



SUPPLEMENT 1|2009
to the Statistical Bulletin, *August 2009*

Papers presented by Banco de Portugal representatives
at the 57th Session of the International Statistical Institute,
held in Durban, South Africa, 16 - 22 August 2009



Banco de Portugal

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FOREWORD

1. This publication covers the papers presented at the 57th Session of the International Statistical Institute (henceforward referred as the “ISI 2009”) by the Banco de Portugal’s delegation.¹ The ISI 2009 was held in Durban, South Africa, from the 16th to the 22nd of August 2009.

2. Established in 1885, the **International Statistical Institute** (ISI) is one of the oldest scientific associations operating in the modern world. Its principal objective consists of promoting the understanding, development, and good practice of Statistics worldwide. For this purpose, the ISI encourages excellence in statistical research and research training, in statistical education, and in the practice of Statistics; supports the international statistical community in assisting the establishment and maintenance of sound statistical institutions; fosters the appreciation in governments and the public at large of the true value of Statistics and statistical methods; facilitates collaboration among diverse groups of ISI members, and among statistical societies and other national and international organisations having statistical interests; provides coordinating services; and continually develops new initiatives to maintain leadership in the field of Statistics.

Currently, the ISI has more than 2,000 individual elected members. The membership crosses all borders, and is drawn from over 130 countries. The Institute has 7 specialised sections consisting of approximately 3,000 additional individual members, including, *inter alia*, the International Association for Official Statistics (IAOS), the International Association of Survey Statisticians (IASS), and the International Society for Business and Industrial Statistics (ISBIS). The Irving Fisher Committee on Central Bank Statistics is also associated to the ISI, as a transitional section.

3. The **Irving Fisher Committee on Central Bank Statistics** (IFC) was established on the initiative of a number of central bank statisticians who were attending the ISI Corporate Members Meeting at the 1995 ISI Session in Beijing. It is a forum of central bank economists and statisticians, as well as others who wish to participate in discussing statistical issues of interest to central banks. The institute is governed by the international central banking community and operates under the auspices of the Bank for International Settlements (BIS). The Banco de Portugal has been a full institutional member of the IFC since its establishment.

The IFC has adopted the name of Irving Fisher, an internationally renowned economist and statistician, for his work on economic measurement and many other topics related to monetary and financial stability of interest to central banks. His wide-ranging contributions to economics and statistics and his multi-disciplinary approach serve as an example for the IFC’s objectives and activities.

¹ The delegation comprised the Head of the Statistics Department (João Cadete de Matos) and three members of his staff (Filipa Lima, Luís D’Aguiar and João Falcão).

At the 57th Session of the ISI, the IFC sponsored various meetings, some of them co-sponsored with other ISI sections.

4. Statistics South Africa (Stats SA) was mandated by the Government of the Republic of South Africa to host, organise, manage and promote the ISI 2009. The theme chosen for the conference was *“Statistics: Our Past, Present & Future!”*, to indicate that the time was ripe for the global statistical community to assess the advances that had been made in redefining the profession, to celebrate the successes and achievements, and to map out a real path towards influencing the statistical agenda for better development outcomes.

The delegates, well in excess of 2,500, from more than 130 countries, were generally from a wide range of backgrounds including academic institutions, researchers, demographers, economists, environmental, medical, pharmaceutical, theoretical, computational, quality control and financial statistics. In particular, more than 40 national central banks and a significant number of international organizations — including, the European Central Bank (ECB), the BIS, the International Monetary Fund (IMF), the Organisation for Economic Co-operation and Development (OECD) and the World Bank — attended the conference.

5. The Banco de Portugal’s delegation to the ISI 2009 was responsible for the full organisation of a Special Topics Contributed Paper Meeting (STCPM), made presentations in four distinct sessions, participated as discussant in an Invited Paper Meeting (IPM), and chaired two meetings. A brief reference to these activities is given in the next paragraphs.

5.1 The Banco de Portugal organised the IFC-sponsored **STCPM 77 – *“Institutional cooperation and technical assistance — steps towards developed statistical systems”***. In this session, chaired by João Cadete de Matos, the following four papers were presented, covering practices in both developed and developing countries:

- *“The importance of the oil sector in the balance of payments: sources, statistics and economic analysis”*, António Ramos da Cruz (Banco Nacional de Angola)
- *“Modelling in countries with information gap – the case of Bank of Mozambique”*, Jamal Omar (Banco de Moçambique)
- ***“A contribution to developed statistical systems in developing countries – the experience of Banco de Portugal”***, Filipa Lima e Sérgio Branco (Banco de Portugal).
- *“Handling system challenges from the compilation of flow of funds – the case of South Africa”*, Zeph Nhleko (South African Reserve Bank, or SARB)

Filipa Lima presented the Portuguese paper, in which the authors describe the Banco de Portugal’s involvement in international statistical cooperation, both in multilateral *fora* and through bilateral relations, as well as the aims pursued in this respect — i.e., improving internal practices and organisation by learning from other countries’ experiences, and sharing its own knowledge and skills

with institutions facing new challenges — and the benefits for all the parties involved arising from those efforts.

Ms Adelheid Bürgi-Schmelz (International Monetary Fund) discussed the four presentations and described the purposes and key features of the IMF's General Data Dissemination System (GDDS), as well as the benefits that national statistical authorities may reap by adopting such framework.

5.2 The Banco de Portugal delegation participated directly in two of the seven IPMs sponsored or co-sponsored by the IFC:

▪ **IPM 68 – “Risks in Finance – the state of the art in statistical methods”**

In this session, co-sponsored by the ISBIS and chaired by Richard Walton (ECB), four presentations were made. Filipa Lima discussed the following papers:

- i. *“Creating a statistical framework for the measurement of credit risk transfer – the ECB experience”*, V. Damia, J-M. Israël and P. Poloni (BCE);
- ii. *“Macro-prudential analysis of the financial system – the case of South Africa”*, F. Selialia, T. Mbeleki, C. Poole and K. Matlapeng (SARB).

▪ **IPM 72 – “Measuring access to monetary and financial services”**

In this session, chaired by Vukani Mamba (SARB), João Cadete de Matos presented the document *“Measuring the evolution of monetary and financial services in Portugal”*, that he co-authored with Luís D'Aguiar.

The paper attempts to describe the provision of and access to wholesale and retail financial services in Portugal since the time of the Portuguese accession to the European Economic Community, highlighting the principal milestones that were achieved along the way. In particular, the paper discusses at length the role of the Banco de Portugal and of the Portuguese financial sector as a whole in improving broad access to financial services.

5.3 In addition, the Banco de Portugal delegation contributed two presentations at the following meetings:

▪ **STCPM 62 – “Data issues related to the financial crisis”**

In this session, chaired by Peter Van de Ven (*Statistics Netherlands*), Filipa Lima presented the document *“Credit Risk Transfer – Dealing with the information gap”*, that she co-authored with Luís D'Aguiar.

The paper offers a reflexion on the existing data gaps as regards credit risk transfer (CRT) instruments and the possible ways to mitigate this problem, on the basis of the experience of the Banco de Portugal in using the available administrative micro-data bases for statistics. In the paper, the authors argue that the way forward to build knowledge in this particular field should not necessarily rely only on gathering new information on CRT activities or on restraining these activities through heavier regulation, but rather on exploring the largely

unused statistical potential of already existing data sources – including, in particular, administrative micro-data.

▪ **Contributed Paper Meeting (CPM) 87 – “Finance and banking”**

In this session, João Falcão presented the paper *“Public expenditure composition and economic growth: the Portuguese case”*, in which he attempts to evaluate the interaction between Government spending and economic growth in Portugal. In particular he studies the impact of the public expenditure composition on economic growth and estimates the effects of some types of public spending in economic growth.

5.4 To conclude, a brief mention to the fact that Filipa Lima chaired the CPM 113 – *“Statistics for public good”*.

Chairman summary on session STCPM77: Institutional cooperation and technical assistance – steps towards developed statistical systems

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The statistical systems of the developing countries have experienced significant changes in recent years. However, the growing importance of statistical information for the decision-making process both at national and international level, in an increasingly globalised world, combined with the fact that statistics are a public good, pose very demanding challenges for those countries. The purpose of this STCPM was, on the one hand, to present to the international statistical community the work done so far by a group of developing countries, namely the Portuguese-speaking African countries, in terms of developing their respective statistical systems and, on the other hand, to share their main concerns in order to meet the challenges ahead, while benefiting from the experiences of other developed countries.

Four papers were presented, covering practices in both developed and developing countries, and were ably discussed by Ms Adelheid Bürgi-Schmelz (International Monetary Fund), together with a thorough description of the IMF's General Data Dissemination System's (GDDS) purposes and main features, as well as of the benefits that national statistical authorities may reap by adopting the GDDS framework. The discussions that followed the presentations of the papers furnished useful inputs for further work.

Mr António Ramos da Cruz (Banco Nacional de Angola) made a presentation about oil production in Angola, which was described as the most important economic activity in the country, accounting for 90% of exports and 80% of GDP. The paper discussed the legal and practical arrangements put in place by the Banco Nacional de Angola for the compilation of balance of payments (BoP) statistics, highlighting the fact that raw data from the oil-producing companies are used as inputs to compile the BoP and also to generate other statistics, such as the aggregated accounts of the oil production branch of activity and the geographic breakdown of production.

Mr Jamal Omar (Banco de Moçambique) explained in his paper that the monetary policy in Mozambique is currently based on a money targeting regime, a framework that has shown some weaknesses due to the structural breaks associated with several deep financial system reforms that Mozambique has witnessed during the last decade. This issue seemingly undermines the effectiveness of the monetary policy and calls for an alternative framework. The paper describes the current statistical challenges for the development of a forward-looking framework for conducting effective monetary policy based on a standard New Keynesian model, a type of model broadly used by countries under inflation targeting regimes. However, the implementation of such a model poses a huge challenge in the field of data limitation (eg small sample, time series with gaps, data unavailability and low coverage), which highlights the importance of technical assistance in this context.

Ms Filipa Lima (Banco de Portugal) also spoke about the increasingly demanding challenges faced by the producers of statistics, in light of the growing importance of statistical information for the decision-making process, indicating institutional cooperation as a key factor in successfully meeting those challenges, given that international cooperation is a means to exchange experiences, share good practices, and improve the quality of statistics. The paper describes the Banco de Portugal's involvement in international statistical cooperation, both in multilateral forums and through bilateral relations, as well as the aims pursued in this respect, which are twofold: improving internal practices

and organisation by learning from other countries' experiences; and sharing its own knowledge and skills with institutions facing new challenges. The paper also explains the activities in which the Banco de Portugal has been engaged in the field of statistics in terms of international cooperation and assesses the main benefits that can be reaped for all parties involved.

Mr Zeph Nhleko (South African Reserve Bank) addressed the problems posed by the compilation of Flow of Funds (FoF) in South Africa, stressing the fact that the challenges presented by statistical systems increase the complexity of putting together a useful set of FoF matrices. The paper seeks to analyse how South Africa has dealt with systems challenges during the compilation of FoF while continuing to produce good statistics. The paper aims to share South Africa's FoF compilation experience while highlighting the importance of liaising with other institutions in order to learn from them.

A contribution to developed statistical systems in developing countries – the experience of the Banco de Portugal

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1. Introduction

The production of statistics is a social responsibility. Therefore, the statistical system must be organised in the most efficient way possible, ie by providing good-quality data to the public at the minimum social cost. Cooperation is a way of improving efficiency. This paper presents the experience of the Banco de Portugal in the framework of statistical cooperation and assesses the main benefits that can be reaped for all parties involved. The Banco de Portugal has a long experience in the field of statistical cooperation, which has traditionally involved countries from the Community of Portuguese Language Countries (CPLP)¹ and, more recently, the acceding countries to the European Union.

The activities of the Banco de Portugal in this domain take different forms: visits of foreign institutions to the Bank; technical assistance missions to foreign institutions; initiatives of international organisations with the support of the Bank; multilateral meetings; and seminars. The role of multilateral activities has been increasing in recent years in comparison with bilateral training efforts.

In the next section, we will describe the main aspects of cooperation, including the motivations and the main benefits. The third section summarises the different forms of cooperation activities in which the Banco de Portugal has been engaged. We conclude with some final remarks in the fourth section.

2. General features

The basis of cooperation lies in the need to work together to achieve common goals. The motivation behind the Banco de Portugal's cooperation efforts lies in the notion that international cooperation is a means to exchange experiences, share good practices, and improve the quality of the service of central banks. The statistical function is an increasingly important function of central banks around the world. From original statistical areas of money and banking statistics and balance of payments compilation, many central banks have also acquired experience in other fields of economic statistics: national accounts, statistics on non-financial corporations, central credit registers or pension funds. The Banco

¹ The CPLP is an international organisation which includes the following eight countries: Angola, Brazil, Cape Verde, Guinea-Bissau, Mozambique, Portugal, São Tomé and Príncipe and East Timor.

de Portugal has itself experienced this widening of the scope of statistical provision in the last few years, and was formally recognised in 2008 as a Statistical Authority by Portuguese Law.

The cooperation activities of the Banco de Portugal in the field of statistics have been chiefly focused on two main groups of countries. The first group concerns the countries of the CPLP with which Portugal shares a common history and language and which have traditionally been special partners in the Portuguese cooperation policy. The cooperation with these countries focuses predominantly on the improvement of statistical capacities, in particular in the application of international statistical standards and the exchange of know-how. In the specific case of Brazil, there is an agreement of technical cooperation and assistance between the Banco de Portugal, the Central Bank of Brazil and the Foundation of the Brazilian Institute of Geography and Statistics (IBGE), with an emphasis on national financial accounts.

The second group is composed of countries in the process of acceding to the European Union. In the framework of this process, countries should take steps to develop their statistical systems and align their data with European and international standards. The experience of Portugal in the development of its own statistical system, before and after its accession to the European Union, provides a very good input to the new EU member states. Seven countries were involved in collaboration with the Banco de Portugal: Cyprus, the Czech Republic, Latvia, Lithuania and Slovenia, which acceded to the European Union in 2004, and Bulgaria and Romania, which acceded in 2007. The cooperation activities do not end after accession; we also have cases where we have shared experiences with other EU member states. Additionally, outside the CPLP and the European Union, the Banco de Portugal has had very fruitful collaboration with other countries, namely, Chile, Israel, Japan, Malaysia, South Africa and Morocco.

There is a mutual gain from cooperation: the sharing of good practices, an increase in the comparability of statistics, the exchanging of experiences and an improvement in relations between countries. In addition, the fact that cooperation with those countries (especially CPLP countries) is regular, consistent and continuous strengthens the bonds between them.

3. Forms of cooperation

The cooperation activities of the Banco de Portugal in the field of statistics can take the following forms: visits of foreign delegations to the Banco de Portugal; technical assistance missions; multilateral meetings; support to international organisations; and seminars. The involvement of the Banco de Portugal in multilateral activities has been a relatively new feature in its cooperation activities. These multilateral activities complement the bilateral missions as they lead to the creation of an international community of statisticians.

3.1 Visits to the Banco de Portugal

The Banco de Portugal frequently receives, in its offices, the visits of colleagues of other central banks and national statistical institutes. These visits can consist of a complete tour of the Statistics Department or one of its units: National Financial Accounts and Securities Statistics; Balance of Payments and International Investment Position Statistics; Monetary and Financial Statistics and Central Credit Register; and Central Balance Sheet, Statistics Audit and Statistics Dissemination.

This type of cooperation has the advantage that the practices of the host country can be learnt at first hand. In fact, when implementing new statistics, the Banco de Portugal also visits countries or institutions which already have experience in the specific field.

Table 1 shows the evolution of this form of cooperation by country from 2001 to 2008.

Table 1
Visits to the Banco de Portugal in the framework of cooperation in the field of statistics

Unit: days x participants

Year	CPLP						new EU member states							Other countries	Total	
	AO	BR	CV	MZ	ST	TL	BG	CY	CZ	LT	LV	RO	SI			
2001			19.0	12.5		2.0			6.0							39.5
2002	15.0			9.5		1.5			1.5				4.0		2.0	33.5
2003			18.0	16.0	1.0					6.0	6.0	14.5				61.5
2004			20.0	25.0		15.0			15.0			65.0				140.0
2005	20.0						4.0	20.0							1.0	45.0
2006	19.0		5.0	4.0											6.0	34.0
2007			1.0	2.0	6.0										4.0	13.0
2008	20.0	6.0				10.0	1.0		10.0	6.0						53.0
Total	74.0	6.0	63.0	69.0	7.0	28.5	5.0	20.0	32.5	12.0	6.0	79.5	4.0			406.5

Country codes: AO – Angola; BG – Bulgaria; BR – Brazil; CV – Cape Verde; CY – Cyprus; CZ – Czech Republic; TL – East Timor; LT – Lithuania; LV – Latvia; MZ – Mozambique; RO – Romania; SI – Slovenia; ST – São Tomé and Príncipe.

3.2 Technical assistance missions

Another form of cooperation is the organisation of technical assistance missions, which consist in the visits by experts of the Banco de Portugal to institutions in partner countries. These missions are usually aimed at the implementation of specific projects. Some of the missions are organised in the framework of IMF projects. Table 2 measures these missions by country and by year.

Table 2
Technical assistance missions

Unit: days x participants

Year	BR	CV	ST	ZA	Total
2002		10.0			10.0
2003			10.0		10.0
2004	10.0	40.0	15.0		65.0
2005	10.0				10.0
2006					0.0
2007			10.0		10.0
2008				5.0	5.0
Total	20.0	50.0	35.0	5.0	110.0

Country codes: BR – Brazil; CV – Cape Verde; ST – São Tomé and Príncipe; ZA – South Africa.

3.3 Multilateral meetings

The Banco de Portugal has participated in the meetings of the central banks of Portuguese-speaking countries on the national statistical systems, which take place since 2000 every two years (as a general rule). These meetings are held in different locations and are a unique opportunity to reinforce mutual contacts and exchange knowledge, which is especially beneficial for the host country. Table 3 provides the list of these meetings.

Table 3
Meetings on the national statistical systems of the central banks of Portuguese language countries

Year	2000	2002	2005	2006	2008
Location	Portugal (Lisbon)	Mozambique (Maputo)	Angola (Luanda)	São Tomé and Príncipe (São Tomé)	Cape Verde (Praia)

3.4 Support to international organisations

The Banco de Portugal also supports the organisation of IMF courses in Lisbon. The courses usually include speakers from both the IMF and the Banco de Portugal. They cover balance of payments statistics, monetary and financial statistics and the General Data Dissemination System (GDDS), as shown in Table 4.

Table 4
IMF courses with the support of the Banco de Portugal

System	Year	Unit: days x participants							Total
		AO	BR	CV	GW	MZ	ST	TL	
Balance of payments statistics	2001	15	15	15	15	15	15	–	90
	2007	10	–	10	10	10	10	10	60
General Data Dissemination System	2002	10	–	10	–	10	10	–	40
Monetary and financial statistics	2002	15	15	15	15	15	15	15	105
	2004	15	–	15	15	15	15	15	90
	2005	10	–	10	10	10	10	10	60
	2007	10	–	10	10	10	10	10	60
	2008	20	–	20	20	20	20	20	120
	Total	105	30	105	95	105	105	80	625

Country codes: AO – Angola; BR – Brazil; CV – Cape Verde; TL – East Timor; GW – Guinea-Bissau; MZ – Mozambique; ST – São Tomé and Príncipe.

3.5 Seminars

In addition, the Banco de Portugal has also participated in recent years in seminars in Angola, Cape Verde and Mozambique. This is an additional way of bringing together experts from the Banco de Portugal and other countries and of exchanging practices and knowledge.

4. Final remarks

Statistical producers face increasingly demanding challenges, mainly derived from the revision of both the System of National Accounts and the IMF's Balance of Payments and International Investment Position Manual, which call for closer cooperation among compilers.

Among the various driving forces of good-quality statistics that include adequate human, financial, technological and legal resources, we argue that institutional cooperation at the international level in the field of statistics is a key factor to improving the quality of statistics. The Banco de Portugal is highly committed to this task through the use of various instruments. The way forward in this area is to proceed along the path we have been paving, which involves the exchange of knowledge in bilateral actions and the reinforcement of multilateral contacts.

Discussant comments on session IPM68: Risks in finance – the state of the art in statistical methods

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This session covered two approaches to risks in finance and to the management of those risks: a data collection approach – the European Central Bank (ECB) and South African Reserve Bank (SARB) papers – and a research approach.

The paper by the ECB focused on the opaqueness of credit risk transfer (CRT) and the lack of available information. The ECB response to this problem is twofold: developing new or enhanced euro area statistics, and improving the existing statistics on credit derivatives and reusing supervisory information. The discussion centred on the future challenges as regards CRT measurement, highlighting the need to enhance the data on the shadow banking sector (financial intermediation by institutions, markets and products outside the banking sector and traditional securities markets), to develop harmonised definitions, to widen the scope of CRT statistics, to promote transparency in financial innovation, and to further coordinate efforts among supervisory authorities, policymakers, statisticians and, possibly, market players.

The paper by the SARB presented a widely used tool to assess the soundness of the financial system, whereby quantitative information is complemented by qualitative information on structure and regulation. The paper covered two major components, scenario analysis and stress testing. The authors also elaborated on the identification of macroprudential indicators and different assessment methods. The discussion focused on possible further work concerning refinements to the SARB methodology, which included, inter alia, capturing the whole distribution of losses to reflect unexpected as well as expected losses, considering credit risk alone vs credit risk combined with counterparty, liquidity and market risk, modelling the macroeconomic feedback loop, and allowing for some non-linearities, eg time-varying default dependencies.

There was also a reference to the International Monetary Fund-Financial Stability Board Users Conference on the Financial Crisis and Information Gaps. In particular, emphasis was placed on the need to strengthen the analytical and conceptual framework for financial stability analysis, which would be helpful in clarifying data priorities. Moreover, it was mentioned that further investigating the increasingly global financial transmission mechanisms as well as the interactions between the financial system and the real economy would reinforce the importance of international and inter-agency cooperation and information sharing in data collection and improve data harmonisation. Furthermore, it was recognised that additional coordination in data collection between supervisory authorities and economic statisticians would reduce the respondents' burden. Finally, it was acknowledged that data gaps should be prioritised on the basis of cost-benefit analysis, especially considering the need for capacity building in some countries.

Measuring the evolution of monetary and financial services in Portugal

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Introduction

This paper aims to describe, in a concise way, the evolution of monetary and financial services in Portugal since the Portuguese accession to the European Economic Community, highlighting some of the principal milestones that were achieved along the way.

Financial services (other than insurance, pension funding and compulsory social security) cover a broad range of activities regarding the obtaining and redistributing of funds. They include monetary intermediation, e.g. the receiving of deposits and/or close substitutes for deposits, and the extending of credit or lending of funds through a variety of forms (such as loans, mortgages and credit cards). In the European Union (EU) context, those activities are carried out by the so-called monetary financial institutions (MFIs), a category that encompasses central banks, credit institutions (as defined in EU law) and other resident financial institutions that fulfil the MFI definition, irrespective of the nature of their business (e.g. money market funds). A second class of financial services, which could be called non-monetary financial intermediation, comprises the activities of, for example, holding companies, trusts, funds and similar financial entities (excluding money market funds), financial leasing companies, credit-granting by institutions other than MFIs, other financial service activities primarily concerned with distributing funds other than loans and own-account investment activities. A last category of financial services concerns activities that are auxiliary to financial services and insurance activities involved in, or closely related to, financial service activities, but which do not themselves provide financial services.

Our attention throughout this paper will be centred specifically on the first of those three groups. The monetary sector plays a key role in the economy through the provision of monetary and financial intermediation and payments services. In this way, MFIs enable an efficient allocation of savings and investments, and allow financial transactions to take place at minimum cost. The MFI sector is, by far, the main contributor to financial service activities in Portugal. In addition, this sector has a superior statistical coverage, as compared to that of, for example, non-monetary financial institutions. In Portugal, the monetary sector comprises the Banco de Portugal – which is the Portuguese central bank and, as such, exercises control over key aspects of the financial system – and four other types of monetary institutions: universal or all-purpose banks, which account for most of the monetary intermediation activity; mutual agricultural credit banks; small savings banks; and money market funds.

Given the lack of comprehensive and reliable micro data (census- and/or survey-based) and the methodological difficulties inherent in the measurement of access to finance, the focus of this paper will be on the provision of, rather than the access to, financial services. The virtual absence of significant non-price barriers for firms and households in the use of financial services in Portugal, on the one hand, and the fact that the provision of financial services may be seen as an indicator of the potential access to financial services, on the other, mitigate the possible detrimental consequences derived from following this approach.

Finally, considering that Portugal is a member of the European Union, this paper will dedicate a few words to a number of initiatives brought about by such participation, which has substantially contributed to improving the efficiency of the Portuguese financial services industry. In particular, this paper will address: (i) the Portuguese response to the policy orientations in connection with the European Commission's policy framework i2010 – European Information Society 2010; and (ii) the ongoing European financial markets integration process – one of the cornerstones of the so-called Lisbon Strategy, set out by the European Council in Lisbon in March 2000 to make the European Union *“the most dynamic and competitive knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion, and respect for the environment by 2010”*.

Turbulent beginning

Since 1986, the year that marked the Portuguese accession to the European Economic Community (EEC) – the forerunner of the European Union – the growth in the provision of financial services in Portugal has been remarkable, especially if compared with the situation at the time of the revolution of April 1974 that put an end to almost 50 years of relative isolation under an authoritarian regime.

After the completion of democratic consolidation in Portugal, which took place in the second half of 1982 following the first constitutional revision that enforced popular suffrage as the only source of public power, the Portuguese financial system underwent a number of noteworthy changes to its legal framework and, concurrently, to its functioning, as part of a major structural reform that was taking place within the context of an IMF agreement during the 1983–85 period of macroeconomic adjustment. This, in turn, had a significant impact on the provision and usage of financial services in Portugal.

First and foremost, the banking sector was reopened to private initiative in 1984, thus ending a seven-year period in which the private sector was not allowed to set up new banks in Portugal. In addition, new legislation allowed for the introduction of innovative financial instruments (e.g. new types of deposits and certificates of deposit), which, in turn, brought about a more diversified portfolio of financial assets available to savers – and other types of financial intermediaries (e.g. investment funds and non-monetary credit institutions, such as financial leasing companies, factoring companies and hire-purchase financing companies), particularly in markets in which banks were not allowed to be present. The capital markets (both primary and secondary) that had been virtually inactive since the 1974 revolution were restructured and a number of initiatives (such as the granting of tax incentives for investment in the capital market) were taken with a view to its revival.

This movement towards greater liberalisation and innovation gained further momentum after Portugal joined the EEC, on 1 January 1986, beginning with the passing of legislation to further align the Portuguese legal framework with existing Community law. This legislative alignment has focused, *inter alia*, on the following aspects: defining credit institutions; rules for granting and revoking licences to establish credit institutions; rules for the operation and supervision of credit institutions; solvency and liquidity ratios; and the promotion of competition.

In particular, the opening up of the banking sector to private investors, on the one hand, and the denationalisation of state-owned banks, insurance companies and other public enterprises allowed by

the passage of the so-called Re-privatisation Law (April 1990) – most of the resident banks had been nationalised in September 1974 and March 1975 (only foreign banks evaded nationalisation) – on the other hand, provided a strong impetus towards diversification, modernisation and competition in the Portuguese financial system.

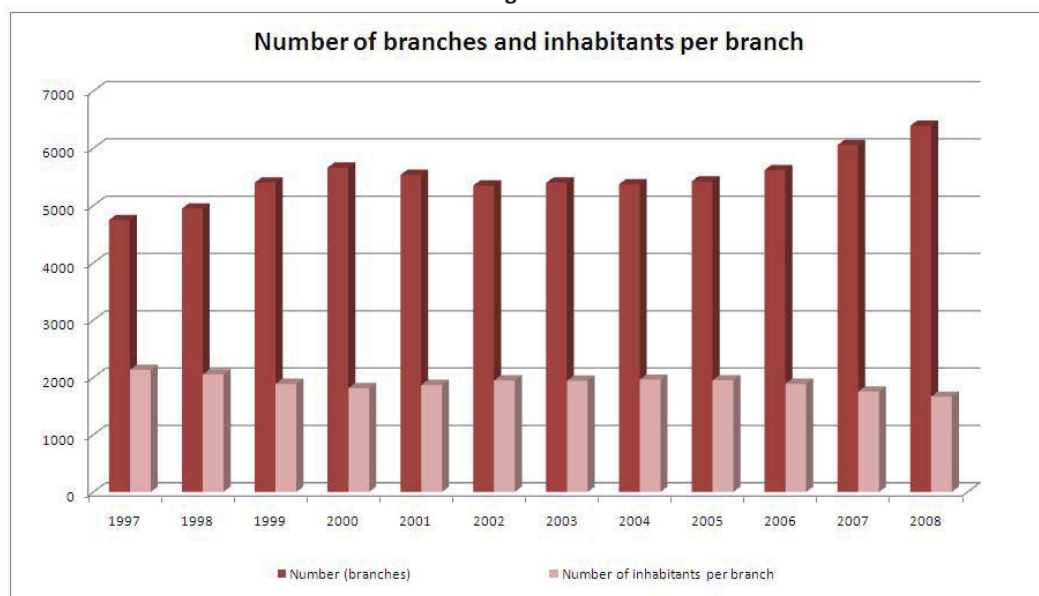
A new legal framework for the financial sector, published in 1992, introduced the concept of “universal banks”; most banks took this opportunity to extend the range of their activities, leading to an increase in competition and innovation, emphasised by the emergence of new types of financial institutions. The prospect of the single market and the establishment of an increasing number of foreign banks in Portugal led to the expansion of new markets.

In parallel with these developments, the Portuguese economy experienced a striking recovery in the years that followed EEC accession: for the first time since World War II, the country recorded five consecutive years of economic growth. In fact, Portugal’s GDP, led by strong exports and a healthy capital formation, grew by an annual rate of 4.6% from 1986 to 1990, one of the highest growth rates among OECD countries.

The new competitive framework introduced incentives for innovation and the introduction of more advanced technologies. Since the late 1990s, the technological progress and narrowing margins in business as a whole have fostered the rationalisation of the production and distribution of financial products, with the gradual substitution of labour for new technologies. The strong growth of other administrative costs in 1997–99 revealed the need to meet the massive investments at the communication and information system levels – partly linked to the ongoing restructuring operations within newly built banking groups – which also contributed to the rationalisation of the use of labour.

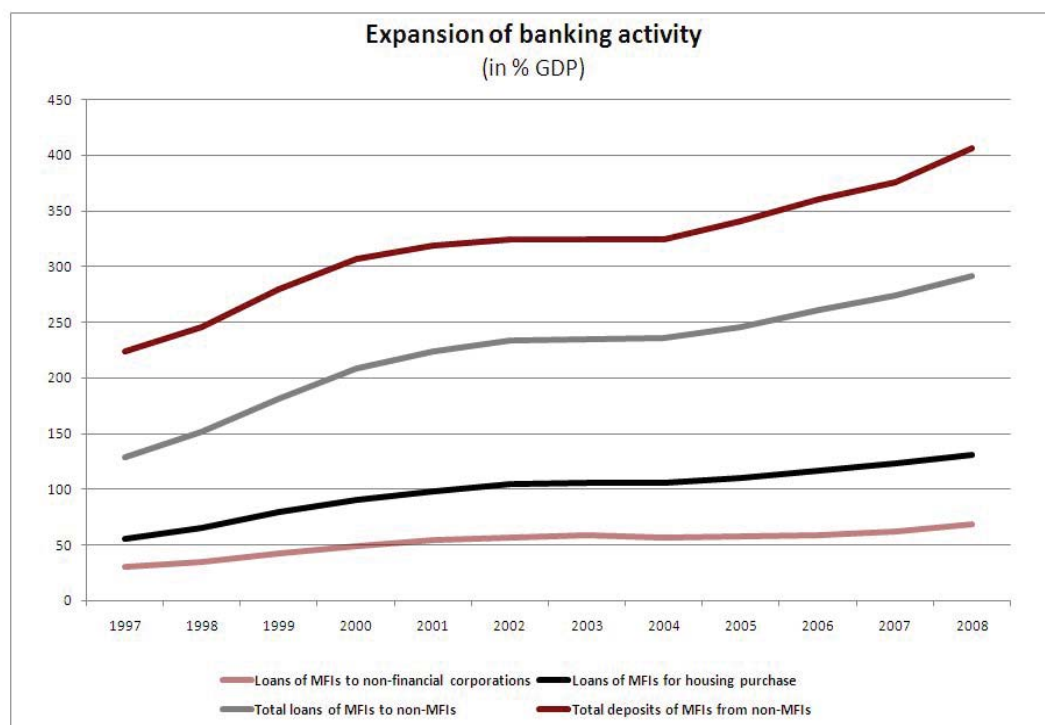
The successive reductions in the number of credit institution employees per branch (from 13.6 in 1997 to 9.8 in 2008) underscore this fact: the decrease resulted both from staff reduction and the increase in the size of branch networks (6,391 branches in 2008 compared with 4,746 in 1997). Consequently, staff costs fell as a percentage of total average assets and as a proportion of total costs: the ratio between staff costs and total operating costs fell from 76% in 1985 to 63% in 1997 and to 54% in 2008. Moreover, the number of people served per branch (see Figure 1) decreased from 2,130 in 1997 to 1,663 in 2008.

Figure 1



Banking activity witnessed a strong growth over this period (see Figure 2): loans to non-financial corporations reached 68.2% of GDP in 2008 (30.4% in 1997) and housing loans amounted to 62.9% of GDP in 2008 (24.6% in 1997). Total non-monetary deposits grew from 95.7% of GDP in 1997 to 114.5% in 2008.

Figure 2



Boom in retail financial services

One of the most striking developments that took place during that period was the substantial increase in the application of technological innovations (mainly in telecommunications), which made it possible to implement teleprocessing networks, either within the larger banks or through interbank links, with visible benefits for the provision of financial services, particularly in the field of retail payments. This increase was backed by the creation of *Sociedade Interbancária de Serviços* (SIBS), a company that was founded in 1983 by a number of resident banks (today, the company's shareholders stand for practically the whole Portuguese retail banking sector). Its aim was to introduce a single payment platform that met the banking establishments' needs, while developing their facilities and technology and extending their international scope. In 1985, the network became operational under the Multibanco name.

Multibanco, a sophisticated network shared by every bank operating in the economy which fully integrates automated teller machines (ATMs) and electronic funds transfer at point of sale (EFTPOS) terminals, revolutionised the way retail operations are carried out in Portugal. Since its implementation, new features have been constantly added to the system, involving no extra cost to its users.

In addition to cash withdrawals and balance enquiries, customers can carry out a wide range of operations through Portuguese ATMs, such as: money transfers (both to other customers in the same

bank and to other banks); utility bill payments; payments to the state and social security; mobile phone top-ups; transport ticketing; event booking and ticketing, etc. Currently, more than 60 different services are available to ATM users, of which around half may also be accessed via EFTPOS terminals.

Both the volume of transactions carried out through the system and its demographic and geographic coverage have been expanding at a fast pace, as illustrated by the following facts:

- The number of ATMs installed in Portugal (see Table 1 below), including the limited-access ATMs operated by credit institutions, was 16,885 by end-2008 (provisional figures), equating to 158.9 ATMs per 100,000 people, and 183.3 ATMs per 1,000 km², compared to 821 in 1990 – 7.7 and 8.9, respectively.
- The demographic ATM penetration is currently one of the highest in the world. According to a 2008 World Bank policy research report (see references below), Portugal ranked fifth among the 99 countries covered by the study (second in the European Union after Spain); the geographic ATM penetration was also very high (twelfth and sixth, respectively).

Figure 3

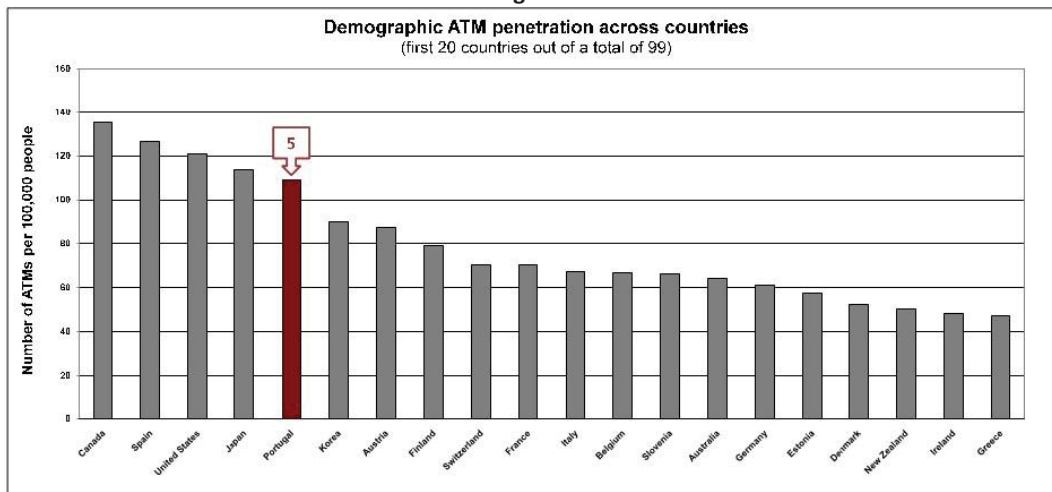
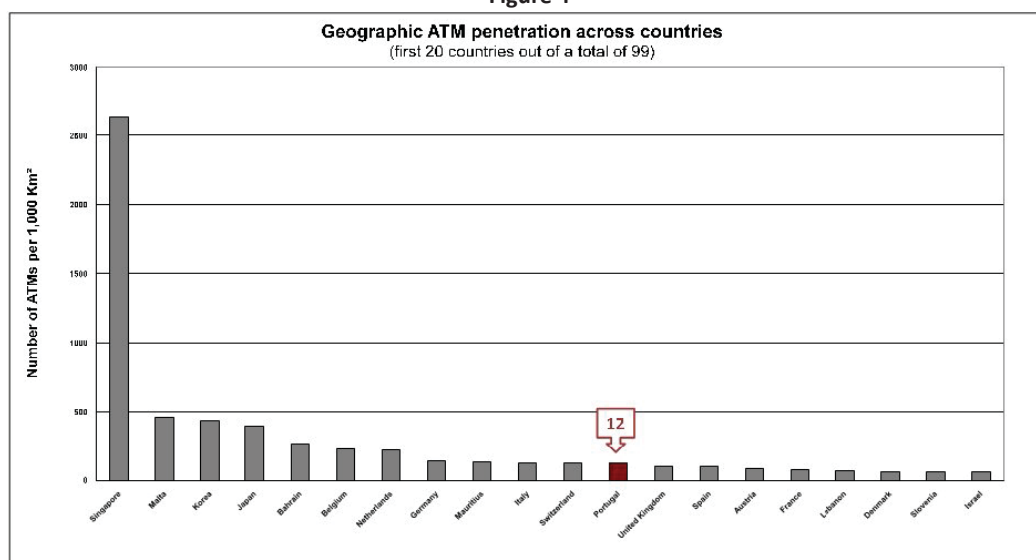


Figure 4



- In 2007, 476.8 million transactions (cash withdrawals and debit payments) were carried out in both open and limited-access ATMs (39.2 million in 1990), amounting to approximately €32.8 billion. The number of (debit) cards valid for the Multibanco network reached 18.2 million (2.4 million in 1990).
- EFTPOS terminals also expanded rapidly. At the end of 2008 (provisional figures), there were 226,118 terminals (2,127.7 per 100,000 people and 2,454.7 per 1,000 km²) – mainly installed in retail outlets and at filling stations – compared with 2,672 in 1990 (25.2 per 100,000 people and 29.0 per 1,000 km²). In 2007, the EFTPOS terminals registered an annual turnover of €25.3 billion, compared with €0.23 billion in 1990. These turnover figures corresponded to 781.3 million operations in 2007, compared with 7.8 million in 1990.

Table 1

Payment cards and terminals

(Number of units)

	2006	2007	Rate of change %	2008	Rate of change %
Active cards ¹	17,642,048	18,178,388	3.0	19,767,925	8.7
Debit cards	10,721,586	10,854,984	1.2	11,029,146	1.6
Credit cards	6,920,462	7,323,404	5.8	8,738,779	19.3
Number of terminals	188,394	218,230	15.8	243,003	11.4
ATMs	14,688	15,860	8.0	16,885	6.5
POS terminals	173,706	202,370	16.5	226,118	11.7

¹ Cards used at least once in a payment card accepting device.

Table 2
Use of payment instruments in Portugal
(Number in millions, and composition)

	1989		1998		2008	
	Number	%	Number	%	Number	%
Cheques	194,1	80.6	258,8	37.2	173,3	12.4
Payment cards ¹	7,6	3.2	315,8	45.5	893,6	64.1
Transfers	27,6	11.5	45,1	6.5	136,2	9.8
Direct debits	11,4	4.7	66,1	9.5	190,7	13.7
Other ²	0,0	0.0	9,0	1.3	0,9	0.1

¹ Cash withdrawals not included.

² Including commercial effects and e-purse *Multibanco*.

The activity of SIBS was instrumental in generating economies of scale derived from a more rational and effective use of the financial, technical and human resources needed to develop more advanced payment instruments and systems. In addition, SIBS made the Multibanco network open to all those taking part in payment system operations, which allowed for network economies and the safety inherent in a single system.

Further, this scheme has returned to its users a substantial part of the productivity gains generated from ongoing technological and organisational developments both directly, through the supply of a service that is increasingly wider, of a better quality and at a better price, and indirectly, through increasing efficiency in the banking system as a whole.

A Banco de Portugal study of July 2007 estimates that, during 2005, cash withdrawals from ATMs, rather than at bank counters, saved consumers 11.2 million hours in processing time, and banks participating in this study cut costs by 46%. For cash deposits at ATMs, estimated gains were around 443,000 hours for customers in terms of processing time and cost cuts for the banks amounted to €4.3 million. With credit transfers through ATMs, gains were estimated to be around 491,000 hours in processing time and €5.1 million in transaction costs. Consumers also gained around 1.5 million hours in checking balances and account entries through ATMs instead of over-the-counter. Taking gross average salaries as a point of reference (as detailed in the statistics for OECD countries in 2005), the benefit for the consumer is around €86 million, corresponding to 13.6 million hours of processing time.

Another successful example of the application of new technologies to the payments systems is the so-called Via Verde (literally, "green-light way") – an innovative electronic toll collection system used in Portugal since 1991 that allows drivers to proceed through motorway and bridge tolls without stopping, the amount due being electronically controlled and automatically charged to their bank accounts. Via Verde is Europe's first and most advanced electronic toll payment system and was the first to be universally applied to all the tolls in a country. In addition, it shows the highest rate of penetration in Europe: more than one third of Portuguese tolls are currently equipped with Via Verde. Since its launch, the range of services provided through this system has continued to increase. The application of this technology has been successfully extended to, *inter alia*, payments for petrol in filling stations, car parking payments and, more recently, vehicle access control systems aiming at restricting private car entry in central areas of the capital, Lisbon. Currently, Via Verde has more than 2.1 million users and accounts for around 62% of all motorway toll transactions in Portugal (around 70% in urban areas).

The availability of information and communication technologies (ICT) has also led Portuguese banks to make considerable efforts to modernise customer access to financial services in new, cheaper ways, and

to more people. As a complement to “in-person” services, online connections with corporate customers, home banking and mobile banking (m-banking) are now extensively available in Portugal and increasingly used by firms and households.

Home banking has become the third most preferred channel to get in touch with a bank – after ATMs and face-to-face contact with the bank teller. In 2007, around 19% of people in Portugal with access to a wide range of transaction banking services that are appropriate to their needs and socioeconomic status (i.e. the “fully banked”, following the terminology in the Commission’s 2008 report) favoured home banking – more than seven times the percentage in 2000 (2.7%). The rising number of Portuguese households with at least one computer at home (in the period 2004–08 the average annual growth rate was 6%) and access to a broadband internet connection (35%) is likely to increase the use of home banking as an alternative to traditional banking outreach.

With m-banking, banks transmit information to their customers wherever their location and at reduced cost. This is vital for a number of banking services (e.g. alerts), as well as for traditional marketing campaigns. From the demand-side viewpoint, people frequently do not have time to get to a bank branch, and the internet may not be an option in some cases – such circumstances favour the use of a more straightforward channel. For a sizeable part of the Portuguese population, using mobile phones to obtain access to certain financial services, such as checking bank balances or conducting other basic operations, is second nature. The Portuguese are clearly a phone-savvy nation. For many, the mobile phone is the organisational hub of their lives. In 2008, the number of mobile phone subscribers amounted to almost 15 million, corresponding to a market penetration rate of around 152%, one of the highest among the EU-25 member states and well above the EU-25 average (119%). Additionally, the total number of possible users of Universal Mobile Telecommunication System (UMTS) services was 4.3 million.

The continuous expansion of both internet and m-banking in Portugal should contribute to a noticeable improvement in access to financial services, by offering services that are, concurrently, more affordable and more suited to the prospective customers, particularly to the so-called “marginally banked” (i.e. people with a deposit account that has no electronic payment facilities and no payment card or cheque book), who have a bank account but rarely use the related electronic payment facilities and cards.

To conclude this point, it is safe to say that the Portuguese retail payment system is widely recognised today as highly developed, in terms of technology, accessibility, time-saving features and nationwide coverage. The system processes millions of operations on a daily basis, both counter-based at thousands of bank branches and electronically through the ATM/EFTPOS system. Last but not least, its overall quality can be recognised by what is, in relative terms, a very small number of complaints on the part of the banks’ clientele.

Tables A to D, at the end of this paper, provide complementary data on these developments.

Role of the Banco de Portugal

The Banco de Portugal is the Portuguese central bank and is an integral part of the European System of Central Banks (ESCB). As such, it pursues the objectives and participates in the performance of the tasks entrusted to the ESCB, particularly the maintenance of price stability, viewed as a precondition for increasing economic welfare and the growth potential of an economy. The Banco de Portugal is also accountable for the efficient and safe functioning of the country’s payment systems, including the issuance of banknotes and clearing services – an essential condition for the sound operation of the economy. In addition, the Banco de Portugal provides a wide range of services both to banks, such as the running of the Central Credit Register (including the centralisation of information on protested bills and cheque defaulters) and the Interbank Money Market operation, and to non-financial companies, e.g. the maintenance of the Central Balance Sheet Data Office (CBSO). Moreover, the Banco de Portugal

supervises the resident credit institutions and other financial companies, thus providing for the stability and soundness of the financial system and ensuring the efficiency of its operation, the safety of deposits and depositors and the protection of consumers of financial services. Last but not least, another service provided by the Banco de Portugal includes the compilation, analysis and dissemination of monetary, financial, exchange and balance of payments statistics, which are instrumental to decision-making; in this way, it influences the financial service activities in the economy.

Services related to the payment systems

Being the legal entity responsible for the regulation and oversight of payment systems, the Banco de Portugal has lent its full support to the modernisation of the Portuguese payments industry, which has undergone considerable changes in recent years. The oversight function is performed by monitoring payment systems, assessing their compliance with the Core Principles for Systemically Important Payment Systems (approved by the Committee on Payment and Settlement Systems of the G10 central bank governors and adopted by the Eurosystem in 2001), issuing regulations, exercising moral suasion and providing settlement services for banks or payment and clearing systems. It also plays a catalyst role in developing these systems and promoting coordination among the relevant parties.

The Banco de Portugal is both manager and settlement agent for the interbank clearing system and the real-time gross settlement system (RTGS). The main objectives of the RTGS are to: (i) minimise credit, liquidity and systemic risks; and (ii) provide participants with information in the course of the day on the balance of their accounts with the Banco de Portugal and on queuing and other operations that have been carried out. As such, it constitutes an essential instrument to enable participants to manage their funds. In preparation for Stage Three of the EMU, the Banco de Portugal worked on connecting the RTGS to the Trans-European Automated Real-time Gross settlement Express Transfer system (TARGET) – a payment system in which processing and settlement take place continuously (“in real time”) rather than in batch processing mode; transactions can be settled with immediate finality, and each transfer is settled individually instead of on a net basis. The TARGET system replaced the arrangement in force prior to the introduction of the euro and the launching of a single monetary policy in 1999, according to which, payments between EU countries mainly relied on correspondent banking. In February 2008, Portugal migrated to the new TARGET 2 system.

Services related to the Central Credit Register (CCR)

CCR is a database managed by the Banco de Portugal on the basis of credit-related information (including potential liabilities, such as unused amounts on credit cards and open credit lines) that is supplied by the participants (all resident credit-granting institutions). The main aim of the CCR is to provide information to back up the participants in their assessment of the risks attached to extending credit. To this end, the participants can access aggregate information on the credit liabilities of each client *vis-à-vis* the financial system. Any person has the right to be informed about the data recorded in his/her name in the CCR and, where necessary, ask the participant responsible for reporting to the Banco de Portugal to correct and update such information.

Box 1

Ranking of public CCR coverage (in % of adult population)			Other noteworthy figures about the Portuguese CCR	
1	Portugal	81.3	▪	Threshold: minimum of 50 € per credit balance
2	China	62.1	▪	5.6 million private individuals registered
3	Belgium	56.5	▪	Over 280,000 corporations registered
4	Malaysia	48.5	▪	216 participants (i.e., reporting agents)
5	Latvia	46.5	▪	15 types of financial products
6	Spain	45.3	▪	20.5 million monthly records
7	Ecuador	37.2	▪	245 million annual movements
8	Mauritius	36.8		
9	Bulgaria	34.8		
10	Argentina	34.3		

Source: World Bank, *Doing Business 2009*.

Source: Banco de Portugal.

The CCR database fulfils all the requirements for data protection, as laid down by the National Commission for the Protection of Data. Moreover, the Banco de Portugal is legally authorised to use the CCR information for purposes such as: (i) the supervision of credit institutions and other financial companies; (ii) the analysis of the stability of the financial system; (iii) monetary policy operations and intra-daily credit; and (iv) quality control and compilation of statistics (eg the distribution of credit by branch of activity). In particular, the CCR:

- ensures the centralisation and the subsequent dissemination throughout the banking system (generally on a daily basis) of credit incidents (protested bills) submitted to the Notary Public Offices by financial institutions, thus providing the financial institutions with an additional means to better evaluate the risks of their active operations and
- is responsible for checking compliance with the duties assigned to the credit institutions as regards the use of cheques (still a very popular means of payment in Portugal), centralises the information reported by credit institutions and discloses through the banking system the list of cheque defaulters.

Services related to the Central Balance Sheet Data Office (CBSO)

CBSO is a repository of economic and financial data from a representative sample of Portuguese non-financial corporations. This database is chiefly built on individual and unconsolidated corporate accounting data, submitted at quarterly and annual frequencies. Among its various possible uses, the database enables a more informed assessment of the developments in the economic and financial situation of non-financial corporations, provides reporting companies with information relevant to their management function, including an understanding of their positioning within their respective sectors of economic activity, and allows the Banco de Portugal to compile statistics that, besides complementing the existing ones, serve as an additional means to crosscheck their internal consistency.

In 2007, the annual survey was substituted as a data source for the CBSO by the information concerning corporate annual accounts reported under the so-called IES arrangement. Formally developed in January 2007 through the joint efforts of the *Banco de Portugal*, Statistics Portugal (the Portuguese national statistics office), and the Portuguese Ministries of Finance and Justice, IES aims to define a harmonised solution for the collection of annual data from the financial statements of non-financial

corporations. IES, which stands for *Informação Empresarial Simplificada* (meaning “simplified corporate information”), is the electronic submission of accounting, fiscal and statistical information that companies usually have to provide to the above-mentioned authorities. IES allows companies to fulfil four reporting obligations to four different authorities via one single electronic submission at one moment in time. This innovative solution contributes to bringing significant cost savings to both the reporting corporation and the public entities involved, and makes it possible to construct statistics from information collected through administrative acts.

Services related to market conduct supervision

In a market characterised by contractual freedom and financial innovation, it is incumbent upon the Banco de Portugal to check for compliance with the minimum requirements of information supplied to customers on the financial conditions applied to the different banking operations and services, as well as on the respective risks. This mission will be referred to here as market conduct supervision (MCS), as opposed to prudential supervision, which is more focused on guaranteeing the soundness of financial undertakings and contributing to the stability of the financial system.

Informed decision-making by the banks’ clientele, who are especially aware of the risks inherent in financial products and services, is a key requirement for the efficient operation of the retail financial markets and the mitigation of risk in the financial system. The disclosure by credit institutions of relevant information concerning their products and services in a transparent, intelligible and standardised way promotes such decision-making. However, the dissemination of information along those lines may not be sufficient, given that clients’ decisions are also determined by their level of financial literacy. Therefore, it is also necessary to foster financial education among the public at large.

The *Banco de Portugal’s* MCS is structured on the basis of a number of reciprocally complementing guiding rules, ranging from the requirement for credit institutions to observe the principle of transparency and rigour when informing their clients along the various stages of the marketing of banking products and services, to the development of the normative framework that governs the conduct of credit institutions in the retail financial markets. Concurrently, they include monitoring compliance with regulations – e.g. via surveillance activity related to the commercialisation or promotion of financial products and services, by responding to clients’ complaints and through comprehensive on-site inspections – as well as fixing cases of non-compliance and, in the most serious situations, applying administrative sanctions.

Another guiding principle consists in promoting the quality of the demand for financial products and services by fostering initiatives that contribute to raising clients’ competences in assessing costs, expected income and risks related to those products and services.

Building up the Information and Knowledge Society – a few milestones

- In May 2000, during the Portuguese Presidency, the EU adopted the eEurope initiative with a view to: (i) making the internet cheaper, faster and safer; (ii) investing in people and their qualifications; and (iii) stimulating the use of the internet. These ideas were effectively implemented as a central component of the European Commission’s policy action.
- In November 2002, the Knowledge and Innovation Mission Unit (UMIC) was established to define and coordinate the policies on the Information Society and the e-Government in Portugal. Its action plan was based on seven points: (i) an Information Society for all; (ii) new abilities; (iii) quality and efficiency in public services; (iv) better citizenship; (v) health within everybody’s reach; (vi) new ways of creating economic value; and (vii) attractive contents.
- UMIC presented the Broadband National Initiative in August 2003. This initiative was approved by the Government with the purpose of intensifying the use of, and access to, broadband

internet in Portugal, contributing, on the one hand, to an increase in the productivity levels and competitiveness of the national economy and, on the other hand, to greater social cohesion.

- In 2005, the European Commission launched the i2010 – European Information Society for growth and employment initiative. One of the objectives of this strategy is of special interest in this context: *“An Information Society that is inclusive provides high quality public services and promotes quality of life”* (Objective 3). To reach this goal, it is necessary, first, to foster ICT growth and, second, to guarantee that ICT: (i) benefits all citizens, by making ICT products and services more accessible and providing people with basic digital competence; (ii) promotes better, more cost-effective and more accessible ICT-based public services; and (iii) improves the quality of life (via, for example, ICT-enabled health and welfare services).
- The Connecting Portugal initiative, one of the strategic components of the Portuguese Government’s Technology Plan, may be viewed as a response to the challenges of i2010. The priorities of this initiative are to extend the progress accomplished in the area of the social use of ICT in Portugal, namely in the scope of the international comparisons required by the Lisbon Strategy, and the independent, regular and transparent evaluation of the information systems of public services and administration. The objectives underlying this initiative are, *inter alia*: (i) to promote a modern citizenship which is informed, conscious and active, and for which the use of ICT is a natural tool to access information, education, cooperative work and public debate; (ii) to guarantee a competitive national telecommunications market, especially regarding costs of services both to citizens and to companies, and the wide availability of high-quality advanced services, assuring competitiveness at the same level as the best European practices; and (iii) to promote the increasing use of ICTs by companies, supporting them in their modernisation, as a key condition for their competitiveness in the international market, and to assure the development of new technology-based companies, namely those producing software.

Towards a single market in financial services in the European Union

Portugal has been actively involved in the European Union’s efforts to create an integrated Europe-wide single market in financial services through a framework of legislation, cooperation and practice within which financial services can operate as a whole across borders to achieve the free movement of capital and services. An important step in that direction took place at the Lisbon summit in March 2000, when the EU Heads of State and Government formally launched the Financial Services Action Plan (FSAP), an ambitious legislative and regulatory programme aimed at removing barriers to the cross-border flow of financial services and achieving a single market in financial services by 2005.

According to a November 2000 report from the so-called group of “Wise Men” chaired by Baron Lamfalussy, a single market should provide:

- Improved allocation of capital, by means of: (i) more efficient, deeper and broader security markets, enabling savings to flow more efficiently to investment; (ii) lower transaction costs and improved market liquidity; (iii) more diversified and innovative financial systems; and (iv) more opportunities to pool risk.
- More efficient intermediation between savers and investors, through: (i) intensified competition among financial intermediaries across Europe, leading to fewer inefficiencies; (ii) giving users greater freedom of choice; and (iii) the opportunity to reap economies of scale and scope across a larger market.
- Stronger, faster-growing European economy, resulting from the above.

A single market for financial services structured along those lines was far from being achieved in the time envisaged, despite the legislative work on the FSAP having been completed. The FSAP had mostly succeeded in enhancing the integration of the securities and wholesale markets. The next steps were to implement, at the national level, the measures already adopted and to assess their impact on the market. Less successful, however, were the efforts to create an internal market for retail customers, where further action was still required. Although indirectly benefiting from the integration of wholesale markets, the European Union's retail financial markets remained fragmented. Cross-border transactions for individuals and small- and medium-sized enterprises remained limited, and a high level of heterogeneity still existed on various key aspects – e.g. prices, available products and distribution channels. Integration had mainly occurred on the supply side of the market through firms establishing subsidiaries and branches outside domestic markets.

When Portugal reassumed the rotating Presidency of the EU Council during the second half of 2007, the strengthening of the EU strategy for financial services was among its main concerns. The priorities in this area were, *inter alia*: (i) promoting the completion of the single payments area; (ii) increasing the integration of the retail financial services market; (iii) enhancing market integration in the field of clearing and settlement of securities transactions; and (iv) improving the efficiency of regulatory and supervisory frameworks.

As of today, EU financial integration is an ongoing process. While several legal and cultural factors will continue to play an important role in hindering full integration, recent initiatives to reduce fragmentation in payment infrastructures could promote further integration and lead to a reduction in consumer prices.

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Table A - General indicators - Portugal

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Local units (branches)												
Number	4 746	4 947	5 401	5 662	5 534	5 348	5 397	5 371	5 422	5 618	6 055	6 391
Number per 100,000 people	46,9	48,7	53,0	55,2	53,6	51,4	51,5	51,0	51,3	53,0	57,0	60,1
Number of inhabitants per branch	2 130	2 052	1 888	1 811	1 867	1 946	1 941	1 960	1 949	1 887	1 754	1 663
Number of employees per branch	13,6	12,5	11,4	10,3	10,0	10,4	10,1	9,9	10,0	10,4	10,1	9,8
Herfindahl index for CIs* (ranging from 0 to 10,000)	577	575	566	986	991	963	1 043	1 093	1 154	1 134	1 098	1 114
Share of 5 largest CIs in total assets (in percent)	45,6	44,8	44,2	59,2	59,8	60,5	62,7	66,5	68,8	67,9	67,8	69,1
Money market rate – libor / euribor 3 months (annual average)	5,4	4,3	3,0	4,4	4,3	3,3	2,3	2,1	2,2	3,1	4,3	4,6
Population (thousands, number end of period)	10 110	10 149	10 195	10 257	10 329	10 407	10 475	10 529	10 570	10 599	10 618	10 627
Gross domestic product at market price (EUR millions)	97 898	106 498	114 192	122 270	129 308	135 434	138 582	144 128	149 123	155 446	163 190	166 197

* CIs - Credit institutions, both monetary and non-monetary.

Sources: Statistics Portugal; *Banco de Portugal*.

Table A - General indicators - Portugal (Cont.)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Total investments of insurance companies												
EUR millions	14 522	17 565	21 481	24 691	26 550	29 559	32 471	36 024	43 290	49 242	53 007	53 512
in % GDP	14,8	16,5	18,8	20,2	20,5	21,8	23,4	25,0	29,0	31,7	32,5	32,2
Total assets under management by pension funds												
EUR millions	10 060	11 578	12 911	13 767	14 823	15 552	16 264	16 224	19 317	21 185	22 257	20 238
in % GDP	10,3	10,9	11,3	11,3	11,5	11,5	11,7	11,3	13,0	13,6	13,6	12,2
Total assets – Insurance companies and pension funds												
EUR millions	24 582	29 143	34 392	38 457	41 373	45 111	48 735	52 248	62 607	70 427	75 263	73 750
in % GDP	25,1	27,4	30,1	31,5	32,0	33,3	35,2	36,3	42,0	45,3	46,1	44,4
Net value under management by investment funds – excl. real state funds												
EUR millions	19 615	23 955	24 087	21 443	21 101	19 944	21 800	23 346	27 190	28 386	25 383	14 329
in % GDP	20,0	22,5	21,1	17,5	16,3	14,7	15,7	16,2	18,2	18,3	15,6	8,6

Sources: Statistics Portugal; *Banco de Portugal*.

Table A - General indicators - Portugal (Cont.)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
MFIs' liabilities up to 2 years vis-à-vis the non-monetary residence sector**	93 720	100 051	110 467	118 140	123 057	122 271	126 398	131 381	141 523	147 693	156 775	183 347
EUR millions	9 270	9 858	10 835	11 518	11 913	11 748	12 067	12 478	13 390	13 934	14 766	17 253
per capita, EUR	95,7	93,9	96,7	96,6	95,2	90,3	91,2	91,2	94,9	95,0	96,1	110,3
in % GDP	29 717	37 188	47 820	59 828	69 741	76 089	80 378	81 476	85 181	90 440	100 123	113 295
Loans of MFIs to non-financial corporations	30,4	34,9	41,9	48,9	53,9	56,2	58,0	56,5	57,1	58,2	61,4	68,2
EUR millions	24 087	32 433	42 180	50 735	57 365	64 838	66 368	70 835	79 237	91 591	100 585	104 465
per capita, EUR	2 383	3 196	4 137	4 947	5 554	6 230	6 336	6 727	7 497	8 641	9 473	9 830
in % GDP	24,6	30,5	36,9	41,5	44,4	47,9	47,9	49,1	53,1	58,9	61,6	62,9
Loans of MFIs for consumer credit	5 013	6 191	6 770	8 177	8 074	7 872	8 691	9 059	9 406	11 379	13 790	15 452
EUR millions	496	610	664	797	782	756	830	860	890	1 074	1 299	1 454
per capita, EUR	5,1	5,8	5,9	6,7	6,2	5,8	6,3	6,3	6,3	7,3	8,5	9,3
in % GDP	4 747	5 866	7 803	9 901	10 511	10 534	9 489	10 518	11 157	12 007	12 902	12 656
Other household lending from MFIs	470	578	765	965	1 018	1 012	906	999	1 056	1 133	1 215	1 191
EUR millions	4,8	5,5	6,8	8,1	8,1	7,8	6,8	7,3	7,5	7,7	7,9	7,6
per capita, EUR	71 674	90 989	116 631	144 892	162 499	175 807	179 229	187 942	201 879	223 126	247 597	267 351
in % GDP	73,2	85,4	102,1	118,5	125,7	129,8	129,3	130,4	135,4	143,5	151,7	160,9
Total loans of MFIs to non-MFIs	93 702	100 705	112 269	120 093	123 227	122 666	123 884	127 897	142 628	154 612	165 570	190 233
EUR millions	95,7	94,6	98,3	98,2	95,3	90,6	89,4	88,7	95,6	99,5	101,5	114,5
in % GDP	4 388	4 388	4 388	4 388	4 388	4 388	4 388	4 388	4 388	4 388	4 388	4 388
Long-term debt securities issued by non-financial corporations	4,5	4,1	3,8	3,6	3,4	3,2	3,2	3,0	2,9	2,8	2,7	2,6
EUR millions	1 897	2 196	3 939	5 428	7 425	10 489	8 904	10 900	14 743	16 083	20 035	23 780
in % GDP	1,9	2,1	3,4	4,4	5,7	7,7	6,4	7,6	9,9	10,3	12,3	14,3

** Excluding Central Government. In this context MFIs (monetary financial institutions) refer to deposit-taking institutions, excluding the Central Bank.

Table B.1 – Number of credit institutions and of local units (branches)

	Number of credit institutions					Number of local units (branches)				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Belgium	108	104	100	105	110	4989	4837	4564	4574	4425
Bulgaria	35	35	34	32	29	n.a.	5606	5629	5569	5827
Czech Republic	77	70	56	57	56	1670	1785	1825	1877	1862
Denmark	203	202	197	191	189	2118	2119	2122	2152	2194
Germany	2225	2148	2089	2050	2026	47244	45331	44044	40282	39777
Estonia	7	9	11	14	15	197	203	230	245	266
Ireland	80	80	78	78	81	924	909	910	935	1158
Greece	59	62	62	62	63	3300	3403	3543	3699	3850
Spain	348	346	348	352	357	39750	40603	41979	43691	45500
France	939	897	854	829	808	25789	26370	27075	40013	39560
Italy	801	787	792	807	821	30501	30950	31504	32334	33227
Cyprus	408	405	391	336	215	983	977	951	941	921
Latvia	23	23	25	28	31	581	583	586	610	682
Lithuania	71	74	78	78	80	723	758	822	892	970
Luxembourg	169	162	155	156	156	269	253	246	234	235
Hungary	222	217	214	212	206	3003	2987	3125	3243	3387
Malta	16	16	19	18	22	104	99	109	110	104
Netherlands	481	461	401	345	341	3883	3798	3748	3456	3604
Austria	814	796	818	809	803	4395	4360	4300	4258	4266
Poland	660	744	730	723	718	8688	8301	10074	10934	11607
Portugal	200	197	186	178	175	5397	5371	5422	5618	6030
Romania	39	40	40	39	42	3387	3031	3533	4470	6340
Slovenia	33	24	25	25	27	725	706	693	696	711
Slovakia	22	21	23	24	26	1057	1113	1142	1175	1169
Finland	366	363	363	361	360	1564	1585	1616	1709	1638
Sweden	222	212	200	204	201	2069	2018	2003	2004	1846
United Kingdom	426	413	400	401	390	13646	13386	13130	12880	12425
MU13	6623	6427	6271	6157	6128	168730	168476	169644	181499	183981
EU27	9054	8908	8689	8514	8348	206956	211442	214925	228601	233581

Note: PL data for the number of credit institutions include credit unions since 2004, whereas previously it included only commercial and cooperative banks.

Table B.2 – Number of employees and total assets of CIs

	Number of employees of CIs					Total assets of CIs (EUR millions)				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Belgium	73553	71347	69481	67957	67080	828557	914391	1055270	1121905	1297788
Bulgaria	n.a.	22467	22945	26738	30571	9254	13224	17447	22302	31238
Czech Republic	39658	38666	37943	37825	40037	78004	87104	100902	114878	140004
Denmark	46443	46372	47579	46394	49644	568848	629371	746246	822024	977970
Germany	725550	712300	705000	692500	690900	6393503	6584388	6826534	7120805	7562431
Estonia	4280	4455	5029	5681	6319	6314	8586	11876	15326	20603
Ireland	35658	35564	37702	39154	41865	575168	722544	941909	1178127	1337357
Greece	61074	59337	61295	62171	64713	213171	230454	281066	315081	383293
Spain	243462	246236	252831	261890	275506	1502861	1717364	2149456	2515527	2945262
France	435725	432326	434354	474566	478615	3998554	4419045	5073388	5728127	6682335
Italy	336661	336354	335726	339683	341538	2125366	2275628	2509436	2793244	3331830
Cyprus	10480	10617	10799	10845	11286	41890	46540	60753	74709	91141
Latvia	8903	9655	10477	11656	12826	8482	11167	15727	22694	30816
Lithuania	7557	7266	7637	8624	10303	6453	8553	13162	17347	23817
Luxembourg	22513	22549	23224	24752	26139	655971	695103	792418	839564	915448
Hungary	35725	35558	37527	39302	41905	n.a.	n.a.	78289	93679	108504
Malta	3416	3371	3383	3515	3756	17901	20838	27195	30034	37808
Netherlands	120539	118032	120165	11650	114424	1473939	1677583	1695325	1873129	2195020
Austria	73308	72858	75303	76323	77731	586459	635348	721159	789770	890747
Poland	154569	150037	158130	162125	173955	112174	141571	163421	189739	236008
Portugal	54350	53230	54035	58213	60975	348691	345378	360190	397123	440144
Romania	46567	49702	52452	58536	66039	15000	23200	35400	51911	72095
Slovenia	11816	11602	11726	11838	12051	21541	24462	30135	34841	43493
Slovakia	19812	19819	19773	19633	19779	23751	30834	37834	41695	50318
Finland	26667	25377	23644	24769	25025	185846	212427	234520	255055	287716
Sweden	44389	44242	44943	47069	44056	519259	599682	653176	773736	845958
United Kingdom	487772	490436	461654	453045	n.a.	6288193	7085205	8526509	9868683	10093134
MU13	2220876	2197112	2204486	2250316	2276562	18909627	20454115	22670806	24962298	28312864
EU27	3130447	3129775	3124757	3181304	2787038	26605149	29159989	33158743	37101055	41072276

Note: For PT the increase in the number of employees in 2006 was mainly due to the incorporation of back-office operation (and staff) previously organised through jointly controlled entities in two of the main Portuguese banks.

Table B.3 – Herfindahl index for Cis and share of the 5 largest Cis in total assets

(index ranging from 0 to 10,000 and share of the 5 largest Cis in percent)

	Herfindahl index for Cis					Share of 5 largest Cis in total assets				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Belgium	2063	2102	2112	2041	2079	83,50	84,30	85,30	84,40	83,40
Bulgaria	n.a.	721	698	707	833	n.a.	52,30	50,80	50,30	56,70
Czech Republic	1187	1103	1155	1104	1100	65,80	64,00	65,50	64,10	65,70
Denmark	1114	1146	1115	1071	1120	66,60	67,00	66,30	64,70	64,20
Germany	173	178	174	178	183	21,60	22,10	21,60	22,00	22,00
Estonia	3943	3887	4039	3593	3410	99,20	98,60	98,10	97,10	95,70
Ireland	500	500	600	600	600	44,40	43,90	45,70	44,80	46,10
Greece	1130	1070	1096	1101	1096	66,90	65,00	65,60	66,30	67,70
Spain	506	482	487	442	459	43,10	41,90	42,00	40,40	41,00
France	597	623	758	726	679	46,70	49,20	51,90	52,30	51,80
Italy	240	230	230	220	330	27,50	26,40	26,80	26,20	33,10
Cyprus	946	940	1029	1056	1082	57,20	57,30	59,80	63,90	64,80
Latvia	1054	1021	1176	1271	1158	63,10	62,40	67,30	69,20	67,20
Lithuania	2071	1854	1838	1913	1827	81,00	78,90	80,60	82,50	80,90
Luxembourg	315	304	312	294	276	31,80	29,70	30,70	29,10	27,90
Hungary	783	798	795	823	839	52,10	52,70	53,20	53,50	54,10
Malta	1580	1452	1330	1185	1174	77,70	78,50	75,30	71,40	70,10
Netherlands	1744	1726	1796	1822	1928	84,20	84,00	84,50	85,10	86,30
Austria	557	552	560	534	527	44,20	43,80	45,00	43,80	42,80
Poland	754	692	650	599	640	52,00	50,00	48,50	46,10	46,60
Portugal	1043	1093	1154	1134	1097	62,70	66,50	68,80	67,90	67,80
Romania	1251	1111	1115	1165	1041	55,20	59,50	59,40	60,10	56,30
Slovenia	1496	1425	1369	1300	1282	66,40	64,60	63,00	62,00	59,50
Slovakia	1191	1154	1076	1131	1082	67,50	66,50	67,70	66,90	68,20
Finland	2420	2680	2730	2560	2540	81,20	82,70	82,90	82,30	81,20
Sweden	760	854	845	856	934	53,80	54,40	57,30	57,80	61,00
United Kingdom	347	376	399	394	449	32,80	34,50	36,30	35,90	40,70
MU13	579	599	642	630	654	40,50	41,60	42,60	42,80	44,10
unweighted avg.	983	997	1029	996	1006	54,20	54,20	54,90	54,40	54,70
EU27	545	567	600	588	628	39,70	40,90	42,10	42,10	44,40
unweighted avg.	1145	1114	1135	1104	1102	58,80	58,50	59,30	58,90	59,40

Table B.4 – Loans of CIs to non-financial corporations and loans of CIs for housing purchase

(EUR millions)

	Loans of CIs to non-financial corporations					Loans of CIs for housing purchase				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Belgium	86850	86459	90624	97180	109633	71710	80440	94732	107378	113746
Bulgaria	n.a.	4666	5735	6814	11784	n.a.	509	1006	1751	2876
Czech Republic	13750	15454	18844	23908	29242	4793	6890	9737	13639	19375
Denmark	83458	89536	102350	120962	142012	154104	169022	193713	215939	236949
Germany	813746	786844	774105	800306	859447	937379	949457	961186	976123	967492
Estonia	1490	2005	3212	5177	6860	954	1495	2602	4248	5590
Ireland	64952	85555	107078	143603	175163	55012	73739	94776	111403	124019
Greece	58319	63004	69140	73830	86638	26364	32944	43001	52313	63385
Spain	387804	454715	579687	760329	907541	277573	335665	448266	547155	621244
France	534704	566939	610934	670150	764658	385078	432396	495105	569975	643142
Italy	588676	615187	647458	728275	823632	154374	185016	217221	244409	265560
Cyprus	n.a.	n.a.	10876	12348	16047	n.a.	n.a.	4140	5450	6989
Latvia	2241	2933	4346	6601	9042	727	1325	2524	4699	6785
Lithuania	2811	3243	4636	6545	8947	553	999	1874	3002	4859
Luxembourg	36625	33741	37277	41682	51086	8291	9335	10586	12018	14676
Hungary	17732	20805	23062	26161	29015	5745	7765	9029	10728	12410
Malta	2999	3171	3345	3949	4297	1061	1246	1522	1775	2021
Netherlands	214011	223999	241969	260304	296811	302392	331742	368612	383338	392584
Austria	131263	114015	121566	129406	140042	39746	48078	53835	60737	65070
Poland	25845	30856	32247	36907	49135	8258	8779	13181	20505	32783
Portugal	82717	84079	88049	94598	105469	66485	71139	79488	91916	101106
Romania	n.a.	6658	9445	14702	20291	n.a.	294	766	2176	3940
Slovenia	6784	8665	10510	12958	17522	557	798	1368	1956	2670
Slovakia	5975	5890	7181	9536	12084	1427	2266	3137	4557	6076
Finland	34719	37708	41181	44833	51076	36049	41544	48490	55307	62173
Sweden	124953	128340	138456	155015	175952	84129	97897	106757	125746	133807
United Kingdom	398776	418302	528493	616079	678518	908278	974469	1065249	1152822	1100178
MU13	3041170	3160910	3419578	3857454	4388718	2361010	2592293	2916666	3214028	3436867
EU27	3721201	3892768	4311806	4902157	5581945	3531039	3865250	4331901	4781066	5011505

Table B.5 – Loans of CIs for consumer credit and other household lending from CIs

(EUR millions)

	Loans of CIs for consumer credit					Other household lending from CIs				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Belgium	8648	8013	8533	8861	9462	15524	17201	18218	18768	18937
Bulgaria	n.a.	1431	2147	2400	3576	n.a.	296	388	477	605
Czech Republic	1679	2243	3089	4007	5218	859	1222	1591	2048	2737
Denmark	13108	14088	14782	16513	19686	15163	16205	19126	22777	26858
Germany	174919	174448	171048	167605	168986	319502	313494	307830	296289	284800
Estonia	75	95	280	530	785	181	203	285	381	531
Ireland	12310	14725	17509	19996	21039	4300	5567	7127	8525	10658
Greece	12386	17025	20821	25544	27518	1260	1456	1649	2135	2810
Spain	55603	62367	77235	92213	103506	77598	84804	95923	110806	119225
France	128415	134093	141976	148748	156270	71941	73018	73640	73023	76666
Italy	33012	38117	44335	49878	52665	122864	128100	130894	136799	146586
Cyprus	n.a.	n.a.	2578	2848	3118	n.a.	n.a.	5644	5676	6111
Latvia	207	305	521	852	1035	202	284	487	650	813
Lithuania	n.a.	217	441	742	1061	n.a.	235	398	849	1342
Luxembourg	1185	1269	1289	1290	1395	13502	12820	12936	12556	12005
Hungary	2116	2956	4766	6891	9635	1160	1526	1261	1373	1392
Malta	113	n.a.	213	252	288	475	n.a.	439	524	597
Netherlands	20442	23480	24625	25417	23773	22641	22505	22908	26857	23598
Austria	21525	24769	27878	25125	25442	7015	21270	28067	28387	30551
Poland	9066	11176	13875	16239	22082	5372	8536	9805	12768	18047
Portugal	8720	9089	9427	11416	13820	9817	10806	11261	12058	12969
Romania	n.a.	2644	4910	9239	15278	n.a.	77	131	204	612
Slovenia	n.a.	1838	1968	2287	2743	n.a.	790	946	1138	1408
Slovakia	214	512	653	1042	1237	n.a.	538	988	1313	1748
Finland	7324	8047	9401	10422	11237	9666	10433	11158	12227	13171
Sweden	9726	10617	11364	13457	14513	44518	46728	50118	56803	59898
United Kingdom	176219	196180	209207	213566	198173	65087	69576	51416	61063	61805
MU13	484489	517280	556045	588802	617856	675630	702264	722557	739568	753384
EU27	697012	759744	824872	877380	913542	808648	847689	864635	906475	936479

Table B.6 – Total loans and total deposits of CIs to/from non-CIs

(EUR millions)

	Total loans of CIs to non-CIs					Total deposits of CIs from non-CIs				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Belgium	287359	304112	362765	388551	417040	371244	409187	462586	466168	513128
Bulgaria	n.a.	7128	9415	11701	19235	n.a.	8973	11210	14875	19845
Czech Republic	31324	33452	40959	51623	67293	52644	58919	67514	77514	92985
Denmark	291866	337690	389843	447450	503702	107112	122368	143245	154405	180586
Germany	3025616	3009309	3023001	3053147	3142365	2447673	2511278	2593143	2704740	2882321
Estonia	3194	5810	8020	11373	15321	3415	3577	6044	n.a.	9090
Ireland	207917	261797	333378	404307	480985	164240	186766	235966	290207	327918
Greece	110018	127637	147764	167359	199347	140040	159861	187596	211069	248530
Spain	862851	1010453	1277919	1602078	1860284	818322	887324	1084081	1320297	1507402
France	1431727	1531434	1700679	1887444	2157291	1198491	1270370	1367367	1419514	1579181
Italy	1128503	1188949	1280350	1423557	1724275	768127	807109	872933	931398	1122393
Cyprus	21804	24769	28062	31417	41020	28155	30062	38073	43099	52514
Latvia	3963	5478	9003	15442	20787	2647	3433	8913	11054	14380
Lithuania	3890	5442	8801	12306	17650	4091	5616	7797	9548	11644
Luxembourg	118528	119919	144882	159420	191830	207247	221952	241440	288128	295787
Hungary	26397	n.a.	47277	56298	65565	31208	n.a.	41164	47129	51151
Malta	8016	8560	11013	14102	20239	8177	8769	11237	11060	14015
Netherlands	761691	850583	947478	1034977	1082889	570573	598830	684003	793700	877719
Austria	277053	295528	327594	349415	377980	224844	234736	254044	269476	301046
Poland	57000	67092	77995	96470	133580	72000	89334	105818	121634	147300
Portugal	185829	194798	209241	230918	257814	139138	147755	164029	177098	192622
Romania	n.a.	10681	16583	27928	42163	n.a.	15053	21623	20175	38674
Slovenia	10461	14390	16882	21389	29226	13910	14154	16046	17555	19838
Slovakia	n.a.	11229	14609	19283	24564	n.a.	19659	21889	26967	31459
Finland	94137	103944	117289	131397	147894	76801	80829	86412	89165	101154
Sweden	283927	302530	345367	404203	443526	126556	130210	153444	182526	189905
United Kingdom	3439955	3846086	4550509	5090013	5814984	3394740	3815204	4581326	5155527	5857150
MU13	8501690	9012853	9889222	10853959	12069220	7140650	7530151	8249646	8978515	9969039
EU27	12673025	13678797	#####	17143568	19298850	10971394	11841328	13468942	14854027	16679738

Table B.7 – Long-term and short-term debt securities issued by non-financial companies in all currencies

(EUR millions)

	Long-term					Short-term				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Belgium	8591	8608	2674	5091	9203	58661	55984	47888	42725	73472
Bulgaria	n.a.	41	55	126	162	-	-	-	-	-
Czech Republic	389	250	221	436	1057	0	0	0	0	0
Denmark	n.a.	n.a.	n.a.	6780	1518	n.a.	n.a.	n.a.	4563	4590
Germany	21615	28626	22769	15969	6068	197879	237986	219474	184345	248624
Estonia	16	48	70	163	296	8	10	27	62	102
Ireland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Greece	452	1162	4571	4513	3325	0	24	n.a.	0	7
Spain	1427	1319	1061	341	2757	7293	7020	6963	7785	6453
France	58827	34360	33095	39388	35365	409773	490148	480900	581644	810139
Italy	7474	17160	6009	6099	14098	20	2	1	18	n.a.
Cyprus	28	3	2	0	0	n.a.	n.a.	n.a.	n.a.	n.a.
Latvia	36	0	4	25	9	0	0	0	0	6
Lithuania	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0
Luxembourg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Hungary	128	0	101	0	13	0	0	0	0	8
Malta	58	24	0	30	75	n.a.	n.a.	n.a.	n.a.	0
Netherlands	8016	2805	5264	8266	11629	3452	550	604	141	429
Austria	6482	4001	7798	4000	8309	778	784	796	516	503
Poland	293	563	385	710	1756	n.a.	10030	9306	11241	13646
Portugal	1142	1190	2676	3169	3325	54870	70599	98211	105134	127182
Romania	551	334	292	87	2	43	75	221	606	n.a.
Slovenia	17	130	205	25	34	n.a.	n.a.	n.a.	n.a.	n.a.
Slovakia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Finland	2109	2343	1604	3983	2025	63028	68261	90545	100548	94455
Sweden	2708	2523	3340	3366	5630	n.a.	n.a.	n.a.	n.a.	n.a.
United Kingdom	53302	52291	49687	71213	59344	66498	65306	61897	96765	81138

Note: For SE the data refer only to gross issues of long-term debt securities by non-financial companies denominated in SEK issued on the Swedish market. For CZ, until 2006 the data include some inseparable non-banking financial institutions and only issues having ISIN. For 2007 non-financial companies and all issues, i.e. including those not having ISIN, are covered.

Table B.8 – Total assets under management by insurance corporations and by investors funds

(EUR millions)

	Total assets under management by insurance companies					Total assets under management by investment funds				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Belgium	140040	163653	184976	201867	n.a.	84306	94872	110098	124135	118106
Bulgaria	n.a.	325	399	565	784	n.a.	n.a.	n.a.	n.a.	459
Czech Republic	6856	8499	9739	10717	11801	3431	3699	5055	2916	4268
Denmark	107602	124227	146128	152715	162563	49306	77187	106525	124016	136859
Germany	1059584	1092121	1138556	1023248	1018369	826764	861844	975443	1028641	1053561
Estonia	233	311	451	604	827	158	313	615	982	1286
Ireland	74171	91699	121278	n.a.	n.a.	224701	281546	393527	482305	516344
Greece	10153	10937	15496	17523	18698	14342	15908	22490	17431	13162
Spain	181759	204121	228274	242924	248707	178858	207570	239726	305716	298487
France	945942	1029348	1151971	1280524	1356508	703192	799207	943231	1156276	1200624
Italy	383770	444724	507541	575136	531225	318895	320709	349934	340691	290859
Cyprus	3934	3548	4650	n.a.	n.a.	463	422	692	1005	1190
Latvia	211	219	264	343	468	39	52	87	80	222
Lithuania	378	438	536	750	922	0	35	107	230	343
Luxembourg	33448	39503	49677	61224	n.a.	818462	974685	1425804	1725809	1933406
Hungary	4405	5385	6199	7398	8527	3458	3236	5273	7370	9446
Malta	588	771	981	1151	1356	849	992	1334	1421	1159
Netherlands	293584	315977	345297	331923	342113	97178	98236	105241	113842	100116
Austria	63833	68280	76760	82522	88005	108931	122619	153342	165686	161298
Poland	12443	17419	21322	26167	32607	6989	9206	15951	25887	37356
Portugal	32471	36024	43290	49242	52880	28456	31261	36694	40566	39606
Romania	463	611	991	1459	1646	634	920	1513	2652	3500
Slovenia	2036	2345	2707	3293	4332	1294	1986	2220	2943	4140
Slovakia	1954	2449	2944	4214	4853	n.a.	773	1512	1759	2107
Finland	41729	43536	49613	52469	56745	15429	21517	32981	45850	49245
Sweden	195044	213955	239974	267355	276341	92638	117402	145302	161067	165057
United Kingdom	2139140	2296435	2779558	3195886	2739632	342273	389058	505391	608629	637369
MU13	3262520	3542268	3915436	3921895	3717582	3420806	3831961	4790731	5549891	5778955
EU27	5735772	6216860	7129573	7591220	6959908	3921044	4435255	5580087	6487906	6779576

Note: For CZ, total assets under management by investment funds include money market funds for the period 2003-2005.

Table B.9 – Total assets under management by pension funds

(EUR millions)

	2003	2004	2005	2006	2007
Belgium	10833	11677	13400	14300	n.a.
Bulgaria	n.a.	406	571	778	1190
Czech Republic	2532	3352	4256	5308	6279
Denmark	45682	50868	56664	59486	60665
Germany	142	260	330	512	602
Estonia	71	172	329	531	781
Ireland	55451	62334	74681	0	0
Greece	n.a.	n.a.	n.a.	n.a.	n.a.
Spain	56997	63787	74687	82661	88050
France	n.a.	n.a.	n.a.	n.a.	n.a.
Italy	17171	17957	18987	20909	25987
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.
Latvia	28	37	53	76	102
Lithuania	0	40	128	283	452
Luxembourg	n.a.	n.a.	n.a.	n.a.	n.a.
Hungary	4031	6063	7682	9551	11318
Malta	0	0	0	0	0
Netherlands	475488	522268	621829	696271	778999
Austria	9111	10126	11549	12497	12917
Poland	9505	15202	22303	30429	39093
Portugal	16264	16224	19317	21185	22371
Romania	n.a.	n.a.	n.a.	n.a.	4
Slovenia	348	535	728	961	1087
Slovakia	n.a.	n.a.	240	812	2287
Finland	0	0	0	0	0
Sweden	63877	72168	83080	91257	28597
United Kingdom	1450265	1605100	2059718	2404650	2061355
MU13	641805	705168	835508	849296	930013
EU27	2217796	2458576	3070533	3452456	3142137

Note: For SE total assets under management by pension funds include approximations about the occupational pensions managed by life insurance companies for the period 2003 to 2006.

Table B.10 – Number of branches of CIs from EU countries and third countries

	Number of branches of CIs from EU countries					Number of branches of CIs from third countries				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Belgium	38	36	41	46	49	10	9	9	8	9
Bulgaria	n.a.	4	4	2	3	n.a.	2	2	2	2
Czech Republic	8	9	12	13	14	1	0	0	0	0
Denmark	16	15	17	17	18	2	2	2	3	4
Germany	64	62	69	68	66	20	21	20	18	18
Estonia	1	3	6	7	8	0	0	0	0	0
Ireland	31	31	31	31	31	1	1	1	1	1
Greece	14	19	19	20	22	6	4	4	4	5
Spain	49	53	57	62	71	8	8	8	7	9
France	52	55	55	59	64	28	27	26	25	24
Italy	49	50	58	65	72	13	10	10	9	10
Cyprus	5	4	4	4	9	19	19	18	17	16
Latvia	1	1	1	3	2	0	0	0	0	0
Lithuania	2	2	2	2	3	1	0	0	0	0
Luxembourg	41	38	36	34	35	9	9	8	8	8
Hungary	0	0	3	4	6	0	0	0	0	0
Malta	0	0	0	0	1	2	2	2	2	2
Netherlands	20	22	22	16	18	8	7	6	5	5
Austria	18	18	25	25	26	0	0	1	1	1
Poland	0	3	7	12	14	0	0	0	0	0
Portugal	22	26	24	23	23	1	1	1	1	1
Romania	7	6	5	6	10	1	1	1	1	0
Slovenia	1	2	3	2	3	0	0	0	0	0
Slovakia	3	3	5	7	10	0	0	0	0	0
Finland	18	19	19	22	21	0	1	1	1	4
Sweden	15	17	18	16	13	3	3	2	3	3
United Kingdom	82	81	81	83	81	97	91	89	89	93
MU13	417	431	459	473	501	104	98	95	88	95
EU27	557	579	624	649	693	230	218	211	205	215

Table B.11 – Total assets of branches of CIs from EU and third countries

(EUR millions)

	Total assets of branches of CIs from EU countries					Total assets of branches of CIs from third countries				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Belgium	25909	29225	29348	32080	40456	12928	11901	20235	30103	49320
Bulgaria	n.a.	741	736	*	1237	n.a.	*	*	*	*
Czech Republic	7222	8656	9694	10658	12419	225	0	0	0	0
Denmark	24575	26533	34932	40554	47235	*	*	*	148	1429
Germany	67391	69962	79512	105634	137189	20464	23257	23834	23228	24402
Estonia	*	806	1161	1522	2303	0	0	0	0	0
Ireland	69773	80804	94974	123447	136942	*	*	*	*	*
Greece	12769	22634	28089	31287	36200	6383	394	400	471	643
Spain	85608	121770	154914	183879	223568	2885	3253	4304	5068	5750
France	99927	110545	133932	118653	132949	11351	13196	12025	12523	15277
Italy	84187	105320	132828	166511	307178	9731	6357	6139	6853	8764
Cyprus	929	476	1044	733	5089	2602	2798	3275	3284	5632
Latvia	*	*	*	1398	*	0	0	0	0	0
Lithuania	*	*	*	*	1904	*	0	0	0	0
Luxembourg	89884	108821	128504	111420	125036	5116	5902	16973	19721	20287
Hungary	0	0	112	1210	1730	0	0	0	0	0
Malta	0	0	0	0	*	*	*	*	*	*
Netherlands	26090	30283	33248	44040	53455	1582	1198	1274	946	1081
Austria	3363	4298	6340	8285	10339	0	0	*	*	*
Poland	0	834	1419	5527	9626	0	0	0	0	0
Portugal	16923	20340	19542	24170	29755	*	*	*	*	*
Romania	1098	1900	2560	2910	3475	*	*	*	*	0
Slovenia	*	*	522	*	242	0	0	0	0	0
Slovakia	3057	3989	8059	6284	9852	0	0	0	0	0
Finland	13030	14364	12668	13611	14941	0	*	*	*	343
Sweden	33403	43788	55034	65115	72256	66	111	*	1552	4089
United Kingdom	1344239	1542638	1810942	2026621	2392061	1121055	1156323	1447318	1620137	1874677
MU13	595062	718681	854421	963127	1248250	70738	65764	85558	99251	126152
EU27	2010932	2350438	2782159	3127403	3810592	1199802	1231576	1547483	1734366	2025848

* Where the number of branches is less than three, the underlying data are not disclosed for confidentiality reasons.

Table B.12 – Number of subsidiaries of CIs from EU and third countries

	Number of subsidiaries of CIs from EU countries					Number of subsidiaries of CIs from third countries				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Belgium	21	20	23	20	21	6	6	5	5	6
Bulgaria	n.a.	14	14	16	13	n.a.	5	4	3	3
Czech Republic	18	19	17	18	18	4	3	3	3	2
Denmark	10	8	7	6	6	1	3	3	3	3
Germany	20	21	22	22	21	25	21	19	19	18
Estonia	3	3	4	4	5	0	0	0	0	0
Ireland	20	21	22	21	24	11	11	10	10	13
Greece	3	5	5	10	7	1	0	0	0	1
Spain	43	42	41	41	37	11	9	8	7	10
France	126	108	107	100	97	58	58	52	53	54
Italy	7	6	10	13	14	2	3	3	3	3
Cyprus	9	9	9	8	7	2	1	1	1	1
Latvia	3	5	6	6	6	4	3	3	4	5
Lithuania	3	5	5	5	5	2	0	0	0	0
Luxembourg	80	79	75	75	74	35	32	32	34	34
Hungary	22	20	20	20	21	3	3	3	3	3
Malta	8	8	9	9	10	1	1	2	1	3
Netherlands	13	12	12	12	13	16	16	16	16	14
Austria	12	11	14	15	15	11	8	9	8	11
Poland	35	32	33	31	32	10	8	9	9	8
Portugal	11	9	9	9	9	4	4	4	3	3
Romania	13	16	18	22	22	2	2	2	2	2
Slovenia	5	5	6	8	8	0	0	0	0	0
Slovakia	14	15	15	14	14	1	1	1	1	1
Finland	3	5	5	5	6	0	0	1	1	2
Sweden	9	9	11	8	7	3	3	3	2	1
United Kingdom	14	19	17	19	16	75	70	69	69	74
MU13	364	344	351	351	346	180	168	159	159	169
EU27	525	526	536	537	528	288	271	262	260	275

Table B.13 – Total assets of subsidiaries of CIs from EU countries and third countries

(EUR millions)

	Total assets of subsidiaries of CIs from EU countries					Total assets of subsidiaries of CIs from third countries				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Belgium	150464	167047	191698	212622	227327	6887	3835	3809	4159	4741
Bulgaria	n.a.	9763	12124	16772	23588	n.a.	284	335	445	668
Czech Republic	63122	70019	83406	94202	115743	4265	4497	4930	6428	*
Denmark	100871	87858	103034	110920	122973	*	9328	11276	14027	17306
Germany	227597	254257	549261	556579	591518	65009	42868	74233	106216	84880
Estonia	5622	7557	10573	13620	18047	0	0	0	0	0
Ireland	132402	182235	234560	264732	488002	0	0	0	0	0
Greece	27730	38226	49401	85950	52052	*	0	0	0	*
Spain	63330	66960	82473	91240	102580	14717	5678	4851	5684	9613
France	288052	301045	394293	439467	575786	38905	45150	51031	57035	140992
Italy	26389	29115	96287	210779	257192	*	3280	3096	3975	5335
Cyprus	5346	8272	12338	18533	18562	*	*	*	*	*
Latvia	1857	4432	7795	12248	15661	1694	459	481	1056	2209
Lithuania	3300	6309	9797	13304	18034	*	0	0	0	0
Luxembourg	493547	509080	563136	615839	653366	27350	30193	40565	47501	71215
Hungary	29400	36287	41628	48783	57216	1641	2027	2230	2800	3285
Malta	6959	7854	8803	11400	14090	*	*	*	*	2003
Netherlands	126420	150844	176777	205408	292890	18874	19733	23345	26256	39886
Austria	107734	116465	133849	141832	181486	4108	2603	3880	4098	47785
Poland	64995	81190	93445	109537	136960	10518	12714	14118	15930	19911
Portugal	72796	67356	58962	61082	68146	2563	2540	3047	3139	3208
Romania	6200	10537	17690	40931	55716	*	*	*	*	*
Slovenia	3937	4656	6230	10075	12155	0	0	0	0	0
Slovakia	19126	24291	27244	32212	38384	*	*	*	*	*
Finland	716	111950	124034	130436	172567	0	0	*	*	*
Sweden	1109	1561	2011	2500	2653	909	974	1666	*	*
United Kingdom	60777	294869	315490	367051	311113	543044	572305	734355	842324	807339
MU13	1721114	1999236	2660961	3026041	3675067	180414	155880	207998	258292	468508
EU27	2089800	2650035	3406338	3918054	4623807	747335	761859	983329	1149404	1335844

* Where the number of subsidiaries is less than three, the underlying data are not disclosed for confidentiality reasons.

Table B.14 – Population and GDP at market price

	Population (thousands, number end of period)					Gross domestic product at market price (EUR millions)				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Belgium	10373	10417	10474	10543	10622	274726	289690	301966	316622	33080
Bulgaria	7801	7761	7719	7699	7640	17767	19875	21882	25238	28899
Czech Republic	10202	10207	10234	10267	10318	80924	88262	100190	113459	127498
Denmark	5390	5403	5419	5437	5460	188500	197070	207756	220069	227665
Germany	82520	82501	82464	82366	82262	2163800	2210900	2243200	2321500	2422900
Estonia	1356	1351	1348	1345	1342	8693	9582	11210	13234	15547
Ireland	3991	4059	4149	4253	4343	139413	148502	161498	174705	187097
Greece	11024	11062	11104	11149	11172	171258	185225	198609	213985	228949
Spain	42005	42692	43398	44068	44874	782929	841042	908450	980954	1049848
France	62042	62445	62818	63195	63573	1594814	1660189	1726068	1807462	1892241
Italy	57605	58175	58607	58942	59319	1335354	1391530	1428375	1479981	1535540
Cyprus	723	740	758	773	788	11761	12654	13462	14394	15490
Latvia	2325	2313	2300	2288	2275	9978	11176	13012	16047	19936
Lithuania	3454	3436	3414	3394	3376	16452	18126	20673	23721	28018
Luxembourg	452	458	465	473	480	25726	27439	30032	33854	36137
Hungary	10130	10107	10087	10071	10056	74682	82326	88863	90045	101077
Malta	398	401	403	407	409	4421	4503	4764	5075	5399
Netherlands	16223	16276	16317	16341	16377	476945	491184	508964	534324	559537
Austria	8118	8175	8233	8282	8316	223302	232782	244453	257294	270837
Poland	38195	38180	38161	38132	38116	191644	204237	244420	272131	307345
Portugal	10441	10502	10549	10584	10608	138582	144128	149123	155446	162756
Romania	21734	21673	21624	21577	21512	52613	60842	79587	97718	121431
Slovenia	1996	1998	2003	2010	2026	24716	26677	28243	30448	33542
Slovakia	5379	5382	5387	5391	5397	29465	34023	38480	44571	54827
Finland	5213	5227	5245	5266	5288	145938	152345	157335	167041	179734
Sweden	8958	8994	9030	9081	9148	275657	287689	294673	313327	331952
United Kingdom	59554	59834	60218	60587	60783	1615984	1745051	1804586	1912656	2018828
MU13	312002	313986	315827	317473	319259	7497503	7801633	8086317	8473617	8889919
EU27	487601	489769	491930	493921	495879	10076044	10577049	11029876	11635302	12293830

Table C.1 - Payment card accepting devices

Euro area (changing composition)

	ATMs										POS terminals										E-money card terminals												
	Growth rate in number of transactions (%)			Number			Growth rate in number of transactions (%)			Number			Growth rate in number of transactions (%)			Number			Growth rate in number of transactions (%)			Number			Growth rate in number of transactions (%)			Number					
	of which:			of which:			of which:			of which:			of which:			of which:			of which:			of which:			of which:			of which:			of which:		
	With cash withdrawal function	With credit transfer function	Number	With cash withdrawal function	With credit transfer function	Number	With cash withdrawal function	With credit transfer function	Number	With cash withdrawal function	With credit transfer function	Number	With cash withdrawal function	With credit transfer function	Number	With cash withdrawal function	With credit transfer function	Number	With cash withdrawal function	With credit transfer function	Number	With cash withdrawal function	With credit transfer function	Number	With cash withdrawal function	With credit transfer function	Number	With cash withdrawal function	With credit transfer function	Number			
2000	676,93	157196	19730	11395,06	17960,09	7	198994	157196	19730	11395,06	17960,09	7	3349750	2468720	817836	1083,20	539	318422	1706,15	132	501547	589999	739324	909924	923405	902024	864273	1113942					
2001	705,88	172508	29503	12546,51	17960,09	8	216223	172508	29503	12546,51	17960,09	8	3843235	2757999	962483	1286,99	24	394228	1906,51	16	589999	739324	909924	923405	902024	864273	1113942						
2002	737,94	181439	31944	13312,48	17960,09	7	227929	181439	31944	13312,48	17960,09	7	4101030	2898252	1108428	1474,33	15	454180	2399,94	27	739324	909924	923405	902024	864273	1113942							
2003	760,56	186454	39419	13843,54	17960,09	5	235777	186454	39419	13843,54	17960,09	5	4291565	3119659	1253328	1537,20	5	476539	2922,29	23	909924	923405	902024	864273	1113942								
2004	787,77	194296	42930	14868,31	17960,09	8	245776	194296	42930	14868,31	17960,09	8	4638748	3386827	1357379	1537,20	1	483111	2959,74	2	923405	902024	864273	1113942									
2005	808,69	196800	59794	15616,48	17960,09	6	253787	196800	59794	15616,48	17960,09	6	4900825	4719881	1253327	950,91	-38	298417	2874,30	-2	902024	864273	1113942										
2006	833,66	204886	62624	16943,39	17960,09	9	262987	204886	62624	16943,39	17960,09	9	5344997	5156227	1124559	798,23	-16	251810	2739,71	-4	864273	1113942											
2007	917,80	211996	88781	17960,09	17960,09	7	293008	211996	88781	17960,09	17960,09	7	5737778	5567912	1376791	1035,27	31	330511	3489,24	29	1113942	1113942	1113942	1113942	1113942	1113942	1113942						

Source: ECB, Statistical Data Warehouse; Statistics Portugal; Banco de Portugal.

Table C.1 - Payment card accepting devices (Cont.)

Portugal

	ATMs										POS terminals										E-money card terminals												
	Growth rate in number of transactions (%)			Number			Growth rate in number of transactions (%)			Number			Growth rate in number of transactions (%)			Number			Growth rate in number of transactions (%)			Number			Growth rate in number of transactions (%)			Number					
	of which:			of which:			of which:			of which:			of which:			of which:			of which:			of which:			of which:			of which:			of which:		
	With cash withdrawal function	With credit transfer function	Number	With cash withdrawal function	With credit transfer function	Number	With cash withdrawal function	With credit transfer function	Number	With cash withdrawal function	With credit transfer function	Number	With cash withdrawal function	With credit transfer function	Number	With cash withdrawal function	With credit transfer function	Number	With cash withdrawal function	With credit transfer function	Number	With cash withdrawal function	With credit transfer function	Number	With cash withdrawal function	With credit transfer function	Number	With cash withdrawal function	With credit transfer function	Number			
2000	945,82	9701	9701	8900,07	91285	91285	10524	10524	10524	10524	10524	10524	10524	10524	10524	10524	10524	10524	10524	10524	10524	10524	10524	10524	10524	10524	10524	10524	10524	10524			
2001	1016,85	10524	10524	10027,26	103575	103575	11117	11117	11117	11117	11117	11117	11117	11117	11117	11117	11117	11117	11117	11117	11117	11117	11117	11117	11117	11117	11117	11117	11117	11117			
2002	1066,18	11117	11117	10920,43	113654	113654	11985	11985	11985	11985	11985	11985	11985	11985	11985	11985	11985	11985	11985	11985	11985	11985	11985	11985	11985	11985	11985	11985	11985	11985			
2003	1144,19	11985	11985	11977,07	125456	125456	12627	12627	12627	12627	12627	12627	12627	12627	12627	12627	12627	12627	12627	12627	12627	12627	12627	12627	12627	12627	12627	12627	12627	12627			
2004	1199,23	12627	12627	13023,05	137123	137123	13841	13841	13841	13841	13841	13841	13841	13841	13841	13841	13841	13841	13841	13841	13841	13841	13841	13841	13841	13841	13841	13841	13841	13841			
2005	1309,51	13841	13841	13920,78	147137	147137	14688	14688	14688	14688	14688	14688	14688	14688	14688	14688	14688	14688	14688	14688	14688	14688	14688	14688	14688	14688	14688	14688	14688	14688			
2006	1385,78	14688	14688	16388,76	173706	173706	15860	15860	15860	15860	15860	15860	15860	15860	15860	15860	15860	15860	15860	15860	15860	15860	15860	15860	15860	15860	15860	15860	15860	15860			
2007	1493,75	15860	15860	19059,91	202370	202370	16885	16885	16885	16885	16885	16885	16885	16885	16885	16885	16885	16885	16885	16885	16885	16885	16885	16885	16885	16885	16885	16885	16885	16885			
2008 ^p	1588,84	16885	16885	21277,19	226118	226118	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.		

Source: ECB, Statistical Data Warehouse; Statistics Portugal; Banco de Portugal.

P) Provisional.

Table C.2 - Payment card functions

Euro area (changing composition)

Year	Number per million inhabitants	Number															
		Number of cards with a cash function		Number of cards with a debit function		Number of cards with a credit function		Number of cards with a delayed debit function		of which:							
		Number per million inhabitants	Growth rate in number of transactions	Number	Number of cards with a debit function	Number per million inhabitants	Growth rate in number of transactions	Number	Number of cards with a credit function	Number per million inhabitants	Growth rate in number of transactions						
2000	1.06	0.97	53	286061618	195768430	4224647	9061919	306629	0.38	49	110764945	1720875	93746829	1.01	62	295788216	59461125
2001	1.17	1.06	11	323954739	210864338	9061919	306629	0.39	7	118327050	2254270	95043244	1.06	8	325158540	65783221	
2002	1.19	1.08	2	331978010	218430262	10931168	306326	0.37	-5	112718655	3367532	95984665	1.11	5	341232115	70718004	
2003	1.21	1.09	2	336999129	218181259	12052296	297865	0.35	-3	109155727	3831157	96032132	1.14	3	351952285	78606329	
2004	1.24	1.10	2	344416228	217835084	13301247	76492	0.35	1	109757594	4638774	100133007	1.16	3	361438227	87791670	
2005	1.42	1.22	11	382396899	261391681	45678907	10908023	0.42	21	132634316	7028276	101230680	1.30	13	406855149	95009176	
2006	1.47	1.25	3	393143434	284966333	46007212	26474534	0.43	1	134436735	8330909	123059589	1.33	3	420647612	116473307	
2007	1.51	1.33	7	423556004	303813486	53888076	41049613	0.46	10	147321985	11906990	126379224	1.39	5	443082383	16109376	

Source: ECB, Statistical Data Warehouse; Statistics Portugal; Banco de Portugal.

Table C.2 - Payment card functions (Cont.)

Portugal

Year	Number per million inhabitants	Number														
		Number of cards with a cash function		Number of cards with a debit function		Number of cards with a credit function		Number of cards with a delayed debit function		of which:						
		Number per million inhabitants	Growth rate in number of transactions	Number	Number of cards with a debit function	Number per million inhabitants	Growth rate in number of transactions	Number	Number of cards with a credit function	Number per million inhabitants	Growth rate in number of transactions					
2000	1.47	1.06	13	10894547	10894547	2587667	5242429	0.32	7	3315000	184736	31400	1.15	13	11756240	-
2001	1.63	1.19	9	12300509	12300509	2852794	3574999	0.34	2	3563000	119417	3400	1.28	10	13250489	-
2002	1.75	1.29	-1	13383960	13383960	3574999	4143717	0.35	-92	3635000	4069	2800	1.40	1	14574435	-
2003	1.43	1.27	8	13308157	13308157	4143717	5324239	0.03	-	290583	23175	300	1.40	1	14687682	-
2004	1.54	1.37	8	14415821	14415821	5324239	6080260	-	-	20344	-	300	1.54	10	16188793	-
2005	1.55	1.36	-1	14325623	14325623	6080260	6920462	-	-	-	-	-	1.55	1	16350350	-
2006	1.66	1.45	7	15337534	15337534	7323404	8738779	-	-	-	-	-	1.66	8	17642048	-
2007	1.71	1.48	3	15739694	15739694	8738779	-	-	-	-	-	-	1.71	3	18178388	-
2008 ^{P)}	1.86	1.59	n.a.	16857912	16857912	-	-	-	-	-	-	-	1.86	n.a.	19767925	-

Source: ECB, Statistical Data Warehouse; Statistics Portugal; Banco de Portugal.

P) Preliminary.

Table C.3 - Institutions offering payment services to non-MFIs

Euro area (changing composition)

	Total credit institutions and payment institutions				The central bank			Credit institutions (as defined in the Community Law)				Electronic money institutions			Payments institutions		
	Number of inhabitants per branch	Number of offices	Number of institutions	Number of overnight deposit accounts held by non-MFIs	Number of offices	Number of overnight deposit accounts held by non-MFIs	Number of overnight deposit accounts held by non-MFIs	Number of overnight deposit accounts of which, internet/PC-linked overnight deposit accounts	Euro area	Number of offices	Number of overnight deposit accounts held by non-MFIs	Number of overnight deposit accounts of which, internet/PC-linked overnight deposit accounts	Euro area	Number of offices	Number of overnight deposit accounts held by non-MFIs	Number of offices	Number of institutions
2000	291476	216646	7354	112	533	280017	18725	179054	179409	-	11347	36704	62	-	-	-	-
2001	317556	211832	7284	112	557	304705	24669	179531	180072	-	12740	31203	55	-	-	-	-
2002	318964	204109	6963	108	546	305509	38341	175938	176471	-	13347	27092	44	-	-	-	-
2003	322137	204304	6657	102	516	318340	41446	185984	186533	-	3695	17255	52	-	-	-	-
2004	323943	202995	6466	61	456	319679	48948	184973	185573	-	4203	16966	48	-	-	-	-
2005	308933	201943	6314	63	397	304284	48187	185408	186029	-	4586	15517	48	-	-	-	-
2006	318330	200300	6185	61	354	313387	53605	183787	184493	13	4883	15453	46	-	-	-	-
2007	323801	203528	6191	59	335	318510	53743	186836	187746	17	5232	15447	62	-	-	-	-

Source: ECB, Statistical Data Warehouse; Banco de Portugal.

Table C.3 - Institutions offering payment services to non-MFIs (Cont.)

Portugal

	Total credit institutions and payment institutions				The central bank			Credit institutions (as defined in the Community Law)				Electronic money institutions			Payments institutions		
	Number of overnight deposit accounts held by non-MFIs	Number of offices	Number of institutions	Number of overnight deposit accounts held by non-MFIs	Number of offices	Number of overnight deposit accounts held by non-MFIs	Number of overnight deposit accounts of which, internet/PC-linked overnight deposit accounts	Euro area	Number of offices	Number of overnight deposit accounts held by non-MFIs	Number of overnight deposit accounts of which, internet/PC-linked overnight deposit accounts	Euro area	Number of offices	Number of overnight deposit accounts held by non-MFIs	Number of offices	Number of institutions	
2000	21240	6297	220	-	11	21240	314	5446	5493	-	-	793	1	-	-	-	
2001	20618	6448	214	-	11	20618	547	5606	5654	-	-	783	1	-	-	-	
2002	22111	6486	204	-	11	22111	1210	5688	5735	-	-	740	1	-	-	-	
2003	22455	6543	202	-	11	22455	2254	5808	5855	-	-	677	1	-	-	-	
2004	20274	6488	199	-	11	20274	3243	5771	5833	-	-	644	1	-	-	-	
2005	-	6012	188	-	11	-	-	5923	6001	-	-	-	-	-	-	-	-
2006	-	6255	180	-	11	-	-	6128	6244	-	-	-	-	-	-	-	-
2007	-	6657	177	-	11	-	-	6473	6646	-	-	-	-	-	-	-	-
2008 ^{P)}	n.a.	n.a.	n.a.	-	11	21809	-	n.a.	n.a.	-	-	-	-	-	-	-	-

Source: ECB, Statistical Data Warehouse; Banco de Portugal.

P) Provisional.

Table D – Branch and ATM Penetration Across Countries

Country	Geographic branch penetration (Number of branches per 1000 square kms)	Ranking	Country	Demographic branch penetration (Number of branches per 100,000 people)	Ranking	Country	Geographic ATM penetration (Number of ATMs per 1000 square kms)	Ranking	Country	Demographic ATM penetration (Number of ATMs per 100,000 people)	Ranking
Singapore	636,07	1	Spain	95,87	1	Singapore	2642,62	1	Canada	135,23	1
Malta	375,00	2	Austria	53,87	2	Malta	462,50	2	Spain	126,6	2
Belgium	181,65	3	Belgium	53,15	3	Japan	436,88	3	United States	120,94	3
Netherlands	163,81	4	Italy	52,07	4	Korea	396,98	4	Japan	113,75	4
Bahrain	135,21	5	Portugal	51,58	5	Bahrain	269,01	5	Portugal	109,09	5
Germany	116,90	6	Germany	49,41	6	Belgium	229,28	6	Korea	90,03	6
Italy	102,05	7	Canada	45,60	7	Netherlands	223,02	7	Austria	87,21	7
Lebanon	79,18	8	France	43,23	8	Germany	144,68	8	Finland	79,21	8
Spain	78,90	9	Switzerland	37,99	9	Mauritius	133,00	9	Switzerland	70,6	9
Mauritius	71,92	10	Denmark	37,63	10	Italy	131,71	10	France	70,3	10
Switzerland	70,54	11	Netherlands	34,23	11	Switzerland	131,10	11	Italy	67,2	11
Korea	65,02	12	United States	30,86	12	Portugal	121,50	12	Belgium	67,09	12
Portugal	57,45	13	Greece	30,81	13	United Kingdom	104,46	13	Slovenia	66,14	13
Austria	52,47	14	Malta	30,08	14	Spain	104,18	14	Australia	64,18	14
Israel	47,82	15	Australia	29,86	15	Austria	84,95	15	Germany	61,16	15
Denmark	47,77	16	Hungary	28,25	16	France	76,33	16	Estonia	57,7	16
Bangladesh	47,46	17	New Zealand	28,04	17	Lebanon	73,90	17	Denmark	52,39	17
France	46,94	18	Ireland	23,41	18	Denmark	66,51	18	New Zealand	50,36	18
United Kingdom	45,16	19	Croatia	23,36	19	Slovenia	64,56	19	Ireland	48,49	19
Japan	34,82	20	Norway	22,92	20	Israel	61,01	20	Greece	47,55	20
Hungary	31,04	21	Sweden	21,80	21	Trinidad y Tobago	52,44	21	Netherlands	46,6	21
Greece	25,53	22	Finland	19,06	22	Greece	39,39	22	United Kingdom	42,45	22
Trinidad y Tobago	23,59	23	United Kingdom	18,35	23	United States	38,43	23	Croatia	40,1	23
India	22,57	24	Lebanon	18,01	24	El Salvador	34,89	24	Singapore	37,93	24
Philippines	21,40	25	Estonia	15,19	25	Hungary	32,30	25	Malta	37,09	25
Sri Lanka	20,41	26	Israel	14,74	26	Slovakia	32,21	26	Bulgaria	29,79	26
Croatia	18,62	27	Belize	14,67	27	Croatia	31,96	27	Sweden	29,56	27
West Bank Gaza	18,33	28	Brazil	14,59	28	Ireland	27,78	28	Hungary	29,4	28
Czech Republic	14,73	29	Bulgaria	13,87	29	Dominican Repub.	27,24	29	Slovakia	29,21	29
El Salvador	14,58	30	Romania	13,76	30	Kuwait	26,32	30	Lithuania	28,78	30
Ireland	13,41	31	Bahrain	13,48	31	Czech Republic	25,84	31	Bahrain	26,83	31
Romania	13,26	32	Korea	13,40	32	Guatemala	22,93	32	Chile	24,03	32
Guatemala	11,49	33	Panama	12,87	33	Poland	21,72	33	Mauritius	22,04	33
Slovakia	11,33	34	Mauritius	11,92	34	Bulgaria	21,09	34	Trinidad y Tobago	20,49	34
Kuwait	11,05	35	Czech Republic	11,15	35	Thailand	20,69	35	Guatemala	20,2	35
/...			/...			/...			/...		
Namibia	0,11	98	Ethiopia	0,41	98	Tanzania	0,07	88	Bangladesh	0,06	89

Geographic branch (ATM) penetration refers to the number of branches (ATMs) per 1,000 square kilometres. Demographic branch (ATM) penetration refers to the number of branches (ATMs) per 100,000 people. Reported indicators are based on data collected via a regulatory survey. The questions asked were as follows: number of branches – “How many bank branches do deposit money banks have (combined for all banks) in your country?” Number of ATMs – “How many ATMs (automated cash withdrawal machines) are there in your country?” Data sources are in Appendix A.1. and A.3. Country ordering for each indicator is included in parentheses; higher numbers reflect lower values of the indicators.

Source: Finance for All? Policies and pitfalls in expanding access, World Bank, 2008

Credit risk transfer – dealing with the information gap

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1. Introduction

In the years just prior to the financial market turmoil that hit the world economy in the summer of 2007, credit risk transfer (CRT) instruments experienced an extraordinary growth. Market survey data published by the International Swaps and Derivatives Association (ISDA) show that, for instance, the notional amount outstanding of credit default swaps (CDSs) at end-June 2007 (US\$ 45.5 trillion) was more than eight times larger than at end-June 2004, with an average annual growth rate well above 100%. Another type of CRT instrument, collateralised debt obligations (CDOs), reveal a similar pattern: data disclosed by the Securities Industry and Financial Markets Association (SIFMA) on global CDO issuance in the first half of 2007 was five times that of the same period in 2004, with the average annual growth rate above 70%. Impressive as they may look, these figures are probably merely hinting at the true significance of global CRT activity, which remains largely uncovered by official statistics, in spite of its likely relevance in relation to the efficiency and stability of financial systems, and do not necessarily depict the amount of credit risk effectively transferred outside the banking system. Still, it seems safe to say that the widespread use of CRT instruments has profoundly changed the global financial landscape and was central to the recent credit market turbulence.

The paucity of suitable statistical data about these products, together with their intrinsic complexity and opaqueness, give reason for the ongoing efforts by financial sector authorities worldwide, including international standard setters, to monitor CRT activity more closely and to mitigate the information gap associated with the more complex CRT products – an issue that combines, on the one hand, limited or no access to relevant information by some market participants and, on the other hand, the ability of market players to fully understand the information provided.

We argue that the way forward to build knowledge in this field should not necessarily rely only on gathering new information on CRT activities or on restraining these activities through heavier regulation, but rather on exploring the largely unused statistical potential of already existing data sources – including, in particular, administrative micro data. They are certainly not *the* solution, but they should be part of it.

2. CRT can take different forms

Banks need to manage the credit risk exposure inherent in their portfolios as well as in individual transactions. Credit risk may be defined as the possibility that the value of a loan will decrease due to a change in the borrower's ability to make payments, whether that change is an actual default or a change in the borrower's probability of default. For a variety of reasons (see Section 3 below), banks have an incentive to transfer those risks to other parties more willing or able to assume them and earn the associated return. Transferring credit risk by way of, for instance, financial guarantees, surety bonds or credit insurance is a well-established feature of financial systems. The same may apply to loan syndications and traditional (true sale) securitisations, which have been used by banks for many years for similar purposes and are, by and large, the principal way Portuguese banks use to shed credit risk (see Section 3). At least in principle, those CRT instruments should be easily tackled, contrary to more innovative products – namely credit derivatives and structured products such as asset-backed securities (ABS) and CDOs – whose risks and valuation are difficult for most investors and rating agencies to assess. Recent growth of CRT activity has been mostly concentrated in these more complex instruments, which justify a brief reference to some of their central features.

Credit derivatives

Unlike techniques that involve the transfer of loans, credit derivatives isolate credit risk from the underlying loan and allow it to be traded. A liquid market for credit derivatives did not emerge until July 1999, when the ISDA succeeded in establishing further standardisation for these instruments. CDSs, total return swaps and credit-linked notes are commonly transacted forms of credit derivatives, particularly with loans as underlying.

Asset-backed securities

ABS are bonds or notes backed by non-mortgage loans. The financial institutions that originate those loans turn them into marketable securities through (true sale) securitisations, whereby pools of loans are sold to a special purpose vehicle (SPV), whose sole function is to buy such assets in order to securitise them. The securities sold generally benefit from some sort of credit enhancement to make them more attractive to investors. SIFMA estimates that more than US\$ 2.6 trillion of ABS were issued from 1985 to 2003.

Collateralised debt obligations

CDOs are another type of structured product, similar to ABS. In a basic CDO transaction, the reference credits are sold to an SPV, which then issues a variety of securities with differing degrees of repayment risk, to appeal to investors with different risk appetites. Typically, the SPV will issue three layers of securities: the first comprises the senior tranches and is rated from A to AAA; the second receives ratings from B to BBB; and the third layer (the equity tranche) retains most of the credit risk and is usually unrated. The originator of the CDO usually retains some of the equity tranche to signal its confidence in the transaction. Included under the generic designation of "CDO" are a great variety of financial products, corresponding to, for example:

- (i) the aim of the transaction (balance sheet CDOs; arbitrage CDOs)
- (ii) the way in which the credit risk is transferred – true sale (cash CDO) or synthetic securitisation (synthetic CDO)
- (iii) the composition of the underlying portfolio – bank loans (CLOs), bonds (CBOs), CDSs (single-tranche CDOs) and structured products ("CDOs-squared"; ABS CDOs; etc).

3. Implications of banks' involvement in CRT activities

Credit risk shedding and/or risk-taking are typically the driving force behind banks' involvement in CRT activities. The motivations behind securitisation operations will be given particular attention in this article due to the prominent role of these types of operations in the Portuguese financial market.

The benefits of securitisation include, inter alia:

- realising the value of the assets, particularly where a business is unable to raise money against it
- increasing liquidity, by means of the influx of cash brought about through the securitisation
- transferring the risk element in the underlying assets to the investors as the assets are sold to the SPV
- removing the assets from the balance sheet of the originator for accountancy and regulatory purposes, allowing, for example, the freeing up of regulatory capital.

Additionally, there could be possible benefits of using an offshore structure, derived from the flexibility, ease of administration and tax advantages provided by the relevant offshore legislation.

Furthermore, this phenomenon is not neutral in terms of monetary policy. According to Stark (2007), the emergence of securitisation and credit derivatives are likely to have led to a change in bank lending dynamics, possibly leading to an increase in bank loan supply. Hence, the advances in CRT instruments, by expanding the breadth of the credit markets, are likely to have reduced the effectiveness of the bank lending channel in normal circumstances.

4. Collecting the data

National central banks have at their disposal a huge amount of financial data. However, recent developments have proved that there is an urgent need for initiatives to improve the availability of information on credit markets and to overcome possible statistical shortcomings. These initiatives should be twofold: allowing for a better understanding of the past and, more importantly, providing statisticians and analysts with inputs to prevent similar situations and/or to better tackle them beforehand.

For these purposes, the availability of databases on micro data, covering different areas of the economy and the financial markets, which allow for cross-checking of the data, seems to be of high importance.

In particular, micro data as a set of administrative individual registers present an enormous potential for statistical use. In general, this approach is technically easy to implement with relatively low associated costs.

Another significant advantage of such databases is a very good coverage of the population (in most cases). A single database may produce inputs, thus augmenting the uses of administrative data sources. Registration data are useful in building and maintaining lists of units as the starting points for surveys. Transaction data can be used for:

- (i) new statistical products
- (ii) quality control when cross-checking with other statistics
- (iii) additional details of already existing statistics.

The Banco de Portugal has been following this approach for some time, with proven results, and has also been exploring the statistical potential of various sources of information, including a number of different administrative databases.

Securities Statistics Integrated System (SIET)

Since 1999, the Statistics Department has been managing this security-by-security (s-b-s) and investor-by-investor database. SIET has the advantage of gathering, in a single database, all the information concerning securities (excluding financial derivatives), which is then used in the compilation of various statistics for which the Banco de Portugal is responsible. Both stocks and transactions are collected on a monthly basis. Information is acquired by ISIN code and is then classified according to ESA 95 (European System of Accounts) financial instrument classification. Structured instruments are not identified separately; however, the subcomponents of these instruments that take the form of securities are individually reported to our s-b-s system. The database contains registers of around 45,000 shares, 75,000 debt securities and 5,000 mutual fund shares/units. The number of entities (issuers and investors) is over 154,000. On a monthly basis, we process over 200,000 registers regarding portfolio data. The usefulness of having such a database was apparent following the failure of Lehman Brothers, namely so as to assess the exposure of Portuguese entities to the bankrupt firm. In the near future, information from the Centralised Securities Database (CSDB) managed by the European System of Central Banks (ESCB) will be integrated with our s-b-s system, replacing data currently obtained from commercial data providers, thus improving quality and coverage. Another possible future enhancement concerns the inclusion of financial derivative instruments.

Central Credit Register (CCR)

The CCR was created in 1978 by the Banco de Portugal with the purpose of providing credit-related information to the participants and helping them in their assessment of the risks attached to extending credit. In 1999, it came under the responsibility of the Statistics Department. This allowed for new uses of what was formerly a purely administrative database, such as:

- (i) statistics (business register, data quality control, complementary data, and separate statistical outputs)
- (ii) banking supervision and regulation (assessment of credit risk and concentration of risk exposure both at micro and macro level; improvement of on-site inspection practices, etc)
- (iii) economic research and policy (structural analysis, monetary policy, etc).

Loans are classified according to a set of predefined variables which harmonise risk assessment requirements and statistical criteria. Monthly credit balances are reported for each individual borrower (mostly private individuals and corporations). The reporting threshold is very low – a minimum of €50 per credit balance. In terms of data coverage as a percentage of adults we rank first, with 76.4%, followed by China (58.8%), according to *Doing Business* (World Bank (2009)).

We have recently introduced major changes to this database, which relate to the reporting of additional variables: the type and purpose of the loan; the status of the loan; the type of liability of the borrower; the original and residual maturity; the number of days the loan is overdue (in case of default); the currency; the country where the loan was granted (to cover loans granted to residents by foreign branches of Portuguese credit institutions); the type and value of the collateral or guarantee securing the loan (where applicable); and the value of monthly repayments (only for private individuals and certain types of loans). Special flags are used to identify securitised loans, syndicated loans and loans used to back mortgage bonds, etc.

Simplified Corporate Information (IES)

Formally created by Decree-Law no 8/2007 of 17 January, IES allows companies to fulfil separate obligations to four public entities simultaneously through a single electronic submission. IES is the system for the electronic submission of accounting, fiscal and statistical information that companies must normally provide to the Ministry of Justice, the Ministry of Finance, Statistics Portugal and the Banco de Portugal. IES requires the submission of a comprehensive set of information, and includes a cover page, concerning the general aspects of the company and the data, and 13 annexes to be filled in with annual data. The annexes typically reflect: the different types of companies (non-financial, financial and insurance); the nature of the data (non-consolidated and consolidated); and the type of content (the company as a legal entity or each establishment of one company). With regard to the reporting of data for non-financial corporations on a non-consolidated basis, it includes the official information defined in the Chart of Accounts as well as some additional details for statistical and fiscal purposes. The Banco de Portugal requested the inclusion of a few additional details considered to be very important for balance of payments (BoP), international investment position (IIP) and financial accounts purposes. Prior to the implementation of IES, we received data from around 15,000 non-financial corporations covering around 600 items; we currently receive data from nearly all companies (financial and non-financial) operating in Portugal (around 300,000) covering over 1,800 items.

Prudential supervision data

The Banco de Portugal has a long-standing tradition of fruitful cooperation between the Statistics and the Banking Supervision Departments. Individual data are easily interchanged for quality and consistency purposes; in particular, the Statistics Department has access to the accounting data submitted for supervisory purposes, which allows the compilation of statistics that, besides complementing the existing ones (including statistics on non-monetary financial institutions) serve as an additional means of cross-checking their internal consistency.

In addition to exploring the statistical potential of available administrative databases, institutional cooperation among the relevant supervisory authorities both at national and international level plays a pivotal role in this context.

In July 2007, the Ministry of Finance of Portugal, the Banco de Portugal, the Portuguese Insurance and Pension Funds Supervisory Authority and the Portuguese Securities Market Commission signed a Memorandum of Understanding (MoU) for the creation of the National Financial Stability Committee. This forum represents a policy commitment at the highest level for cooperation among the relevant supervisory authorities in order to improve financial supervision. It aims to face the challenges presented by financial markets, namely financial innovation and rising financial integration, in order to reap the corresponding benefits. The MoU promotes the activation of cooperation mechanisms should a crisis with a systemic impact over the national financial market occur; the mechanisms include exchanges of information, an assessment of the nature and impact of the crisis, and the corresponding appropriate and coordinated action to be taken. The committee is essential in the coordination with other European financial supervisory authorities in the context of the MoU on EU cross-border financial stability. It is expected that such initiatives will enhance our level of preparedness and allow us to deal more efficiently with possible future financial crises.

Finally, at European level, several noteworthy initiatives have been put forward by the ECB/ESCB:

- enhancing the ESCB statistical framework (eg new regulations on investment funds and financial vehicle corporations engaged in securitisation transactions; changes to existing regulations to cope with the lack of information on securitisation, etc)
- tailored use/enhancement of internal databases
- supporting enhancements of BIS over-the-counter (OTC) derivatives data
- pooling national supervisory data
- supporting market initiatives for greater disclosure
- use of commercial data and clearing house data.

5. Concluding remarks

The US subprime crisis of the summer of 2007 and the ensuing financial turmoil highlighted a generalised lack of relevant information as regards CRT activities; financial authorities worldwide were unprepared to deal with their complexity, extensiveness and implications.

Moreover, the complex and opaque nature inherent to CRT instruments together with prospects for high returns, under a set of very favourable circumstances, led to a demise of responsibility – due to a lack of incentive – to adequately monitor the borrower’s ability to make payments, particularly on the part of the loan originators. Concomitantly, there was a blind reliance on ratings as the sole criterion for assessing risk on the investor’s side, which favoured the widespread use of these products.

We are facing a global challenge that demands a global response. This, in turn, calls for a stronger commitment at the highest level for cooperation among financial authorities both at national and international level, considering the interlinkages between financial sectors. The key elements in this strategy are, inter alia:

(i) the exchange of information among the relevant partners

(ii) the definition of coordination mechanisms, setting up practical procedures for the involvement of all relevant parties in a crisis situation based on the existing legal responsibilities, and building on existing networks of authorities.

It is our belief that such a commitment will put financial authorities in a better position to face the challenges brought about by financial markets, namely CRT-related financial innovation, so that we can fully reap their benefits.

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Public Expenditure Composition and Economic Growth: The Portuguese Case¹

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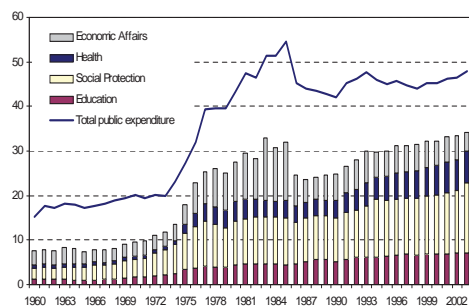
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This paper tries to evaluate the interaction between government spending and economic growth in Portugal. In particular we study the impact of the public expenditure composition on economic growth and estimate the effects of some types of public spending in economic growth. A simple endogenous growth model is developed, allowing a formal interaction between government spending and economic growth. This model follows closely Singh and Weber (1997), providing a simple closed-form solution that can be estimated through standard OLS techniques.

Public Expenditure in Portugal

Public expenditure in Portugal recorded important developments in the 1960 - 2003 period. From 1960 to 1974 the share of public expenditure in GDP remained stable around 20%. In 1974 - 1978 period there was a sharp increase in the ratio of public expenditure in GDP, following the change in political regime and the implementation of stronger social policies in areas such as education, social security and health. In the last years, although recording some fluctuations, the ratio remained broadly stable around 40%.

Figure 1: Public expenditure in Portugal as% of GDP



The model

The description of this economy's environment closely follows Singh and Weber (1997). This model allows for congestion of the public services. In this context, the public good is rival but not excludable. The private sector is described by an OLG model, in which each agent lives for two periods and is assumed to be risk-averse. For simplicity, the number of individuals is normalized to one. An individual h borns at t consumes $c_t^h(t)$ in period t and $c_t^h(t+1)$ in period $t+1$ has a utility function

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given by:

$$(1) \quad U(c_t^h) = \sum_{i=1}^2 \beta^{i-1} \ln(c_t^h).$$

where β measures the subjective rate of time preference.

In the first period, individuals consume and work, supplying inelastically one unit of labor, earning $w_t^h(t)$ which represents real wage. In the second period, they become capitalists. It is assumed also that there is only one good that can be either consumed or invested, which is produced by the oldest generation combining the capital stock saved with labor supplied by the young.

The public sector provides goods and services, $G(t)$, which have a spill-over effect on the productivity of private factors of production. This provision is, however, subject to the government's budget constraint which must be balanced in each period. Each individual production function is given by:

$$(2) \quad y(t) = \left[\frac{G(t)}{Y(t)} \right]^\delta k_{t-1} L_t^{1-\alpha}.$$

where $\delta + \alpha = 1$, and the term $\frac{G(t)}{Y(t)}$ measures the spill-over effect from the total public expenditure on the individual production function. k_{t-1} is the capital stock per firm saved by generation $t-1$, and L_t is the labor force employed by a capitalist. The crucial feature here is constant returns to scale to the reproducible input. The production function assumes that congestion depends on expenditure ratio. The externality reflected in this model justifies the intervention of government in order to reduce this market failure.

Endogenous growth is achieved by the introduction of k_{t-1} , the average capital stock per firm at date t , representing a technological spill-over. For simplicity, it is assumed that the capital stock depreciates completely in one period. Capital and labor markets are assumed to be in a competitive equilibrium and so are paid according to their marginal productivity. Equilibrium in the goods market is defined by the equality between savings and investment.

Given the previous assumptions, the problem of representative agent h can be described by:

$$(3) \quad \text{Max } U(c_t^h) = \ln c_t^h(t) + \beta \ln c_t^h(t+1)$$

$$(4) \quad \text{s.t. } c_t^h(t) + \frac{c_t^h(t+1)}{r_t(t+1)} = w_t^h(t)$$

Calculating the long-term growth rate of this economy yields:

$$(5) \quad \frac{Y(t+1)}{Y(t)} = \left[\frac{k_t(t+1)}{k_{t-1}(t)} \right]$$

The evolution of the technological spill-over factor k_t is obtained by using the equilibrium conditions and the average of equation: $s_t(t) = k_t(t+1)$. Introducing the technological spillover into (5) and linearizing by taking the logarithms we describe an approximation of the long-run output evolution for this economy:

$$(6) \quad \Delta \ln Y(t+1) = \Delta \ln y(t+1) = a_1 + a_2 \ln \left[\frac{G(t)}{Y(t)} \right].$$

Where the independent variable is the output *per capita*, a linear function of fiscal expenditure measured in percent of output. In order to estimate the impact of public expenditure composition on economic growth, a simple linear regression was estimated considering GDP *per capita* as the dependent variable and the four types of public expenditures mentioned above as independent variables. The estimation procedure has been considered in equation (6), with the following rearrangement:

$$(7) \quad \Delta \ln y(t) = a_1 + a_2 \Delta \ln y(t-1) + B(L) \ln \left[\frac{G(t-1)}{Y(t-1)} \right] + \epsilon_t.$$

where $B(L)$ is a lag polynomial of order ρ and ϵ_t , measures public expenditure not included in the model that affects economic growth.

Developing $B(L)$ polynomial, equation can be transformed into:

$$(8) \quad \Delta \ln y(t) = a_1 + a_2 \Delta \ln y(t-1) + B(1) \ln \left[\frac{G(t-1)}{Y(t-1)} \right] + C(L) \Delta \ln \left[\frac{G(t-1)}{Y(t-1)} \right] + \epsilon_t.$$

where $C(L)$ is a $(p-1)$ th order lag polynomial such that:

$$(9) \quad c_k = - \sum_{i=k+1}^p b_i \quad k = 1, \dots, p-1.$$

Estimates and Dynamic Response Functions

The behaviour of the series previously described raises a stationarity problem. The fiscal expenditure series were tested for unit roots. Augmented Dickey Fuller and Philips Perron tests were run, and none rejects the null hypothesis of a unit root during the period under consideration. In order to check the series, we “truncate” the sample period considering two different sub periods: the first period before the revolution’s period and the second period after that (we consider the revolution’s years from 1973 to 1975). Stationarity was not verified for the separate periods. Nevertheless, this problem does not seem to be too serious, permitting the use of ordinary least squares (OLS) regression models to estimate equation (8) without comparing the main results.

The model is estimated using the standard OLS approach and considering a dummy variable for 1975 (the year that verifies the break). Moreover, in order to make our estimation feasible an assumption about $C(L)$ polynomial of equations (8) and (9) had to be made. We considered it as a coefficient of the accumulated sum of the difference between the logarithm of lagged public expenditures in percentage of GDP ($\sum_{i=1}^T \ln \frac{G(t-1)}{Y(t-1)}$). We take this assumption in order to reduce the number of estimated coefficients because $C(L)$ polynomial, as described in the equation, implies a different parameter for every lagged term and every kind of expenditure. The best formulations, after considering many hypothesis, are summarized in the following Table.

Figure 2: Estimation results

Independent Variables (1st formulation)	Coefficient	(t-Statistic)	Independent Variables (2 nd formulation)	Coefficient	(t-Statistic)
Constant	20.09	(1.96)	Constant	24.23	(2.45)
GDP (t-1)	0.35	(2.59)	GDP (t-1)	0.54	(4.17)
Education (t-1)	15.22	(2.51)	Education (t-1)	22.17	(2.94)
Social Protection (t-1)	-21.21	(-2.27)	Social Protection (t-1)	-22.24	(-2.53)
Health (t-1)	-1.92	(-0.58)	Health (t-1)	-5.05	(-1.82)
Economic Affairs (t-1)	4.90	(2.46)	Economic Affairs (t-1)	0.80	(0.49)
$\sum_{i=1}^k Educ (t-1)$	-2.71	(-1.27)	$\sum_{i=1}^k Educ (t-1)$	-5.15	(-2.10)
$\sum_{i=1}^k Health (t-1)$	3.49	(1.48)	$\sum_{i=1}^k Health (t-1)$	7.78	(3.36)
$\sum_{i=1}^k SP (t-1)$	5.72	(0.89)	$\sum_{i=1}^k SP (t-1)$	-3.15	(-0.73)
$\sum_{i=1}^k EA (t-1)$	-3.03	(-1.70)	$\sum_{i=1}^k EA (t-1)$	4.60	(2.41)
R-squared	0.75		R-squared	0.78	
Adjusted R-squared	0.66		Adjusted R-squared	0.69	
F-statistic	7.87		F-statistic	9.25	
Akaike info criterion	4.59		Akaike info criterion	4.47	
Schwarz criterion	5.07		Schwarz criterion	4.95	
Durbin-Watson stat	2.06		Durbin-Watson stat	2.10	

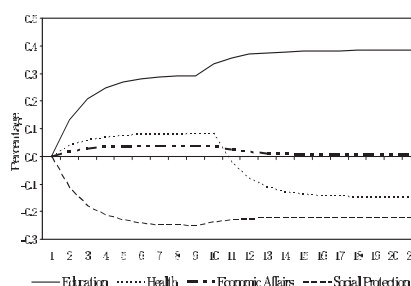
The results indicate a positive impact in economic growth due to an increase in public expenditures mainly on education and economic affairs. Conversely, public expenditure on health and social

protection seem to exhibit a negative impact on economic growth.

We simulate a permanent shock on each type of public expenditure by increasing it separately by a percentage point of GDP. The results are plotted in Figure (3). The coefficients of estimation presented in the table were used and the impulse dynamic response functions were obtained separately for each component of public expenditure.

Public expenditure on education, economic affairs exhibits a positive short-run impact in the output and needs about 25 years for such an increase to translate fully into a permanent shift of the long-run GDP *per capita* growth rate. Nevertheless, when considering the impact in the long-run growth, it is almost null. Public expenditure in social protection seems to have a negative impact on the economic growth in the short-run as well as in the long-run.

Figure 3: Dynamic impulse response functions



Final Remarks

The results reveal that that spending on education and economic affairs should be priority for a government interested in promoting long-run growth. Health care would be a good instrument to increase economic growth in the short-run but not in the long-run and social protection will not be a good instrument in the short-run either in the long-run. Conversely, public expenditure on social protection and health may not translate into a sustainable economic growth since they will affect mainly the demand side of the economy. However, one should be very careful to draw strong conclusions. First, there were considered a few spending categories in the analysis. Moreover, we are considering the existence of a fixed tax rate and constant returns to scale in our model. In fact, the results could be rather different if we relax some of these assumptions. Other limitation is related to the inexistence of fully compatible disaggregate data covering the entire period considered. Finally, it is also important to mention that the government may have other objectives than promoting efficiency, for example inducing some redistribution of income, which are not visible in national accounts figures and that certainly explain a part of public spending.

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