

MPRA

Munich Personal RePEc Archive

Debt and net financial wealth: a comparative analysis for some European countries

Cinquegrana, Giuseppe
OECD

20. November 2010

Online at <http://mpa.ub.uni-muenchen.de/30556/>
MPRA Paper No. 30556, posted 04. May 2011 / 15:30

**Debt and net financial wealth:
a comparative analysis for some European countries**

by Giuseppe Cinquegrana*

**OECD
Working Party on Financial Statistics**

November 2010

*Department of Law and Economics of the Second University of Naples.

(giuseppe-cinquegrana@libero.it).

Abstract

The impact of the different financial frameworks on the long-run growth is one of the most debated arguments in the economic theory. In this paper we present a theoretical and empirical analysis of the financial systems which characterize the financial interrelation in some European countries: the bank oriented model and the market oriented one. The first one was developed during the last part of the nineteenth century in the countries where the court system was based on the *civil law* principles, the other one became the financial model for the countries historically characterized by a regulatory framework with the *common law* approach. Considering the financial accounts of some European countries (source: EUROSTAT data, OECD data), we calculate the *Goldsmith's ratios* and other indicators for the period 2000-2008. For each considered country as regard to the European Monetary Union, first of all we assess the financial interrelation and intermediation and then we analyze the debt and the net financial wealth of the private non financial sector and of the Households one.

Keywords: financial framework, *civil law*, *common law*, bank and market oriented, financial accounts, *Goldsmith's ratios*.

TABLE OF CONTENTS

1. Introduction.....	4
2. The financial system models: bank oriented versus market oriented.....	6
3. Debt and net financial wealth: a comparative analysis for some European countries...9	
4. Conclusions.....	16

1. Introduction

The importance of the level of financial development on economic growth has been widely discussed in the recent literature. Without doubts long-run economic development is correlated to total factor productivity and to firm competitiveness, but other elements are crucial for the real growth like the access to direct and indirect funding by productive and consumption units. The financial system matters for the investment decisions taken by firms because asymmetric information causes both *adverse selection* and *moral hazard* problems, ultimately leading to market failures. The principal / agent conflicts may create opportunistic behaviours by the interested parties: in particular, if the control on the agent is not so strict, he could have the temptation to default on the underwritten contracts and so to create market imperfections by his action.

Financial intermediaries, by allowing the operation of the payments system and promoting the matching between the funds providers and the funds takers, operate as “delegated monitors” (Diamond, 1984), because they gather and monitor information available in the long-run relationship kept up with the firms. In this way they reduce the inefficiencies associated with asymmetric information and they are able to assess in a right way the risk profile of each customer by learning-by doing process. Banks, therefore, by efficiently selecting which investment project to finance, promote capital accumulation and technology innovation which are fundamental for effective long-run growth. However, the opportunity to overcome the market failure situations depends on both the financial intermediation efficiency and the robustness of the regulatory framework aimed at protecting the lenders’ property rights.

A financial regulatory framework and a court system in charge of *law enforcement* can be found in both *common law* and *civil law* countries. In order to protect the holders of right property, the efficiency and the “in time” functioning of the court system, by allowing contract *enforcement*, help enhancing the efficiency of financial intermediation and limiting the risk of credit rationing for well-performing firms without much collateral. Ultimately, a good functioning judicial system with

a low degree of uncertainty on *enforcement* increases firm competitiveness and total factor productivity.

Historically, *civil law* countries have promoted the development of a *bank oriented* financial system, in which the particular type of financial intermediary has a crucial role in linking the economic agents in deficit (generally the firms) and the ones in surplus (generally the consumer households). In these countries, according to Schumpeter's approach, credit is the driving force of the economic growth.

On the contrary, in the countries where the regulatory system is based on the principles of *common law*, a *market oriented* financial system has been developed, where financial markets are the most important actors on the scene, by directly allowing the matching between the demand and the supply of financial funds. The banks always are engaged in the credit intermediation, but the equity and bond markets are the places where the most important amounts of funds is exchanged from surplus units to deficit ones.

The level of financial intermediation of an economic system has been deeply analyzed by Goldsmith starting from the 1950s. In particular, with the *Financial Interrelation Ratio* (FIR), given by the ratio of the weight of the financial assets on the wealth of all sectors, Goldsmith devised a measure of the degree of financial intensity of an economic system. The higher it is, the wider is *financial deepening* of the economic system. Another Goldsmith's ratio analyzes the effective weight of the liabilities of the financial corporations on the ones of the other sectors: this ratio is the *Financial Intermediation Ratio* (FIN).

The different models of financial framework will be analyzed in paragraph 2 according to the economic literature, considering also the *law finance* approach. In paragraph 3, considering the *Goldsmith's ratios* and other indicators, a comparative analysis of the financial framework, of the debt and of the net financial wealth for the private non financial sector (in particular for the Households) among some European countries will be implemented using both EUROSTAT and OECD data for the period 2000-2008.

2. The financial system models: bank oriented versus market oriented.

The relationship between finance and growth has been traditionally analyzed considering a model in which development occurs in stages. An economy in an industrialization phase generally displays a financial system focused on the role of banks, which allow the matching between the units in surplus of financial resources (funding supply) and those in deficit (funding demand) and implement the maturity and risk transformations between the deposit instruments and the loans. In Italy and in Germany during the last part of the nineteenth century the universal banks have carried out a crucial role in the economic development process (Gershenkron, 1962) by financing the firms in the high innovation technology sectors: in this way they have promoted the long-run real growth. Banking intermediation presents the advantage of reducing the transaction costs involved in matching funding demand and supply, because of the economies of scale entailed in the process.

A new perspective of analysis of the interrelation between finance and real growth in neoclassical terms, the so-called *new view*, has been developed by the study of Gurley and Shaw (1955), who, starting from the portfolio risk diversification theory, identify the crucial role of finance in the risk selection and allocation on behalf of the investors. The level of development of the economy determines the type of financial system: in the less developed countries banking intermediation is generally the unique channel for allocating the credit. The banks select the customers and hold a portfolio of borrowers diversified on the basis of profitability and riskiness, in order to maximize the return of the intermediation service. In more technologically advanced economic systems¹, the financial sector is more *market oriented* since it allows companies to directly access equity and bond markets in order to satisfy their financial requirements. Investors are able to use more sophisticated financial instruments that allow a more efficient and integrated management of the different types of risk.

¹ The technology allows for reducing the transition costs at very low levels.

In the *new view* the resolution of the dichotomy between *bank* and *market* oriented system is considered as time sequence of the financial models depending on complexity and efficiency of the economic system.

The asymmetric information approach points out that financial intermediaries (Diamond, 1984), together with the promotion of the operation of the payment system, have a fundamental role in overcoming market failures (Levine, 1997, 2003). By monitoring and screening the firms' projects during many years, banks are able to assess and prevent opportunistic behaviours related to *adverse selection* and to *moral hazard* problems. The final result is the improvement of the efficiency of the whole economic system, with a better allocation of saving flows and a more adequate evaluation of the risk profiles of the different investment decisions (Mayer, 1988). The efficient management of the banking system produces positive effects on the well-performing firms, which maximize profits and obtain sizable growth by undertaking investment projects characterized by a risk profile proportioned to their productive, management and economic-financial skills. Long-run economic growth is, therefore, promoted by an efficient banking system and the persistent relationship between banks and firms can avoid the failure of the fundamentally solid companies during recessions, thus warding off systemic effects (Mayer, 1988).

The more recent literature on the endogenous growth introduces in the analytical models the financial variables², which are crucial factors in explaining the technological shocks (Aghion and Howitt, (1992), Grossman and Helpman , (1991)), and allow the efficient accumulation of both real and human capital (Romer, (1986), (1990), Lucas, (1988), Aghion and Howitt, (1992), Grossman and Helpman , (1991)).

According to the *law finance* approach, the relationship between finance and growth has to be analyzed taking into account the different legal traditions. The common law system, generally found in the Anglo-Saxon countries, has been historically oriented to a greater protection of the

² See King and Levine, (1993), Bencivenga *et al* , (1996), Boot and Thakor, (1996), Pagano, (1993), Amable and Chatelain, (2001).

holders of property rights towards the State, while the civil law one, stemmed in France, Italy and Germany, has been characterized by a lower degree of protection of the private sector. These two regulatory systems have shaped the evolution of the financial sector. In the Anglo-Saxon countries public companies and widespread shareholding have developed, while in continental Europe firm ownership is much more concentrated. The degree of property concentration points out two different kinds of *governance conflicts*: shareholder / manager in the *common law* systems, majority shareholder / minority shareholder in the *civil law* ones. In order to protect the holders of property rights towards the actions of managers, Anglo-Saxon countries have developed a framework of modern financial markets with small transaction costs and a court system which imposes hard penalties in situations of insider trading and finance stock manipulation. Very liquid financial markets are, in effects, the main protection for shareholders, who can sell on the market their shares in order to impede opportunistic behaviours by the managers: the *exit option* (Manzocchi and Padoan, 2004). The development of financial markets has also allowed operations like *Manager Buy Out*, MBO, and *Leverage Buy Out*, LBO, which are executed by managers in order to avoid opportunistic behaviour by the holders of rights property. Starting with Jensen (1986), the literature has shown that, in the cases where the low propensity of shareholders to select innovative projects has created difficulties for the more efficient managers, restrictions to the growth of the firms and to the efficient management of cash flows have been put in place. Some times well performing managers are able to react immediately by orienting the cash flows towards investment projects that allow to preserve the value of the firm , but these situations are not so common.

The conflict between the different types of shareholders in the *civil law* systems has entailed a bigger cost for the firms to obtain funding directly on the financial market, because the minority shareholders demand a high risk premium on the invested capital in order to protect themselves from possible expropriation by the majority shareholders. According to the law-finance approach, banking credit is the most accessible funding instrument in the regulatory systems less oriented to the protection of the interests of minority shareholders.

In other words the *common law* and *civil law* systems have promoted respectively the development of *market oriented* and *bank oriented* financial models. In the system focused on banks, the latter have had a crucial role not only during the capital accumulation stages that anticipated a big industrialization jump³, but they also continue to be the main funding channel for those industrial sectors characterized by the presence of many small and medium firms, like in Italy with the *PMI* and in Germany with the *mittelstand*.

3. Debt and net financial wealth: a comparative analysis for some European countries.

The starting point of this study is to compare the degree of financial interrelation and intermediation of the some European countries using first of all the *Goldsmith's ratios*- the *Financial Interrelation Ratio*, FIR, and the *Financial Intermediation Ratio*, FIN. The first one is defined as the ratio of the weight of the financial assets on the wealth of the whole economy (S1 according to ESA95⁴ codes). Since it is very difficult to have a detailed and consistent estimate of the real wealth for each country considered, we provide an alternative version of the FIR employing as denominator the Gross Domestic Product at current prices. The FIN provides, instead, a direct measure of the degree of financial intermediation based on the weight of the liabilities of the Financial Corporations (S12 according to ESA95 codes) over the sum of the liabilities of all the other sectors: Non Financial Corporations (S11), General Government (S13), Households (S14), Rest of the World (S2).

The data analysed are the Financial Accounts and the Gross Domestic Products at current prices of most of the countries belonging to the European Monetary Union (EMU), the United Kingdom and Denmark. More precisely, the EMU countries considered are Austria, Belgium, Finland, France, Germany, Greece, Italy, the Netherlands, Portugal and Spain (from now on we refer to the group

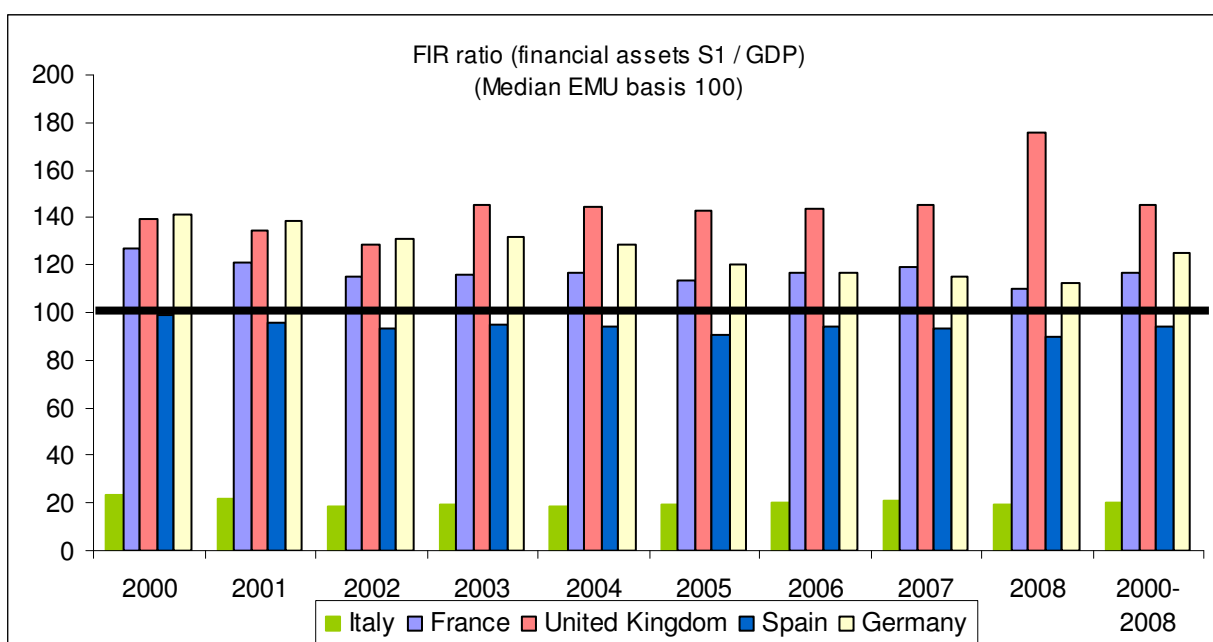
³ See Gershenkron (1962) who, describing the industrialization process in Germany and Italy during the last part of the nineteenth century, has focused on the role involved by *universal bank* in matching the funding requirements of the firms and the profitability expectations of the private investors, who had saved in the previous years.

⁴ European System of Accounts 1995, EUROSTAT, European Union, Council Regulation 2223/96.

formed by these ten countries plus Denmark and EMU). The data sources are EUROSTAT and OECD database except for the United Kingdom, whose statistics are provided by UK Office for National Statistics.

In the Figure 3.1 the distribution of the FIR ratio of some European countries (the most important four in Euro zone by GDP) is compared to the median FIR ratio of the European Monetary Union countries (basis 100).

Figure 3.1: *Financial Interrelation Ratio by European country*



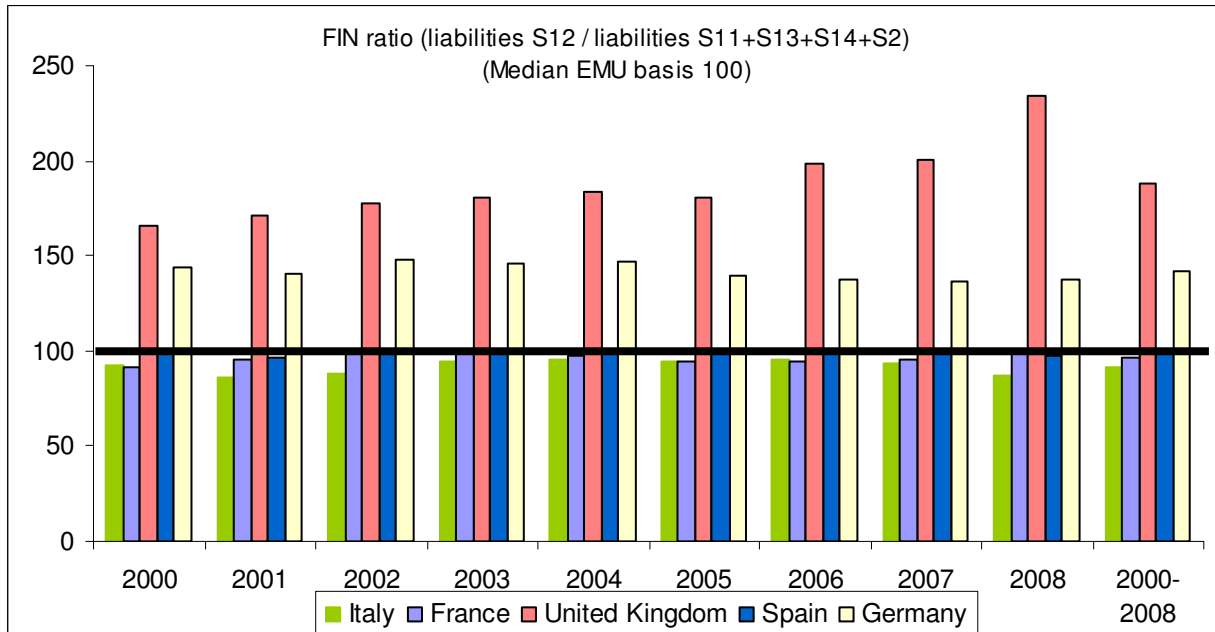
Source: Our elaboration on EUROSTAT database, OECD database, UK ONS database.

Focusing on the whole period 2000-2008, it seems that the United Kingdom is the economy with the highest degree of financial intensity: the FIR for UK is 145.4 % of the EMU median. Considering that the United Kingdom is *historically* a country with a *market oriented* financial system, the FIR ratio analysis seems to confirm this point of view.

Italy, a country traditionally considered as a *bank oriented* financial system, presents, instead, during all the period analyzed 2000-2008, the lower level of financial interrelation, with a ratio equal to 20.3 % of the EMU median.

For the United Kingdom the FIN (see Figure 3.2), that measures the degree of the financial intermediation in an economic system, presents an increasing weight of intermediation from 2000 up to 2008. Spain, France and Italy are countries with a lower degree of intermediation compared to the UK and to Germany.

Figure 3.2: *Financial Intermediation Ratio by European country*

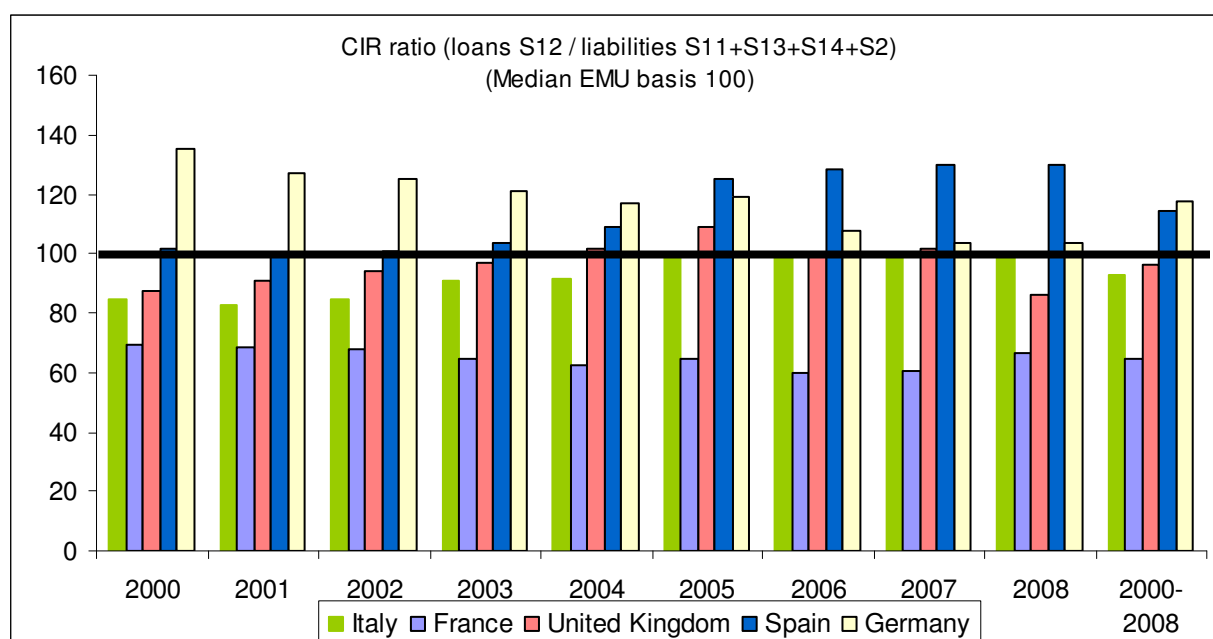


Source: Our elaboration on EUROSTAT database, OECD database, UK ONS database.

We also present a measure of the degree of banking intermediation on the whole financial intermediation in an economic system by considering the *Credit Intermediation Ratio* defined as the weight of the loans granted by the Financial Corporations on the liabilities issued by all the other sectors (see Capelle-Blancard *et al.*, 2006).

Germany seems to be the most important economic system in terms of banking intermediation with a CIR equal to 117.4 % of the EMU median (basis 100) during the years analyzed, even though it presents a decreasing path over the period. The situation of Germany confirms its bank oriented financial model traditionally related to the universal bank, even though from 2006 it has hardly reduced the weight of the loans compared to the whole financial intermediation. Spain presents, instead, an increasing path of the CIR up to 2008 with a percentage of 130.0 of the EMU median.

Figure 3.3: *Credit Intermediation Ratio by European country*



Source: Our elaboration on EUROSTAT database, OECD database, UK ONS database.

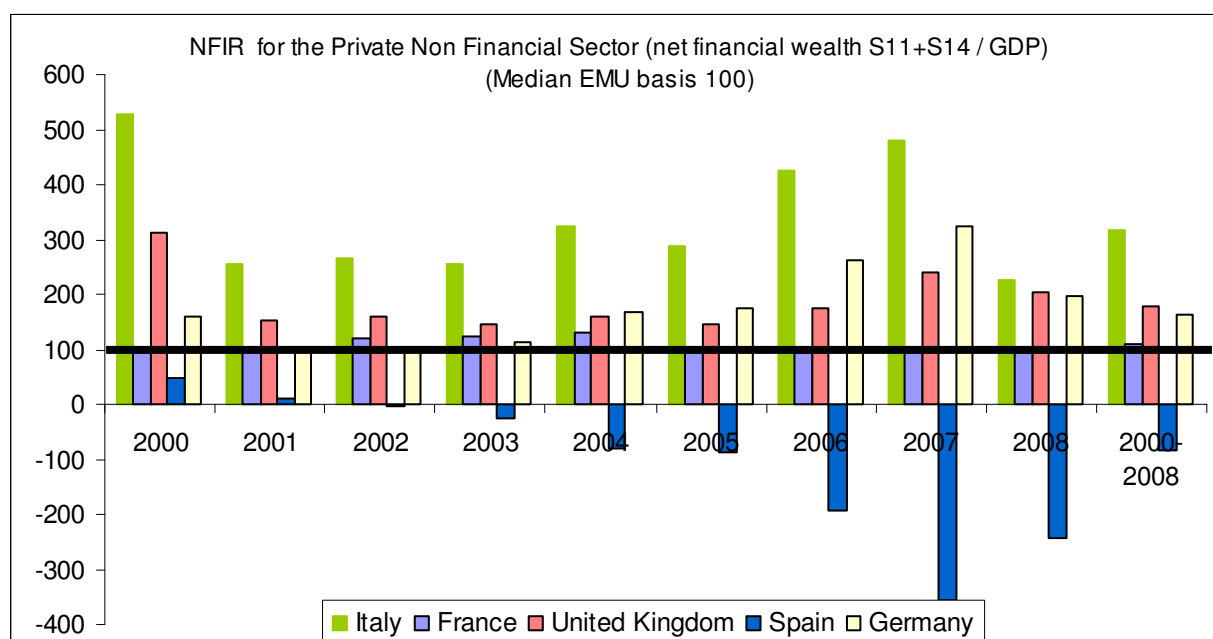
We use another measure of the financial deepening: the NFIR, Net Financial Interrelation Ratio, calculated by dividing the net financial wealth (defined as total financial assets minus total financial liabilities) by the Gross Domestic Product at current prices for each country.

In this study we analyze the NFIR for the private non financial sector, defined as the sum of Non financial Corporations and Households.

In Figure 3.4 we show a distribution of the NFIR for some European countries. Italy displays the best performance in terms of the net financial wealth on the GDP, about three times the median of EMU countries, but in 2008 there is a great decrease in comparison with the previous two years. The *financial repression* in 2008 is a common situation for the other countries too. Instead, in Spain the net financial wealth has been decreasing since 2003.

During all the period considered, the UK and Germany have values of the NFIR above the EMU median, while on average France is steadily close to it.

Figure 3.4: *Net Financial Interrelation Ratio by European country*

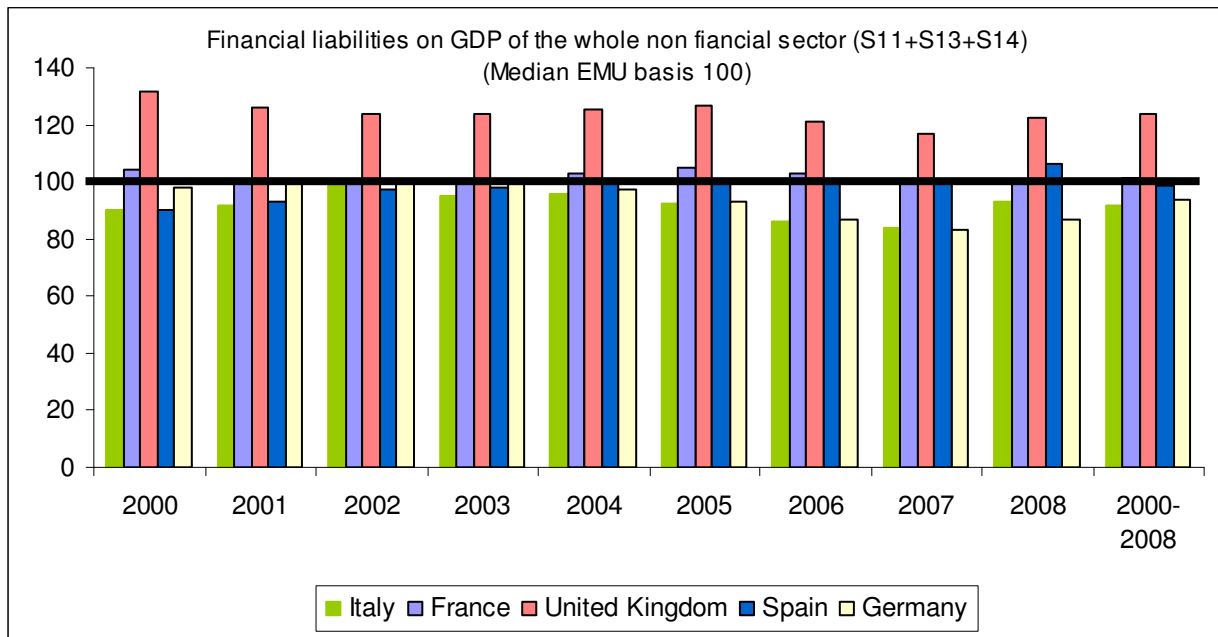


Source: Our elaboration on EUROSTAT database, OECD database, UK ONS database.

We also analyze (Figure 3.5) for the same European countries the weight on GDP of the financial liabilities of the whole non financial sector, defined as the sum of Non financial Corporations, Households and General Government. The UK is the country that presents the highest level of financial liabilities in the whole non financial sector over the GDP, on average 124.00 % of the EMU median during the years 2000-2008. At the other extreme, the Italian ratio is equal to 91.7 % of the reference median, the lowest among the considered European countries.

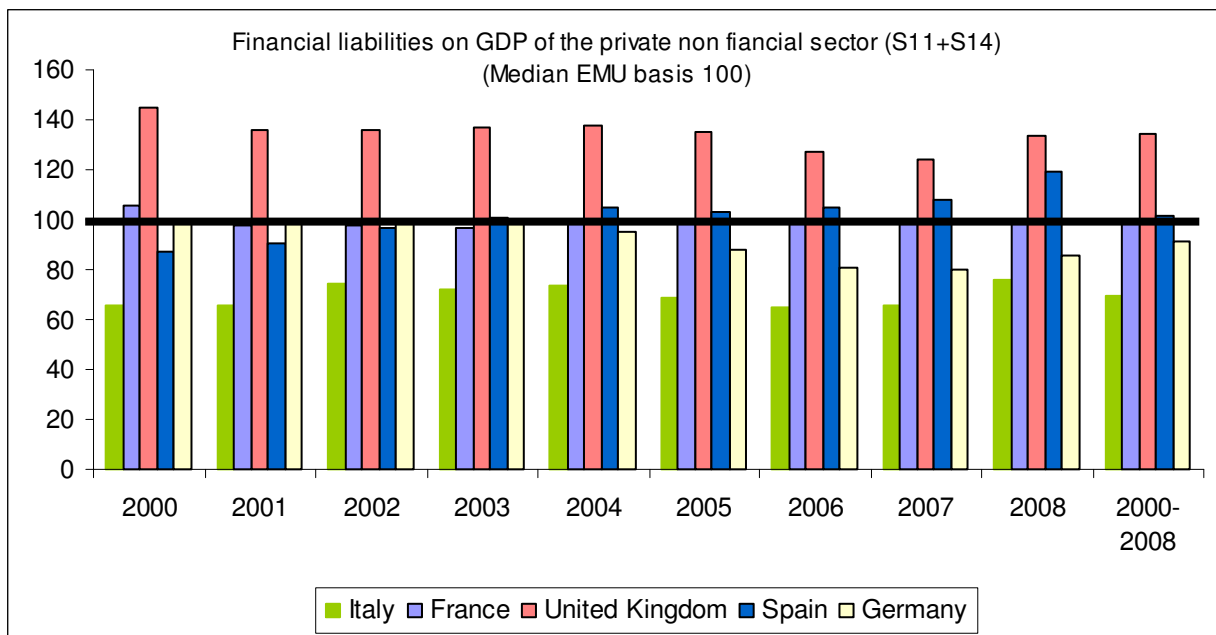
However the different level of the financial liabilities also depends on the *financial deepening* for each country and on the traditional morphology of its financial system. It is relevant to notice that the countries where the FIR and the FIN present the highest values (which are those historically characterized by market oriented financial systems), the debt of the private non financial sector (S11+S14) is higher than the others (see figure 3.6). On average during all the years considered, Italy and Germany, traditionally bank oriented financial systems, have a ratio of financial liabilities on the GDP for the private non financial sector respectively equal to 91.4 % and 69.3 %, while the UK presents a level of 134.1 %.

Figure 3.5 : *Financial liabilities on GDP of the whole non financial sector (S11+S13+S14)*
by European country



Source: Our elaboration on EUROSTAT database, OECD database, UK ONS database.

Figure 3.6 : *Financial liabilities on GDP of the private non financial sector (S11+ S14)*
by European country

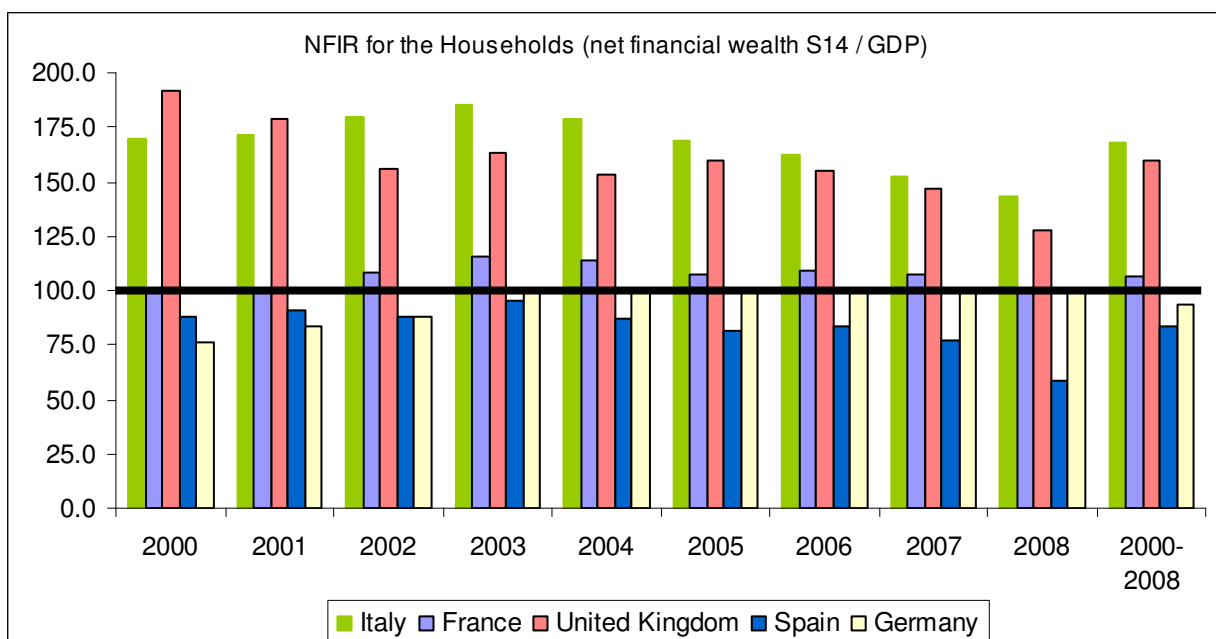


Source: Our elaboration on EUROSTAT database, OECD database, UK ONS database.

At the end we analyze the financial framework of Households for the same European countries. More precisely we calculate for this sector by each considered country the Net Financial Interrelation Ratio (see Figure 3.7) and the weight of financial liabilities on the financial assets (see Figure 3.8) from 2000 up to 2008.

The highest values of the NFIR for the Household sector during all the considered period are found in Italy and the UK, respectively 167.6 % and 159.6 % on the EMU median (basis 100), while the level for Spain is equal to 83.1 %.

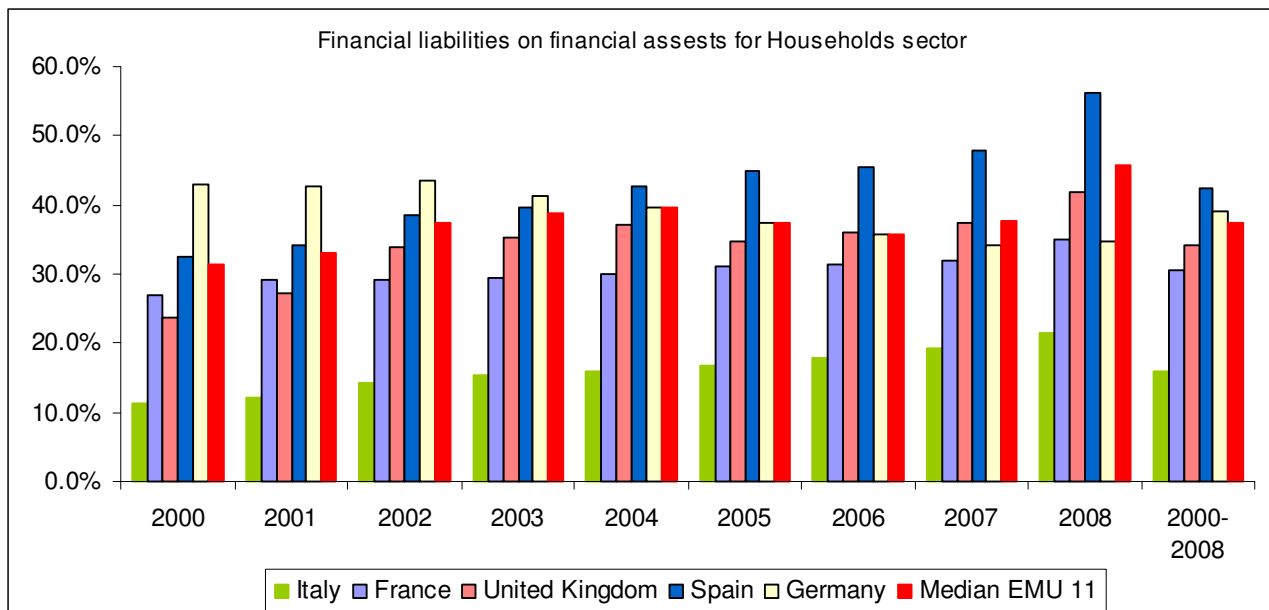
Figure 3.7 : *Net Financial Interrelation Ratio for the Households sector*
by European country



Source: Our elaboration on EUROSTAT database, OECD database, UK ONS database.

The Spanish Households are the most indebted with a percentage of 42.4 of the financial liabilities on the financial assets. At the other extreme, the Italian ones present the lowest leverage ratio, 16.1%, compared to the EMU median of 37.4%.

Figure 3.8 : *Financial liabilities on financial assets for the Households sector*
by European country



Source: Our elaboration on EUROSTAT database, OECD database, UK ONS database.

4. Conclusions

The analysis of the *Goldsmith's ratios* and of the debt of the private non financial sector calculated by using the financial accounts of some European countries brings up useful elements in order to assess the financial framework of these systems as regard the European Monetary Union one. The countries historically oriented to a market financial model seem to point out a financial interrelation higher than the bank oriented ones. The UK in fact presents the highest values for the FIR and FIN among the countries analyzed. On the contrary Germany, traditionally characterized by a *bank oriented* financial system, presents the greatest degree of credit intermediation as regard the European Monetary Union median. Assessing the net financial wealth on the GDP of the private non financial sector, Italy appears to be the financial system with the best performance and, further, it is the country where the Household sector has the minor level of the debt on the GDP.

The analysis conducted by calculating the ratios on the financial accounts seems to confirm a different framework between the market and bank oriented financial systems. In particular the last ones, with a major intensity of the financial interrelation, may be more sensible to the sudden financial turmoils, in particular when the risk profile of each financial transaction and of each counterpart has not been evaluated in the right way by the financial intermediaries. A correct assessment of the risks could be more consistent in a long-run relationship between the borrower and the bank, where the last ones operate as “delegated monitors” (Diamond, 1984).

Leaving out the aspects of the pro-cyclic impacts on the financial system of the regulatory framework of Basel II rules⁵ and of the implementation of International Standard Accounts principles⁶, the *market oriented* financial systems and the ones where the growth of financial sector has been speeded in few years, see Spain in two last decades, seem to point out a mayor degree of vulnerability to a sudden financial crisis for the private non financial sector (and in particular for the Households one).

⁵ See Basel Committee on Banking Supervision, (2010), May.

⁶ The pro-cyclic impact of IAS is related to the evaluation at the fair value (or market value) of the financial instruments.

References

Aghion P., Bolton P. (1992) , An Incomplete Contracts Approach to Financial Contracting, *Review of Economic Studies*, 59:473-494;

Amable B, Chatelain, J-B (2001) , Can Financial Infrastructure Foster Economic Growth?, *Journal of Development Economics*, 64, 481-498;

Aghion P, Howitt, P., Mayer Foulkes (2003) , The Effects of Financial Development on Convergence, Theory and Evidence, Working Paper, Department of Economics, Harvard University, mimeo;

Basel Committee on Banking Supervision, (2010), Basel II and Revisions to the Capital Requirements Directive, Remarks by Stefan Walter, Secretary General, Basel Committee on Banking Supervision, to the European Parliament Committee on Economic and Monetary Affairs on the BCBS's reform programme, May.

Basel Committee on Banking Supervision, (2010), The Basel Committee and Regulatory Reform, Remarks of Nout Wellink Chairman, Basel Committee on Banking Supervision, President, De Nederlandsche Bank, Institute of International Finance 2010 Spring Meeting Vienna, Austria, June.

Basel Committee on Banking Supervision, (2010), Group of Governors and Heads of Supervision announces higher global minimum capital standards, 12 settembre.

Beck T., Demirgüç-Kunt A. Levine R. (2003) , Law, Endowments and Finance, *Journal of Financial Economics*, 70: 137-181;

Beck T., Demirgüç-Kunt A. Levine R., Maksimovic V. (2000), Financial Structure and Economic Development: Firm, Industry and Country Evidence, World Bank, Policy Research Working Paper, n. 2423;

Beck T., Demirgüç-Kunt A. Levine R., Maksimovic V. (2005), Financial and Legal Constraints to Growth: Does Firm Size Matter ?, *Journal of Finance*, 60:137-177;

Besanko D., Thakor A.V. (1987) , Collateral and Rationing: Sorting Equilibria in Monopolistic and Competitive Markets, *International Economic Review*, 28:671-689;

Bernanke B, Gertler M. (1990), Financial Fragility and Economic Performance, *Quarterly Journal of Economics*, 103: 87-114;

Bencivenga V., Smith, B., Starr R. (1996), Equity markets, Transactions Costs and Capital Accumulation: An Illustration, *World Bank Economic Review*, 10, 241-65;

Boot, A. e Thakor A. (1997) , Financial System Architecture, *Review of Financial Studies*, 10, 693-733;

Capelle-Blancard G., Couppey-Souberyan J. Soulat L., (2006), The measurement of financial intermediation in Japan, in "Japan and the World Economy 20, 1 (2008) 40-60",

Demirgüç-Kunt A., Maksimovic V. (1998), Law, Finance and Economic Growth, *Journal of Finance*, 53:2107-2137;

Demirgüç-Kunt A., Maksimovic V. (1999), Institutions, Financial Markets and Firm Debt Maturity, *Journal of Financial Economics*, 54: 295-336;

Diamond D. (1984), Financial Intermediation and Delegated Monitoring, *Review of Economic Studies*, 51: 393-414;

Fazzari M.S., Hubbard G.R., Petersen B.C. (1988), Financing Constraints and Capital Investment, *Brooking Papers of Economic Activity*, pp. 141-195;

Hart O. (1995), *Firms, Contracts and Financial Structure*, Oxford University Press, Oxford;

Hubbard G. R. (1998), Capital-Market Imperfections and Investment, *Journal of Economic Literature*, 36:193-225;

Jensen, Michael (1986), Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers, *American Economic Review* 76 n. 2: 323-329;

Jappelli T., Pagano M., Bianco M. (2005), Courts and Banks: Effects of Judicial Enforcement on Credit Markets, *Journal of Money, Credit and Banking*, 37: 223-244;

Gershenkron (1962), *Economic Backwardness in Historical Perspectives*, Cambridge, Mass., Harvard University Press;

Goldsmith, R.W. (1969), *Financial Structure and Development*. Yale University Press, New Haven, CT.

Grossman, G.M., Helpman, E. (1991), *Innovation and Growth in a Global Economy*, MIT Press;

Gurley, J e Shaw, E. (1955), *Financial Aspects of Economic Development*, *American Economic Review*, 45, 515-538;

Kaplan S.N., Zingales L. (1997), *Do Investment-Cash Flow Sensitivities Provide Useful Measures of Financing Constraints*, *Quarterly Journal of Economics*, vol. 112, pp. 169-215;

Kaplan S.N., Zingales L. (2000), *Investment-Cash Flow Sensitivities are not Measures of Financial Constraints*, *Quarterly Journal of Economics*, 115: 707-712;

King R.G., Levine R. (1993), *Finance and Growth: Schumpeter Might Be Right*, *Quarterly Journal of Economics*, 108: 713-737;

La Porta R., Lopez-de-Silanes F., Shleifer A., Vishny R.W. (1997), *Legal Determinants of External Finance*, *Journal of Finance*, 52: 1131-1150;

Porta R., Lopez-de-Silanes F., Shleifer A., Vishny R.W. (1998), *Law and Finance*, *Journal of Political Economy*, 106: 1113-1155;

La Porta R., Lopez-de-Silanes F., Shleifer A., Vishny R.W. (2000), *Investor Protection and Corporate Governance*, *Journal of Financial Economics*, 58: 3-27;

Levine R. (1997), *Financial Development ad Economic Growth: Views and Agenda*, *Journal of Economic Literature*, 35: 688-726;

Levine R. (1998), *The Legal Environment, Banks and The Long-run Economic Growth*, *Journal of Money, Credit and Banking*, 30:596-620;

Levine R. (1999), *Law, Finance and Economic Growth*; *Journal of Financial Intermediation*, 8: 8-35;

Lucas, R.E. (1988), On the Mechanics of Economic Development, *Journal of Monetary Economics* 22, June, 3-42;

Manzocchi S., Padoan P.C., 2004, Il nesso finanza-crescita nella recente letteratura economica, in M.Bagella (a cura di) "Finanza e sviluppo economico", Collana della Società Italiana degli Economisti, Il Mulino, Bologna, 2004;

Mayer C. (1988), New issues in corporate finance, *European Economic Review*, Elsevier, vol. 32(5), pages 1167-1183, June;

M. Miller (1977), Debt and Taxes, *Journal of Finance*, 32, pp.261-275;

Modigliani F., M. Miller (1958), The Cost of Capital, Corporation Finance and the Theory of Investment, *American Economic Review*, 48, pp. 261-297;

Modigliani F., M. Miller (1961), Dividend Policy, Growth and the Valuation of Shares, *Journal of Business*, 34, pp. 411-433;

Myers S.C. (1984), The Capital Structure Puzzle, *Journal of Finance*, vol. 39, pp.575-592;

Myers S.C., Najluf N.S. (1984), Corporate Financing and Investment Decisions when Firms have Informations that Investors do not have, *Journal of Financial Economics*, vol. 13, pp. 187-221;

Pagano, M. (1993), Financial Markets and Growth: An Overview, *European Economic Review*, 37, 613-622;

Petersen M., Rajan R.G. (1994), The Benefits of Lending Relationships: Evidence from Small Business Data, *Journal of Finance*, vol. 49, pp. 3-37;

Romer, P.(1986), Increasing Returns and Long Run Growth, *Journal of Political Economy*,94,oct. 1002-1037;

Romer, P. (1990), Endogenous Technological Change , *Journal of Political Economy*, 98, oct. S71-S10;

Sharpe S. A. (1990), Asymmetric Information, Bank Lending and Implicit Contracts: A Stalized Model of Customer Relationship, *Journal of Finance*, 45: 1069-1087;

Stiglitz J., Weiss A. (1981), Credit Rationing in Markets with Imperfect Information, American Economic Review, 71: 67-127;

Williamson O. (1985), The Economic Institutions of Capitalism, New York, The Free Press;

Williamson O. (1988), Corporate Finance and Corporate Governance, Journal of Finance, 43: 567-591;

<http://epp.eurostat.ec.europa.eu/>

<https://www.oecd.int/>