An integrated analysis of the Portuguese economy: the financial and the real economy

Lima, Filipa
Banco de Portugal, Statistics Department[1]
Edifício Adamastor
Av. D. João II, Lote 1.12.02
1990-204 Lisboa, Portugal
E-mail: slima@bportugal.pt

Monteiro, Olga
Banco de Portugal, Statistics Department[1]
Edifício Adamastor
Av. D. João II, Lote 1.12.02
1990-204 Lisboa, Portugal
E-mail: omonteiro@bportugal.pt

1. Introduction

Recommendation 15 of the G20 data gap initiative[2] calls for a strategy to promote the compilation and dissemination of the balance sheet approach, flow of funds, and sectoral data more generally. The use of an integrated approach for the compilation of financial flows and positions on a from-whom-to-whom basis is a key element of this strategy.

As Mink and Shrestha (2011) put it, several financial and economic crises, which were characterised by disruptions in the capital flows of key sectors of the economy, made academics, analysts, and policy makers increasingly focus their attention on sectoral balance sheets' underlying vulnerabilities. The current global crisis has highlighted the need to understand financial interconnectedness among the various sectors of an economy and between them and their counterparties in the rest of the world.

The accurate assessment of these interlinkages requires detailed from-whom-to-whom data. In this regard, the availability of micro data seems to be of high importance. D'Aguiar and Lima (2009) and Lavrador (2010) elaborate on the experience of *Banco de Portugal* in managing such databases. In the words of Lavrador (2010), "the analyses that can be build up with data extracted from micro-databases, including the from-whom-to-whom tables and the flow of funds, have valuable contributions to explore how the risk exposures and dependencies across sectors are influenced by developments on assets and liabilities of other sectors. These analyses have revealed that micro-databases can be a future improvement to deal with data gaps, both at national and international level, namely concerning counterpart information. (…) First and

---

[1] The analyses, opinions and findings of this paper represent the views of the authors, which are not necessarily those of *Banco de Portugal* or the Eurosystem.

[2] Recommendation 15 states that ―The IAG, which includes all agencies represented in the Inter-Secretariat Working Group on National Accounts, to develop a strategy to promote the compilation and dissemination of the balance sheet approach (BSA), flow of funds, and sectoral data more generally, starting with the G-20 economies. Data on nonbank financial institutions should be a particular priority. The experience of the ECB and Eurostat within Europe and the OECD should be drawn upon. In the medium term, including more sectoral balance sheet data in the data categories of the Special Data Dissemination Standard could be considered. ― See: The Financial Crisis and Information Gaps—Report to the G-20 Finance Ministers and Central Bank Governors, p. 8. The IAG comprises the Bank for International Settlements, European Central Bank, Eurostat, International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations, and World Bank.

foremost, micro-databases allow for the understanding of the different relations established across the different economic agents. Extended to a global scale, with the sharing of similar data across national data producers, the benefits could be spread out worldwide."

The main focus of this paper is to illustrate the importance of compiling financial accounts in a from-whom-to-whom basis and to contribute to a better understanding of the interaction between real and financial activities in the Portuguese economy, particularly for households and non-financial corporations. The remainder of the paper is structured as follows: section 2 describes the main sources and estimation procedures for the compilation of financial accounts in Portugal. In section 3 we analyse the main developments in the Portuguese economy over the last decade, with a focus on the corporate sector and households and the effects of the financial crisis. The interdependencies between the real and the financial side of the economy are also addressed. We conclude in section 4 with some final remarks.

2. Data sources and compilation procedures

The main underlying concept both for the definitions and breakdowns of units, transactions and financial instruments is the European System of National and Regional Accounts (ESA95).

Following an agreement established in 1998, the responsibility for the compilation of national accounts is split between the Portuguese National Statistical Institute (INE) for the non-financial accounts and *Banco de Portugal* for the financial accounts. The reasoning is that *Banco de Portugal* already produces a cluster of statistics necessary for the financial accounts. The two institutions have set up mechanisms for co-operation and consultation, necessary to ensure a high degree of consistency between the financial and the non-financial accounts. The situation is similar to other euro area countries, where the national central bank often has responsibility for compiling the country's financial accounts. The close collaboration between *Banco de Portugal* and INE leads to better quality in the two types of accounts. This stems, for instance, from the cross-checking of primary information and statistical criteria in a way that reduces the possibility of statistical discrepancies.

Moreover, in the case of the general government (GG), in January 2006 a protocol of institutional cooperation between INE, *Banco de Portugal* and the Ministry of Finance and Public Administration was put into place in order to coordinate the compilation of the several statistics in the field of that institutional sector. In particular this protocol covers the following objectives: i) definition and update of the list of institutional units of the GG sector; ii) preparation of the (financial and non-financial) annual and quarterly accounts for the GG sector; iii) preparation of government debt statistics; and, iv) monitoring of excessive deficit procedure notification and respective methodological analysis.

The coordination of statistical work and, in particular, of national accounts, is performed in the framework of the Statistical Council (*Conselho Superior de Estatística*).

Supplement 2/2005 to the Statistical Bulletin of *Banco de Portugal* describes the methodological aspects used for compiling the financial accounts, covering the methodological framework, the breakdown by institutional sectors and by financial instruments, information on flows and stocks, sequence of accounts and balances, consolidation, valuation, time of recording, data sources, compilation procedures and dissemination.

Most of the information for the financial accounts comes from *Banco de Portugal* primary statistics: (a) monetary and financial statistics that provide data on monetary financial institutions and other financial intermediaries and financial auxiliaries; (b) balance of payments statistics and international investment position statistics, which provide information on operations with non-residents; (c) the central balance-sheet database, which provides annual[3] and quarterly information on non-financial corporations; and (d) the

---

[3] Information compiled using IES - Informação Empresarial Simplificada (Simplified Corporate Information). The IES, formally established by Decree-Law No 8/2007 of 17 January, is compulsory as of 2007 (reporting of data for 2006), allowing enterprises to fulfill four obligations with four public entities via a single yearly electronic submission. The IES consists of an integrated electronic reporting of accounting, tax and statistical data, which enterprises must submit

securities statistics, which provide information on issuances and holdings of debt securities and/or shares. Sources outside *Banco de Portugal* include a number of related organisations listed below in two groups: (a) those that provide information on insurance corporations and pension funds (the *Instituto de Seguros de Portugal*, the *Associação Portuguesa de Fundos de Investimentos, Pensões e Patrimónios* and the *Associação Portuguesa de Seguradoras*); and (b) those that provide information for compiling general government accounts (*Caixa Geral de Aposentações, Instituto de Gestão da Tesouraria e do Crédito Público, Instituto de Gestão de Fundos de Capitalização da Segurança Social, Instituto de Gestão Financeira da Segurança Social*, and the Ministry of Finance and Public Administration). The compilation of the financial accounts is an iterative process. Specific data is fine-tuned in the light of other data from different sources, with mutual enhancement during the period when the statistics are being compiled.

INE partners the *Banco de Portugal* in the process of harmonising methodologies and putting together the national accounts and it provides additional information on various topics, in particular regarding the GG.

Financial accounts are compiled under the quadruple-entry principle in the sense that most transactions involve two distinct institutional sectors and each operation must be entered twice, once as use (or change in assets) and the other as resource (or change in liabilities). For that purpose the data are organised so as to form a matrix where we have information for the following: creditor sector, debtor sector, financial instrument, and classification of asset/liability side of the matrix allowing the compilation of financial accounts on a "from-whom-to-whom" basis with a very detailed structure[4]. Starting with the primary data, the matrix is built taking into account, wherever possible, the perimeter of institutional sectors along with aggregation by type of instrument and the accounting rules of ESA95. The sectoral counterpart of each transaction is always recorded. Two points are relevant here: (i) use is made of the information available in each sector; and (ii) information obtained from the counterpart. This situation happens most frequently in non-financial corporations and households. In these two institutional sectors, some transactions are obtained residually, as to balance total assets and liabilities across the different institutional sectors, given that, in general, one side is taken as known (the liabilities side, in general).

The sources are set down in hierarchical order, because of the vast array of information and the fact that in many cases there is more than one source for a particular item. Certain resident sectors have good quality data compiled internally (among these are the monetary financial institutions, other financial intermediaries and financial auxiliaries, insurance corporations and pension funds, and general government). It was decided to give priority to these internal sources over other information relating to transactions where they are involved. In addition, where transactions with the rest of the world are concerned, priority is given to information from the balance of payments and the international investment position. Finally, there is a hierarchy established within each sector. For example, in the financial corporations' sector, priority goes to *Banco de Portugal*, followed by the other monetary financial institutions and then the remaining financial institutions.

Two of the most challenging aspects regarding the compilation of the financial accounts concern ensuring horizontal and vertical consistency. Regarding horizontal consistency, i.e., the sum of assets equals the sum of liabilities across sectors – for each financial instrument, both stocks and flows, in every period – it is achieved by distributing the residuals by those sectors for which both counterpart and (quarterly) direct data is not complete, typically the non-financial corporations and households. In what concerns vertical balancing, i.e., reconciliation between the financial and the non-financial account, INE and *Banco de*

---

to the Ministry of Justice, the Ministry of Finance and Public Administration, INE and Banco de Portugal. The IES comprises annual data on enterprises in significant detail. Annex A requests unconsolidated data on non-financial corporations, namely the legal information laid down in the Official Chart of Accounts, as well as additional information for statistical and fiscal purposes. For example, Banco de Portugal has requested the inclusion of a set of additional variables of relevance to the balance of payments, the international investment position and national financial accounts.

[4] A full from-whom-to-whom detail (for all financial instruments) is only available from 2006Q4 onwards and it is not yet published by *Banco de Portugal*.

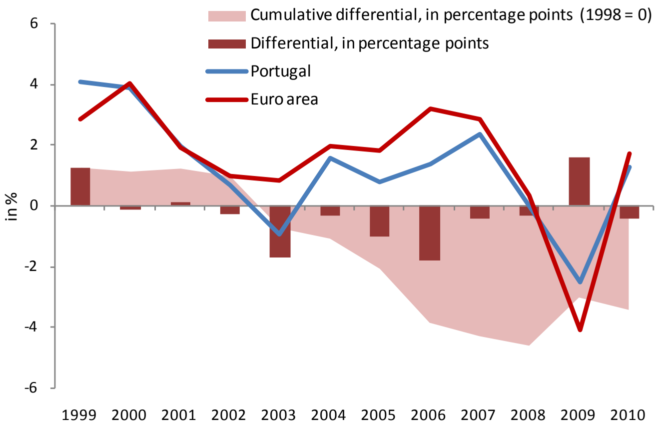
Portugal have been cooperating over the years in order to improve integration of the accounts. In the case of the general government there is full consistency which is achieved under the framework mentioned above. As for households, *Banco de Portugal* considers that information from the real side is more complete, given the lack of direct sources for financial data, and therefore the financial account adjusts to the non-financial account. Regarding the financial sector, over the past two years there has been an even more intense work between the two institutions in terms of sharing data and harmonising methodologies in order to further improve coherence, although full convergence has not been achieved yet. The same can be said for the rest of the world and non-financial corporations' accounts.

Banco de Portugal disseminates data on financial accounts in the Statistical Bulletin and BP Stat – Statistics online. In particular, in BP Stat – Statistics online, it is possible to explore the data following a multidimensional approach where the different dimensions, e.g. consolidated/non-consolidated data, financial instrument, transactions/stocks, institutional sector, can be combined. The data are also used for other publications by *Banco de Portugal*, such as the Annual Report and the Financial Stability Report, and for reporting to International Organisations (e.g., European Central Bank, Eurostat, Organisation for Economic Co-operation and Development, International Monetary Fund, Bank for International Settlements).

3. Recent developments in the Portuguese economy

Over the past decade, Portugal has deepened its divergence in terms of economic growth with respect to the euro area as illustrated in Figure 1, mainly driven by the accumulation of external deficits.

Figure 1 *– Growth differential with the euro area, real growth rates of gross domestic product (GDP)*

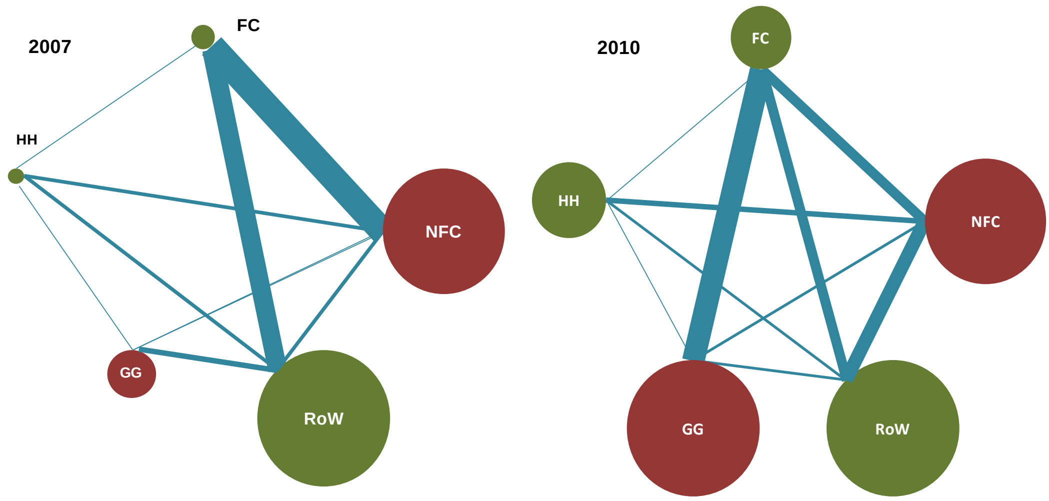


This is well explained, in the words of Mr. Carlos Costa on the occasion of his taking office as Governor of *Banco de Portugal* (7th June 2010): "The current account balance deteriorated as a result of a specific combination: on the one hand, easier access to financing and greater exposure to debt among economic agents; and on the other, faltering competitiveness. The result was an economy with higher external public and private indebtedness. On top of this, there was another factor: the structural shortfall in domestic savings, where the situation has in fact worsened, as a result of the fact that the public accounts have leeched with the impact of the international financial crisis and of the budgetary measures introduced to stem the crisis and shore up economic recovery."

Indeed, the Portuguese economy experienced several changes in the last decade. After the credit boom in the late 1990's and early 2000's associated with historically low interest rates, towards the end of the decade, and particularly after the 2008 crisis, the inter-linkages between the different institutional sectors changed dramatically as we can see in Figure 2 which highlights the degree of financial inter-linkages of all sectors in the Portuguese financial accounts. The chart displayed below aims at illustrating the flow of funds (net) observed between the various institutional sectors, comparing the year 2007 with 2010. The diameter of the circle is proportional to the financial saving of each sector (filled in green if positive and red if negative). The dashes' width is proportional to the inter-sector relations.

In 2007, the large inter-sector flows were registered in the financing provided by the RoW to the FC, which channelled those funds to the NFC. In 2010, contrarily to what had happened in 2007, the inter-sector flows revealed a strong involvement of the FC, in particular the banking sector, in financing the GG. In this period, the RoW financing was mainly directed to the NFC and the FC.

Figure 2 *– Flow of funds, 2007 and 2010*



Legend: NFC – non-financial corporations; FC – financial corporations[5]; GG – general government; HH – households; RoW – rest of the world.

The borrowing needs of the Portuguese economy, i.e., the inflow of external financial saving amounted, in 2010, to 8.6% of GDP. Those needs of external financing resulted from the fact that the positive financial saving of the HH and the FC (respectively 4.1% and 4.0% of GDP) was insufficient to satisfy the borrowing needs of the GG and the NFC (respectively –8.7% and –8.0% of GDP).[6]

From 2007 to 2010 what is most striking is the large increase of the financing needs of the GG, from 3.2% to 8.7% of GDP, mainly explained by net issuance of debt to finance both increases in expenditure and decreases in the revenue, particularly in 2008 and 2009. Moreover, in 2010, the GG recorded losses amounting to 1.3% of GDP as a consequence of public interventions to support financial institutions; this was partially outweighed by the transfer of three pension funds of a large telecommunications' company to the State amounting to 1.6% of GDP. These capital transfers that occurred in 2010 are important to understand the net lending/borrowing of FC and NFC in that year. Indeed, the FC exhibited an unusual 4.0% of GDP net lending which compares to the average 0.6% of the GDP in the previous 10 years more consistent with their natural intermediation role. Likewise, the NFC net borrowing needs of 8.0% of GDP were negatively affected by the transfer of the pension funds.

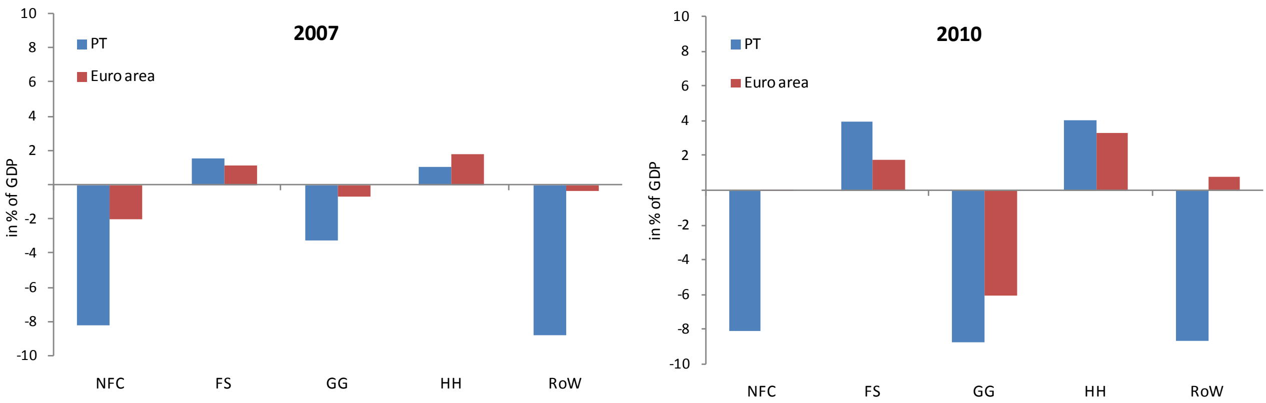
In Figure 3 below, we can observe the differences between Portugal and the euro area in terms of the net lending/borrowing for each sector, before and after the financial crisis. The euro area external balance was not significant in both 2007 and 2010, moving from a slight net borrowing in 2007 (–0.3% of GDP) to a net lending in 2010 (0.8% of GDP); on the contrary, the financing needs of the Portuguese economy remained in a very high values in the period (approximately –9% of GDP). The financing needs of Portugal are significantly higher than those of the euro area, explained by above average funding requirements by NFC and GG. For the NFC, euro area figures record a surprising net lending position for the first time in 2010 (0.08% of GDP). Portuguese families reversed its position against the euro area value from 2007 to 2010 after the increase in the savings rate that followed the financial crisis.

---

[5] The financial corporations include: the central bank (CB); the other monetary financial institutions (OMFI); the other financial intermediaries and financial auxiliaries (OFIFA); and, the insurance companies and pension funds (ICPF).

[6] This document was prepared on the basis of the information available as of 13 April 2011. GG net borrowing was revised to –9.1% of GDP on 23 April 2011.

Figure 3 – Net lending (+) / borrowing (–) by sector, in % of GDP: Portugal and Euro Area



At the current juncture, the Portuguese economy is facing many challenges, and the decisions of economic agents such as HH and NFC are determinant in overcoming some of them, namely the increase in savings and the improvement in the rationality in resource allocation and investment decisions. The need for strengthening the fiscal adjustment and the reduction of the external deficit has inevitable implications for consumption and investment decisions of NFC and HH. Again, as Mr. Carlos Costa puts it, "For Member States which, like Portugal, adopted the euro after a long period of much higher inflation, integration within a monetary area enjoying price stability has been instrumental in improving financing conditions for corporations and households, in terms of both price and volume. This has brought in its wake the capacity to take on more debt. The economic and social players, however, were in general quicker to take up the benefits of participation in the euro than they were to respect the rules on wage and price formation consistent with price stability. On the back of this has come an economy slacker on competitiveness and with an added drawback – the emergence of new players with wage cost advantages. A start has indeed been made on addressing this problem, but a solution for the Portuguese economy has yet to be found. Restoring competitiveness in the tradable goods sector is indispensable for ensuring sustainable economic growth and job creation. This means that price stability, which is a prerequisite for deconstructing the uncertainty of savers and investors, also requires economic agents (corporations and households) to come more quickly to an understanding of the need for curbs on the wage and price formation process; in parallel, it requires greater reliance on the increase in value added per unit of output, either by raising productivity or by rapidly transforming the tradable goods productive sectors and racking up efficiency in non-tradable sectors."

3.1 The non-financial corporations

The high level of indebtedness of Portuguese NFC, as shown in Figures 4 and 5, makes them extremely vulnerable to business cycle fluctuations, which is exacerbated when facing credit constrains by the financial sector as in the current situation. In the case of economies like Portugal where the funding is made mostly through credit granted by the banking system, it is imperative to create mechanisms to promote proper collection and channeling of savings, which has particular relevance for agents who do not have access to capital markets or international financing, as it is the case of micro, small and medium-sized enterprises[7]. In 2010, loans granted to NFC by the FC represented 59% of the outstanding amounts while NFC plus HH – mainly subordinated loans granted by NFC of the same economic group and shareholders – contributed with 29%.

[7] Micro, small and medium-sized enterprises account for 99,7 % of the 2009 universe of Portuguese NFC.

***Figure 4** – Debt-to-GDP ratio*[8]

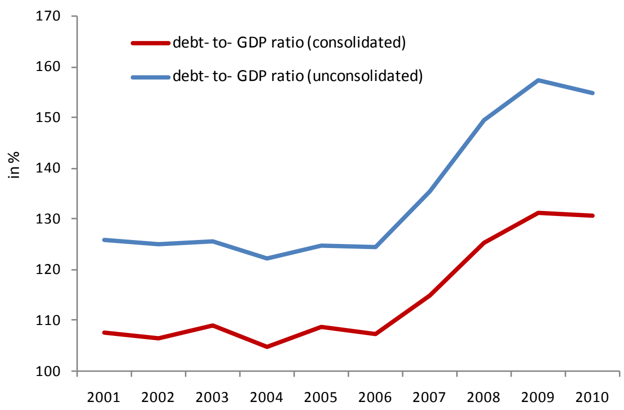


***Figure 5** – Leverage ratio*[9]

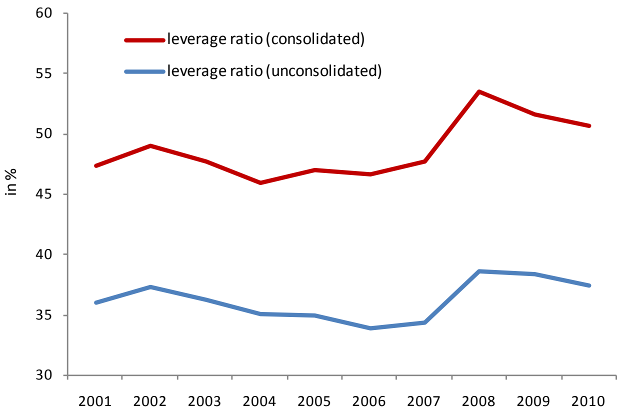
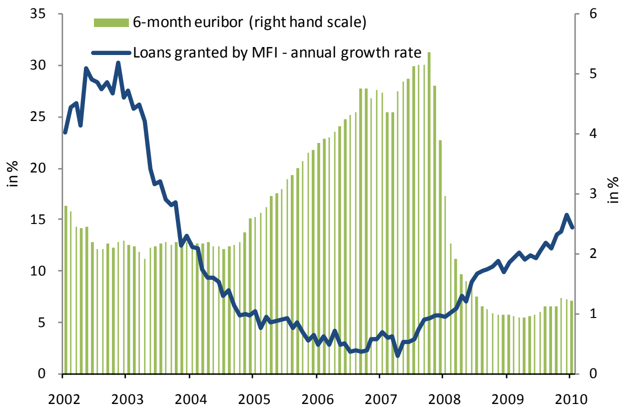


***Figure 6** – Loans' growth rate and interest rate*



Both leverage and debt-to-GDP ratios reflect the indebtedness increase of NFC after 2006 (Figures 4 and 5). Nevertheless, the growth rate declined in both cases in 2010.

The indebtedness increase was encouraged by historically low interest rates (Figure 6).

The net financial assets of NFC remained barely unchanged between the end of 2009 and the end of 2010, at –163% of GDP and –164.4%, respectively. The revaluation of financial assets above liabilities allowed for a partial compensation of the negative effect of the borrowing needs on the financial wealth of the NFC (Figure 7).

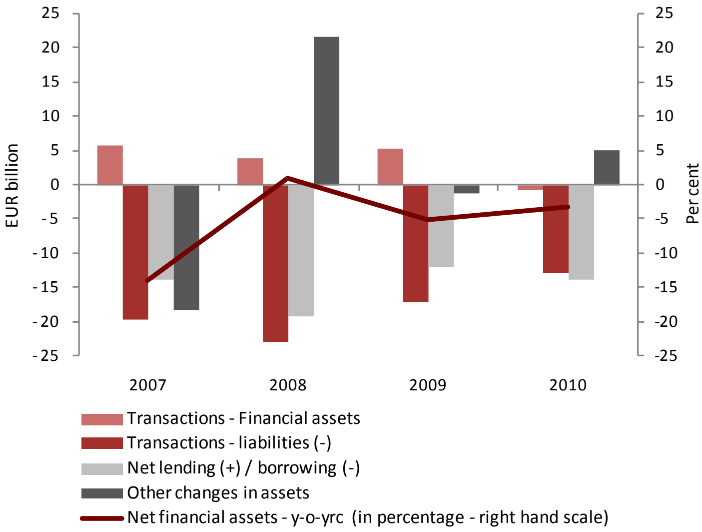
In 2010, on the assets side it was recorded a disinvestment in shares with the sale of the participation of Portugal Telecom in Vivo[10], compensated by the increase in deposits coming mostly from the results of that operation. On the liabilities side, the transfer of pension funds of group Portugal Telecom to the State was preceded by their incorporation in the NFC sector, affecting negatively the borrowing needs of this sector in 2010 (Figure 7).

[8] Debt is the sum of loans taken, debt securities other than shares issued, and direct pension fund commitments.

[9] The leverage ratio is calculated as NFC's debt as a percentage of total liabilities.

[10] In September, Portugal Telecom, via PT Móveis, sold its participation in Brasicel, a Dutch company that owned 60 per cent of the Brazilian telecommunications company Vivo, to Telefónica, a Spanish telecommunications company, which resulted in significant capital gains.

***Figure 7** – NFC: net financial assets*



The net borrowing of NFC was, in 2010, 8% of GDP (7.1 % in the previous year and 8.2% in 2007). The year of 2008 puts an end to a cycle of consecutive increases in the funding needs of NFC observed since 2003.

After 2008, the reduction in the funding requirements of NFC results largely from a combined effect of lower investment and (slight) gross savings' increase (Figure 8 and 9).

***Figure 8** – Investment and saving*

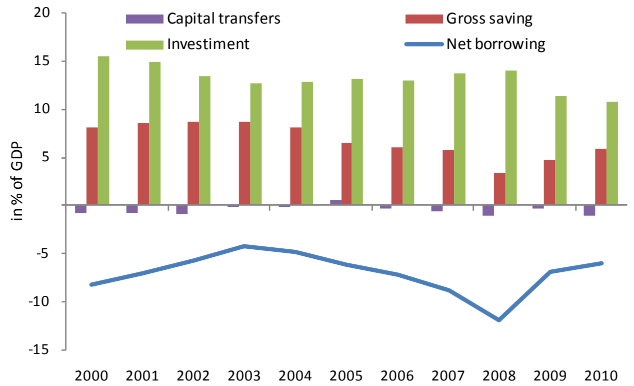
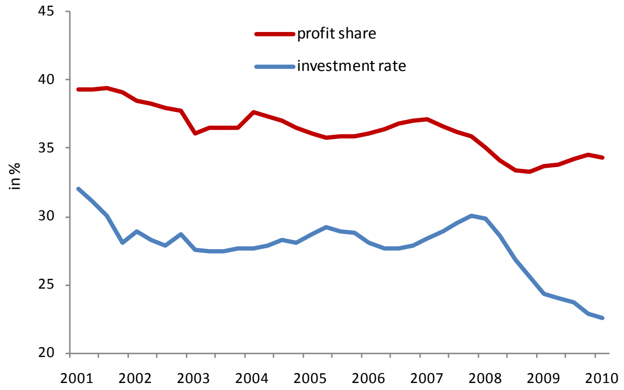


***Figure 9** – Profit share and investment rate*[11]



The structure of financing of NFC in 2009 and 2010 contrasts significantly with that of the two previous years, particularly in terms of the sharp reduction both in loans obtained and issuance of securities other than shares (Figure 10). By counterpart sector, in the past 4 years, a clear declining in the funding by FC was recorded (Figure 11).

***Figure 10** – Liabilities by financial instrument (transactions)*

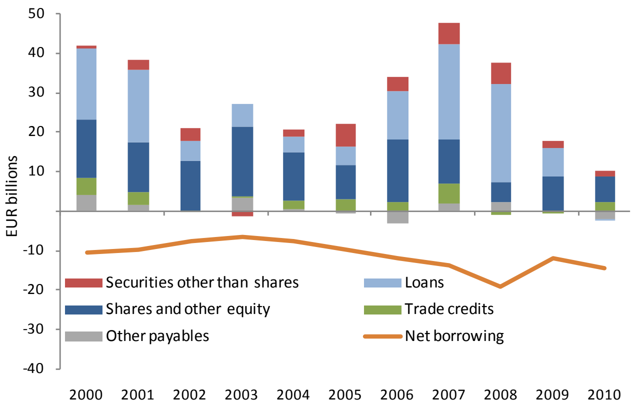
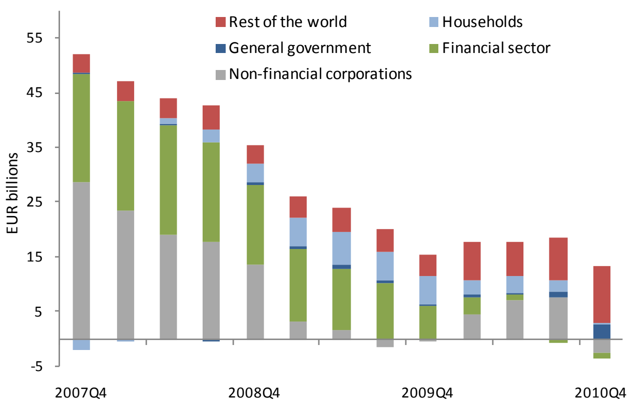


***Figure 11** – Liabilities by counterpart sector (transactions, cumulative four-quarters)*



[11] Profit share equals gross operating surplus and mixed income as a percentage of gross value added. Investment rate corresponds to gross fixed capital formation as a percentage of gross value added.

Liquidity constraints of the Portuguese financial system, in the context of the financial and sovereign debt crises, pose great difficulties to the highly indebted Portuguese NFC.

3.2 The households' sector[12]

For HH, a strong expansion of indebtedness was also observed, following attractive financing conditions, both in terms of volume and price, induced by the integration of the Portuguese economy in the euro area, which enabled the generalized access by families to mortgage and consumption loans.

***Figure 12** – Loans' growth rate and interest rate*

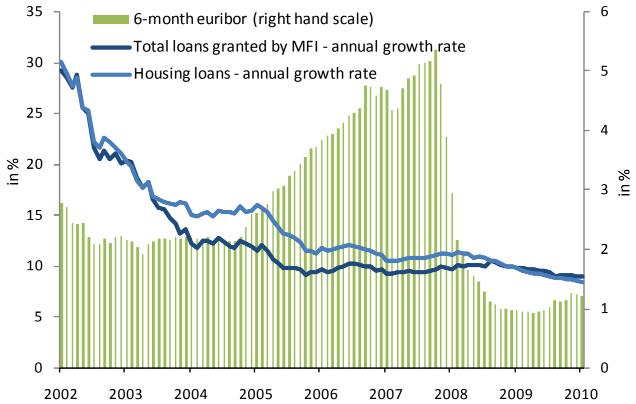
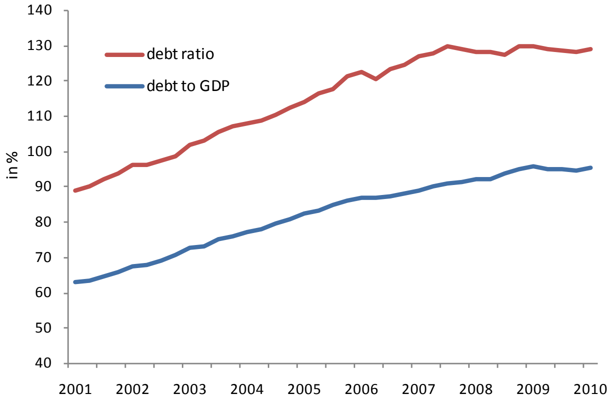
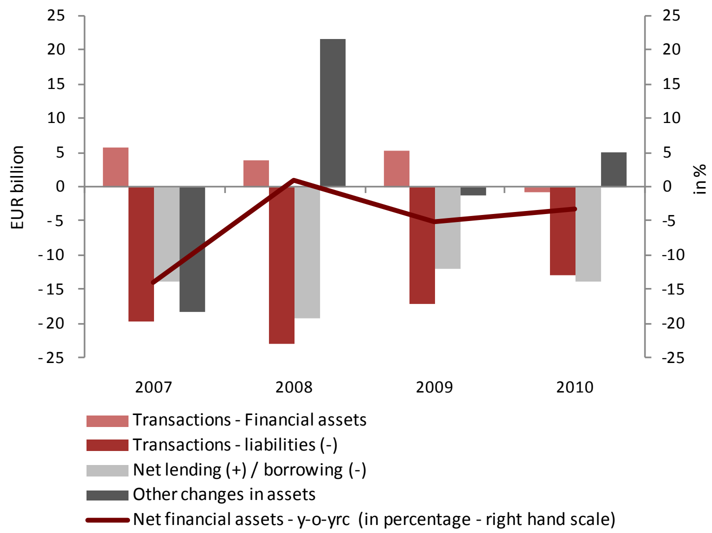


***Figure 13** – Debt ratios[13]*



In recent years there has been a slowdown in the growth of lending by monetary financial institutions to individuals. That slowdown reflected the rise in interest rates observed from the end of 2005 until the end of 2007, and the adjustment made by these institutions regarding conditions for loan supply (Figure 12). This adjustment continued after the financial market crisis, with progressively more restrictive conditions for granting loans to individuals. The upward trend of HH debt ratios was interrupted in 2010 when a (slight) decrease was recorded (Figure 13).

***Figure 14** – HH: net financial assets*



The HH' sector presented, in 2010, a net lending of 4.1% of GDP, which compares to 4.6 % in 2009 (Figure 14) and results from the reduction in the savings' rate (from 10.9% to 9.8%). This change results, essentially, from a slowdown in the financial assets' transactions. On the liabilities side, the level of loans taken remained close to last year's.

At the end of 2010 the net financial assets of HH amounted to 122.9 % of GDP (123.9 % at the end of 2009). However, in nominal terms, it was recorded an increase from 209.0 EUR billion to 212.1 EUR billion.

[12] It includes also non-profit institutions serving households.

[13] Debt ratio equals household's debt as a percentage of household's Gross Disposable Income, adjusted.

From 2007 onwards, gross disposable income (GDI) increased and consumption showed an irregular behaviour. The 2010 decline in gross savings is justified by an increase in consumption together with a minor increase of GDI (Figure 15). After 2007, the evolution of saving and investment rates differs substantially. While investment rate record a systematic decrease, savings rate have an irregular pattern (Figure 16), with a recovery path over 2008 and 2009 which was reversed through 2010.

Figure 15 *– Disposable income, consumption and saving*

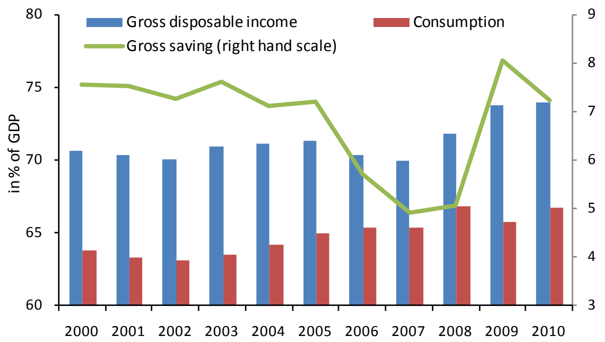
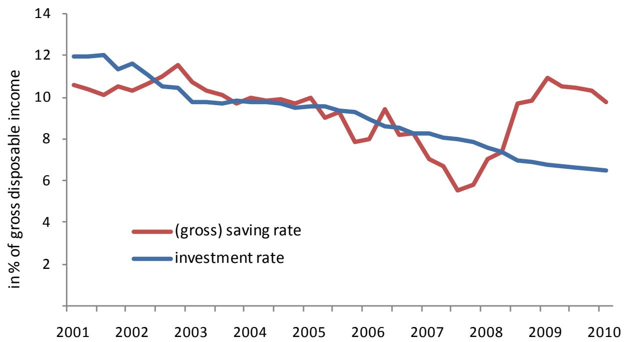


Figure 16 *– Investment and saving rates*[14]



In the financial assets' transactions of HH, in 2010, it is noted a recovery of deposits (Figures 17 and 18). Additionally, there was a substitution of investments in shares and other equity, especially investment funds' shares/units, by bonds and deposits. Similarly to what has been registered since the third quarter of 2009, insurance technical reserves (ITR) constitute a significant part of the financial investment of these economic agents.

Figure 17 *– Financial assets by instrument (transactions)*

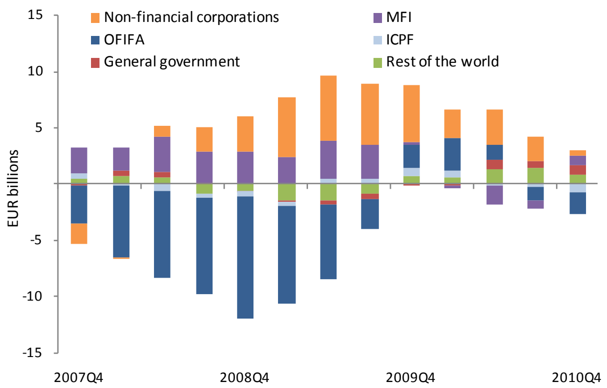
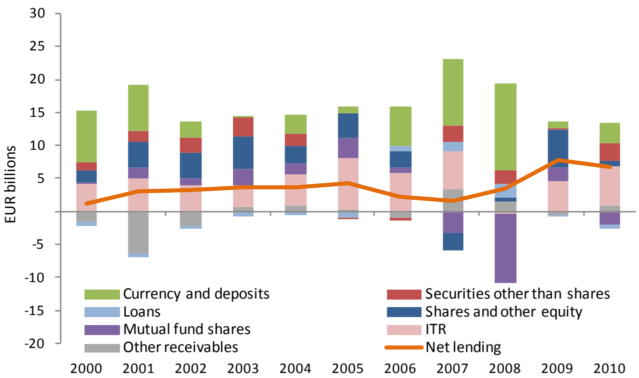


Figure 18 *– Financial assets by counterpart sector (transactions, cumulative four-quarters)*



To recover the stability of the Portuguese economy it is necessary that domestic savings are strengthened, particularly regarding families. However, in the short term, this adjustment will have negative consequences for the domestic demand (consumption and investment).

[14] Investment rate equals HH's gross fixed capital formation as a percentage of HH's dross disposable income, adjusted (net adjustment for HH's equity in pension funds reserves). Savings rate equals HH's gross savings as a percentage of HH adjusted gross disposable income.

4. Final remarks

The methodological framework of national accounts is currently under revision and the new European System of National and Regional Accounts is expected to be approved by the European Commission in the course of 2011 for implementation in 2014. This poses major challenges to statisticians in general and national accounts compilers in particular. The compilation systems will have to be adapted and new data sources will have to be used to cope with the additional details. This is also a great opportunity to improve the quality and the breakdowns of the data. In the case of *Banco de Portugal*, we aim at having financial accounts for the different sub-sectors within the financial sector, in particular for insurance companies and pension funds separately, distinguishing between households and non-profit institutions serving households, separation by type of flow, i.e., transactions, other changes in volume and price valuations. To the extent possible we also intend to publish from-whom-to-whom data.

As pointed out by Castrén and Kavonius (2009), the financial crisis that erupted in August 2007 has highlighted the need for tools that can analyse risks and vulnerabilities in financial systems in a holistic way. While regular and detailed analysis of the main sectors of the financial system is necessary for identification of developments that may threaten financial stability, it is clearly not sufficient. Modelling the interlinkages between the sectors is equally important as this aims at revealing the channels through which local shocks can propagate wider in financial systems. Integrated accounts and from-whom-to-whom analysis are thus a necessary pre-condition.

The main events that hit the Portuguese economy in the past decade (historically low interest rates, increase in the leverage ratios, declining savings' rate, low economic growth, etc.) and more recently in 2010 regarding the liquidity crisis and the sovereign debt problem that intensified in the course of 2011, are better understood in a setup where the interlinkages between the different players can be measured. For policy makers this constitutes a powerful tool to assess the impact of their policies. Indeed, this will be of particular interest for the quarterly reviews of the specific economic policy conditions set out in the Memorandum of Understanding concerning the financial assistance to Portugal. In particular, the corporate and household indebtedness will be monitored (§2.22) and the authorities will prepare quarterly reports on these two sectors including an assessment of their funding pressures and debt refinancing activities.

REFERENCES

Banco de Portugal, 2005, Supplement to the Statistical Bulletin 2/2005 – *National Financial Accounts for the Portuguese Economy. Methodological Notes and Statistical Results for 2000-2004.*

Banco de Portugal, 2005, Supplement to the Statistical Bulletin 3/2005 – *National Financial Accounts for the Portuguese Economy. Statistics on Financial Assets and Liabilities for 1999 -2004.*

Banco de Portugal, 2010, Public Speeches - Address by Mr. Carlos Costa on the occasion of his taking office as Governor of Banco de Portugal.

Banco de Portugal, 2010, Central Balance-Sheet Studies - Structure and dynamics of non-financial corporations in Portugal.

Banco de Portugal, 2011, Statistical Press Releases – *Banco de Portugal publishes the national financial accounts for 2010*.

Castrén, O. and Kavonius, I. K., 2009, "*Balance sheet interlinkages and macro-financial risk analysis in the euro area*", European Central Bank, working paper series, no.1124.

D'Aguiar, L. and Lima, F., 2009. "*Credit risk transfer – dealing with the information gap*." International Statistical Institute, Special Topics Contributed Paper Meeting N. º 62: Data Issues Related to the Financial Crisis, Durban, August 2009.

Lavrador, I., 2010, "*Exploring the statistical potential of micro-databases*" Irving Fisher Committee, IFC Bulletin No. 34: Proceedings of the IFC Conference on "Initiatives to address data gaps revealed by the financial crisis", Basel, 25-26 August 2010.

Mink, R. and Shrestha, M., 2011, "*An integrated Framework for Financial Flows and Positions on a From-Whom-to-Whom Basis*", Conference on strengthening sectoral position and flow data in the macroeconomic accounts, IMF/OECD, February 28–March 2, 2011.