as follows. Section 2 shows the sources and methods for integrating institutional investors into the EAA. Sections 3 and 4 motivate and discuss the proposed exercise focusing on household portfolios, while Section 5 presents the results for the euro area. Finally, Section 6 draws some conclusions.

## 2. Institutional investors in the EAA

The methodological framework of ESA 95 groups institutional investors into three institutional categories: “insurance corporations and pension funds”, “financial intermediaries other than insurance corporations and pension funds” and “monetary financial institutions”. The latter two sectors cover investment funds and other collective investment institutions.

In the EAA, insurance corporations and pension funds (ICPFs) are shown together as a single subsector as required by the ESA 95 standards. No further breakdown into insurance corporations and pension funds separately and by kind of insurance business and/or social insurance scheme is available. In particular, no distinction is made between defined benefit and defined contribution social insurance schemes or between “with-profits” and other life insurance policies, a distinction that, as shown below, is central to the household portfolio analysis introduced here.

Furthermore, other financial intermediaries (OFIs) are shown together with financial auxiliaries (in the OFI sector) and with no additional breakdown. This means that the balance sheet elements of institutional investors are mingled with those of financial auxiliaries, along with those of other intermediaries, such as financial holding companies and special purpose

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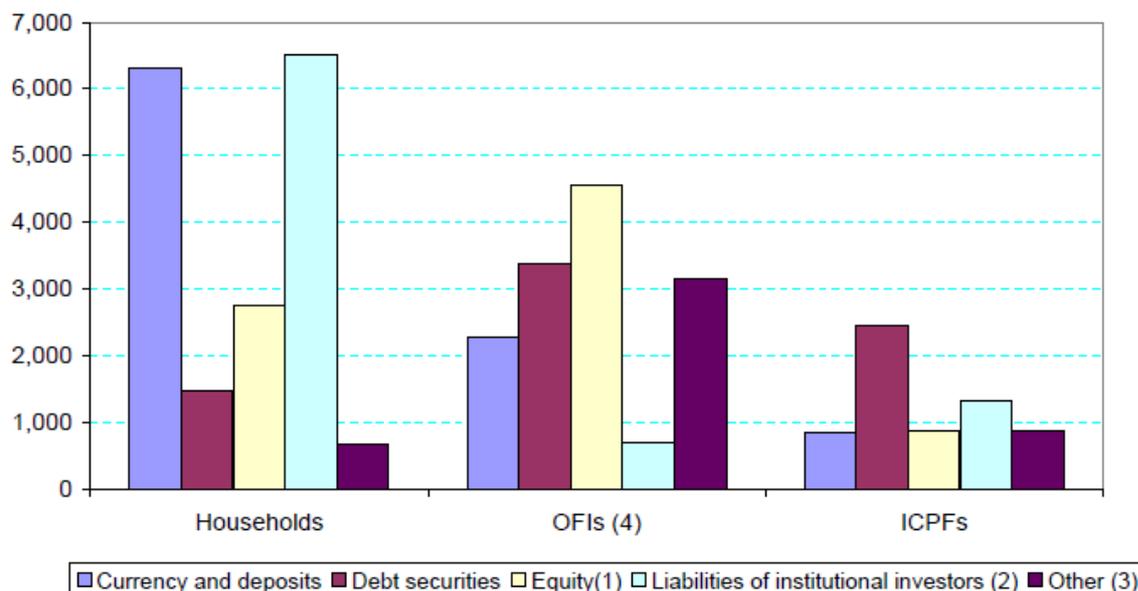
<sup>1</sup> Directorate General Statistics. The views expressed herein are those of the authors and do not necessarily reflect the views of the ECB.

vehicles or conduits. This is not a relevant drawback as the latter institutions do not take sizeable financial positions on their own behalf (only around 2 per cent of the total balance sheet of the combined sector). Overall, investment funds represent more than 40 per cent of the total assets of the combined OFI sector.

Chart 1

### Assets of households and institutional investors in the EAA

Stock data at the end of the third quarter of 2009, in EUR bn



(1) Quoted shares, unquoted shares and other equity. (2) Mutual fund shares and net equity of households in pension fund reserves and life insurance. (3) Loans, other insurance technical reserves and other accounts receivable. (4) Including money market funds, but also other financial intermediaries other than investment funds and ICPFs.

The monetary financial institutions (MFI) sector comprises institutions whose liabilities are part of the monetary aggregate definition that the ECB uses for monetary policy purposes. It consists mainly of commercial banks and savings institutions, but also includes investment funds whose main portfolio consists of money market paper (money market funds). Although the EAA do not show these institutions separately in any of the various publication channels, it is possible to single out their assets and liabilities using information available in the ECB statistical databases.

The ESA 95 divides the balance sheet into analytical categories corresponding to the following concepts: cash and deposits, debt securities (further split into those with maturities of less than one year and more than one year), financial derivatives, loans (also split with the same maturity breakdown as debt securities), quoted shares, unquoted shares, other equity, mutual fund shares, insurance technical reserves<sup>2</sup> (further split into households' net worth in social insurance schemes and other reserves) and other accounts receivable and payable. The same split is available in the EAA except for the combined presentation of unquoted shares and other equity and of financial derivatives and other accounts receivable and

<sup>2</sup> Technical provisions of insurance corporations and pension funds against policyholders or beneficiaries.

payable. The absence of such details is due to deficiencies in the raw data used to compile the accounts.

The pool of information available to the ECB for compiling the EAA in relation to institutional investors will be enhanced in the coming months. Since early 2009, a statistical regulation has been in place that requires the investment funds resident in the European Union to report on their balance sheet and financial flows on a quarterly basis.

At the same time, the ECB has started to implement a short-term approach for insurance statistics that will cover balance sheets for the relevant institutions with a quarterly frequency as well. A distinction will be available between unit-linked and not unit-linked life insurance policies, and between defined-benefit and defined-contribution pension funds, for the corresponding insurance technical reserve liabilities.

Both datasets will make it possible to identify the counterpart sector, thereby allowing the compilation of who-to-whom matrices<sup>3</sup> permitting a better analysis of the flow of funds and intersectoral linkages. Furthermore, the data will be available within 90 days after the end of the reference quarter. This will fulfil the timeliness requirements for advancing the compilation of the EAA from the current 120-day time lag, a project on which both Eurostat and the ECB have embarked to better serve the needs of monetary and other conjunctural analysis.

### **3. Household wealth, portfolio allocation and financial risk exposures: the role of institutional investors**

Institutional investors play a crucial role in contributing to a more efficient allocation of savings to investment opportunities. They represent a channel for household savings to flow to borrowers in addition to traditional banking intermediation. Their growing importance in the global financial system has enabled the removal of financing constraints worldwide and so broadened the sources of funds for final real investment.

Apart from this effect on the overall efficiency of financial markets – and related to it – institutional investors enable households to conduct more sophisticated portfolio management, albeit indirectly. In most cases, institutional investors play the role of asset managers, with the underlying risks of the financing instruments in which the funds are placed being transferred almost entirely to the policyholder or shareholder. This is a distinctive feature compared to traditional intermediation, in which banking institutions act as risk buffers vis-à-vis the depositaries. Investment in institutional investors' financial liabilities can then be seen as a way for households to indirectly invest in the assets in which those institutions place the funds raised (eg shares and other equity, debt securities, deposits and other assets).

Households then diversify the allocation of their wealth across financing instruments, counterpart sectors, sectors of activity and geographical areas with the help of the expert management provided by the institutional investor products. However, for the same reason, households are exposed to the market and credit risks – and even liquidity risks – inherent in such instruments.

Such exposure has become evident after the recent developments following the global financial turmoil that started in the summer of 2007. It has been revealed, for instance, that

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<sup>3</sup> Matrices showing holdings of or transactions with a financial instrument by institutional sector, broken down by the counterpart sectors that either issued the instrument or transacted with the sector.

while investing in mezzanine tranches is a common practice for insurance companies, a number of investment funds were subject to sizeable credit risk transfers by acquiring mezzanine and even equity tranches of ABS/CDOs.<sup>4</sup> This heavily increased their exposure to the default of the underlying assets, typically residential mortgage-backed securities. The investment shareholders or insurance policyholders eventually took the associated losses following the subprime market meltdown. The total losses incurred were even larger than the corresponding losses on the securities held by ABS/CDOs because such vehicles used CDS<sup>5</sup> to synthetically take on even more mortgage risk than was actually issued. In short, households acquired risk exposure to a degree and with a level of sophistication not attainable without the involvement of institutional investors.

Based on this reasoning, it is proposed here to make an alternative presentation of household financial wealth that looks through the institutional investor layer to unveil the underlying portfolio structure and exposure to financial risks: investments in institutional investors' liabilities would be replaced by the assets in which these institutions invest. Similarly, financial transactions in institutional investors' liabilities could be replaced by the corresponding asset transactions to consolidate out these institutions for the flow-of-funds analysis.

The EAA – and in general any national accounting framework – is the appropriate place for an exercise of this nature. First, consistent and comparable balance sheets for all the sectors involved are available following the same definitions and classifications. This ensures a sound consolidation exercise. Second, the balance sheet items are valued following the same valuation rules that include mark to market valuation for tradable instruments, on both the assets and the liabilities side. Apart from helping to make the consolidated presentation feasible, this also adds economic interpretability to the outcome, as the balance sheet entries closely reflect the market valuation of the risk exposures. Finally, more advanced national accounting frameworks include who-to-whom matrices showing sector-to-sector debtor-creditor relationships, thus enabling a complete mapping of sectoral interlinkages and shock propagation channels.

This presentation is inspired by the IMF balance sheet approach for surveillance.<sup>6</sup> That analytical framework examines stock variables in the balance sheets of the sectors in the economy, focusing on the risks created by maturity and currency mismatches and leverage. The framework draws attention to the vulnerabilities created by debts between sectors and it helps explain how imbalances in one sector spill over into other sectors. Consolidating out the institutional investors highlights the vulnerabilities of the household sector and the various contagion channels to which it is exposed.

The statements above must, however, be qualified. Consolidating out liabilities against household holdings is in principle meaningful for any institutional grouping, not only for institutional investors. After all, households are the ultimate owners of all businesses and hence the ultimate bearers of all underlying risks. However, the exclusive focus here on

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<sup>4</sup> Asset-backed securities/collateralised debt obligations: CDOs investing in ABS. ABS are financial securities backed by loans, including mortgages, or other receivables. CDOs are liabilities which are backed by a single pool of assets where the associated risks are "structured" by means of various kinds of sub-debts, often referred to as "tranches" or "slices", representing various degrees of risk exposure. "Mezzanine" and "equity" tranches refer to riskier tranches compared to "senior" tranches.

<sup>5</sup> Credit default swaps: in these contracts, a protection buyer pays a regular premium to a protection seller in return for a payment (the credit protection premium) in the event of a loan default. CDS are used to create synthetic exposures to risks without having to fund the principal of the underlying contracts and, in that sense, increase leverage.

<sup>6</sup> See Mark Allen, Christoph Rosenberg, Christian Keller, Brad Setser and Nouriel Roubini, "A balance sheet approach to financial crisis", International Monetary Fund Working Paper no 02/210, 1 December 2002.

institutional investors is based on the corresponding risk transfer being almost direct and potentially subject to immediately realised losses. Such strong risk transfer is in principle not present in bank liabilities.

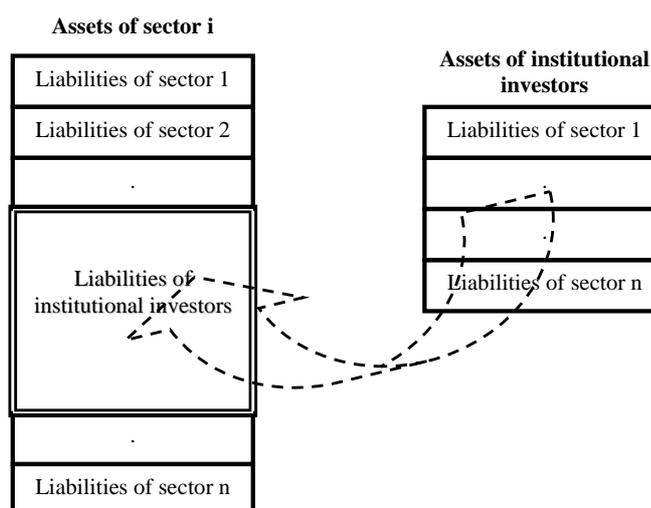
It follows that the consolidation exercise is only appropriate for liabilities where the above premise holds, ie that the bearer of the liability is directly exposed to the risks acquired by the corresponding institutional investor. This excludes from our exercise defined-benefit social insurance schemes and non-unit linked life insurance policies, as well as all types of investments in which there is guaranteed capital.

#### 4. Consolidating out institutional investors: an alternative household portfolio presentation

Figure 1 provides a graphical impression of the methodology proposed. Liabilities of institutional investors that serve as channels for risk exposures are replaced by such risks in the portfolio of the corresponding holding sectors.

Figure 1

##### Consolidation of institutional investors' liabilities



In the case of households, this means that assets representing unit-linked insurance policies, defined-contribution pension funds and investment fund shares are to be replaced by the corresponding assets earmarked for such liabilities.

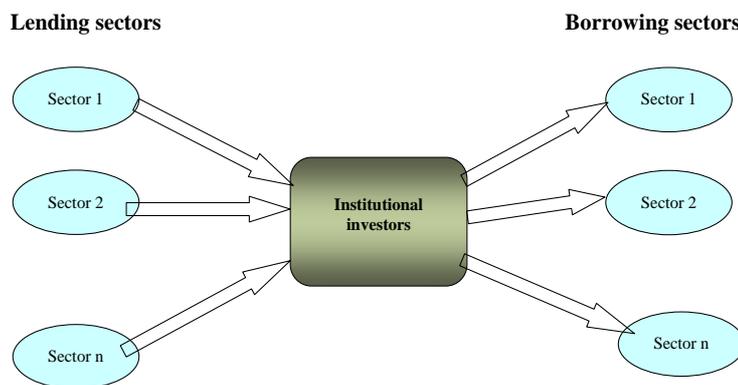
It must be noted that for this replacement to fully yield the results sought, the assets earmarked for the liabilities held by each sector should ideally be identifiable, so that the risk pass-through effect is correctly allocated across sectors. This level of detail – one that splits up the balance sheet of institutional investors, resident and non-resident, into subgroups according to the holder of the corresponding liabilities – can be denominated as a “who-to-whom square” and is not likely to be available. Instead, an approximation can be done by distributing the total assets of the relevant institutional investor on a pro rata basis across the various holders of the corresponding liabilities.

Furthermore, assets of non-resident institutional investors should be available and allocated to the corresponding resident sectors. It is again unlikely that a statistical data source covering such information would be available, as the balance of payments data – the usual

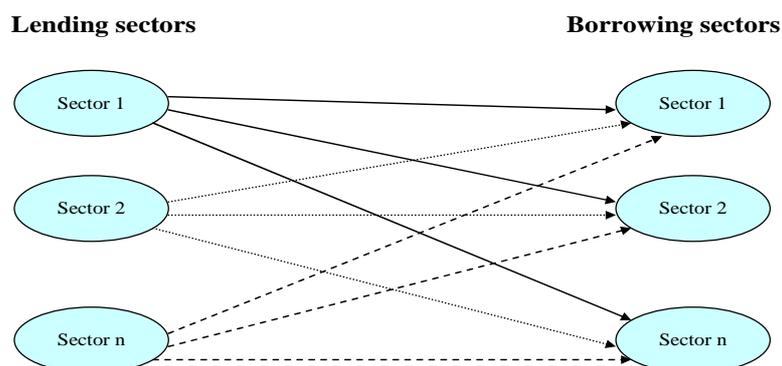
source for the rest of the world sector in sectoral accounts – only covers investments flowing back into the domestic economy (but even then, usually with no way to identify the foreign investor as an institutional investor). Here only heuristic – and heroic – assumptions would serve to approximate the real risk pass-through effect.

**Figure 2. Flow of funds and institutional investors**

*2a. The lender-borrower flows are channelled through the institutional investors.*



*2 b. Consolidating out the institutional investors reveals the ultimate who-to-whom flows.*



The presentation proposed here allows for an alternative analysis of household portfolios. As discussed above, risks, intersectoral vulnerabilities and analysis of fragility indicators are obvious areas where this presentation is of interest. Figure 2, however, illustrates another use of this methodology in the case of flow of funds.

The question “What are the sources of financing of each borrowing sector in terms of the corresponding lending sectors?” is answered by showing the investment financing links on a “transactor” basis: funds flowing from one sector to another are shown as the same irrespective of whether they are materialised as issuance or liabilities or disposal/acquisition of assets.<sup>7</sup> The consolidation of the institutional investor transactions reveals the actual

<sup>7</sup> As an example, an acquisition of public debt securities by households that is sold by non-financial corporations would be shown as a flow from households to non-financial corporations if the transactor approach is followed.

sources of financing of the borrowing sectors, thus showing, in particular, whether domestic household savings or non-resident household savings finance the domestic investment.

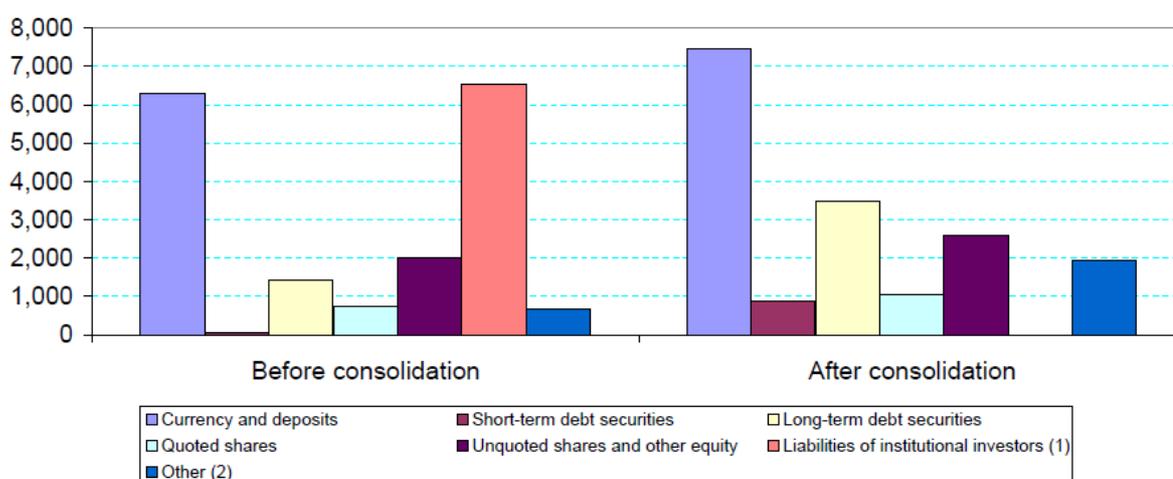
## 5. Consolidating institutional investors in the EAA

Chart 2 shows the balance sheet of households in the EAA that results from the substitution of institutional investor liabilities explained above.

Chart 2

### Assets of households before and after institutional investors' consolidation in the EAA

Stock data at the end of the third quarter of 2009, in EUR bn



(1) Mutual fund shares and net equity of households in pension fund reserves and life insurance reserves. (2) Loans, other insurance technical reserves and other accounts receivable (the high amount in the consolidated version is due to the inclusion of loans of OFI other than Investment Funds, as a result of the simplifications made)

Some additional simplifications have been made in deriving the data. Due to the lack of relevant detail described in Section 2, all life insurance and pension fund technical reserves are replaced by the corresponding assets. This replacement is inappropriate for defined-benefit pension funds and non-unit linked insurance policies. Moreover, assets of ICPFs are earmarked for life and social insurance, as opposed to non-life insurance, on a pro rata basis. Similarly, investment fund assets have been derived from all OFI assets on a pro rata basis.

Furthermore, as anticipated in Section 4, no sectoral detail is available that makes it possible to identify the assets earmarked for each holding sector, the “who-to-whom square”. What is more, the EAA does not yet provide a simpler who-to-whom breakdown of the liabilities of the institutional investors that would at least enable a proportional allocation of the risks.

To bridge this information gap, two additional assumptions have to be made regarding (i) the proportion of household investments in resident and non-resident institutional investors' liabilities and (ii) the asset structure of the non-resident institutional investors. In this exercise these two aspects have been covered by making a single assumption: that the balance sheet

structure for non-resident institutional investors is the same as for resident institutional investors. In such a case the simple proportion of household holdings over the total liabilities of institutional investors<sup>8</sup> can be applied to the assets of resident institutional investors as proposed in Section 4. This assumption has been made in order to derive the data in Chart 2.

To illustrate how this alternative presentation can enrich the analysis, Chart 3 shows the development of the investment items, grouped according to the usual monetary analysis categories, that is, short- and long-term investment,<sup>9</sup> before and after the substitution.

Chart 3  
**Households' short- and long-term investment  
before and after institutional investors' consolidation**

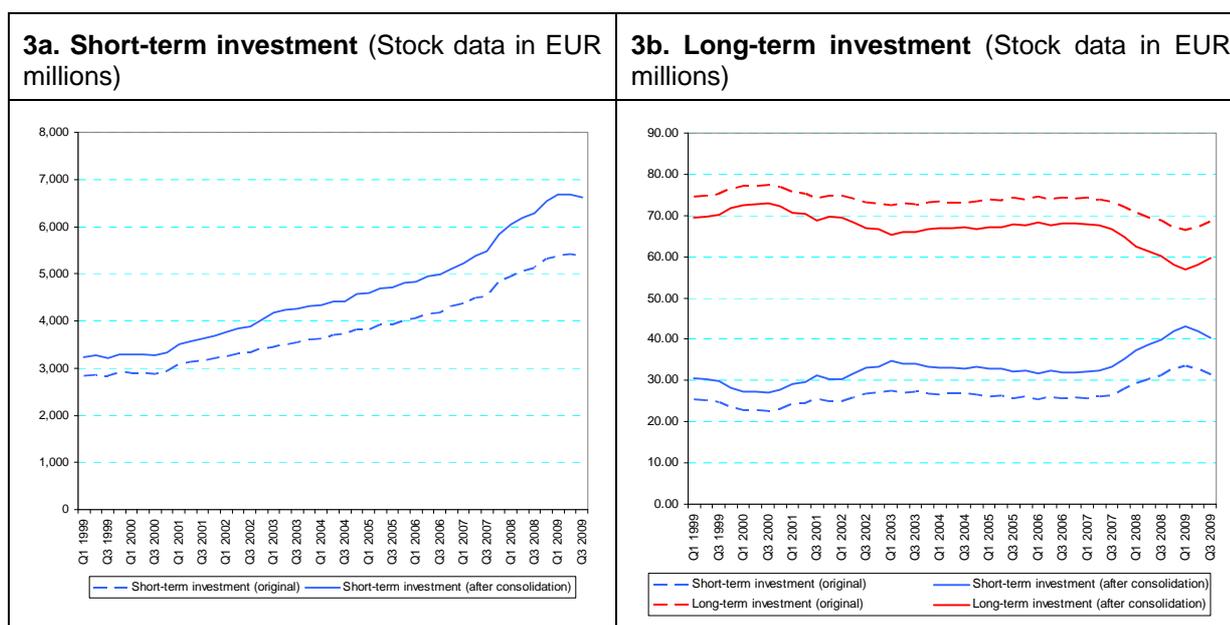


Chart 3a shows the expected change in the level of short-term investment, but also suggests that a different dynamic would result from the proposed consolidation. The acceleration in short-term investment that took place from mid-2007 onwards owing to the economic and financial uncertainty, which increased the preference for liquidity and less risky assets, is more pronounced when the behaviour of the institutional investors is also factored in the household portfolio analysis using the approach presented here.

Chart 3b corroborates this in terms of share over total investment, also providing the remarkable finding that by the beginning of 2009 short-term investment instruments are only 12 percentage points below long-term investment ones in the portfolio of euro area

<sup>8</sup> Note that this could be greater than 100 per cent.

<sup>9</sup> Short-term investment includes currency and deposits included in the M3 definition (overnight, with agreed maturity up to two years, redeemable at notice up to three months and repos being liabilities of MFIs), money market funds and debt securities with a maturity of less than two years if issued by MFIs and less than one year in all other cases. Long-term investment comprises all other deposits and debt securities, shares and insurance technical reserves.

households<sup>10</sup>. Only by the end of the first semester of 2007, the distance between long-term and short-term investment was as large as 35%: the gap has been closed by 23% in just one and a half years<sup>11</sup>. This trend has continued even in the last quarter of 2008 and first of 2009 in spite of the deceleration of short-term investment in those quarters, reflecting the more acute negative development of long-term investment (and the large holding losses in long-term assets).

## 6. Afterword

The exercise in this paper illustrates the benefits of looking at institutional investor data in an integrated statistical framework such as the EAA. The exercise itself will be improved as new data on investment funds and ICPFs become available during 2009, covering who-to-whom information, and a distinction is made between institutions taking the risks of their investments (non-unit linked insurance policies, defined-benefit pension funds) and those passing the risks on to the holders of their liabilities (investment funds, unit-linked policies, defined-contribution pension funds).

But beyond the specific example chosen, this paper illustrates the advantages of integrated, comprehensive statistical products for all kinds of analysis. The EAA combines various statistics in a common framework bridging the classification, valuation and treatment differences that might exist among them. This allows the analyst to look at the global aspects of economic developments: for instance, securities issues by economic agents can be seen in the light of who is acquiring them, real investment in the context of total investment and savings and external financing, and income development with reference to wealth changes.

This global view is a unique deliverable of integrated systems like the EAA, which will prove increasingly more productive as users become more familiar with it and the products gain in detail and timeliness.

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<sup>10</sup> The concrete figure must be taken with caution as it heavily depends on the statistical simplifications taken for the exercise in this paper.

<sup>11</sup> A similar calculation on the original data yields a narrowing of just 15%.