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Financial Structure, Income Inequality and Privatization of Risk in the EU

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Abstract

The global financial crisis of 2007/2008 was the "painful" peak of a decade of "financial euphoria" and inadequate financial re-regulation in the advanced economies. However, during that period of "financial euphoria", the structure of the developed financial systems in the EU varied significantly, considering the importance of the banking market or that of the capital market in the system as a whole. Thus, an area for political economy research emerges, considering the institutions and the structural elements of an economy that could have contributed to this kind of differentiation. In this paper, the analysis is focused on the financial system's funding from individuals and households as one of the three basic fields of the financial intermediation process. Particularly, we discuss and examine the relationship between "privatization of risk" and income inequality -as characteristics of the households' investment orientation- with the development of structurally varied financial systems in the EU. The descriptive and statistical results suggest that households' investment orientation is related with the differentiation in the characteristics of the EU financial systems. However, this nexus can partially interpret -in terms of political economy- the varied financial systems in the EU, as the analysis must take into account the remaining fields of the financial intermediation process: the funding from international and interbank markets and the financial system's funding to the economy.

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Keywords: Varieties of capitalism; Financial structures; Household investments; Privatization of risk; Income inequality.

1. Introduction

The global financial crisis of 2007/2008 was the "painful" peak of a period of extreme financial growth, attributed to two fundamental factors which followed the broader trend of economic globalization. The first factor was the weakness of the regulatory and supervisory framework ("re-regulation"), so as to sufficiently

correspond to the liberalization ("de-regulation") of the advanced financial systems during the 90s. Thus, institutional changes like the Federal Reserve's reinterpretation of the Glass-Steagall Act, that allowed US bank holding companies to earn up to 25 percent of their revenues in investment banking (1996); the Riegle-Neal Interstate Banking and Branching Efficiency Act, that eliminated previous restrictions on US interstate banking (1994)[1]; and a series of EU directives, for the unification of the EU banking market on the way to the Euro (mid 90s)[2], were not accompanied by the regulatory and supervisory initiatives that could handle the financial dynamics that were released from the liberalization process. The second factor was the radical financial innovation that led -in an environment of liberalization and through the full exploitation of new information technologies- to new sophisticated financial markets, types of institutions, products and practices, which substantially increased profitability opportunities, undertaken risk and leverage (Buiter, 2007; Blundell-Wignall *et al.*, 2008; FSA, 2009).

The result of these circumstances was an extreme financial growth, which in the EU-15 was translated into an increase of total financial system's assets: from 280 percent of GDP in 1995 to 495 percent of GDP in 2007 (ECB, 1999, 2004 and 2010b). In parallel, the indebtedness of the private and the public sector of the EU-15 increased from 176 percent of GDP in 1995 to 225 percent of GDP in 2007, mainly attributed to the private sector (Eurostat, 2013). Therefore, this phase of European capitalism -using the historical comparative analysis term- during which the indebtedness of the private and public sector was two times the EU-15 GDP and the size of the financial system ended up five times EU-15 GDP, can be characterized as a phase of "financial euphoria". It was a phase that peaked "painfully" with the -historically inevitable, according to Galbraith (1990)- global financial crisis of 2007/2008.

However, during the phase of "financial euphoria" the level and the structure of the financial development in the EU-14[3] financial systems are different. In particular, among the EU-14 financial systems there is a group of economies with high levels of financial development (i.e. United Kingdom, Ireland, Netherlands, Denmark, etc.), a group of economies with relative medium levels of financial development (i.e. Germany, Austria, Belgium, etc.) and a group of economies with relative low levels of financial development (i.e. Portugal, Greece, Spain, Italy, etc.). Hence, the level of financial systems' total assets, on average, for the period 2004-2007 ranged from 166.9 percent of GDP in Greece to 976.9 percent of GDP in Ireland (Table 1).

Furthermore, during the period 1995-2007, financial development in the EU-14 economies is based on different types of financial institutions and, hence, on different markets. Specifically, the economies with the highest levels of financial development are characterized by an important role of investment institutions -investment funds, pension funds and insurance corporations- in the financial system, while the economies with the lowest levels of financial development are characterized by the dominant role of credit institutions in the system (Table 2). The economies with relative medium levels of financial development are characterized by a balanced

[1] See Sherman (2009) about the history of financial deregulation in the US and Heiney (2011) about the consolidation of the US banking industry since the Riegle-Neal Act. Particularly, Heiney (2011) underlines that the number of banking institution in the US in 1998 was by 26.7 percent small than the corresponding number in 1990.

[2] According to the European Central Bank (ECB), the share of assets of the foreign (European and Non-European) banks' branches and subsidiaries in Euro Area in relation to total banking assets increased during the period 1997-2007 by 56 percent (ECB, 2004 and 2008).

[3] The sample of the analysis does not include the case of Luxembourg because of the extreme divergence between the size and the structure of the national economy and the size and growth of the financial sector. So, from the classic EU-15 the sample refers to EU-14.

importance of investment institutions that gradually gained ground. Another fundamental dimension of difference is state intervention in the banking market. An expression of direct state intervention is state ownership or control of commercial banks, while there are also indirect ways of intervention as, for example, state-imposed specialization of banks; discretionary fixed interest rates; interest rates ceilings; quantitative credit limits; special bank investment ratios for financing public debt and/or specific sectors; and capital controls (OECD, 1990; Haggard and Maxfield, 1996; Pagoulatos, 2003).

Table 1. Total Assets of the Financial System (percentage of GDP)

	1997 – 1999 (average)	2000 – 2003 (average)	2004 – 2007 (average)
United Kingdom	528.2	587.3	600.7
Ireland	501.9	575.3	976.9
The Netherlands	437.4	478.9	555.9
Sweden	301.8	304.2	381.6
Denmark	309.4	367.4	515.9
France	334.8	349.1	432.5
Finland	119.1	162.4	203.8
Germany	333.7	382.1	413.5
Austria	296.1	335.4	395.6
Belgium	367.4	376.3	452.8
Italy	198.9	210.4	244.8
Spain	232.2	238.9	306.3
Portugal	322.4	300.4	311.1
Greece	163.5	171.0	166.9

Details: Total assets of the financial system include the assets of credit institutions, investment funds, pension funds and insurance corporations.
Source: ECB (2003, 2004, 2005, 2006, 2007, 2008 and 2010a) and Eurostat (2008)

Considering direct intervention, the most characteristic indicator is the share of state-owned commercial banks in the total banking market. In the vast majority of the EU-14 economies, the share of state owned banks by 50% or more to total banking market's assets, decreased to zero by 2000 (Table 3). However, there is a group of economies (i.e. Greece, Portugal, Italy, etc.) -with relative low levels of financial development- where state intervention showed quite a resistance, as the share of state majority remained at the highest levels among the other EU-14 economies. This group could also include the case of Spain, because of the increased share of the regional and local savings banks, labelled as *cajas*. Particularly, Spain's *cajas* increased their share of total banking market's assets from 22% in 1976 to 33% in 2004 (IMF, 2006).[4] However, the importance of *cajas* is not depicted by the indicator of government ownership, as *cajas* are jointly owned by local or regional governments, trade unions, churches and social organizations -all of them having close relations with the political system (La Porta *et al.*, 2002; Sapienza, 2004; Crespi *et al.*, 2004; IMF, 2006; Illueca *et al.*, 2008). Thus, Spain can be added into the group of the rest EU-14 economies with existing state intervention in the banking market. The case that cannot easily be added to this group is Germany, even though it remains the financial system with the largest government owned share of the banking market. This share is attributed to the regional savings banks known as *Sparkassen* and -mainly- *Landesbanken* (Hufner, 2010; Kohler, 2010). However, this kind of ownership seems not to have been

[4] Spanish *cajas'* share of total banking market's loans increased from 18% in 1976 to 45% in 2004, while their share considering deposits increased, during the same period, from 33% to 52% (IMF, 2006).

translated -especially during the last decades- into state or political intervention to the intermediation process, as *Landesbanken* operated as private commercial banks and expanded their activities to the international markets (Deeg, 1999; Hardie and Howard, 2010).

Table 2. Total Assets of Financial Institutions (percentage of the financial system)

	1995 – 1999 (average)		2000 – 2003 (average)		2004 – 2007 (average)	
	Credit Institutions	Investment Institutions	Credit Institutions	Investment Institutions	Credit Institutions	Investment Institutions
United Kingdom	67.70	32.30	61.00	39.00	65.39	34.61
Ireland	64.18	35.82	65.31	34.69	62.37	37.63
The Netherlands	57.36	42.64	61.00	39.00	62.78	37.22
Sweden	57.83	42.17	59.32	40.68	60.65	39.35
Denmark	73.04	26.96	72.29	27.71	71.34	28.66
France	73.67	26.33	71.37	28.63	71.04	28.96
Finland	79.75	20.25	70.62	29.38	74.07	25.93
Germany	82.06	17.94	77.74	22.26	73.74	26.26
Austria	81.91	18.09	77.13	22.87	75.82	24.18
Belgium	82.95	17.05	77.92	22.08	77.60	22.40
Italy	77.82	22.18	73.17	26.83	75.74	24.26
Spain	76.99	23.01	78.00	22.00	80.19	19.81
Portugal	82.79	17.21	82.05	17.95	79.08	20.92
Greece	81.30	18.70	87.66	12.34	89.76	10.24

Details: Total assets of the financial system include the assets of credit institutions, investment funds, pension funds and insurance corporations. Total assets of investment institutions are the assets of investment funds, pension funds and insurance corporations.
Source: ECB (2003, 2004, 2005, 2006, 2007, 2008, and 2010a)

The observed differences among the EU-14 financial systems, which allow their grouping in specific structural characteristics, lead the analysis to the field of comparative political economy. There are already interesting approaches that -in parallel to those which analyse capitalism as a whole[5]- focus on the financial system. In particular, Zysman (1983), taking into account state intervention, grouped financial systems into (a) capital market-based systems, where the allocation of funds is determined from the market forces (stock market and capital market) (i.e. USA), (b) state-led credit-based systems, where banks have a leading role and credit intermediation is affected by the state (i.e. France, Japan), and (c) bank-led credit-based systems, where banks have a dominant role in funding business activity (i.e. Germany). Furthermore, Walter (1994) and Story and Walter (1997), focusing apart from state intervention also onto the structure of the financial system, concluded to four groups: (a) equity-market systems (i.e. USA, UK), (b) bank-based systems (i.e. Germany), (c) bank-industrial cross-holding systems (i.e. Japan), and (d) state-centered systems (i.e. France).

Moreover, the importance of the financial system considering the funding of the business activity is also recognized in the Hall and Soskice's (2001) comprehensive approach of the *varieties of capitalism*. At the core of this comparative analysis approach lies the enterprise, which acts and seeks for profit in a system of

[5] The main approaches considering the comparative analysis of post-war capitalism are that of Shonfield's (1965) *modern capitalism*, Chandler's (1977) *managerial capitalism*, Berger's (1981) and Goldthorpe's (1984) *neo corporatism* and Hall and Soskice's (2001) *varieties of capitalism*.

coordination among basic actors and institutions that is based on five fields (or subsystems) of coordination. The fields that are characterized by institutional complementarities are (a) financial system or corporate governance, (b) industrial relations, (c) education and training systems, (d) inter-company relations, and (e) internal structure. Consequently, the nature of coordination developed in an economy constitutes the institutional comparative advantage of the well-suited to this institutional environment enterprise, while the nature also characterises the variety. The basic varieties are two, considering the coordination among the actors and institutions of a capitalist economy. The one is the *liberal market economy,* where the coordination is achieved by the market forces, while the other one is the *coordinated market economy,* where the coordination is based on a closely strategic partnership among the actors. After the enrichment of the initial approach with Hancke's *et al.* (2007) "beyond varieties of capitalism" analysis and the emphasis to the role of the state in achieving coordination, a third variety seems to appear. This is the *statist market economy,* where the coordination is achieved by state intervention in the fields that cooperative institutions are absent. This type is also characterized as *mediterranean* (Rhodes, 1997; Hall and Soskice, 2001; Rhodes, 2005); *mixed market economies* (Hall and Gingerich, 2004; Molina and Rhodes, 2005); *state-enhanced capitalism* (Schmidt, 2002); *dysfunctional state capitalism* (Della Sala, 2004); *latin capitalism* (Rhodes and Appeldoorn, 1997).

At a first glance, the analysis of the above mentioned structural characteristics underlines the existence of three basic types of EU-14 financial systems, during the phase of "financial euphoria":

(a) The *market-centered* system, that is characterized by high levels of financial development, significant role of financial markets (investment funds, pension funds and insurance companies) and absence of state intervention (i.e. UK, Ireland, The Netherlands, Denmark, Sweden, etc.).

(b) The *bank-centered* system, which is characterized by relatively moderate financial development, dominant role of banks and substantial absence of state intervention (i.e. Germany, Austria, Belgium, Finland).

(c) The *state-centered* system, which is characterized by relative low levels of financial development, dominant role of banks and direct involvement of the state (i.e. Greece, Portugal, Italy, Spain).

Table 3. Percentage of Banking Market's Assets of Banks that are 50% or more Government Owned

	1995	1999	2001	2005
United Kingdom	0.00	0.00	0.00	n.a.
Ireland	4.50	n.a.	n.a.	n.a.
The Netherlands	10.30	5.90	3.90	4.50
Sweden	29.61	0.00	0.00	0.00
Denmark	8.87	0.00	0.00	0.00
France	22.42	n.a.	n.a.	0.30
Finland	30.65	21.90	0.00	0.00
Germany	37.47	42.00	42.20	40.00
Austria	70.17	4.10	0.00	0.00
Belgium	22.29	n.a.	0.00	0.00
Italy	27.81	17.00	10.00	9.30
Spain	0.00	0.00	0.00	0.00
Portugal	23.73	20.80	22.80	25.00
Greece	84.09	13.00	22.80	n.a.

Details: The 1995 indicator, from La Porta *et al.* (2002), represents the percentage of banking market's assets of the 10 largest banks that are 50% or more government owned.
Source: La Porta et al. (2002) and World Bank (2000, 2003 and 2008)

These types are largely harmonized with Hall and Soskice's (2001) -as enriched by Hancke *et al.* (2007)- *varieties of capitalism*. However, in order to develop a comparative analysis framework of the EU-14 financial systems, during the "financial euphoria" phase of capitalism, it is crucial to detect and study the fields of financial intermediation on which coordination among actors and institutions is taking place. A basic field of intermediation in a financial system is its funding from the households and individuals and, particularly, the nexus between households' orientation considering savings or/and investments in an economy and the structure of the financial system.

In this paper we review the literature that discusses the relation between financial system's structural characteristics and the privatization of risk and income inequality, as factors that illustrate the investment orientation of households. We also analyse and empirically search for this nexus in the EU-14 financial systems during the "financial euphoria" phase, and we reach to concluding thoughts that elaborate the discussion for the development of the *varieties of financial capitalism* approach.

2. Literature Review and Theory: Income Inequality and Privatization of Risk

The funding of the financial system from the households and individuals is a fundamental dimension of the intermediation process and is mainly determined by the investment orientation of households and individuals. This orientation is substantially characterized by two choices, concerning the channeling of households' surplus funds to the financial system. The one choice of the household is to deposit its savings to banks and other savings institutions. The other choice is to invest its earnings to products of the capital market or/and to the market of private pensions and insurance.

According to the related literature, the household's choice between deposits and investment is determined by its income status. In particular, high-income households tend to have greater demand of high-risk and high-return assets and, thus, greater demand for capital market's products (stocks, corporate bonds, derivatives, securitized assets, etc.). This orientation results from the household's ability to absorb medium-term investment risks without harming its income status. Medium-income households

are characterized by a quite conservative and risk-averse investment philosophy and have a greater preference to bank deposits. This philosophy derives from their inability to absorb investment risks without harming their income status. Finally, low-income households -when they have the ability to save- choose to hold their savings in cash or high liquid bank deposits (Vitols, 2001, 2004; Jackson and Deeg, 2006; von Mettenheim, 2006).

However, a prerequisite for the above mentioned relation between the income level and the investment orientation is an adequate level of financial development. This is necessary in order the market supply to correspond to demand, because the higher is the level of financial development, the broader is the range of offered deposits and financial products. So, high-income households have many options to invest in the national financial system. On the contrary, in a case with low levels of financial development the small range of investment opportunities restricts high-income households either to invest in the offered financial and particular banking products or to invest abroad.

Thus, the investment orientation of households in economies with high income inequality (large share of high-income households) and financial development is expected to support the structural characteristics of a *market-centered* financial system (Vitols, 2001, 2004). In economies with low income inequality (large share of medium-income households) and high financial development, the investment orientation of households is expected to support -through the preference to deposits- the structural characteristics of a *bank-centered* financial system. However, in economies with low financial development and high income inequality, the investment orientation of households is possible to support the "traditional" characteristics of the financial system, because of the preference to bank deposits and to investments abroad.

In parallel with the income status, the investment orientation of the households is also determined by the nature and structure of the pension scheme, as it affects significantly individual's expectations for the future income status and, particularly, their wealth during the retirement period. The pension scheme can be public with mandatory and redistributive characteristics, in order to secure a basic or specific level of income replacement during the retirement period. Such a scheme can be based on defined benefits logic; points system; and notional accounts system. The pension scheme can also be private, occupational or personal, with mandatory or voluntary characteristics in order either to replace or to increase income during the retirement period. Private pension schemes are based on defined benefits logic and, mainly, on defined contributions logic (OECD, 2005).

Considering the relation with the structure of the financial system, private occupational or personal schemes based on defined contributions are expected to support the characteristics of a *market-centered* financial system (Jackson and Vitols, 2001). This relation is attributed to the increased share of private pension funds and private insurance corporations in the financial system; the risky (in relation to the public schemes) investment strategies of the private schemes in order to achieve high returns; and the tactic -especially of high-income individuals- of hedging the risks of a defined contributions (compared to defined benefits) system, by investing also in other individualistic retirement products. However, in case the private occupational scheme is based on defined benefits, the positive effect to the growth of a *market-centered* financial system is reduced as the management of the pension fund is less prone to high-risk investment in order to ensure the agreed pension and the low risk of the defined benefits (compared to defined contributions) allow individuals -especially of medium-income levels- to follow conservative investment tactic. The relative

conservative strategy of the management of a private occupational pension fund based on defined benefits is enhanced in the case of a small sized fund that is connected with a specific corporation, as the fund's investment orientation is mainly focused on the corporation needs (Jackson and Vitols, 2001). It is a philosophy of long-term strategic partnership (or coordination) among the stakeholders of a corporation that is detected in *bank-centered* financial systems. The above mentioned cases of private pension schemes is accompanied by (limited or not) public pension schemes for the low-income groups.

There are also economies where the pension system is dominated by mandatory and "solidaristic" public schemes that are based either to defined benefits or to basic income guarantee. These schemes are funded by the contribution of employers and employees and the grants of the state, while the benefits are based on a redistributive logic among employees, but also among generations. So, in a case of generous and extended public pension scheme, the effect on the growth of capital and private pension markets is significantly reduced, as the space for the development of private pension funds and insurance corporations is limited because of the limited demand; the management of the public funds is risk-averse and largely state-led because of the high preference to investment in public debt; and the conservative investment logic (i.e. deposits) of the individuals as the income replacement rate during the retirement period is high and secure. Thus, a generous and extended public pension scheme is expected to contribute to the maintenance of a *state-centered* financial system.

So, the more a household bases its wealth during the retirement period in private pension and insurance schemes -because of the absence or limited extension of the public schemes- the bigger is the privatization of risk, meaning the degree of the household's exposure to the risk of fluctuations and expected returns of the capital, money and stock markets (Westrup, 2006, 2007; Vitols, 2004). In parallel, the privatization of risk is increased by the extent to which a household moves its investment orientation from conservative bank deposits to risky investments in products of the capital and stock markets.

Thus, according to above mentioned literature and theory, in economies with extended private occupational and personal pension schemes, based on defined contributions (i.e. high privatization of risk), high income inequality and high levels of financial development, dynamics that support the growth of a *market-centered* financial system are expected to occur. In economies with mixed -private and public-pension system (i.e. modest privatization of risk) related or not with corporations, low income inequality and high levels of financial development, preferences that support the maintenance of a *bank-centered* financial system are more possible to occur. In economics with generous and extended public pension schemes (i.e. low privatization of risk), high income inequality and relative low levels of financial development, conservative dynamics that strengthen the maintenance of a bank-based *state-centered* financial system are expected to occur. This nexus between the structure of the financial system and the investment orientation of households is investigated descriptively and empirical in the EU-14in the following sections.

3. Financial Intermediation Funding in the EU

The EU-15 economies are an ideal case for a comparative political economy analysis, as it is a group of advanced economies, with common institutional route in the framework of the European integration (and Euro Area for the most of them) and similar or convergent levels of economic and financial development (in comparison with the rest of the world). The comparative analysis does not include the case of

Luxembourg because of the extreme divergence between the size and the structure of the national economy and the size and growth of the financial sector. So, the comparative analysis, considering the funding of financial intermediation from households and individuals, is focused on the EU-14 economies during the "financial euphoria" phase.

As described above, the investment orientation of the households is partly determined by their income status and the level of financial development, underlying a positive relation between high income inequality and growth of the capital and private pension markets. This relation is clearly observed in the cases of UK and Ireland, two of the core *market-centered* financial systems (Table 3). The liberal market economies of the UK and Ireland -as labelled by the *varieties of capitalism* approach- are characterized by limited state involvement, flexible schemes of employment, competitive markets, relative low taxation on economic activity and a non-extensive welfare state. The high inequality levels of UK and Ireland are followed -as was expected by the theory- by a households' investment orientation to products of the financial markets. In particular, the degree of bank deposits' importance in relation with the assets of the financial markets is relative low in the UK and Ireland (Table 5) and UK households seemed to prefer investing in financial assets more than in bank deposits (Table 6).[6]

However, in other economies with *market-centered* financial systems, like the Netherlands, Denmark and Sweden, the levels of income inequality are low. This is attributed mainly to the extent of the welfare state in these economies. In particular, the Dutch welfare state, which was developed during the last decades of the 20thcentury, managed to decrease long-term inequality and poverty (Muffels *et al.*, 2000), even though during the last decade it entered to a reformative process that increased its liberal features (Caminada and Goudswaard, 2001). Despite the low levels of income inequality, the importance of bank deposits in relation with the Dutch financial markets is relative low (Table 5) and there is a strong investment orientation of the households to products of the financial markets (Table 6), supporting the growth of a *market-centered* financial system.

Table 4. Income Inequality (Gini coefficient)

	1999-2001	2002-2004	2005-2007
United Kingdom	33.0	34.5	33.2
Ireland	30.3	31.1	31.7
The Netherlands	27.3	27.0	27.0
Sweden	23.0	23.0	23.6
Denmark	25.0	n.a.	27.8
France	28.0	27.4	27.2
Finland	25.0	25.8	26.0
Germany	25.0	n.a.	27.8
Austria	24.7	26.6	25.9
Belgium	29.0	27.2	27.4
Italy	29.3	33.2	32.4
Spain	32.7	30.9	31.4
Portugal	36.3	37.8	37.5
Greece	33.3	33.9	33.9

Source: Eurostat (2008)

[6] There is a high possibility that the specific indicator would be higher both in Ireland and UK in case there were available data considering net equity in pension funds for UK and investment fund shares for Ireland.

The strong welfare state is what characterises the Scandinavian economies and distinguishes them -in terms of the *varieties of capitalism* approach- from the liberal market economy model. The extended and generous welfare state of the *northern*, *Scandinavian* or *social democratic model* is based, according to Espring-Andersen (1990), on the established importance of social security; the institutionalization of a social solidarity culture that is depicted in the welfare state; and the redistributive logic of social policy that is accompanied by high tax burden to high income households. Thus, the inequality dynamics that could come up in an open market economy, that followed a liberalization path, were restricted, keeping income inequality low -with Sweden presenting the lowest levels. The reduction of the potential share of high-income households (that would easily invest their earnings in risky and high return products) is not expected to support the growth of the capital market and, hence, the dynamic part of a *market-centered* financial system. This difference does not allow the full categorization of Sweden and Denmark under the *market-centered* type, but can lead to their sub-grouping into a *Scandinavian market-centered* version of the financial system. Furthermore, the low levels of income inequality are not accompanied by a conservative investment orientation to bank deposits, as in both countries the importance of bank deposits is relative low (Table 5), while the household's -despite theory- showed strong preference to investments in financial assets in relation to deposits (Table 6). In particular, this investment orientation is focused on the private pension and insurance markets and not on capital markets, as -again- a result of the broader social system of these countries that include mandatory private pension and insurance schemes (OECD, 2005; 2007b; 2009 and 2011). In particular, Sweden, Denmark and the Netherlands are the only EU-14 economies where the pension replacement rate is based, apart from mandatory public schemes, also to private mandatory ones, directing households' funds to private pension funds and private insurance corporations.

Table 5. Deposits of Non Credit Institutions in Credit Institutions (percentage of the financial markets' total assets)

	1999-2001	2002-2004	2005-2007
United Kingdom	50.2	64.8	80.8
Ireland	64.3	49.8	39.7
The Netherlands	56.3	66.7	69.1
Sweden	33.8	37.6	35.6
Denmark	88.6	52.5	47.4
France	70.3	73.0	61.6
Finland	144.0	93.3	96.6
Germany	136.8	130.3	104.8
Austria	130.4	125.0	105.6
Belgium	150.8	159.9	143.8
Italy	89.5	109.8	107.2
Spain	182.8	203.6	216.9
Portugal	198.4	185.6	161.4
Greece	333.7	567.0	602.0

Source: ECB (2003, 2004, 2005, 2006, 2007, 2008 and 2010a)

Table 6. Households Financial Assets (percentage of total deposit of non-credit institutions to credit institutions)

	2000-2003	2004-2007
United Kingdom*	125.6	103.8
Ireland**	45.1	45.7
The Netherlands	132.4	123.4
Sweden	149.7	150.9
Denmark	179.2	162.3
France	93.9	94.6
Finland	41.4	52.8
Germany	60.8	66.1
Austria	38.1	42.9
Belgium	61.1	63.0
Italy	104.6	94.3
Spain	43.4	49.8
Portugal	40.5	35.2
Greece	20.3	14.0

Details: The indicator of financial assets is the sum of investment fund shares, net equity in pension funds and net equity in life insurance.
* There is no available data for net equity in pension funds.
** There is no available data for investment fund shares.
Source: OECD (2009) and ECB (2003, 2004, 2005, 2006, 2007, 2008 and 2010a)

The enhanced welfare state is also a fundamental component of coordinated market economies -in terms of the *varieties of capitalism* approach. Therefore, the levels of income inequality in Germany, Austria and Belgium are low (Table 4). This is attributed to a more risk-averse and conservative investment orientation of a large share of the households, which decided to invest their savings in bank deposits. Their preference to the safe returns of deposits is depicted in the importance of them (Table 5) and the limited investment of households in financial assets (Table 6). It is worth noting that in Germany and Austria income inequality increased during the last decade as a consequence of labour market reforms, negative demographic developments and inability of the welfare state to tackle effectively the impacts of an open market economy (OECD, 2008). In other cases, like the one of France, which was characterized by lack of corporatist structures and state intervention (Mugge, 2005), labour market reforms contributed to the reduction of income inequality (OECD, 2008), retaining it at low levels. However, the investment orientation could not be characterized as conservative, even though the importance of bank deposits was higher compared to the *market-centered* financial systems (Table 5). Households in France showed a bigger preference to financial assets than the economies of the central or southern Europe (Table 6), which is attributed to a gradual turn of the investment orientation to private insurance schemes in an environment of a broader bancassurance development -as in Belgium (Timmermmans, 2007; Chang, 2011). So, France is located, during the "financial euphoria" phase in a middle field, between *market-centered* and *bank-centered* financial systems, while the latter are located -considering financial development- between the *market-centered* and the *state-centered* financial systems of the South Europe.

Table 7. Gross Pension Replacement Rate from Public Mandatory Schemes (percentage of individual earnings)

	2002	2004	2006	2008
United Kingdom	37.1	30.8	30.8	31.9
Ireland	30.6	32.5	34.2	29.0
The Netherlands	34.6	31.7	30.2	29.2
Sweden	37.4	33.3	37.8	31.1
Denmark	39.7	33.3	22.9	28.9
France	52.9	51.2	53.3	49.1
Finland	71.5	63.4	56.2	57.8
Germany	45.8	39.9	43.0	42.0
Austria	78.3	80.1	80.1	76.6
Belgium	40.7	40.4	42.0	42.0
Italy	78.8	67.9	67.9	64.5
Spain	81.2	81.2	81.2	81.2
Portugal	66.7	54.1	53.9	53.9
Greece	84.0	95.7	95.7	95.7

Source: OECD (2005, 2007b, 2009 and 2011)

Higher income inequality is detected in the southern European economies as a result of the state intervention that negatively affects the efficiency of the developmental process and the peculiar welfare state. In particular, welfare state is extensive but inefficient, as from the one hand absorbs a large share of the produced income through high taxation from the market and, on the other hand, distributes unequally and without transparency the social resources (Ferrera, 1996; Rhodes, 1996; Sotiropoulos, 2007; Matsagganis and Leventi, 2010). This unequal distribution of social resources contributed to the emergence of privileged social groups with higher benefits from those that needed more the welfare state's aid. Hence, in contrast to its size, the welfare state in Greece, Spain, Portugal and Italy failed to deal with income inequalities that came up from the economy's distorted function. However, the relative low financial development and, hence, the low supply of financial products has affected the investment orientation of the households, which remained quite conservative. The degree of deposits' importance -compared to the financial markets- in Greece, Spain and Portugal is among the highest (Table 5), while households' preference in financial assets is among the lowest (Table 6).[7] Italy is a small exception of the *state-centered* type as the households' preference to financial assets, compared to deposits, is higher than in other southern European economies. This development is attributed on the reforms -that took place at the end of the 90s- considering the formation of financial products and financial assets management corporations; the reduction of the pension replacement rate that affected negatively the households estimations for the retirement wealth; the decrease of government bonds supply; the deceleration of real interest rates; and the banks' expansion to the provision of financial products and services (Desario, 2001). This shift of investment orientation led to a four times increase of the assets of the Italian investment funds during the period 1996 – 2000, while this trend continued during the next decade (Banca D'Italia, 2001; 2002; 2004; 2005 and 2006).

[7] The investment orientation of the high-income households is focused either on saving products of the national banking market or on saving products and the financial assets of international markets.

Table 8. Total Assets of Pension Funds and Insurance Corporations (percentage of GDP)

	1995-1998	1999-2001	2002-2004	2005-2007
United Kingdom	185.2	197.9	205.3	182.8
Ireland	69.1	100.8	92.8	129.2
The Netherlands	146.4	173.9	161.7	192.1
Sweden	96.8	112.5	95.3	103.7
Denmark	68.1	80.3	81.9	97.8
France	44.9	54.6	59.1	69.3
Finland	23.2	28.3	40.0	31.0
Germany	35.6	42.9	54.4	67.8
Austria	25.6	29.9	32.0	36.7
Belgium	36.1	48.6	55.6	66.9
Italy	16.3	24.2	29.8	37.8
Spain	26.0	32.3	35.0	43.1
Portugal	21.7	27.7	30.8	32.7
Greece	6.8	7.2	6.4	8.3

Source: ECB (2003, 2004, 2005, 2006, 2007, 2008 and 2010a)

Table 9. Gross Pension Replacement Rate from Public Mandatory Pension Schemes and from Private Mandatory and/or Voluntary Pension Schemes (percentage of total replacement rate)

	2006		2008	
	Public	Private	Public	Private
United Kingdom	44	56	47	53
Ireland	46	54	44	56
The Netherlands	34	66	33	67
Sweden	61	39	58	42
Denmark	29	71	36	64
France	100	0	100	0
Finland	100	0	100	0
Germany	70	30	71	29
Austria	100	0	100	0
Belgium	72	28	73	27
Italy	100	0	100	0
Spain	100	0	100	0
Portugal	100	0	100	0
Greece	100	0	100	0

Source: OECD (2009 and 2011)

Along with the income status, the investment orientation of households is also determined by the structure and the nature of the pension system, as its characteristics are those that affect households' projections for their wealth during the retirement period. Thus, in liberal market and Scandinavian economies, where the gross pension replacement rate from public mandatory schemes is very low (Table 7), households invest their earning or/and savings to private pension and insurance schemes. Particularly in the case of the Scandinavian economies, this investment orientation is directed by the welfare state, as a large share of the private schemes is mandatory. Consequently, UK, Ireland, the Netherlands, Sweden and Denmark are characterized by large private pension and insurance market that contributed to the growth of the market-based dimension of the financial system (Table 8). Furthermore, the

investment orientation of the households towards financial assets is increased by the relative low participation of the public pension scheme to the gross pension replacement rate (Table 9), while the gradual dominance of private pension schemes, based on defined contributions (i.e. UK, Ireland, Sweden and Denmark), further enhanced the privatization of risk that is positively linked with the growth of *market-centered* financial systems (Table 10).

To the other side of the spectrum, are the statist market economies, Greece, Spain, Italy and Portugal, where the gross pension replacement rate is high (Table 7) -in Greece overcame 90%; the share of private pension and insurance market in the economy is very low (Table 8) -in Greece total assets of this market as a percentage of GDP were lower than 10%; the replacement rate is fully covered by generous public pension schemes (Table 9); the pension schemes are based on defined benefits system, with the exception of Italy that was based on a notional accounts system (Table 10). Thus, the privatization of risk is quite low and the investment orientation of the households does not support the market-based dimension of the financial system, but remained conservative and focused mainly on the bank-based dimension.

Table 10. Structure of Pension Systems

	2002	2004	2006	2008
United Kingdom	Public (Basic&DB) / Private (DB&DC)	Public (Basic&DB) / Private (DB&DC)	Public (Basic&DB) / Private (DB&DC)	Public (Basic&DB) / Private (DC)
Ireland	Public (Basic) / Private (DB&DC)	Public (Basic) / Private (DB&DC)	Public (Basic) / Private (DB&DC)	Public (Basic) / Private (DC)
The Netherlands	Public (Basic) / Private (DB)	Public (Basic) / Private (DB)	Public (Basic) / Private (DB)	Public (Basic) / Private (DB)
Sweden	Public (Basic&Notional Accounts) / Private (DB&DC)	Public (Basic&Notional Accounts) / Private (DC)	Public (Basic&Notional Accounts) / Private (DB&DC)	Public (Basic&Notional Accounts) / Private (DC)
Denmark	Public (Basic&DB) / Private (DB&DC)	Public (Basic) / Private (DC)	Public (Basic) / Private (DC)	Public (Basic) / Private (DC)
France	Public (Basic&DB+Points)	Public (Basic&DB+Points)	Public (Basic&DB+Points)	Public (Basic&DB+Points)
Finland	Public (Basic&DB)	Public (Basic&DB)	Public (Basic&DB)	Public (Basic&DB)
Germany	Public (Basic&DB)	Public (Basic&DB)	Public (Points) / Private (DC)	Public (Basic&Points) / Private (DC)
Austria	Public (Basic&DB)	Public (Basic&DB)	Public (DB)	Public (DB)
Belgium	Public (Basic&DB)	Public (Basic&DB)	Public (Basic&DB)	Public (Basic&DB) / Private (DC)
Italy	Public (Basic&Notional Accounts)	Public (Basic&Notional Accounts)	Public (Basic&Notional Accounts)	Public (Basic&Notional Accounts)
Spain	Public (Basic&DB)	Public (Basic&DB)	Public (Basic&DB)	Public (Basic&DB)
Portugal	Public (Basic&DB)	Public (Basic&DB)	Public (Basic&DB)	Public (Basic&DB)
Greece	Public (Basic&DB)	Public (Basic&DB)	Public (Basic&DB)	Public (Basic&DB)

Details: DB=defined benefits; DC=defined contributions
Source: OECD (2005, 2007b, 2009 and 2011)

About the same situation is observed in Germany, Belgium, Austria and Finland, as the gross pension replacement rate is higher compared to the *market-centered* financial systems (Table 7); the share of private pension and insurance market in the economy is low (Table 8); the replacement rate is covered fully or mostly by public pension schemes (Table 9); the pension schemes are based on defined benefits system and on defined contributions, considering some cases of private schemes (Table 10). As a result, these conditions contributed to levels of privatization of risk that are lower than those in liberal market and Scandinavian economies, supporting the bank-based dimension of the financial system. This picture is also observed in the case of France,

with a difference: France is an economy with larger, than the *bank-centered* financial systems, private pension and insurance market as a result of the development of bancassurance.

The descriptive analysis of the EU-14 financial systems corresponds to the theoretical discussion about the strong relation of the investment orientation of households -as determined by the income status and the privatization of risk- and the structure of the financial system. In particular, the analysis indicates that specific characteristics of the household's investment orientation are related to corresponding types of financial systems. So, the next step, before conclusions, about this relation is the empirical investigation of the trends of this relation.

4. Empirical Specification and Findings

Given the above mentioned considerations of the literature and the theoretical background, an econometric analysis is specified in order to examine the trends and the effect of investment orientation of households on the structure of the financial system. The equation used to study this relation is specified as follows:

$$Inv_{it} = \beta_1 Inv_{i,t-1} + \beta_2 Gin_{it} + \beta_3 Pen_{it-2} + \beta_4 Dep_{it} + \beta_5 Gro_{it} + u_{it}, \quad (1)$$

where the importance of financial markets in the financial system, *Inv*, is written as a function of income inequality, *Gin*; lagged variable for the nature of the pension system, *Pen*; importance of deposits in the economy, *Dep*; growth rate of the financial system, *Gro*; and the error term *u*. In particular, *Inv* is the share of assets of investment funds, pension funds and insurance corporations to total assets of the financial system. Given that the banking market is the market that completes -with the above mentioned three markets- the financial system, a positive effect of an independent variable to the dependent one (i.e. the importance of financial markets in a system), is translated into negative effect to the importance of the banking market and vice versa. Variable *Gin* is the Gini coefficient indicator for income inequality. *Pen* is a two-year lagged dummy variable that reflects the nature of the pension system, as it is determined by the gross pension mandatory replacement rate and the rate this replacement is based on public pension schemes.[8] Considering the values of the variable, 1 characterises pension systems with gross mandatory pension replacement rate higher of 50% of the individual earnings and the mandatory replacement comes by 100% from public pension schemes; and 0 characterises the other pension systems. *Dep* reflects the importance of bank deposits to an economy (as percentage of GDP) and *Gro* depicts the growth dynamics of the financial system (growth rate of total financial system assets), as the level of financial development is crucial for the investment orientation.

In order to deal with the concerns about the dynamic nature of the development of financial markets and potential endogeneity, the lagged dependent variable is included among the regressors and the econometric method that is used to estimate the equation is the Arellano and Bover (1995)/Blundell and Bond (1998) estimator for dynamic panels. It is a Generalized Method of Moments (GMM) estimator that advanced the Arellano and Bond (1991)[9] dynamic panel data estimator and is designed for panel

[8] Given that the gross replacement rate and its public nature match up only one dummy variable is necessary. Furthermore, the two-year lag reflects the time inconsistency between a change in the nature of the pension system and a (following) turn to the investment orientation of households.

[9] According to Roodman (2006), "*[...] the Arellano and Bover (1995) / Blundell and Bond (1998) estimator augments Arellano and Bond (1991) by making an additional assumption, that first differences of instrumenting variables are uncorrelated with the fixed effects. This allows the*

data analysis situations, where, among others, (a) the left-hand-side variable is dynamic and depends on its own past realizations, as is the level of development of the financial markets; (b) the panels are characterised by few time periods (small T) and more than the time periods economies (large N) -in the current study the analysis is focused in the period 1997-2007 and on the EU-14 economies; (c) the independent variables are not strictly exogenous; and (d) there is autocorrelation and heteroskedasticity within economies but not across them, which is dealt with the use of robust standard errors.

The right-hand-side variables reflect the investment orientation of households that is based on income status and on the privatization of risk (Vitols, 2001, 2004; Westrup, 2006, 2007). In particular, these are (a) the income inequality in an economy that reflects the relation between the income status of the majority of the households and their investment orientation that support market-based or the bank-based dimension of the financial system (Jackson and Vitols, 2001; Vitols, 2001, 2004; von Mettenheim, 2006); (b) the public nature of the pension system that affects the exposure of households to the risk of assets in the financial and private pension market and, hence, contributing to the structure of the financial system (Jackson and Vitols, 2001; Westrup, 2006, 2007; Vitols, 2004); (c) the deposits that reflect the relation of the conservative attitude of the households and the nature of the financial system (Hall and Soskice, 2001; Vitols, 2001, 2004; Jackson and Deeg, 2006; von Mettenheim, 2006); and (d) the growth of the financial system capturing the relation of financial development to the nature of the financial system (Zysman, 1983; Dosi, 1990; Levine and Zervos, 1998; Allen and Gale, 2000; Hall and Soskice, 2001; Levine, 2002; Rajan and Zingales, 2003; Vitols, 2004; Mettenheim, 2009). So, the relative literature validates the selection and use of the above mentioned instruments in the model, while first and second order autocorrelation is detected by the Arellano and Bond (1991) test in order to verify that estimations are consistent. Furthermore, the Wald test (1943) is used in order to verify the goodness of fit of the regression and the interpretive importance of the variables. Finally, the robustness of the instruments' coefficients that come up from the empirical investigation enhanced by the use of the robust standard errors method in the Arellano and Bover (1995) / Blundell and Bond (1998) estimator.

The examination of the effect of investment orientation on the structure of the financial system is based on country-level data. The sample includes data from EU-14 countries, for which data is available over the period 1997 - 2007. Data for the assets of the markets of a financial system are derived from ECB; for the Gini coefficient from Eurostat; for the nature of the pension system from OECD reports; and for bank deposits from ECB. In parallel, the empirical analysis is not focused only to the initial sample of the EU-14 countries, but also took place in subsamples in order to capture potential changes in the trend, the level and the significance of the coefficient of the instruments, when the sample includes (or excludes) financial systems with common structural characteristics. Particularly, the empirical analysis also focuses on (a) the advanced financial systems of the EU-14 sample (i.e. *market-centered* systems and *bank-centered* systems), in order to have a clear picture of the nexus in the higher levels of financial development; (b) the financial systems with a dominant role of the banking market (i.e. *bank-centered* systems and *state-centered* systems), so as to capture potential changes when the analysis refers to financial systems with more traditional characteristics; and (c) the total systems or advanced systems without the

introduction of more instruments, and can dramatically improve efficiency. It builds a system of two equations -the original equation as well as the transformed one- and is known as system GMM [...]".

Scandinavian (i.e. Sweden and Denmark) systems, because of the nature of their welfare state that theoretically affects the relation between income inequality and investment orientation.

The results of the empirical estimation are reported in Tables 11 and 12, as obtained from a number of different specifications considering the sample of the empirical analysis. All specifications seem to fit the panel reasonably well, as indicated from the Wald test. In parallel, even though in all estimations there are indications that first-order autocorrelation (AR1) is present (as the null hypothesis of no serial correlation is not rejected), this does not indicate that the estimates are inconsistent. Inconsistency would be implied if second-order autocorrelation was present (Blundell and Bond, 1998), but this case is rejected by the test for AR2 errors in all versions of the equation in Tables 11 and 12. Furthermore, most of the results in all versions of the equation are characterized by high statistical significance, allowing, thus, the extraction of indications about the effect and the trends of the variables under investigation.

Table11. Investment Orientation of Households and Financial Structure in the EU-14

	I	II	III
Variable \ Sample or Subsample	**All Financial Systems**	**Market-centered and Bank-centered Financial Systems**	**Bank-centered and State-centered Financial Systems**
Financial markets (t-1)	0.518***	0.525***	0.716***
	(0.125)	(0.119)	(0.102)
Income inequality	0.004	0.007***	-0.001
	(0.003)	(0.002)	(0.001)
Public pension system (t-2)	-0.059**	-0.046***	-0.035***
	(0.027)	(0.015)	(0.013)
Deposits	-0.066***	-0.067***	-0.065***
	(0.007)	(0.008)	(0.017)
Financial growth	0.252***	0.282***	0.107***
	(0.066)	(0.064)	(0.033)
Constant term	0.096	0.013	0.187***
	(0.082)	(0.053)	(0.060)
Wald (p-value)	0.0000	0.0000	0.0000
AR (1) (p-value)	0.0042	0.0099	0.0477
AR (2) (p-value)	0.8701	0.6326	0.2572
Observations	126	90	72
Number of financial systems	14	10	8

Details: The estimator uses the method of robust standard errors and ***, **, and * indicate 1, 5 and 10 % significance levels, respectively.

The results reported in columns I, II and III of Table 11, correspond to the causal relations developed in the theoretical framework and the relative literature. In particular, the importance of financial markets (*Inv*) is significantly affected from its level in the previous year for all the versions of the empirical analysis of the equation, as a positive cumulative result of the development of the markets within which operate investment funds, private pension funds and insurance corporations. The coefficient becomes higher when the analysis is focused on the bank-based financial systems (column III), indicating that due to the conservative and bank-based nature of the subsample's systems and their relative lower levels of financial development (and hence lower levels of innovation and complexity), the growth of financial markets is based more on the activity of investment institutions. The variable of the public nature

of the pension system (*Pen*) corresponds to the theoretical discussion and affects negatively the growth of financial markets in all three versions of the analysis of Table 11. This result reflects the fact that a generous and extensive (mandatory) pension scheme, from the one hand does not allow (or crowds out) -in terms of demand and supply- the development of a private pension and insurance market and, on the other hand, keeps the privatization of risk in relative low or modest levels (Jackson and Vitols, 2001; Westrup, 2006, 2007). So, a generous public pension scheme supports the conservative dimension of the financial system that is located in the banking market. It is a relation that is reflected in the estimations on *Pen,* as a negative effect on the importance of financial markets is translated into positive effect on the importance of the banking market.

Table 12. Investment Orientation of Households and Financial Structure in the EU-14 (excluding Scandinavian financial systems)

	I	II
Variable \ Sample or Subsample	**All Financial Systems (Excluding Scandinavian Market-centered)**	**Market-centered (Excluding Scandinavian Market-centered) and Bank-centered Financial Systems**
Financial markets (t-1)	0.490***	0.484***
	(0.147)	(0.139)
Income inequality	0.003	0.009***
	(0.003)	(0.002)
Public pension system (t-2)	-0.073***	-0.040*
	(0.027)	(0.023)
Deposits	-0.069***	-0.066***
	(0.005)	(0.005)
Financial growth	0.244***	0.284***
	(0.074)	(0.069)
Constant term	0.119	-0.047
	(0.090)	(0.052)
Wald (p-value)	0.0000	0.0000
AR (1) (p-value)	0.0081	0.0326
AR (2) (p-value)	0.7626	0.9186
Observations	108	72
Number of financial systems	12	8

Details: The estimator uses the method of robust standard errors and ***, **, and * indicate 1, 5 and 10 % significance levels, respectively.

The negative effect of the bank deposits (*Dep*) to the growth of the financial markets, in all three versions of the equation, corresponds to the theory and indicates that deposits constitute the traditional source of funding of the financial systems, where banks keep a dominant role (Hall and Soskice, 2001; Vitols, 2004). This result, also, contributes to the discussion on how the investment orientation of households affects the financial structure, as bank deposits are the conservative investment decision of medium-income households that support the bank-based dimension of a financial system. Therefore, this positive relationship between deposits and importance of the banking market in a financial system -as there is a negative relation with the importance of the financial markets- can be accepted as an indication for the relationship between the structure of the financial system and the income status of the households, that is reflected on their orientation to bank deposits or to financial assets' investment, as is suggested by the theory (Vitols, 2001, 2004; Jackson and Deeg,

2006; von Mettenheim, 2006). In parallel, the effect of the growth of the financial system (*Gro*) is strong and clear, as all three versions of the analysis indicate that the financial development process is mainly based on the markets of investment funds, pension funds and insurance corporations. This is attributed to the fact that financial markets and private pension and insurance markets are the area of a financial system that innovation and creation of new complex products and instruments are taking place. Thus, in *market-centered* financial systems that are characterized by a larger, than the other systems, share of the financial markets in the system, the level of financial development is high, while the level of financial development decreases, as the share of financial markets in a system is reduced. Therefore, the effect of the growth of the financial system is lower, where the analysis is focused on the relatively less development financial systems (i.e. *bank-centered* and *state-centered* financial systems), as the development is mainly attributed to the banking market (column III).

However, the variable that reflects the relationship between income status and structure of the financial system, *Gin*, for all the financial systems (column I), has a minor effect and is statistically non-significant, even though the tension corresponds to the theory which suggests that income inequality supports the growth of the financial markets in a system. However, this relationship, according to the previous analysis, is not detected in the case of the southern European economies, where the income inequality is high, while the level of the development of the financial system and the importance of the financial markets are both low. The impact of this kind of "paradox" is captured in the analysis on the sample, which excludes the *state-centered* financial systems (column II). In this analysis, the effect of income inequality is positive and significant, though still small. However, it provides an interesting indication for the relationship under question. The impact of the southern European "paradox" is also detected in the analysis that excludes the high developed *market-centered* financial systems, as the effect turns to negative because of the large share in the sample of the state-centered financial systems. Nevertheless, this effect is near 0 and, thus, non-significant.

In order to further examine the effect of income inequality on growth of the financial markets of a system, the empirical investigation is focused to samples that do not include the Scandinavian economies because of their characteristic welfare state. The results of the estimation, in both columns of the Table 12, are harmonized with those of Table 11, underlying the robustness of the model and the theoretical nexus that was discussed above. Considering the income inequality instrument, the exclusion of the Scandinavian model from the sample does not change the picture. In particular, the result of column I -where Scandinavian economies are excluded from the sample of all financial systems- is the same than that of column I of Table 11, while the result of the analysis focused on the advanced financial systems, without the Scandinavian ones, verifies this explainable "paradox" of the positive relationship of income inequality with bank-based financial systems, which are characterized by relative low levels of financial development. It is a relationship -even though its effect is very low- that clearly underlines the difference in the structure of the EU financial systems.

5. Concluding Remarks

This paper analyses the relationship between households' investment orientation -as determined by income inequality and privatization of risk- and structure of the EU-14 financial systems, during the "financial euphoria" phase of capitalism. After reviewing the related literature and developing the theoretical framework considering the financial structure, income inequality and privatization of risk nexus, a descriptive and

empirical analysis took place in order to examine the existence of the nexus and to detect the impact of the nexus concerning the development of structurally varied financial systems.

The results of the empirical analysis suggest that, in advanced financial systems, high income inequality has a positive effect on the growth of financial markets (i.e. markets of investment funds, pension funds and insurance corporations), while lower income inequality -as also reflected in the preference for bank deposits- has a positive effect on the support of the banking market. However, this relationship is reversed in the cases of the relative less developed financial systems, as income inequality is positively related with the dominance of banking market in a financial system. The empirical results also suggest a positive relationship between the privatization of risk -as reflected in the nature of the pension system- and the growth of financial markets in a system. In particular, a generous and extensive public pension scheme, that enhances the conservative investment orientation of households and, thus, keeps their expose to risk in low levels, has a negative effect on growth of financial markets. So, in financial systems with limited public pension schemes and, hence, high level of households' privatization of risk, the share of financial markets (especially private pension and insurance markets) in a system is high. Consequently and in general, both income inequality and privatization of risk seems to have a positive effect on growth of the market-based dimension of a financial system.

Furthermore, the descriptive and empirical analysis on the households' investment orientation allow the enrichment of the discussion, considering the structural differences of the financial systems in the EU, by adding the dimension of financial intermediation's funding from the households. Thus, based on the initial distinction, the types of financial systems, considering the funding from the households part of the intermediation process, are three.

(a) The *market-centered* type (i.e. high levels of financial development, significant role of financial markets, and absence of state intervention), that is characterized by high income inequality; private occupational and personal pension schemes, based on defined contributions system; and investment orientation of the households to products of the financial markets, contributing -alongside with the pension system- to high levels of privatization of risk (i.e. UK, Ireland, Netherlands[10]).This type also includes the Scandinavian financial systems (i.e. Denmark and Sweden as *Scandinavian market-centered* financial systems), despite the fact that income inequality is low, as their welfare state supports the development of private pension and insurance markets. There are also indications that the French financial system has followed a convergence path to the *market-centered* type, however a further research is needed through the remaining dimensions of the financial intermediation, in order to obtain a clear picture.

(b) The *bank-centered* type (i.e. moderate levels of financial development, dominant role of banks, and substantial absence of state intervention), that is characterized by low income inequality; pension systems with bigger (than the *market-centered* systems) involvement of the public sector; pension systems with both defined benefits and defined contributions schemes; and investment orientation of the households to bank deposits, contributing -alongside with the pension system- to the prevention of high privatization of risk (i.e. Germany, Austria, Belgium, Finland).

(c) The *state-centered* type (i.e. low levels of financial development, dominant role of banks, and state intervention), that is characterized by high income inequality; generous and extensive public pension schemes, which are based on defined benefits

[10] Even though the Netherlands present similarities with the Scandinavian economies concerning the welfare state, the high level of financial development and innovation that diachronically characterizes its financial system allows the grouping into the market-centered type of financial systems.

system; and investment orientation of the households to bank deposits, contributing - alongside with the pension system- to low levels of privatization of risk (i.e. Greece, Portugal, Italy, Spain).

These three types of financial systems contribute to the broader discussion of *varieties of capitalism,* by elaborating the approach and providing indications of extending it to a comparative approach, focused on financial intermediation as the core of the "financial euphoria" phase of capitalism. However, such an extension should also include into its analysis the rest two basic dimensions of the financial intermediation process: the funding from international and interbank markets and the financial system's funding to the economy. And this could lead to the development of the *varieties of financial capitalism* approach.

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