ECB statistics on insurance corporations and pension funds

Ana Cláudia Gouveia and Rafael Quevedo1

Introduction

Non-bank financial intermediaries have rapidly increased in importance in the euro area over the past 15 years. Among these, two sub-sectors – investment funds, and insurance corporations and pension funds (ICPF) – play an important role, as reflected by the steady growth of their balance sheet totals. Both sectors are now covered by enhanced statistics. The former is described in an ECB Monthly Bulletin article (please refer to ECB, 2010a). This paper presents the statistics for the latter sub-sector, developed by the ECB in close cooperation with the euro area National Central Banks (NCBs). These statistics are being developed under a "short-term approach" based on available data sources, mostly supervisory authorities, ie without implementing new data collection from reporting agents, and with the main objective of setting up a framework for timely quarterly estimates of euro area statistics.

1. Importance of euro area insurance corporations and pension funds

Euro area insurance corporations and pension funds (ICPF) are important investors in the financial markets. They account for 12% of the financial assets of the euro area financial sector (end-2009 data) and have significant links and interconnections with the different sectors of the euro area economy. In particular, ICPF hold 18% of the debt securities issued by euro area general government and 28% of the mutual fund shares issued by euro area investment funds. In parallel to this active role as providers of financing, euro area ICPF liabilities are one of the main components of euro area households' financial wealth (accounting for 30% of the total), competing with deposits in attracting households' investments. In addition, their role as providers of insurance is essential for the smooth functioning of the euro area economy. ICPF balance sheet data are, moreover, used for different types of analysis, namely monetary and financial stability analysis.

Concerning monetary analysis, ICPF directly hold monetary assets, but these account for only a small portion of the sector's total financial assets and of monetary financial institution (MFI) liabilities composing monetary aggregates. ICPF play an important role as a counterpart to the flows into and out of MFI balance sheet positions and, as mentioned, compete with MFI in attracting savings originating from households. ICPF data are also relevant for analysing economic activity and the monetary transmission mechanism, for instance through ICPF investments in securities, their impact on the financing conditions of

574 IFC Bulletin No 34

Directorate General Statistics, European Central Bank. European Central Bank (ECB), Kaiserstrasse 29, 60311 Frankfurt am Main, Germany; e-mail: ana_claudia.gouveia@ecb.europa.eu and rafael.quevedo@ecb.europa.eu. The authors would like to thank Na Luo, Daniele Frison, Henning Ahnert and Jean-Marc Israël for their valuable comments and contributions. The views expressed in this paper are those of the authors and not necessarily those of the ECB.

the non-financial private sector, and also as an important and increasing part of the wealth portfolio of the household sector.

From a financial stability perspective, the role of ICPF as investors in financial markets, their growing links and interconnections with the financial sector, and their importance as providers of insurance (for households and firms) make the new statistics relevant in assessing the stability of the financial system.² As long-term investors, ICPF, which have lower levels of liquidity risk than banks, are well placed to play a stabilising role. At the same time, possible under-funding by ICPF may affect the real economy in times of adverse asset price developments. The same is true in the event of low interest rates, which are used to discount future liabilities. Furthermore, the sector is also important for monitoring systemic risk, given their growing interaction with financial markets and financial intermediaries, and the special role of reinsurance. Finally, concentration in the insurance sector has grown over time, and financial conglomerates have emerged.

2. New insurance corporation and pension fund statistics

Given the scarcity of timely, harmonised and comprehensive data on euro area ICPF,³ at the end of 2007 the ECB launched an initiative to improve the statistical coverage of the ICPF sector, as part of a broader strategy to enhance the statistical coverage of the non-bank financial intermediaries sectors. A task force was mandated to consider compilation issues, in particular to further define a reporting scheme for ICPF statistics from NCBs to the ECB relying on available national data. User requirements from monetary policy and financial stability analyses were taken into account. In parallel, ICPF statistics were also geared towards enhancing the input (as a 'building block' for the ICPF sector) to the compilation of euro area accounts. These accounts are an integrated statistical framework that provides a systematic description of the euro area economy for the financial and non-financial sectors.

For the enhanced statistics, NCBs transmit to the ECB quarterly data on ICPF assets and liabilities for the total sector and, if available, broken down into the two sub-sectors of insurance corporations and pension funds. The required data cover end-quarter stocks as well as quarterly transactions (change in stocks adjusted for reclassifications, exchange rate changes and price revaluations) and should be reported to the ECB within 85 calendar days after the reporting period. There are some requirements that may be met on an annual basis if no quarterly data are available. NCBs may report available annual data or best estimates on splits of (i) the balance sheet by sub-sector; (ii) net equity of households in insurance technical reserves (ie unit-linked and non-unit-linked business); and (iii) net equity of households in pension reserves (ie defined contribution, defined benefit and hybrid schemes). The reporting scheme showing all of the series to be provided by the NCBs to the ECB is presented in Annex I.

National statistics are provided by the NCBs to the ECB on a best efforts basis and may include estimates. The main national data sources for outstanding amounts are supervisory data, complemented by information directly reported by ICPFs. Financial accounts estimates are also used to support the compilation of ICPF statistics. These main sources are complemented by other NCBs' statistics, including MFI balance sheets, securities issues

IFC Bulletin No 34 575

-

² For further details please refer to ECB (2009) and ECB (2010b).

Data on ICPFs have been part of euro area accounts since their publication in June 2006 for annual accounts and in June 2007 for quarterly accounts (see ECB Monthly Bulletin, Statistics section, Table 3.5)

This timeliness will move to 80 calendar days by end-2010, to align with tighter deadlines for the compilation of euro area accounts.

statistics or balance of payments statistics, mostly for purposes of compiling net transactions. The ICPF statistics are based on a host approach⁵, at market value (except for deposits and loans which are at nominal value) and on a non-consolidated (solo accounts) basis.

Since October 2008, the ESCB has worked on implementing the new ICPF statistics, and particular attention has been given to the promotion of a sound methodological framework. The treatment of reinsurance, for example, was discussed as a means of ensuring an effective and harmonised treatment across euro area countries. The derivation of transactions, one of the major difficulties of NCB compilers, was the main topic of a workshop held in October 2009. Another workshop is scheduled to take place in October 2010, and will follow up on the derivation of transactions and discuss data quality issues.

The quality of the data transmitted is regularly monitored through internal ECB consistency checks. In addition to this, a cross-checking with alternative sources was performed, in order to assess the consistency of the ICPF dataset and statistics on other financial sub-sectors (MFI, investment funds, money market funds, financial vehicle corporations), securities issues and euro area accounts. The results for outstanding amounts data were, in general, positive, and some of the detected discrepancies were solved by NCBs. A similar exercise is being conducted for transactions.

The quality of the euro area results depends on the coverage achieved at the national level. Concerning outstanding amounts, the coverage of the euro area instrument totals by national data is close to 100%. For the compilation of euro area aggregates, estimates by the ECB encompass missing breakdowns for residency, sector counterparts or maturity. Regarding missing residency or sector counterparts, the main data gaps are in holdings of securities, quoted shares and unquoted shares and other equity, where, respectively 36%, 33% and 84% of the counterpart allocation has to be estimated by the ECB. Concerning the missing maturity breakdown, the gaps relate to the longer-term maturities. Only the maturity breakdown of deposits is estimated by the ECB (the amounts missing account for 10% of the instrument total) since, for the other instruments, the gaps remain too large.

In respect of the data on transactions, the coverage is lower in comparison to reported stock data, while it has substantially improved since the workshop held in October 2009. NCBs rely more heavily on estimates for the compilation of transactions than for the compilation of stocks. Estimates are fine-tuned, and the resulting data are of an improved quality.

A regular publication of ICPF quarterly stock data is tentatively planned to start in mid 2011.

3. First results on the data⁶

Euro area ICPF invest mainly in securities other than shares, which account for 37% of their financial assets (see chart 1). The importance of mutual funds shares has increased through time as the investments in shares and other equity were reduced (the weight of each instrument in the ICPF balance sheet is, respectively, 24% and 12%). Deposits account for 12% of total financial assets. On the liabilities side, insurance technical reserves account, as expected, for a large share of the liabilities (85% of the total). These reserves may be further split by type of business: the shares of life insurance reserves, pension fund reserves and non-life insurance reserves are, respectively, 58%, 27% and 15%.

576 IFC Bulletin No 34

.

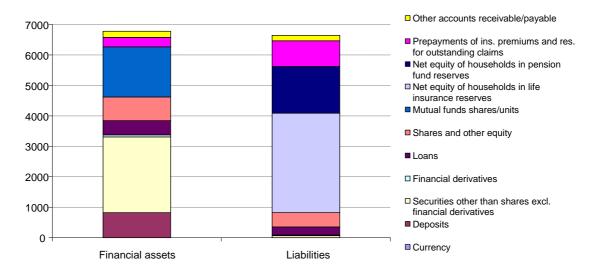
Macroeconomic statistics following the System of National Accounts and the European System of Accounts concepts are based on the host approach (residency of individual institutional units, eg Citibank Germany is a German resident), while supervisory data are based on home approach (eg Citibank Germany is consolidated with its parent company).

This section is based on the latest stock data available in August 2010, for reference period 2010Q1.

Chart 2 presents the euro area ICPF balance sheet by counterpart sectors. Euro area counterparts account for 86% of euro area ICPF financial assets. In particular, other financial intermediaries of the euro area (where investment funds are included) represent 28% of total financial assets, mainly as issuers of mutual funds shares. Euro area MFI and euro area general government are further important counterparts (22% and 18%, respectively, of total financial assets) as issuers of securities and, in the case of MFI, also with respect to deposits. On the liabilities side, euro area households have the largest share (78% of total liabilities) as a counterpart for life insurance and pension reserves.

Chart 1

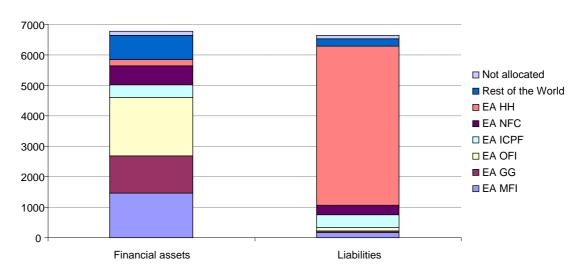
Euro area ICPF balance sheet structure – by instrument (2010Q1, EUR bn)



Source: ECB

Chart 2

Euro area ICPF balance sheet structure – by counterpart sector (2010Q1, EUR bn)

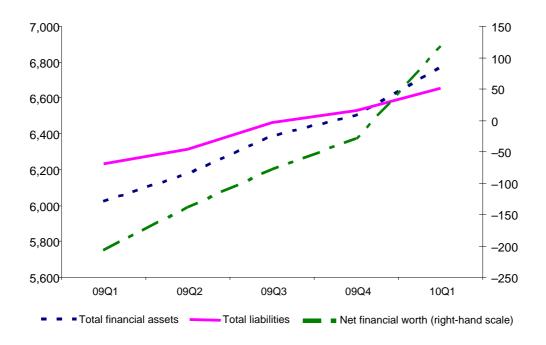


Source: ECB

IFC Bulletin No 34 577

Chart 3

Euro area ICPF balance sheet developments (2009Q1–2010Q1, EUR bn)



Source: ECB

According to the available results, the financial position of euro area ICPF has been improving through 2009 (chart 3) and net financial worth (which measures the difference between financial assets and liabilities) reached a positive value of EUR 118 billion in 2010Q1. During the period 2009Q1 to 2010Q1, financial assets increased 12% (EUR 748 billion), mainly due to mutual funds shares/units⁷ (which increased by EUR 501 billion, 45% of the initial stock) and, also, securities other than shares (EUR 218 billion, 10% of the initial stock) against euro area counterparts – in particular general government, MFI and other financial intermediaries (respectively, EUR 127, 42 and 55 billion). These positive developments were partially compensated by an increase of 7% in liabilities incurred (EUR 422 billion), in particular related to developments on life insurance products.

Regarding the sub-sector split, insurance corporations account for 80% of the total financial assets of the ICPF sector. The relative low weight of pension funds (which have shares in total ICPF that vary widely across countries) reflects institutional differences across countries. First, only autonomous pension funds⁸ are included in the ICPF statistics; thus, countries where private pension schemes are mainly provided through non-autonomous pension funds, linked in particular to non-financial corporations and MFI, have a smaller pension fund sub-sector, according to the ICPF statistics. Furthermore, countries where social security is particularly developed tend to have a smaller pension fund sub-sector.

578 IFC Bulletin No 34

Partially related to the reorganization of the investment strategies of some large PF that replaced their investments in shares and securities by investments in mutual funds shares/units.

Apart from insurers (insurance and reinsurance), the statistics cover *autonomous* pension funds, ie funds that have autonomy of decision and keep a complete set of accounts. Non-autonomous pension funds set up by, for example, credit institutions or non-financial corporations are not covered since they are not separate institutional units.

Furthermore, despite similarities between insurers' activities (namely, life insurance) and pension funds' activities, their investment policies are different. Insurance corporations invest mainly in securities (40% out of total financial assets), followed by mutual funds shares (20% out of total financial assets). Conversely, for pension funds, mutual funds shares represent the main important investment class (40% of total financial assets), while securities other than shares account for 20% of total financial assets.

4. Challenges ahead

The ICPF stock data improve considerably the current situation on ICPF data availability for the euro area: the combination of timeliness, frequency, instrument detail and geographic and sector counterpart breakdown allows different users to enhance their analysis. Some further improvements for outstanding amounts – and, for selected transactions, data – are underway. Nevertheless, further improvements are needed, in particular due to the growing importance of the sector for financial stability analyses, in view of the European Systemic Risk Board's analysis and of ECB's own financial stability analysis (eg the Financial Stability Review).

The main new challenges facing ICPF statistics are:

i. Separate balance sheets for the insurance corporation (IC) and pension fund (PF) sub-sectors

Aggregate data for the ICPF sector can hide important differences across types of institutions. Sector-wide assessments need, therefore, to be complemented by, in particular, an analysis of sub-sectors, allowing for a more accurate and detailed analysis. Initially, in the context of the ICPF short-term approach, the split between insurance corporation and pension fund sub-sector data was only requested at annual frequency and with a longer time lag (9 months after the reporting period). Moreover, the analysis of data for euro area countries (the majority of countries already report these data on a quarterly basis) showed that the two sub-sectors have different investment behaviours and their respective countries' distribution is uneven. Following user requests, the ECB reviewed the available national data for the split of the insurance corporation and pension fund sub-sectors, and compiled euro area aggregates for stock data, covering, for the time being, the main balance sheet items (namely, instrument totals). Further improvements on national data will help enhance euro area aggregates for the two distinct sub-sectors.

ii. Statistics for all EU Member States and EU counterparts country breakdown

The ECB's future tasks in supporting the ESRB will be to help assess systemic risks for the entire European Union (EU27), as well as for individual EU countries. Hence, ICPF statistics for non-euro area EU countries will be needed. In addition, the current geographical breakdown would also have to include non-euro area EU countries. The EU counterparts (euro area and non-euro area) may have to be split by country in the future.

IFC Bulletin No 34 579

_

Some EU non-euro area countries have already developed (or are currently developing) these statistics.

iii. Balance sheets by type of business (non-life, life – unit-linked and non-unit-linked – reinsurance, defined benefit pensions and defined contribution pensions)

The different types of business (non-life, life – unit-linked and non-unit-linked – reinsurance, defined benefit pensions and defined contribution pensions) entail different investment policies, different risk profiles and different money holding behaviours and are, therefore, relevant for analysts. The requirement was not included in the ICPF short-term approach but will need to be reconsidered in a steady state approach.

iv. Further improvement in timeliness

For the timely use of the ICPF statistics as input to the euro area accounts, work is underway to provide regular NCB data transmission at 80 calendar days after the reference period. It is expected that this objective can be met from 2011 onwards. A demanding challenge for a steady-state approach would be to fulfil the users' request for monetary analysis. With a view to enhancing the value for analysis and related communication, different (and complementary) sets of statistics need to be analysed together and reported in the same briefing material. This implies that ICPF core aggregates would be expected to become available with a timeliness around 50 calendar days after the reference period. This option of a timely provision of ICPF data will be considered in the longer term.

Other relevant improvements would be the distinction of investments, between, for example, "Available for sale" and "Held to maturity", since the impact on the ICPF assets of valuation changes in investments held can differ substantially depending on how they are accounted for on their balance sheets. In addition, group level information and intra-group transactions (complementing the available solo data) and information on the residual maturity (in addition to the original maturity approach currently followed) would be needed to assess risks confronting groups as a whole and liquidity risks.

v. Integration of statistical and supervisory reporting

Following the agreement between the ECB and NCBs, a close cooperation with the European Level-3 Committees (and future European Supervisory Authorities) has been pursued and deepened, in particular for the ICPF sector with the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS). The CEIOPS is developing. under the Solvency II Directive adopted in 2009, new supervisory reporting templates for insurance undertakings. 10 The templates are seen as a key element in meeting user needs, ie both the expected ESRB and financial stability analysis requirements and those for monetary policy purposes, since the supervisory templates cover reporting of solo and consolidated accounts (and investments). In contrast to the low frequency, insufficient timeliness and lack of detail and harmonisation of the current supervisory data, ICPF statistics are expected to improve greatly with the new Solvency II requirements. For example, the current draft templates contain a security-by-security reporting, with a quarterly frequency and a timeliness of 4 to 6 weeks. Solvency II reporting may also provide a significant part of the statistical data needed for the requirements outlined above, in particular (a) the separate balance sheets for the insurance corporation and pension fund sub-sectors, (b) separate data for all EU countries, (c) separate data for EU country counterparts and (d) some distinctions by type of business (eg life insurance). Overall, many ECB requirements could be met on the basis of the draft Solvency II templates. The future EIOPA

580 IFC Bulletin No 34

_

¹⁰ These are scheduled to be formally approved in 2011 for implementation in 2012, with the first reporting in 2013.

intends to also work on the Pension Funds Directive in a similar fashion. Therefore, in order to minimise the reporting burden for insurance corporations and, in the future, for pension funds, and to ensure the best possible consistency of data used by different institutions for analytical purposes, close cooperation between the ECB and CEIOPS (and its successor EIOPA) will continue.

IFC Bulletin No 34 581

Annex I: ECB statistics on Insurance Corporations and Pension Funds – reporting scheme

											}	Total	-										
This continue with the continue within the continue with the continue with the continue with the con				L	ŀ		Domestic					L				Nor	residents				ŀ		
1								Non-MFIs	Other recidente				_			10	er MUMS	on.MEle					
This continue		Total	Total						Orner residents		Ì		9		_	f	2		residents		Res		Not
Mathematical Control of the contro			domestik					Other fin. interm.	ICPF				MUMS					ther fin.	ICPF		_	orld	
This is a continue of the co			\$.1		122	\$.13				8.11	S.14+S.15	\$.2		3.121+5.122		\$.13	8.1				14+5.15		
The continue of the continue		(1) (= 2 + 11+ 22)	(2) (= 3 + 4		П	Ш	(6) (= sum) to 10)		(8)	(6)	m		2) (= 13 + 14	П	4) (= 15 + 16	П	Н	H	(18)	(13)	H	(21)	(22)
				1		1					T	t		İ		+	1	-	-	1			T
The continue of the continue	3 Deposits											l											
The problem	4 Up to 1 year					Ц										H	H				Н		
The continue and the	5 Over 1 year and up to 2 years					\downarrow						1				1	1			1			T
The control of the	5 Over 2 years 7 Securities other than shares excl. financial derivatives																	i	i	Ì			
The continue of the continue	8 Up to 1 year											l						t	t			İ	
Total Control	9 Over 1 year and up to 2 years										Ħ	Ħ						П	П				
The continue of the continue	10 Over 2 years											l		Ĭ	١								T
The control of the	11 Financial derivatives											l					Ī	ı	ı	ı			Ī
The control of the	12 Loans			_						Ī				Ì				t	t	t	t	İ	Ī
The control of the	14 Over 1 years and up to 5 years											İ		ĺ				t	t	t	ŀ	İ	
The control of the	15 Over 5 years																						
The control of the	16 Shares and other equity																						
Total State Control Co																1							Ī
The control of the	18 Unquoted shares and other equity					\downarrow					1	1		ĺ	1	1		Ì		i			T
Total Contro	19 Mutual funds shares/units												Ī			1							Ī
Total Contro	20 of which: money market fund shares															1	†	ı	1			Ī	Ī
Total Activation Total Activ	21 Prepayments of insurance premiums											İ		İ		1	+			ł			
Total Contro	23 Total non-financial assets																l			l			
Total Continue Tota	24 Total Assets											T											
The control of the												Tota	al										
Total Contro							Domestic					L				No	n-residents				-		
Total General								Non-MFIs					1			ō	her MUMS						
Particular Par		Total	Total					L	Other resident:						_	F		on-Mr is	at conjector to		- Rec		Not
Fee control of the co			domestik					Other fin.	ICPF		-		Total other MUMS	MFIS		General	_		e la la la la la la la la la la la la la	Non-fin.	_		
This continue with the conti										e constant								interm.		porations Ho	useholds		
1 1 1 1 1 1 1 1 1 1			S.1		_			S.123+S.124		S.11		\$2		_		S.13	S.		S.125				
and the result financial derivatives and the result of the results		22)	(2) (= 3 + 4		T	_	(o) (= sum /	6	(8)	(6)		21)	140		16)	(15)	to 20)	(12)	(18)	(19)	-	(21)	(22)
1 Ober 1 year 4 Ober 1 year 4 Ober 1 year 4 Ober 1 year 4 Ober 1 year 4 Ober 1 year 4 Ober 1 year 4 Ober 2 year 4 Ober 2 year 4 Ober 2 year 4 Ober 2 year 4 Ober 2 year 6 Ober 2	1 Total Liabilities 2 Securities other than shares and financial derivatives												ſ				-	ł				ı	
4 One Transmitted polithorises 6 One Transmitted before better the control of the con	3 Up to 1 year																						
Elementation deviations Elementation deviations Elementation deviations Elementation deviations Elementation deviations Elementation deviations Elementation deviations Elementation deviations Elementation deviation dev	4 Over 1 year and up to 2 years																						
1 Lone of a direct control of parts 1 Lone of a direct control of parts 1 Lone of a direct control of parts 1 Lone of a direct control of parts 1 Lone of a direct control of parts 1 Lone of a direct control of parts 1 Lone of a direct control of a direct contro	5 Over 2 years										1	Ì	Ī			1	1	1		1		İ	
8 Objet by years 9 Objet by years<	5 Financial derivatives 7 Loans received												Ī		ľ	İ	Ī	İ	i	Ī	۱		
Q Done Table Statestime Q Done Table Statestime Q Done Statestime Q DONE Statestime Q DONE Statestime Q DONE STATESTIME Q DONE STATESTIME Q DONE STATESTIME Q DONE STATESTIME Q DONE STATESTIME Q DONE STATESTIME Q DONE STATESTIME Q DONE STATESTIME Q DONE STATESTIM	8 Up to 1 year																						
11 Share and other equity 12 Obore of shares 13 December of the county 14 Instrument of the county 15 December of the county 15 December of the county 16 December of the county 16 December of the county 17 December of the county 17 December of the county 18 Dece	9 Over 1 and up to 5 years																	H					
12 Octobe de bienes 12 Octobe de bienes 14 Instances de bienes and other equity 15 Instances de bienes and other equity 15 Instances de bienes and other equity 16 Instances de bienes and other equity 17 Instances de bienes and other equity 18 Instances de bienes and other equity 18 Instances de bienes and other equity 18 Instances de bienes and other equity 18 Instances de bienes and other equity 18 Instances de bienes and other equity 18 Instances de bienes and other equity 18 Instances de bienes and other equity 18 Instances de bienes and other equity 18 Instances de bienes and other equity 18 Instances and other	10 Over 5 years 11 Shares and other equity											T	Ī		Ī		T	İ	İ	İ		Ì	
13 Unapposed between and other equity 14 Unapposed between and other equity 15 Unapposed between and other equity 15 Unapposed between and other equity 15 Unapposed between and other equity 15 Unapposed between and other equity 16 Unapposed between and other equity 16 Unapposed between and other equity 16 Unapposed between and other equity 17 Unapposed between and other equity 18 Unapposed between and other equity	12 Quoted shares																	l	l	H	H		
1 Net equally control and persons 1 Net equally control and persons 1 Net equally control and persons 1 Net equally consistent of the instruction and persons 1 Net equally consistent of the instruction and persons 1 Net equally consistent of the instruction and persons 1 Net equally consistent of the persons 1 Net equally consistent and reserves 1 Net equally consistent	13 Unquoted shares and other equity																			Ī			
15 Net equity of househoods in life resurrors and preserves 16 Net equity of househoods in life insurance reserves 17 Own decided by the insurance reserves 18 Own decided by				1	+							l				l	l				t	İ	
17 Ownshird or work of indexed on it in its must not of indexed on its in its must not indexed of its of which control indexed on its					+													1					
18 Own dirty conversion of the conversion o				1	+							l				l	l						
19 Mote agaily of households in periore 19 Mote agaily of households					\downarrow							Ì				\dagger		t	l	Ī	l		
20 of width Officed Contribution Amount of wi					Ц																		
21 of width Challed Benefit 22 Pringsymmetrs of this, premiums and res. bro outstanding dams 23 Pringsymmetrs of this, premiums and res. bro outstanding dams 24 Other accounts restivable lapsyable 25 Net worth					+												1						
23 Programments of the premiums and reak for outstanding claims 24 Other accounts reak violable payable 25 And worth 25 <t< td=""><td>21 of which: Hybrid schemes</td><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	21 of which: Hybrid schemes				-																		
24 Other secounts realwishingstable 35 Other secounts realwishingstable 35 Net worth	23 Prepayments of ins. premiums and res. for outstanding daims				H											H	H				l		
25 Networth	24 Other accounts receivable/payable				Ц																		
	25 Net worth			_	-					1	1	1	1	1	-	1	1	1	-	-	-		

Cells marked light grey (only among liabilities) are accepted with a longer timeliness (T+9 months).

References

ECB (2010a), "Harmonised ECB statistics on euro area investment funds and their analytical use for monetary policy purposes", ECB Monthly Bulletin, pp. 109–122, ECB, August 2010.

ECB (2010b), "Using provisional ECB statistics for insurers and pension funds to analyse their investment risks and linkages", Financial Stability Review, pp. 114–117, ECB, June 2010.

ECB (2009), "The importance of insurance companies for financial stability", Financial Stability Review, pp. 160–168, ECB, December 2009.

IFC Bulletin No 34 583