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FLOW DATA IN THE MACROECONOMIC ACCOUNTS**

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**Practices and Challenges in the Italian Financial Statistics: Suggestions on  
a Set of Strengthening Requirements for the Economic Analysis**

To be presented in Session 4 by Gabriele Semeraro, Banca D'Italia

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BANCA D'ITALIA  
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*IMF-OECD Conference on Strengthening Sectoral Position and  
Flow Data in the Macroeconomic Accounts*

**Practices and challenges in the Italian financial statistics:  
suggestions on a set of strengthening requirements for the  
economic analysis**



*Washington, DC - February 28–March 2, 2011*

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**Gabriele Semeraro**

# SUMMARY

- The Italian Financial Accounts and Balance sheets (FA&BS). Description and uses (traditional and FSR);
- Improvements related to the recent literature: how to implement them;
- Other improvements that may deserve further analysis;
- Conclusions

Institutional sectors	Non-financial corporations		Financial corporations								General government						Households and non-profit institutions serving households		Rest of the world		Total		Institutional sectors			
			Monetary financial institutions				Other financial intermediaries		Financial auxiliaries		Insurance corporations and pension funds		Central government		Local government		Social security funds		Assets	Liabilities	Assets	Liabilities				
			Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities								
<b>Financial instruments</b>	<b>Assets</b>	<b>Liabilities</b>	<b>Assets</b>	<b>Liabilities</b>	<b>Assets</b>	<b>Liabilities</b>	<b>Assets</b>	<b>Liabilities</b>	<b>Assets</b>	<b>Liabilities</b>	<b>Assets</b>	<b>Liabilities</b>	<b>Assets</b>	<b>Liabilities</b>	<b>Assets</b>	<b>Liabilities</b>	<b>Assets</b>	<b>Liabilities</b>	<b>Assets</b>	<b>Liabilities</b>	<b>Assets</b>	<b>Liabilities</b>	<b>Financial instruments</b>			
<b>Monetary gold and SDRs</b>	–	–	38,256	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	38,256	38,256	38,256	–	–	<b>Monetary gold and SDRs</b>		
<b>Currency and transferable deposits, with MFIs</b>	202,004	–	262,620	985,927	22,448	–	28,156	–	43,724	–	42,399	126,219	21,029	–	12,038	–	597,953	–	43,019	163,246	1,275,391	1,275,391	985,927	985,927	<b>Currency and transferable deposits, with MFIs</b>	
other residents	166,192	–	117,585	985,927	22,286	–	16,570	–	10,804	–	22,810	126,219	..	–	11,620	–	556,796	–	42,907	–	985,027	985,027	985,927	985,927	other residents	
rest of the world	2,784	–	86,906	–	162	–	–	–	96	–	9,130	–	–	–	–	–	27,028	–	112	–	126,219	126,219	126,219	126,219	rest of the world	
rest of the world	33,027	–	58,130	–	–	–	11,586	–	32,826	–	10,459	–	2,672	–	418	–	14,129	–	–	–	163,246	163,246	163,246	163,246	rest of the world	
<b>Other deposits, with MFIs</b>	10,238	–	398,326	857,967	6,796	–	18,147	–	6,465	–	377	105,826	1,004	–	1,651	–	346,376	–	233,948	59,535	1,023,328	1,023,328	857,967	857,967	<b>Other deposits, with MFIs</b>	
other residents	10,238	–	338,011	857,967	6,796	–	18,147	–	6,362	–	377	–	603	–	1,651	–	241,603	–	233,648	–	857,967	857,967	857,967	857,967	other residents	
rest of the world	–	–	1,297	–	–	–	–	–	–	–	–	105,826	–	–	–	–	104,529	–	–	–	105,826	105,826	105,826	105,826	rest of the world	
rest of the world	–	–	59,018	–	–	–	–	–	72	–	–	–	201	–	–	–	244	–	–	–	59,535	59,535	59,535	59,535	rest of the world	
<b>Short-term securities, issued by general government</b>	4,296	13,301	52,049	4	13,572	239	81	–	7,030	–	190	121,147	38	–	224	–	14,215	–	67,421	24,427	159,118	159,118	159,118	159,118	<b>Short-term securities, issued by general government</b>	
other residents	288	–	29,254	–	4,763	–	81	–	5,939	–	190	121,147	38	–	224	–	12,948	–	67,421	–	121,147	121,147	121,147	121,147	other residents	
rest of the world	3	13,301	13,381	4	43	239	–	–	–	–	–	–	–	–	–	–	117	–	–	–	13,545	13,545	13,545	13,545	rest of the world	
rest of the world	4,006	–	9,414	–	8,766	–	–	–	1,091	–	–	–	–	–	–	–	1,150	–	–	–	24,427	24,427	24,427	24,427	rest of the world	
<b>Bonds, issued by MFIs</b>	64,445	54,110	323,339	553,409	247,666	173,294	12,089	–	267,942	4,365	1,806	1,177,996	3,783	33,898	9,775	–	659,346	–	814,649	407,769	2,404,842	2,404,842	553,409	553,409	<b>Bonds, issued by MFIs</b>	
central government: CCTs	12,548	–	73,623	563,409	13,008	–	311	–	34,604	–	234	–	613	–	1,078	–	332,064	–	85,036	–	553,409	553,409	553,409	553,409	central government: CCTs	
central government: other	1,957	–	75,667	–	10,184	–	702	–	35,572	–	234	191,527	144	–	1,025	–	14,488	–	51,654	–	191,527	191,527	191,527	191,527	central government: other	
local government	4,332	–	98,407	–	44,526	–	4,635	–	104,424	–	920	988,469	291	–	2,077	–	131,668	–	595,200	–	988,469	988,469	988,469	988,469	local government	
other residents	4,381	–	12,877	–	2,675	–	1,900	–	2,382	–	–	–	80	33,898	12	–	6,273	–	3,240	–	33,898	33,898	33,898	33,898	other residents	
rest of the world	23,492	54,110	18,959	–	33,743	173,294	4,452	–	17,232	4,365	418	–	280	–	4,236	–	49,457	–	79,519	–	231,769	231,769	231,769	231,769	rest of the world	
rest of the world	17,735	–	43,906	–	143,441	–	–	–	73,528	–	–	–	2,415	–	1,347	–	125,397	–	–	–	407,769	407,769	407,769	407,769	rest of the world	
<b>Derivatives</b>	4,514	3,091	72,964	78,147	2,293	2,279	–	–	4,513	3,090	–	608	–	–	–	–	–	–	–	–	50,530	47,599	134,814	134,814	<b>Derivatives</b>	
<b>Short-term loans, of MFIs</b>	109,158	424,964	643,373	104,787	60,193	133,143	..	13,711	11,674	3,735	..	2,831	–	5,840	–	31	..	53,969	190,612	271,999	1,015,011	1,015,011	643,373	643,373	<b>Short-term loans, of MFIs</b>	
other financial corporations	–	314,466	643,373	20,846	–	104,487	..	13,711	–	3,735	..	2,831	–	5,840	–	31	..	51,810	–	125,515	643,373	643,373	643,373	643,373	other financial corporations	
general government	–	31,803	–	579	60,193	–	–	–	11,674	–	–	–	–	–	–	–	–	2,159	–	37,326	71,867	71,867	71,867	71,867	general government	
other residents	109,158	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	other residents
rest of the world	–	78,695	–	83,261	–	28,655	–	–	–	–	–	–	–	–	–	–	–	–	–	–	190,612	190,612	190,612	190,612	rest of the world	
<b>Medium and long-term loans, of MFIs</b>	–	500,669	980,706	72,852	100,918	45,879	..	3,930	9,843	16,911	58,195	60,957	6,334	82,715	6,230	24	–	425,649	87,694	40,333	1,249,920	1,249,920	980,706	980,706	<b>Medium and long-term loans, of MFIs</b>	
other financial corporations	–	405,294	980,706	7,542	–	35,089	..	3,924	–	13,349	–	52,534	–	58,342	–	22	–	378,943	–	25,666	980,706	980,706	980,706	980,706	other financial corporations	
general government	–	49,625	–	531	100,918	–	–	–	9,843	12	–	378	–	8,282	–	2	–	40,460	–	11,570	110,761	110,761	110,761	110,761	general government	
other residents	–	37,414	–	3,069	–	–	–	–	6	–	956	58,195	5,767	6,334	14,205	6,230	–	6,246	–	3,097	70,759	70,759	70,759	70,759	other residents	
rest of the world	–	8,436	–	61,710	–	10,790	..	–	–	2,593	–	2,278	–	1,886	–	–	–	–	–	–	–	–	–	–	–	rest of the world
<b>Shares and other equity, issued by residents</b>	811,337	1,468,731	252,403	538,063	248,402	35,890	..	2,642	121,064	130,948	126,557	–	14,666	..	760	–	830,976	–	313,780	543,671	2,719,944	2,719,944	1,468,731	1,468,731	<b>Shares and other equity, issued by residents</b>	
of which: listed shares	627,847	1,468,731	206,767	538,063	81,836	35,890	..	2,642	81,648	130,648	120,465	–	12,859	..	350	–	730,722	–	313,780	–	2,178,274	2,178,274	1,468,731	1,468,731	of which: listed shares	
rest of the world	262,406	445,958	35,471	255,548	50,171	2,257	..	–	37,169	74,737	34,607	–	7,556	..	350	–	209,193	–	111,546	–	778,501	778,501	445,958	445,958	rest of the world	
rest of the world	183,490	–	45,636	–	166,566	–	–	–	39,416	–	6,092	–	1,807	–	410	–	100,254	–	–	–	543,671	543,671	543,671	543,671	rest of the world	
<b>Mutual fund shares, issued by residents</b>	13,700	–	18,667	75,811	29,007	235,771	283	–	76,643	–	62	–	2,860	–	1,121	–	306,794	–	4,086	141,639	453,221	453,221	18,667	18,667	<b>Mutual fund shares, issued by residents</b>	
rest of the world	3,143	–	6,765	75,811	–	235,771	283	–	70,633	–	58	–	54	–	1,095	–	225,435	–	4,086	–	311,552	311,552	18,667	18,667	rest of the world	
rest of the world	10,557	–	11,872	–	29,007	–	–	–	6,010	–	4	–	2,806	–	25	–	81,358	–	–	–	141,639	141,639	141,639	141,639	rest of the world	
<b>Insurance technical reserves</b>	20,754	110,480	1,180	17,447	–	–	–	–	26,470	492,779	150	–	1,487	–	34	–	611,202	32,659	18,558	26,470	679,835	679,835	1,180	1,180	<b>Insurance technical reserves</b>	
net equity of households	–	110,480	–	17,447	–	–	–	–	–	421,685	–	–	–	–	–	–	–	574,025	32,659	8,246	–	582,271	582,271	1,180	1,180	net equity of households
prepayments and other claims	20,754	–	1,180	–	–	–	–	–	26,470	71,094	150	–	1,487	–	34	–	37,177	–	–	–	97,564	97,564	–	–	prepayments and other claims	
<b>Other accounts receivable/payable</b>	399,917	358,988	7,991	494	765	..	–	–	80	1,465	69,744	37,577	12,212	30,908	37,138	5,492	20,673	83,303	31,961	62,254	580,481	580,481	399,917	399,917	<b>Other accounts receivable/payable</b>	
Trade credits	353,288	330,193	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6,017	–	–	–	29,342	56,454	388,647	388,647	Trade credits	
Other	46,629	28,795	7,991	494	765	..	–	–	80	1,465	69,744	37,577														



		Non-financial corporations		Financial corporations		General government		Households and NPISH		Rest of the world	
		A	L	A	L	A	L	A	L	A	L
AF.1	Monetary gold and SDRs										
AF.2	Currency and deposits										
AF.3	Securities other than shares										
AF.4	Loans										
AF.5	Shares and other equity										
AF.6	Insurance technical reserves										
AF.7	Other accounts										

## Characteristics of Bol's national publication

- Sub-sector detail for the financial sector and government. Financial corporations are broken down into 4 subsectors.
  - Detailed instrument breakdown. In addition to long/short term, country specific information on securities of different kinds (e.g. indexed coupon).
  - Counterpart information, with level of counterpart aggregation depending on the instrument. E.g. separate evidence for “non-bank intermediaries” shown for granting of loans, but not relevant for issuance of securities.
  - Symmetric treatment for stocks and flows; non- consolidated
- Other information, with less national details but further counterpart entries is provided to the ECB and Eurostat. In this context, a double version (consolidated and non-consolidated) is available.



# Use of financial accounts & BS in Italy

**Statistical Production:** Banca d'Italia has been publishing F.A. since the early sixties. From the early nineties, on a quarterly basis. Bd'I's FA&BS are also used by external institutions, universities, private banks and intermediaries, as well as researchers running macro-econometric models.

**Economic Analysis:** B.d'I. regularly comments on FA&BS in the Annual Report and in the infra-annual Economic Bulletins. Both publications include chapters on financial investment and indebtedness.

**Since December 2010**, financial balance sheets of HHs and NFCs are commented in a new publication on **financial stability**. Cross-country comparison based on non-consolidated financial debt.

# Challenging points

In the context of both the economic analysis, and the construction of proper soundness indicators (Economic Bulletin and FSR); and taking into account questions highlighted but the financial crisis:

- How can existing FA&BS be improved?
- What level of sectoral split is appropriate?...and what breakdowns for financial instruments?
- Which method of consolidation is more appropriate?
- And which one should be used for the FSR (which liabilities? Only liabilities?)

Possible answers (1) in the revisions of statistical standards and (2) in the recent economic literature making use of FA&BS.



# The role of the new accounting rules

The SNA 2008 (as well as the incoming ESA 2010) was the arrival step of a process NOT inspired by the financial crisis. Nonetheless, the new standards include points of major interest in the current context. Notably:

- “Memo” items on loans at market value, to be compared to the corresponding “core” (i.e. nominal) data;
- More Information on implicit liabilities and guarantees;
- Better coverage of financial derivatives.
- Finer detail on units belonging to the financial sector.

## Use of financial accounts & BS in the recent economic literature, and related suggestions

**T. Adrian & H.S. Shin (JFI 2010)** *“Liquidity and leverage”*. Use the Flow of funds data to provide evidence that asset price increase (upward side of the cycle) implies changes in net worth, eliciting leverage increase from financial intermediaries, who adjust the size of their balance sheets. This procyclical adjustment of leverage and price changes will reinforce each other in an amplification of the financial cycle, increasing the overall financial weakness. Inside the financial sectors, different patterns are observed for different categories.

**M.G. Palumbo & J. A. Parker (AER 2009)**. *“The Integrated Financial and Real System of National Accounts for the United States: Does It Presage the Financial Crisis?”*. Support the idea that FA&BS captured some important elements of weakness (like HHs financing gap), but missed many other (like the disproportionate exposure to mortgage risks, and some maturity mismatch in the financial sector). Suggest a few improvements:

- **More detailed classification of assets by riskiness** (even though “it seems unrealistic” in the context of national accounts);
- **Better sub-sector breakdowns for the financial sector**, isolating exposure to leverage and mismatch (hidden at aggregate level);
- Better separation of **assets held on behalf of HHs**.

## How to implement the previous ideas, and something else

### **A more detailed classification of assets by riskiness:**

A detailed instrument breakdown by riskiness is impossible in the context of NA; and it would not have solved micro-economic failure in the risk measurement (many involved assets were triple A-rated). However, the **new SNA and ESA partially implement this idea, by separating securities other than shares from derivatives**. In securities, further **separation of structured product is not** foreseen: but might be advisable.

**A more detailed description of units in the financial sector**. This is provided by SNA2008, and the European System of Account 2010 will foresee the mandatory breakdown of the financial sector into 11 sub-sectors. This is in line with the proposal.

**Separation of assets held “on behalf” of HHs**. It seems an autonomous point referring to instruments. But the practical implementation should be a direct consequence of subsector breakdown. What matters is separate evidence for investment funds and other forms of collective investment. Portfolio asset management (“on behalf”) of other units is directly referred to final customers.

**Caveat**: Practical difficulties for intermediaries not directly reporting.

## Points not yet covered, but potentially significant

- What FA&BS-based **soundness indicators** for cross country comparison on **private, non financial sectors**?
- What kind of liabilities? Only liabilities?
- Pros and Cons of several consolidation methods



Financial sustainability indicators (1) (per cent of GDP)									
	Public debt (2)		Public deficit (2)		Sustainability indicator (3)	Private debt Q1 2010 (4)		International economic accounts 2009	
	2009	2012	2009	2012		Households	Non-financial firms	Current and capital account balance	International investment position
Italy	116.0	119.9	5.3	3.5	2.6	44.3	83.8	-3.2	-19.3
Germany	73.4	75.2	3.0	1.8	4.5	62.2	66.1	5.0	37.3
France	78.1	89.8	7.5	5.8	7.1	53.7	107.7	-1.9	-12.5
Spain	53.2	73.0	11.1	5.5	15.3	85.7	139.7	-5.1	-92.1
Greece	126.8	156.0	15.4	7.6	20.3	52.4	70.0	-10.0	-84.0
Portugal	76.1	92.4	9.3	5.1	8.9	96.8	162.8	-7.5	-108.7
Ireland	65.5	114.3	14.4	9.1	14.8	118.0	210.0	-3.8	-98.4
Euro area	79.2	88.0	6.3	3.9	6.8	65.4	102.9	-0.5	-16.2
United Kingdom	68.2	86.6	11.4	6.4	13.5	100.5	117.5	-1.0	-19.7
United States (5)	84.3	102.9	12.9	6.7	14.0	92.0	74.5	-2.7	-19.4
Japan (5)	217.6	238.6	10.2	8.1	....	65.6	95.4	2.7	56.1

Sources: European Commission, IMF, national financial accounts and balance-of-payments statistics.

# Comments

- Reasons to exclude non-debt liabilities
- Reasons to exclude stock assets of HHs
- Rationale for use of non-consolidated data

## Different uses of consolidation

- Traditional use of FA&BS aims to tracing change between sectors' opening balance sheets and closing b.s., through the analysis of their economic activity, means of financing (between sectors), and revaluations. For those purposes, NA consolidation improves the analysis, by isolating the final flow of funds between sectors and ignoring intra-sectors flows and positions.
- For Financial Stability what matters is soundness, sustainability. Isolating the sectors that ultimately transfer/receive funds is less important. NA-consolidation is not helpful and, to the extent that it differs from infra-group consolidation, harmful. It may hide elements of systemic risk.

# Potential misuse of consolidation: assessing the magnitude

## (data from Adrian-Shin 2009)

Figure 1. Total Assets at 2007Q2 (Source: US Flow of Funds, Federal Reserve)

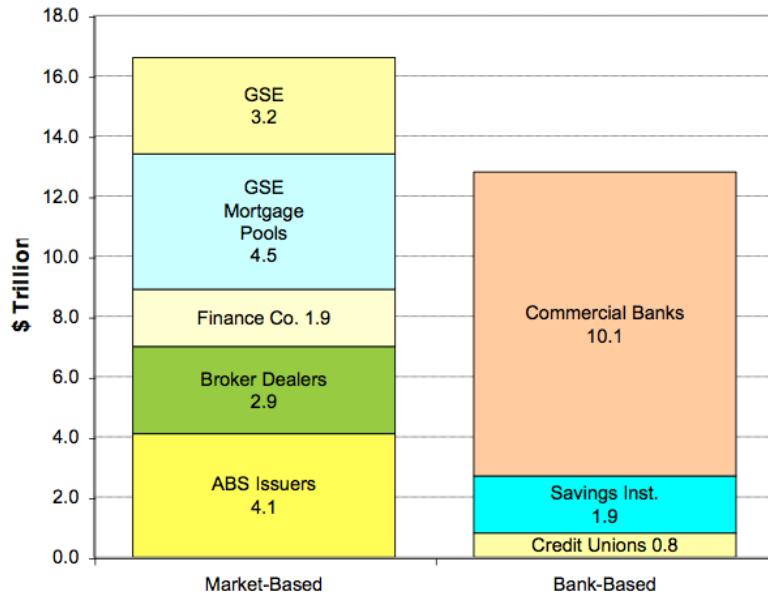
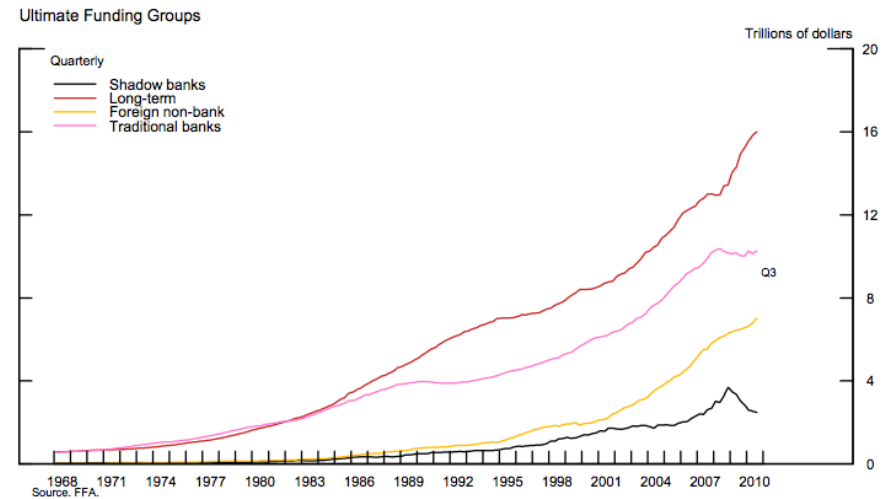


Exhibit 2  
Ultimate Funding Groups





## Other Aspects

Change in policy induced by the financial crisis include severe cuts in pension entitlements. The availability of harmonised data on pensions liabilities is crucial for important policy issues such as establishing the effects of changes in pension legislation on saving.

The most important changes introduced by the new statistical standard (SNA and ESA) relate to the measurement of pension entitlements and all other elements needed in order to assess the relationship between pension wealth and savings.

On the one hand, this may be deemed as an item already settled by the adoption of new standards. On the other hand, proper and harmonised implementation of the new rules will be one of the most challenging point in the national accounts practice.

**Other forms of implicit liabilities (non pension related) raised concern for the economic analysis (Kotlikoff, L. J. (2009)). They might deserve attention in the statistical domain as well (compare with GFSM 2001, A2.24).**

## Conclusions

How to implement strengthening elements in practical terms:

- Some are already included in the SNA-ESA revision and related transmission programme (notably: financial sector breakdown);
- Others are not included, but should be taken into account (e.g. financial instruments, and some other implicit liabilities);
- Better analysis of consolidation would be needed, with special regard to what is needed in the national account context and what is needed for financial stability purposes.



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*THANK YOU FOR YOUR ATTENTION*

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**The views expressed herein  
are those of the author and are not necessarily endorsed by the Bank of Italy.**