

The Little Reversal: Capital Markets and Financial Repression in Western Europe In the Second Half of the 20th Century

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ABSTRACT

Securities markets in Continental Europe remained relatively underdeveloped throughout the 20th century as compared with those of Anglo-Saxon countries. The “law and finance” strand of literature argues that their secular stagnation can be traced back to legal origins and explained in terms of path dependency – ie, due to the lower protection of shareholders’ and debtors’ rights guaranteed by commercial codes based on the civil law tradition. Recent studies, however, provide ample evidence that the long-term development pattern of securities markets in Europe was not monotonical, but rather follows the ebb and flow of globalization. In fact, capital markets were well developed in a number of civil law countries on the eve of WW1. A “Great Reversal” occurred in the interwar period, from which they did not recover fully until the 1990s. The paper argues that this view of a long-term U-shaped pattern does not reflect accurately the historical experience of European securities markets. In fact, a W-shaped pattern can be observed: securities markets noticeably recovered in the 1960s, before being again marginalized in the 1970s and 80s. The paper attempts to explain this “Little Reversal” within the context of the rise of financial repression regimes in Western Europe. The paper tests empirically the public finance hypothesis, which argues that financial repression is motivated by the government’s attempt to impose implicit taxation on domestic currency- and debt-holders, including the banking system. An index measuring the intensity of financial repression is constructed for a panel of 16 European countries in the period 1950-1991. The determinants of financial repression are then empirically investigated using cross-section time-series data for a set of economic, institutional and political variables.

INTRODUCTION

Capital markets are a fundamental component of financial development which is assumed to be critical in enhancing economic growth (King and Levine ...). Yet, modern history presents us with a major puzzle. In Western Europe, the core of the industrialized world until the 1970s, capital markets' development not only staggered far behind the Anglo-Saxon countries, but also did not keep pace with economic growth. Moreover, historically the size of capital markets in Western Europe showed significant cross-country variance and was related apparently neither to the size of the economy (GDP), nor to the level of economic development (GDP per capita). How can we explain this puzzling evidence? Why European and especially Continental capital markets remained relatively underdeveloped?

The paper argues that their relative backwardness was the result of a long-lasting regime of financial repression. Section 1 reviews the existing literature. Explanations based on "path dependency" based on legal origins are compared with a political economy approach which relates the retrenchment of securities markets to the backlash against globalization during the interwar period – a retreat which kept capital markets repressed and underdeveloped until the last two decades of the 20th century. Section 2 argues that this "Great Reversal" story, based on a U-shaped secular trend, does not reflect accurately the historical experience of Western European countries. Capital markets recovered significantly in the 1950s and 60s, before plunging again into heavy financially repressed regimes. A W-shaped historical trend better reflects this fact and points to the need to explain why financial repression increased in Western Europe from 1970 onwards. Section 3 measures the trend of financial repression by constructing a summary index of the intensity of financial repression for a sample of 16 European countries in the period 1950-1991. Section 4 uses this summary index as dependent variable in order empirically to explore the structural (i.e. macroeconomic, institutional and political) determinants of financial repression. Section 5 concludes.

(1) Explaining the secular underdevelopment of European capital markets: path dependency VS a "Great Reversal" story

Why European capital markets remained relatively underdeveloped, both relative to other industrialized countries and to the size and development of their economies, throughout the 20th century? A recent stream of literature argues that differences in the nature of financial

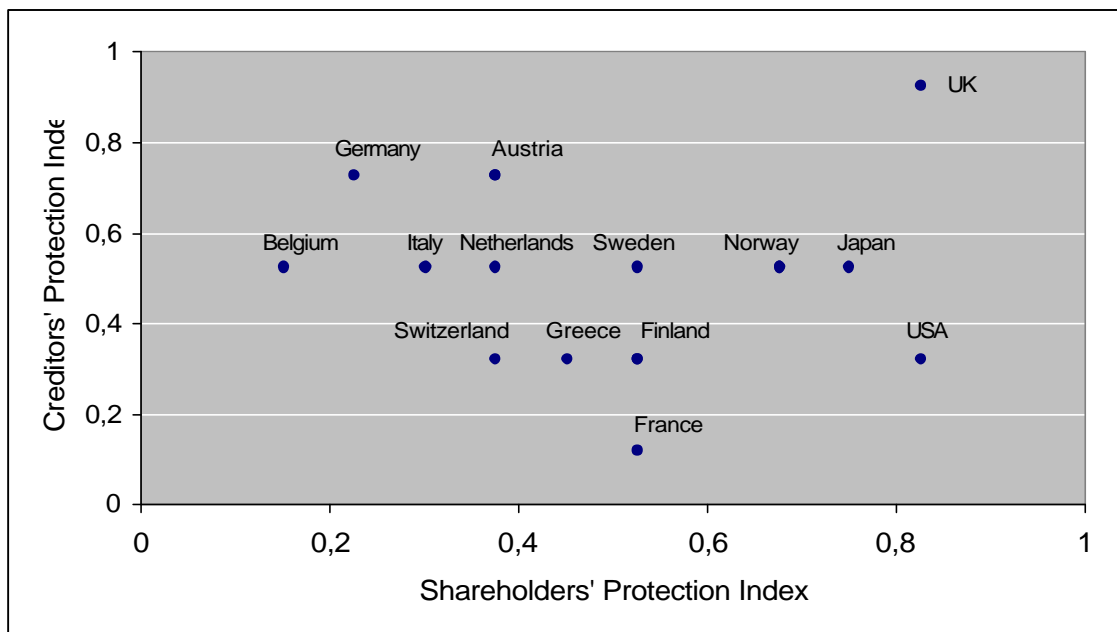
systems are basically determined by differences in legal rules that protect investors against expropriation by insiders as well as to differences in the effectiveness of their enforcement. External finance, the story goes, creates agency problems between investors and entrepreneurs (managers) – that is, problems of corporate governance such as moral hazard and adverse selection. The rights attached to securities – such as shareholders’ right to vote out directors, or creditors’ right to repossess collateral – depend on the legal system in which they are issued, and the level of protection investors receive determines their willingness to finance firms. Therefore, legal systems that give substantial rights to security holders and guarantee a credible enforcement of those rights are bound to promote larger and deeper capital markets.

The seminal contribution by La Porta et al. (1997 and 1998) emphasises that European legal traditions from which commercial laws originated differ widely as to protection of investors and enforcement of their rights (Reynolds and Flores 1989; Glendon et al 1994). They find that, as a general matter, company and bankruptcy laws rooted into the civil law tradition – originated in Roman law and subsequently branching out in French, German and Scandinavian families – give investors weaker legal rights than the Anglo-saxon common law tradition. This evidence is at least suggestive that cross-country differences in the development of capital markets can be traced back to differences in the legal and institutional set-up.

In order to assess the quality of protection of shareholders and creditors’ rights, La Porta et al. examine basic rules of corporate governance that are regarded as critical to the relationships between insiders, outsiders and corporate firms, are examined on a comparative base. As to shareholders’ rights, voting procedures are important in order to assess to what extent minority shareholders are protected against both large shareholders and managers. As to creditors’ rights (a somehow more complex issue, due to the existence of different kinds of creditors as well as different strategies open to defaulting firms, namely liquidation or reorganization), the balance of power between creditors and managers must be taken into account in order to assess the extent to which secured creditors are guaranteed rights either to repossess collateral or to condition reorganization. Other legal aspects that may be important, such as take over rules (relatively unimportant in Europe as a governance mechanism until recently), disclosure rules, and regulation imposed by security exchanges, are not taken into account.

Figure 1 elaborates on data provided by La Porta et al (1998) in order to rank major European countries from different legal traditions according to their ability to protect security holders' rights. In spite of the fact that original data refers to the early 1990s, the endurance of country-specific legal rules over time (not overruled by European Union's directives until very recent periods) suggest that they can be considered as a good proxy of corporate governance rules prevailing at least throughout the second half of the 20th century. In order to avoid complications, we assume that the rule of law dominates in all European countries and that accounting standards are generally high, so that the quality of law enforcement (including the efficiency of the judicial system, the level of corruption, the risk of expropriation and contract repudiation) as well as the quality of corporate information should not alter substantially these results.¹

Fig. 1
Normalized Indices of Shareholders and Creditors Rights' Protection



Source: author's elaboration on data from La Porta et al (1998)

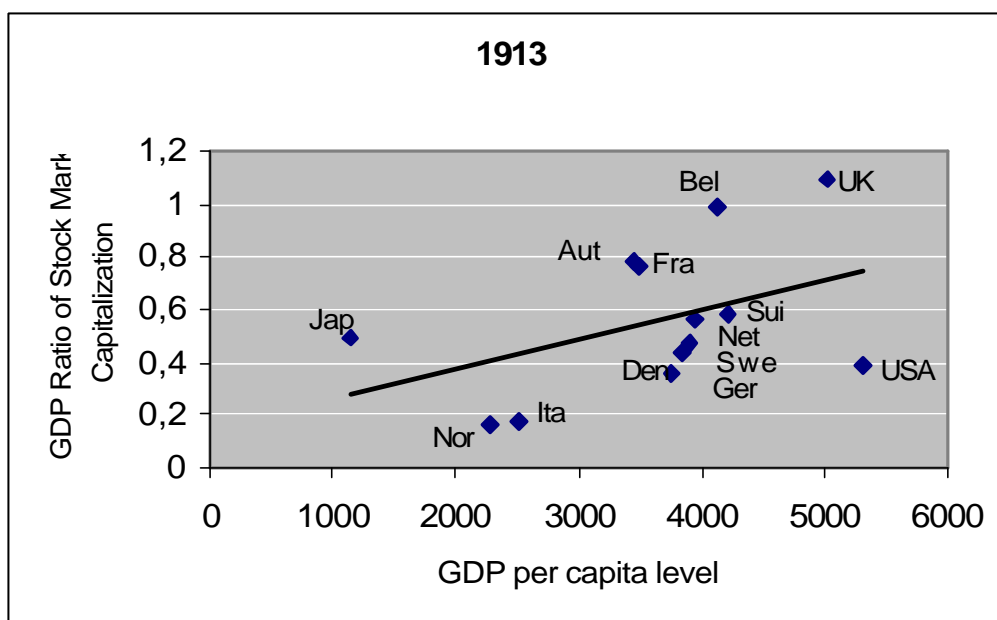
The law and finance approach can be a useful complement of alternative explanations of capital markets' underdevelopment advanced in the existing literature, such as path dependency based on corporate ownership ("blockholdings") or low-level equilibrium in market participation ("thick market externalities"). It is generally held that the relative underdevelopment of Continental European and Scandinavian markets, as compared to the UK and the USA, is due to their concentrated ownership structure ("blockholdings"). Namely, Roe (1994) and Bebchuck and Roe (1999) argue that the existence of controlling shareholders and the traditional weakness of managers prevented European countries from

adopting the US model of corporate governance based on regulation restraining the power of large shareholders. Ownership structure, they assume, generates path dependency, since the original balance of power tends to entrench interest groups within the existing legal system. In fact, there exists ample evidence that ownership and voting power concentration was significantly higher in Continental Europe throughout the 20th century (see also Becht and Röell 1999). The historical importance of families in corporate control is one fundamental aspect of the story (Colli 2002). On top of this specifically European business feature, it must also be noticed that traditionally there existed a wide range of country-specific institutional peculiarities that enhanced dominant shareholders's ability to build up large voting stakes without concentrating ownership (cash flow) rights. Classical examples of such institutional arrangements were pyramidal groups in Italy, France and Belgium, or voting pacts and caps widely used in Italy and Germany, usually compounded by extensive interlocking directorates (Barca and Becht 1999). This path dependency view can be regarded as a complement to the law and finance approach. What's in fact the ultimate source of this feature, however? La Porta et al. (1998: 1145) suggest that poor shareholders' protection can be the main determinant of greater concentration because of either low demand for corporate shares by minority investors or higher demand by large or dominant shareholders (who need to own more capital in order to exercise their control rights), or both – that is, ownership protection can become a substitute for legal protection. However, the path dependency approach leaves the fundamental issue of regime change unanswered: how can it happen that a country deviate from its historical path to embrace financial reform?

A different strand of literature suggests that differences in equity market size may reflect multiple equilibria arising from “thick market externalities” among market participants (Pagano 1993). As participation affects the riskiness of securities and their sensitivity to order flow, a market in which actual and potential participants expect low participation, riskier assets and poor liquidity can be trapped into self-validating persistent stagnation (Pagano 1989a and 1989b). In a similar vein, the number of listed companies enhances risk sharing opportunities and the ability by investors to diversify their equity portfolio. As the demand for shares depends on the magnitude and variety of shares supplied, a market where few issues are expected to be listed will generate expectations of low demand, thus making entrepreneurs reluctant to go public and pay the related private costs (loss of private benefits of control, takeover risk). Again, a market suffering such “contagion mechanism” can be trapped into a low-level equilibrium, irrespectively of potential

participants (Pagano 1993b). But again, what's the ultimate source of expectations leading to low-level equilibrium? And how can a country switch from low to high level? Clearly, explaining European financial underdevelopment in terms of legal origins and path dependency leads into excessive determinism and raises a number of problems. First, by considering the level of investor protection and its enforcement as exogenous, time-invariant variables, the "law and finance" approach disregards the fact that rules of corporate governance are an historical outcome affected by culture, ideology and political interests, which in turn can be influenced by the balance of power between different economic interests and pressure groups (Tirole 2001; Pagano and Volpin 2003). Consequently, the "law and finance" approach is unable to address the fundamental issue of financial reform, that is the fact that the interests of economic and political elites can change over time and open the way to a new balance of political power (Pagano and Volpin 2001). Second, the conclusions of the "law and finance" approach are at odds with historical evidence. Rajan and Zingales (2003b) show that the historical development of securities markets did not follow a monotonic pattern. In fact, at the beginning of the 20th century, countries such as France had capital markets far more developed than the USA (see Figure 2).

Fig. 2
Equity Market Development by GDP per capita level, 1913

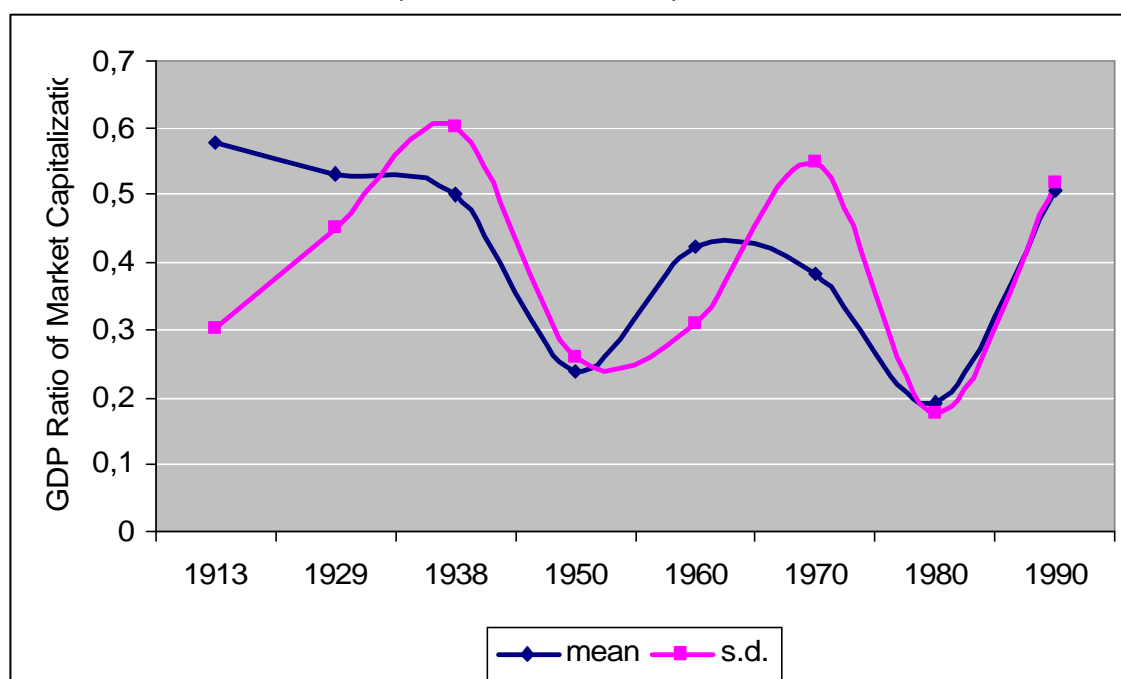


Sources: GDP ratio of stock market capitalization from Rajan and Zingales (2003b). GDP per capita in 1990 Geary-Khamis US\$ from Maddison (1995).

Moreover, all countries were financially more developed on the eve of WWI than at any point in time after 1929. This evidence points to a number of major historical facts with which the theory has to come to terms. First, at the beginnings of the 20th century, both the French and German legal framework seemed at least not less suitable than common-law to the development of securities markets. Clearly, both the “law and finance” and the “path dependency” views are missing an important part of the story. Second, the historical path of financial development in industrialized countries is not monotonical, but rather U-shaped. A “great reversal” took place in the interwar years; its legacy was not completely overcome until the late 1980s. What drove the great reversal? Rajan and Zingales (2003b) propose an interest group theory of financial development, according to which financial development – and more specifically, the development of securities markets – goes hand in hand with globalization. In a closed economy, their story goes, incumbents (both in finance and industry) are against the development of capital markets, since the latter do not respect the value of incumbency and tend to enhance competition, thus eroding their dominant position. However, opening the economy to international markets can mute incumbents’ opposition to financial development, since external competition and constraints on government financing makes financial repression increasingly unprofitable. The “great reversal” story however is not an alternative, but rather a complement to the “law and finance” story. Indeed Rajan and Zingales argue that in Civil Law countries it is easier for small interest groups to influence the policy-making process and capture the legal system. Their empirical tests suggest that, after controlling for the level of economic development, financial development is in fact positively correlated with trade and capital openness – that is, globalization – throughout the 20th century. In their view, therefore, the interwar retreat from globalization, followed by the maintenance of binding constraints on capital flows during the Bretton Woods period (in spite of the early liberalization of trade), can explain the great reversal of financial development observed in most Continental countries. The compact of financial repression (i.e. a set of constraints on the full development of the financial system) and restrictions to entry in order to protect incumbent rents became a fundamental component of the “relationship finance” typical of the Continental financial systems. In turn, “relationship finance” should be regarded as a facet of the “relationship capitalism” enforced in the interwar years and lasted until the 1980s, under which governments met a rapidly increasing demand for social insurance stemming from uninsured masses (Rajan and Zingales 2003a).

The secular stagnation of security markets in Continental Europe can be explained as the heritage of systematic state intervention in European financial systems since the 1930s and 40s, characterized by the widespread presence of either nationalized or state-owned banks and industrial corporations, and by the systematic regulation of financial markets by monetary authorities. Yet, the secular, global perspective adopted by Rajan and Zingales misses out one important characteristic of the time pattern of European financial development. In fact, Europe suffered from not one, but rather two reversals. Figure 3, based on data from Rajan and Zingales themselves, clearly shows that after the Great Reversal of the 1930s-40s, European securities markets partly recovered in the 1960s – ie, during the Golden Age of European economic growth and the period of stability of the pegged-and adjustable period of the Bretton Woods system – before shrinking again in the 1970s only to reach their historical low in the following decade. The time-pattern of securities market development in Europe is not U-shaped therefore, but rather W-shaped.

Fig. 3
Secular Trend of Financial Development in Western Europe



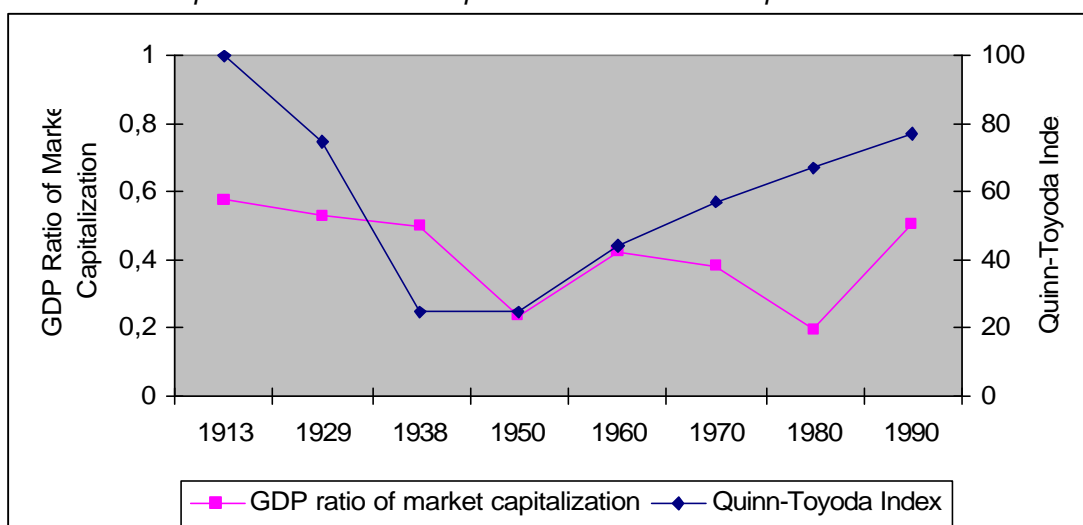
NOTE Mean and standard deviation of the market capitalization-to-GDP ratio in 11 Western European countries (UK, France, Belgium, Netherlands, Germany, Austria, Switzerland, Italy, Denmark, Norway, Sweden).

Source: author's elaboration on data from Rajan and Zingales (2003b)

Once compared with the secular trend of capital account openness in Western Europe – as measured according to the Quinn-Toyoda Index (Quinn 2003) – we find out that the time trend is broadly convergent throughout the first half of the 20th century, but diverges significantly in the second half, especially from 1960s onwards. As Figure 4 suggests, from

1960 onwards it seems that financial development was in retreat in Europe in spite of a consistent increase in financial openness. This “Little Reversal” of the late 20th century calls for some complementary explanation.

Fig. 4
Financial Development and Financial Openness in Western Europe



NOTE

GDP ratio of market capitalization: European mean of GDP ratio of stock market capitalization. Source: elaboration on data from Rajan and Zingales (2003b): 15.

Quinn-Toyoda Index: Index of international capital openness (average median values of inter-benchmarks periods); ranges from 0 (minimum openness) to 100 (maximum openness).

Source: elaboration on data from Quinn (2003). Data refer to a global sample from 1913 to 1938, and to Western Europe from 1950 to 1990.

(2) The Little Reversal: Financial Repression and Securities Markets in Western Europe in the Second Half of the 20th Century

Throughout the second half of the 20th century, the regulation of banking and financial systems became widespread across Europe. Governments extensively made use of policy instruments such as high reserve requirements, interest rate controls and credit ceilings. Domestic “conduct” regulation was often compounded by external controls on foreign exchange and capital markets.² Usually, the regulatory framework (both domestic and external) was already in place in the 1950s and evolved throughout the 1960s and 1970s as a way to enhance monetary management. Central banks in Europe in this period diverged as to targeting options (money, domestic credit, exchange rate) and often chose combined approaches. (Houben 2000) In any case, reserve requirements, qualitative and quantitative controls, and indirect controls were deployed allegedly in order to enhance the effectiveness of monetary policy in controlling domestic liquidity and bank lending. The process peaked in the 1970s and its escalation led in many countries to a comprehensive

regime of financial repression – that is, “a set of policies, laws, regulation, taxes, distortions, qualitative and quantitative restrictions, which do not allow financial intermediaries to operate at their full technological potential” (Roubini and Sala-i-Martin 1995). However, it was soon acknowledged that the compact of “conduct” constraints, while preventing banking systems from operating efficiently, rarely achieved its alleged objective of improving efficiency in monetary management. Yet, many European governments were generally slow in reforming their banking and financial systems. Some only reluctantly accomplished liberalization and deregulation in the late 1980s or early 1990s, generally because of commitments assumed with UE under the 1992 single market programme (Bakker 1996). In a number of cases, liberalization was followed by serious banking crises (eg. in Spain, Italy, Scandinavian countries), suggesting that the banking system was called upon to pay a toll to the accumulation of distortions and inefficiencies.

Why was financial liberalization in Europe so controversial? Why were governments drawn to regulate banking systems and financial markets to the point of financial repression? Why in some countries this repressing regime was so hard to dismantle, in spite of its widely recognized distortionary impact and its ineffectiveness as a means of monetary management? Once financial repression was entrenched, was the rationale for maintaining it different from the rationale that originally justified its escalation? And finally, why did European countries differ as to their attitude towards, and the timing of financial reform?

In the public finance approach usually applied to developing countries (Agenor and Montiel 1996: 151-9), financial repression is explained as a source of complementary fiscal revenues to the government. This policy is held to be particularly attractive for countries with inefficient regular tax systems and large underground economic activity (Nicolini 1998). Under such conditions, governments have strong incentives to resort to regulation in order to increase the demand for money, thus maintaining (or increasing) the tax base for seigniorage, (Brock 1989), or to regulate both credit price and quantity in order to allow budget deficits to be financed at lower costs (Roubini and Sala-i-Martin 1995; Fry 1997).

As Honohan (1994) emphasises, the fiscal approach to government policy in relation to the financial system “brings powerful and unifying principles from public finance into what can otherwise seem a specialized and arcane topic”. The relevance of financial intermediation in the economy, and consequently as an area generating policy issues, consistently grew throughout the 20th century. Likewise, the importance of the financial

system as a source of revenues and an instrument to ease government's budget constraint was recognised. As both complexity and sophistication of financial systems increased, so did also the tools governments used to regulate and tax them. In many advanced countries this process peaked in the 1970s and 80s, before deregulation and liberalization marked a historical watershed.

Reserve requirements were one of the most widely used instrument of financial repression. Zero- or low-interest bearing reserves held by commercial banks with their central bank generate implicit revenues for governments, by reducing the amount of debt issued and, by default, the costs of debt servicing. High reserve requirements also allow governments artificially to increase the demand for money and the reserve component of the monetary base, thus expanding the tax base for seigniorage. Following the seminal contributions of Brock (1984) and Romer (1985), taxation of financial intermediation through reserve requirement policy has been included both in the theoretical and empirical analysis of seigniorage³. There was no uniform pattern in the use of reserve requirements in Europe. In some cases, monetary authorities tried to expand the coverage of this measure from commercial banks to all financial intermediaries (such as in Italy 1975, Sweden 1981 and Germany 1984), or from deposits to a wider range of liabilities (such as in Spain 1984). At the same time, they generally reduced the use of differential treatment and limited the array of assets eligible for satisfying reserve requirements to claims on the central bank – a trend due to the increasing use of monetary aggregates as a target of monetary policy. The impact of this gradual redesigning on reserve asset holding was not uniform, however. The ratio declined in most Northern countries (where it was already low), but increased in West Germany, Ireland and in countries of the Southern periphery (Data and figures not included, available from the author upon request).

Financial repression can also be seen as an instrument of extracting implicit revenues from holders of domestic public debt. The intuition is that, due to both domestic and external regulatory constraints, the actual yield of public debt denominated in domestic currency is lower than the yield that would prevail in the absence of financial repression. The most straightforward way for a government to obtain interest savings is directly to regulate interest rates. *Interest rate controls* usually take the form of maximum lending rates below market-clearing rates. The difference between equilibrium rate and regulated rate can be considered as a tax imposed on financial intermediaries. As a rule, lending rate ceilings are basically motivated by the reduction of the cost of borrowing by the government or by some favoured borrower (generally in the public sector). If the borrower is the government,

it benefits directly from the tax. If the borrower is other than the government, this amounts to earmark the proceeds of the tax for some favoured borrower (usually, although not exclusively, forming part of the public sector). (Chamley and Honohan 1990)

Credit ceilings, usually accompanied by explicit or implicit (i.e., through moral suasion) sectoral guidelines, are a complementary instrument of financial repression. By rationing domestic credit to the government and favoured (public sector) borrowers, they force private borrowers to resort to international credit and financial markets. Actually, credit ceilings were used in the 1970s and 80s by central banks – such as the Bank of Italy – in conjunction with an exchange rate target (Houben 2000: 84-86). Repullo (1991) argues that credit ceilings (and other domestic regulation) increases banks' excess liquidity that can be invested only in the bond market, thus reducing the market interest rate of the public debt below its equilibrium point and contributing to the cheap financing of the public sector. Quite in a similar vein, Giovannini and de Melo (1993) assume that the interest paid by governments in world capital markets basically reflects the shadow price of funds, so that on the existing stock of domestic government debt (the tax base) an implicit tax rate is imposed equal to the difference between the foreign and the domestic cost of funds.

In some cases, an extra tax can be imposed on banks through *regulation of the composition of their asset portfolio* – e.g. compulsory investment requirements in public debt or specific assets, which artificially increases the demand of public debt by banks. In the 1970s many countries introduced portfolio regulation, through investment obligations and ceilings on credit expansion. In Belgium, France, Italy, Norway, Portugal, Spain and Sweden, banks and other financial institutions were forced to invest part of their portfolio in bonds and paper issued by the Treasury or by other public-sector institutions. The effectiveness of such requirements gradually declined in the 1980s due to securitization and their drawbacks increasingly recognized. However, they were dismantled only slowly and selectively (as in Italy and Norway), whereas in Spain their use even increased in the first half of the 1980s.

Finally, the *regulation of securities markets* was critical in order to guarantee preferential access to capital markets to the government, state-owned concerns or private priority sectors. The most used instruments were tax discrimination in favour of government or public securities, regulatory constraints on the development of institutional investors and the participation of bank institutions in the securities markets, official interventions in the capital markets and the regulation of fixed-interest securities markets in order to even out

the flow of issues (also dubbed the “queue”) under the supervision and coordination of national monetary authorities. As the Segré Committee (a group of experts entrusted by the European Commission with the study of how to promote the institutional and economic integration of European capital markets) pointed out in its Summary Report in 1966, “the way available resources are distributed between the various sectors, and particularly between the public authorities, public enterprises, private business and housing, depends essentially on decisions taken by the authorities. The scale of public investment, the major role played by official financial intermediaries, and the dominant position on the market held by the public authorities leave only a relatively small area in which the play of traditional market forces can determine the allocation of resources” (Segré Report 1966)

On the external side of the economy, *capital controls* are a fundamental complement of quantity and price restrictions on domestic financial intermediaries. Capital controls can partially prevent agents (both individuals and banks) from by-pass or circumvent domestic regulation by resorting to off-shore intermediaries and international money and capital markets and diversifying their portfolio towards foreign currency assets, thus limiting their ability to avoid inflation tax on domestic money holding. Also, by isolating domestic intermediaries from competition, they facilitate the imposition of high reserve requirements and other distortionary regulations (Drazen 1989; Alesina et al. 1994). As far as post-war Western Europe is concerned, Wyplosz (2001) emphasises that all countries that repressed the domestic financial system implemented some kinds of exchange and capital controls, although the opposite is not true. In almost all countries (with the exception of West Germany), a “negative” system of administrative controls was maintained, which forbade all cross-border capital flows that were not explicitly authorized. In order to control capital flows governments resorted also to dual exchange rates (discriminating between current account and capital account transactions), and to either implicit or explicit taxation. Voth (2003) provides evidence that such capital controls significantly increased the cost of equity finance in post-war Europe.

Raising international capital proved particularly hard. As capital outflows were generally regarded by national authorities as a threat to monetary control and exchange rate stability, the issue of foreign securities were generally discouraged, officially regulated and subject to discriminatory taxation. In London, once the world financial entrepôt, foreign issues were limited to sterling-area governments. In Paris, with the French economy suffering from periodical balance-of-payment crisis, an almost complete ban on foreign issues was consistently enforced. The Swiss capital market remained open to foreign borrowers

(mainly European governments, international institutions and US companies) only until 1961. Likewise, in West Germany, a country with persistent current account surplus and a liberal, market-oriented attitude towards the financial system, the regime of free foreign issues (complemented by favourable taxation) introduced in 1958 was overturned in the second half of the 1960s through discriminatory taxation and a “gentleman’s agreement” under the supervision of the Bundesbank (Einzig 1965; Franke 1999: 246-248) The reversal of the late 1960s was bound to last: in the second half of the 1980s a number of European countries still had binding controls on operations in both foreign and domestic securities that discriminated between residents and non-residents and significantly constrained cross-border financial flows (Grilli 1989b). Increasingly difficult access to national capital markets for European borrowers – included to New York, where the issue of “yankee bonds” was shortly revived in the early 1960s before discriminatory taxation (in the form of an Interest Equalization Tax) actually barred foreign borrowers (Hawley 1987; Schenk 2002) – was at the origins of the emergence of the Eurobond market (a topic which is beyond the scope of this paper).

Why was financial repression in Western Europe so enduring? The public finance approach also suggests a rationale for its persistence (Alesina et al. 1994; Alesina et al. 1998). Assuming that governments assess the consequences of alternative decisions before implementing them (see for example Quinn and Inclán 1997), the expected consequences of financial reforms (i.e., deregulation, liberalization and in some cases privatisation of banking and financial systems) may lead governments to enforce or delay, or even to abort them. As implicit revenues from financial repression significantly contribute to ease the governments’ budget constraint, reforms can be expected to exacerbate fiscal problems and to require a painful adjustment, since alternative taxes must be levied or additional debt must be issued to finance the existing pattern of expenditures. “The size of government revenue from financial repression – Giovannini and De Melo (1993) argue – indicates the extent to which liberalization policies need to be accompanied by changes in taxation and government spending”: the higher the revenues from implicit taxation in the underlying fiscal regime, the higher the expected revenue losses from the reform, thus the harder the fiscal adjustment required and, intuitively, the most controversial the financial reform. Thus, the endurance of financial repression can be regarded as the outcome of governments’ attempt to postpone (or their inability to manage the distributional consequences of) structural change in the established fiscal policy regime.

Some objections can be raised against the public finance approach. First, the “easy money” view assumes that governments respond to potential revenue falls in a uniform way, i.e. using financial repression to get extra implicit revenues. However, this underplays the relevance of political economy issues in the enforcement of financial repression as a concrete policy choice. Under different institutional and political systems, similar budgetary constraints may well lead to very different regulation of the financial system (Alesina and Rosenthal 1995). Second, the public finance view underplays selective (preferential) credit schemes as an unintended by-product of financial repression. These schemes, on the contrary, are considered in a number of cases as the primary reason for repressing financial systems. This alternative view suggests that financial repression may be rather explained as a means of allocating rents to selected groups as well as of maintaining a soft banking system that absorbs losses of the corporate sector in the short run. In this view, recently applied for example to Asian countries (Haggard et al 1993) and transition economies of Eastern Europe (Denizer et al 1998), governments may use financial restriction in order to direct scarce financial resources to groups whose support they need to stay in power, thus promoting their own political interest. If such is the case, institutional and political, rather than fiscal variables can explain the escalation and the persistence of financial repression.

The existing evidence about the historical experience of Western Europe with financial repression is scattered and somehow inconclusive. In the 1980s, a number of studies set in the public finance tradition suggested that Mediterranean countries showed striking analogies with the experience of developing countries. In fact, Italy, Spain, Portugal and Greece relied heavily on seigniorage revenues to finance their expenditures in the late 1970s and early 1980s, allegedly because of poorly or insufficiently developed tax base for regular taxes. Such behaviour was in sharp contrast to their Northern continental counterparts, such as France, Belgium or Germany, for which revenues from seigniorage were almost negligible. In Southern high-seigniorage countries there existed also strong evidence of a structural nexus between inflationary finance and selected indicators of financial repression. Namely, higher ratios of seigniorage-to-GDP (or to tax revenues) were associated to higher ratios of budget deficit-to-GDP and to higher demand for reserves (as measured by reserve-to-total bank deposits ratios – a standard proxy for financial repression). (Fischer 1982; Brock 1984; Drazen 1989; Grilli 1989a; Giovannini and de Melo 1993)

These studies implicitly suggested that a public finance explanation – according to which financial repression is basically motivated by revenue concerns – was appropriate for Southern countries, but less for Northern countries, where tax systems were more developed, revenues from regular taxation were higher and the use of inflationary finance less systematic. If we believe this interpretation, we would expect financial repression to be relatively moderate in Northern countries. Historical evidence is somewhat puzzling, however. At least two of the Northern European countries included in the low seigniorage club, namely Belgium and France, were notoriously also two of the financially most repressed countries of the continent (Wyplosz 2001). Indeed, the use of “conduct” regulation of banking and financial systems was widespread across Europe, although Nordic countries seemed to rely more on moral suasion (officially recognised cartels), while countries with a stronger “statist” tradition resorted more heavily to command-and-control regulation (Bingham 1985).

(3) Measuring Financial Repression in Western Europe, 1950-1991

The main contribution of the paper is to construct an index of financial repression based on quantitative and observable variables. In the existing literature, the assessment of the degree of financial repression or freedom in different countries, as well as liberalization dates, are generally based on meticulous examination of legislation in force. A widely used index of financial openness, based on restrictions on both commercial and capital transactions, is the Quinn-Toyoda index (see Quinn and Inclan 1997 for an empirical application). Other studies focus on capital controls and estimate their own measures based on statutory rules as reported by international sources, such as the IMF Exchange Rate and Monetary Arrangements (Alesina et al. 1994; Wyplosz 2001; Demetriades and Luintel 1997). However, this approach has a number of shortcomings. First, in a wide comparative framework, systematic study of regulation is made difficult because financial restrictions can be embedded in a wide array of administrative codes and rules. Second, regulation and deregulation/liberalization are protracted process; this makes it difficult to pinpoint shifts in intensity and turning points. Third, formal regulation (or relaxation) may or may not coincide with actual one; the degree of repression may be influenced by informal procedures, such as central bank’s moral suasion or tolerance for incomplete compliance.

Therefore, it could be useful to compound this traditional approach with an empirical methodology to measure the *intensity* of financial repression on the base of quantitative

indicators able to capture different regulatory aspects. I analyse a panel of 16 Western European countries in the period 1950 to 1991. Countries included in the sample are: Austria, Belgium, Denmark, Finland, France, West Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the UK. Elaborating on Beim and Calomiris (2001: 59-66), I construct a summary index of financial repression on the base of a combination of the following variables:

1: RESERVE. *Real effective reserve requirement* are calculated (following Brock 1984) as the ratio of bank reserves to total bank deposits. This measure is an amalgam, which only in part captures a monetary policy tool (the reserve requirement ratio). In fact, non-policy factors also affect the magnitude of the reserve ratio – in fact, the reserve ratio may capture some aspects of financial development (e.g., with underdeveloped financial systems, banks may hold reserve in excess to statutory requirements to meet basic liquidity needs or because alternatives are unsatisfactory or not available (Haslag and Koo 1999: 3-4). However, this is not necessarily a problem. Both statutory reserve requirements and involuntarily held excess reserves ('float' balances held by banks at the central bank) can be considered to be part of the financial repression package enforced by monetary authorities, and the 'effective' reserve requirement is an appropriate indicator of the actual fiscal revenues provided by financial repression (van Aarle and Budina 1997).

2: RATE. *Negative real interest rates* are generally held to reflect some government-imposed distortion in domestic financial markets (Giovannini and de Melo 1993). Real deposit rates were the proxy for financial repression typically used in early empirical research (e.g., by McKinnon and Shaw). The idea behind this indicator is that interest rate controls (administratively fixed nominal interest rates, or indirect controls of domestic wholesale rates) inhibit nominal interest rates' response to changes in expected inflation (Fisher effect), keeping the real rate below its equilibrium level. An inverse correlation between inflation rate and real interest rate can be considered as an indicator of financial repression. I use conventional real rates based on nominal deposit rates (directly observed, when available, or proxied by central bank rates, assuming that rates are linked to bank rates as a rule) and realized (instead of expected, as it would be optimal) inflation rates. The noise problem created by possibly significant difference between expected and realized inflation is mitigated (following Beim and Calomiris 2001) by using a three-year moving average. Long periods of negative interest rates can be interpreted as evidence of

strong financial repression. In the European experience of the 1960s and 1970s, wholesale money markets – where they emerged – were relatively free of controls. On the contrary, retail markets remained subject to regulations. Even where policy changes were implemented, such as in France (1966), Germany (1967), Spain (1977 and 1981), Norway (1980), the actual dismantling of controls was protracted and sometimes exposed to temporary reversals. In the early 1980s it was generally held that, apart from Germany and Denmark, monetary authorities in the rest of Europe still retained significant administrative influence on interest rates, although more through indirect instruments. (Bingham 1985: 129-133).

3: INTERMEDIATION. The *level of financial intermediation* is measured by the M2-to-GDP ratio, a standard measure of financial depth. In the empirical literature, this ratio is generally found to be higher in market economies (where transactions are intermediated within a formal financial system) and lower in financially repressed economies. However, the interpretation of this indicator in the historical context of post-war Europe is not entirely uncontroversial. First, we can assume that by the 1950s the process of traditional financial deepening was virtually completed in Northern Europe. In fact, apart from Mediterranean countries (where the ratio increased significantly over time), in the rest of Europe the level of intermediation remained stable. Indeed, we should expect a decline of traditional financial intermediation under the pressure of internationalisation and financial innovation in the 1970s and 1980s. If such is the case, the stability or even an increase in the level of financial intermediation could be taken as evidence that financial repression was preventing or slowing down the process of financial innovation. Of course, this interpretation is far from uncontroversial. Financial regulation generally tends to induce disintermediation, circumvention and innovation. Monetary authorities may offset this response either by extending the coverage or altering the design of controls, or reducing the burden of controls in order to reduce the incentive to innovate or circumvent. (Bingham 1985) Since financial repression is generally assumed to cause disintermediation and reduction of savings, it might be that an observed decline in the level of financial intermediation actually signals an increase (or a high level) of financial repression.

4: GOVERNMENT. *Government's liabilities held by the banking system* are assumed to give a proxy for the ability of a government to force captive financial intermediaries to hold public debt in order to reduce its borrowing costs. The variable is constructed as the

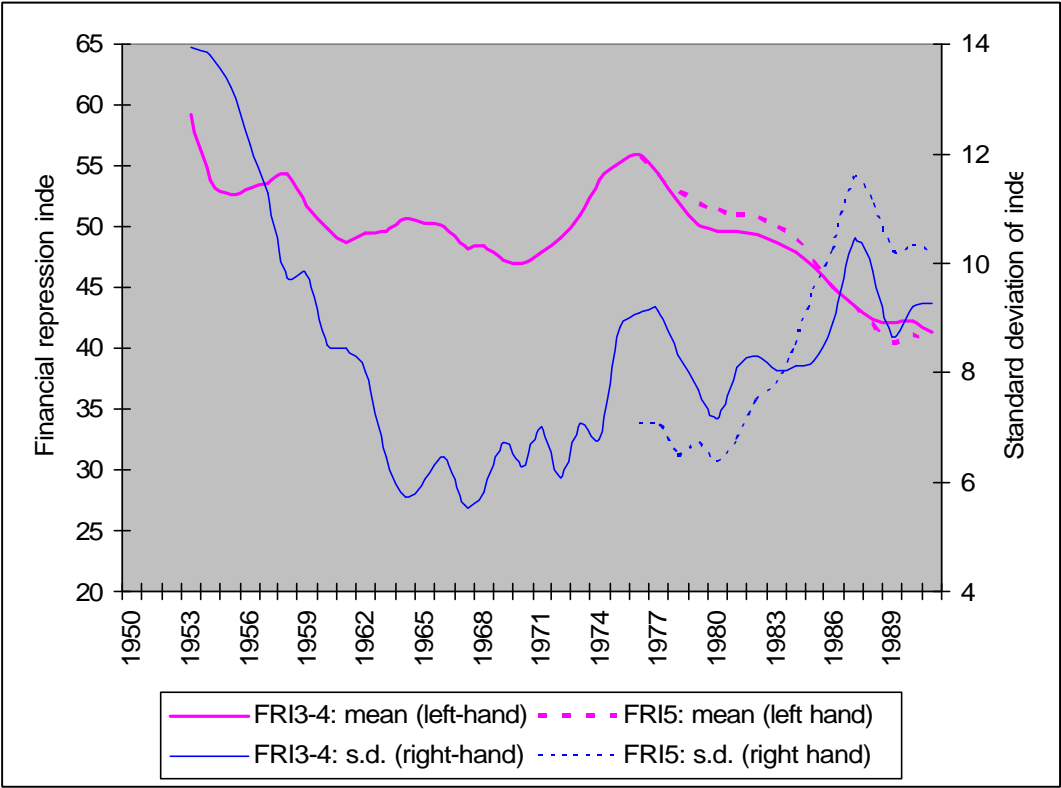
ratio of commercial banks' claims on the government relative to their claims on the private sector. A high ratio is considered an indicator of financial repression. Price and quantity credit regulation are usually enforced in order to allocate rents to preferred borrowers, either the central government or other public sector's institutions. Moreover, this variable only partially captures the actual weight of the government in the credit market. As a matter of fact, in some cases banks' claims on the private sector include also credit to public sector borrowers, which may be substantial in countries (such as Italy, France or Spain) with large state-owned or nationalized sectors.

Observations for each variable available were constructed for a panel of 16 European countries in the period 1950-1991 on the base of the IMF *International Financial Statistics* data. Panel time series were then standardized to produce for each of them a 0-100 index approximately normally distributed, with mean 50 and standard deviation 20. When necessary, values were remapped in order to align them along a 0-to-100 scale, where 0 indicates minimum and 100 maximum repression respectively. The four indices were finally averaged to produce a summary index (FRI3-4), with low scores representing moderately repressed financial systems and high scores representing heavily repressed systems. In order to capture repression of securities markets, it would be useful to include in this summary index the GDP ratio of stock market capitalization as a fifth variable. Unfortunately, data on capitalization ratios for the whole panel of Western European countries are readily available only from 1976 onwards at earliest. By the way, we transform the available data on GDP ratio of stock market capitalization for the period 1976-1991 into a single index (STOCK), ranging from 0 (minimum repression) to 100 (maximum repression) and included it in a new summary index (FRI5). (Details are provided in the Appendix)

The index (see Figure 5) shows significant persistence. However, a gradually declining trend of the European average and a dramatic fall of its variance can be observed from the mid-1950s to the late 1960s. This period of convergence towards a general reduction in the intensity of financial repression corresponds to the period of stability of the Bretton Woods system from the gradual return to external convertibility (1955-58) to the final crisis of the pegged-and-adjustable exchange rates regime in 1969-71. The following decade appears characterized by a sudden reversal, with an intensification of financial repression and a significant increase in its dispersion. Although in the 1980s a new downward trend gained momentum, bringing the European average to its historical low, by no means this trend

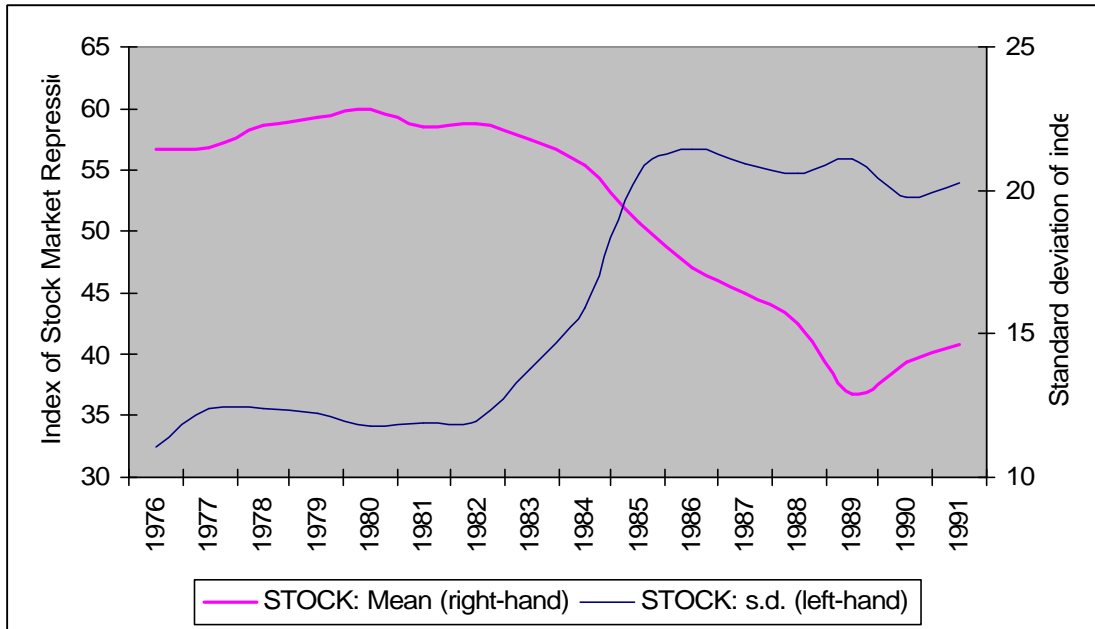
was compounded by a clear trend to convergence. Quite the contrary: dispersion increased in the 1980s and reached the highest level since the late 1950s. The same pattern can be observed in our single index of securities market repression, STOCK (Figure 6). A high, stable level of capital markets repression during the 1970s was followed by a marked decline of repression since the early 1980s, reflecting the rising trend in the GDP ratio of market capitalization. However, a major shift in variance can be observed, reflecting an increasing gap between liberalizing countries and those that stuck to highly repressive levels.

Fig. 5
Summary Index of Financial Repression in 16 European Countries



NOTE Summary indices of financial repression based on 3-4 variables (FRI3-4, 1950-91) and 5 variables (FRI5, 1976-91).
 Sources: see Appendix.

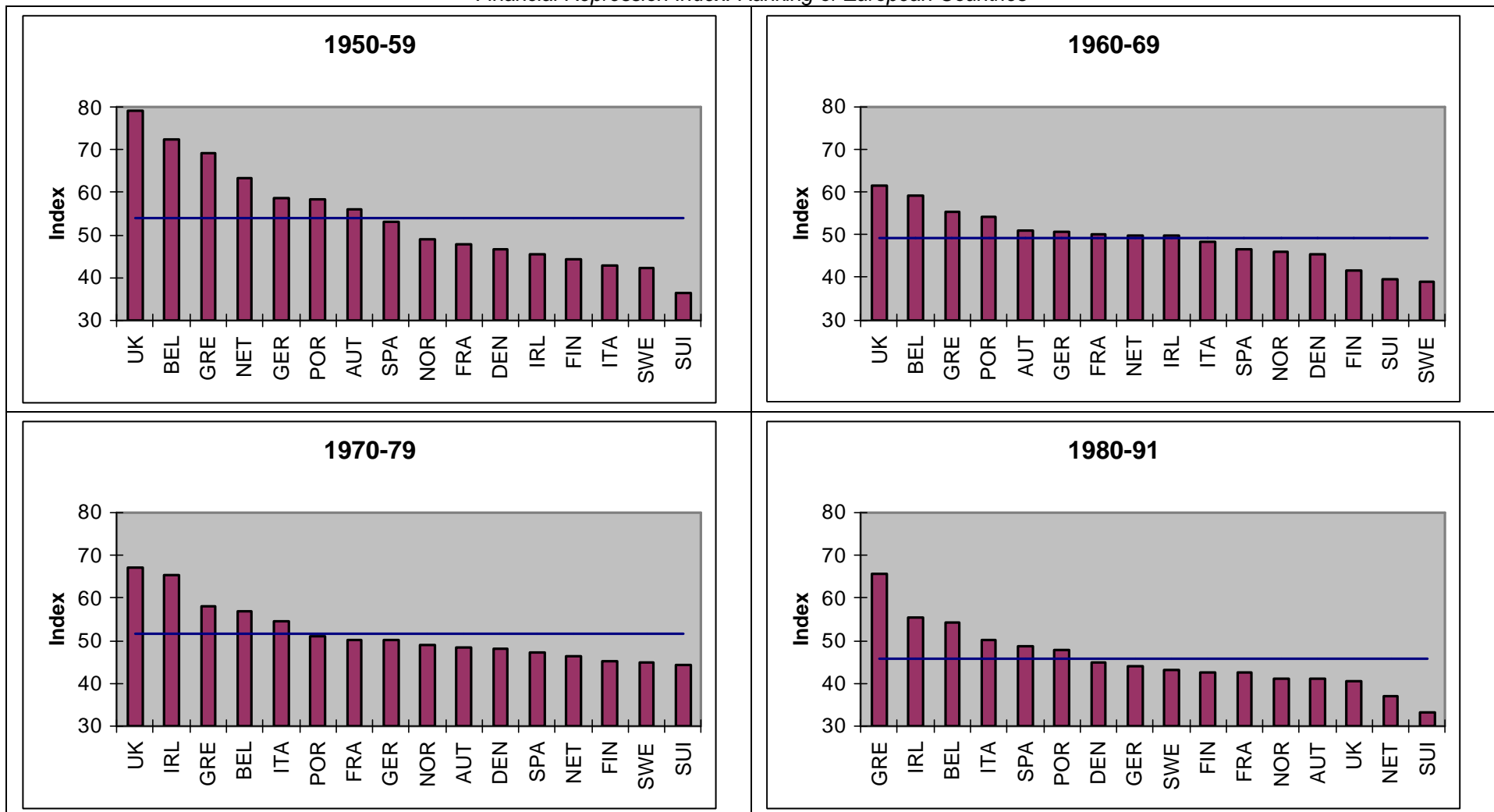
Fig. 5
Index of Stock Market Repression



Source: see Appendix

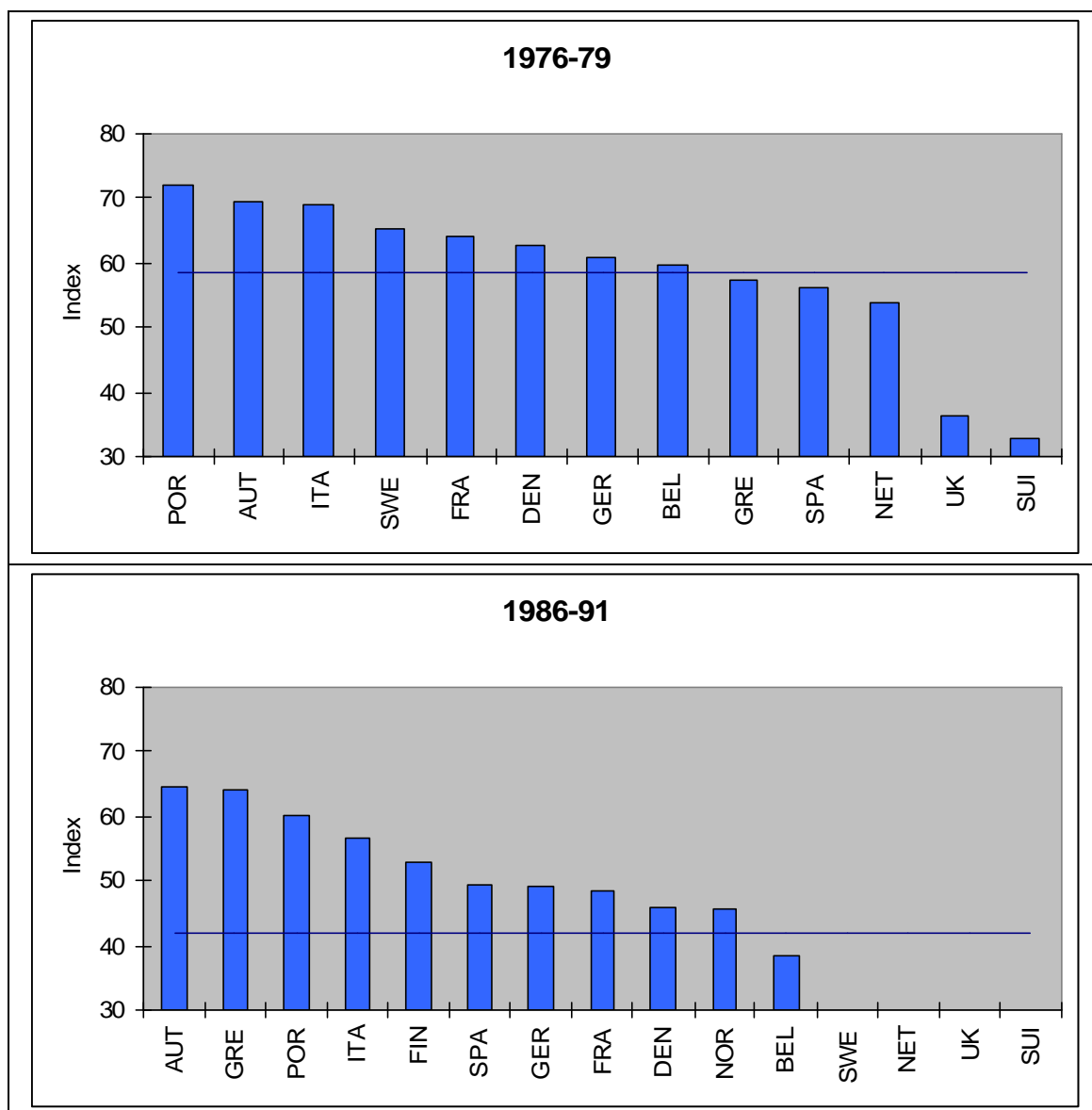
Further insights are provided in Figures 6 and 7, which give the ranking of European countries from the more to the less financially repressed, using FRI3-4 and STOCK indices, by decade. As for FRI3-4, from the 1950s to the 1970s there exists a substantial continuity in the average level of financial repression, with a group of three nations (UK, Belgium and Greece) at the top and another group of five (Switzerland and the Scandinavian countries) at the bottom. Over time, liberal Northern countries, such as West Germany and the Netherlands, shift from relatively high to relatively low financial repression, whereas countries with strong statist tradition (such as France and especially Italy), Ireland and Mediterranean countries move in the opposite direction. By the 1980s, a new picture emerges: new countries (Ireland, Italy, Spain and Portugal) have joined traditionally repressed economies (such as Belgium and Greece) at the top of the ranking, from which of course the UK has suddenly dropped to the bottom.

Figure 6
Financial Repression Index: Ranking of European Countries



Note. Solid line: mean value. Source: see Appendix.

Fig. 7
 Stock Market Repression Index: Ranking of European Countries



Note. Solid line: mean value. Sources: see Appendix.

There exist two possible, complementary explanations for the intensification of financial repression in Southern countries. The first one is the impact of the democratic transition and the rapid construction of a modern welfare state, which translated into large budget deficits and increasing public debt. The second one is the process of integration within the EMS monetary area and the single market. For these countries, commitment to European integration—i.e. commitment to reduce inflation differentials, implement financial reforms and liberalize capital markets – was expected to result in the removal of financial repression as a major source of revenue for the government.

Giavazzi (1989) and Bacchetta and Carminal (1992) suggest that governments, anticipating financial liberalization and deregulation, and consequently the vanishing of their ability to extract implicit revenues from their banking and financial system would fall to zero, tried to maximize implicit revenues from financial repression before liberalization, in order to reach 1992 with lower public debt and interest payments. This would also help them to meet fiscal criteria that were been discussed in the second half of the 1980s and finally were incorporated into the Maastricht Treaty. A possible extension of the argument was suggested by Dornbusch and Reynoso (1989). Since financial liberalization may have a detrimental impact on regular fiscal revenues, it may require an increased use of debt after liberalization: again, governments had an incentive to maximize revenue from implicit taxation in the short-run.

(4) EXPLAINING FINANCIAL REPRESSION IN WESTERN EUROPE. AN EMPIRICAL SPECIFICATION

A second contribution of the paper is empirically to investigate the determinants of financial repression. I propose an econometric specification in which the summary index (FRI) constructed in Section 2 is used as dependent variable and regressed on a number of economic, institutional and political variables that are identified as potential determinants of financial repression according to the theoretical literature reviewed in Section 1. Some variables were not available for all countries over the entire period, so the sample is actually smaller than the 672 observations implied by the panel size. Details on the operationalized variables are provided in the Appendix.

Unlike previous empirical studies of the determinants of financial restraints (e.g. Alesina et al 1994; Grilli and Milesi-Ferretti 1995), which use a probit or logit specification where the dependent variable is discrete and takes a 0 or 1 value (if restraints are absent or in force respectively), in this paper the dependent variable is continuous since it is assumed to capture the intensity of financial repression.

According to the public finance approach, in countries with a relatively underdeveloped regular tax system and a narrower income tax base, a relatively underdeveloped domestic capital market, large budget deficit and public debt, a repressed financial system may allow the government to extract extra revenues from the banking system as well as to reduce the cost of financing its debt. To test such relation between fiscal structure and financial repression, I use three variables: the ratio of tax revenues to GDP

(REV), the ratio of government budget balance to GDP (DEF), and the ratio of central government debt to GDP (DEBT). REV is assumed to capture the level of efficiency and sophistication of the regular tax system and is preferred here to indirect proxies used by other studies, such as GDP per capita. I expect to find a negative relation – i.e. the lower the ratio, the higher the intensity of financial repression. DEF captures the size of the borrowing needs of the government: large deficits (reported with a – sign) are expected to lead to higher financial repression. The same holds for DEBT: the higher the level of government's debt relative to its GDP, the stronger the incentive to resort to financial repression. A fourth economic variable used as regressor is the inflation rate (INFL), which is assumed to capture the possible nexus between the inflation tax and financial repression. In order to guarantee maximum comparability, all data refer to central government only and are based on IMF *International Financial Statistics*.

Among institutional variables, central bank independence is assumed to reduce the incentive for the government to resort to financial repression, since monetary policy is no longer a choice variable, thus eliminating seigniorage and other implicit taxation as a source of revenue (Grilli et al, 1991). Moreover, an independent central bank may be unwilling to pass on to the government the revenues obtained from money creation. To test this assumption an explanatory variable (BANK) is introduced that captures the degree of economic and political independence of the central bank. The variable, reported in Armingeon et al. (2001) (CPDS, *Comparative Political Data Set 1960-2001*), is based on an index proposed by Freitag (1999), which is a summary index of different measures elaborated by Alesina, Grill et al., Cukierman, Eijffinger and Haan. The variable takes values from 1 to 3, where 1 means maximum independence and 3 maximum dependence. Since the first observation for this variable available in CPSD is 1960, the period 1950-59 has been assigned the same value of 1960, on the reasonable assumption that no major change in the institutional position of the central banks took place in that period. The sign of the coefficient is expected to be positive – i.e. the higher the central bank's dependence, the higher the intensity of financial repression.

Since capital controls make it easier to implement domestic financial repression, another institutional variable, (OPEN), is used that captures the existence of statutory regulation on international financial transactions. The variable, also reported in Armingeon et al. (2001) (CPDS, *Comparative Political Data Set 1960-2001*), is based on the Quinn Index of financial openness, which takes into account restrictions on both commercial

and capital transactions, as well as legal international agreements that constrain a government ability to restrict exchange and capital flows. OPEN takes values from 0 to 14, where 14 means maximum openness, so that the expected sign on the coefficient is negative.

One of the innovations of the paper is the use of a specific variable to capture the possible impact of the structure of the political economy on government's propensity to resort to financial repression. Following the distinction advanced by Lijphart (1989 and 1999) between consensus – as opposed to majoritarian – democracy, political scientists categorize industrial democratic regimes according to their degree of “corporatism”. The latter can be defined restrictively as a system of interest representation, but is generally used more extensively to refer to as an institutionalized pattern of economic policy-making based on “the co-ordinated, co-operative, and systematic management of the national economy by the state, centralized unions, and employers...presumably to the relative benefit of all three actors” (Siaroff 1999: 177). The prototype of such political economy models are Austria and the Scandinavian countries, although Northern continental nations (such as the Netherlands and West Germany) are generally assumed to have developed a similar system of “liberal” (as opposed to “socialdemocratic”) corporatism. The lack of co-ordinated and co-operative management is usually referred to as “pluralism”, although a number of different categories are proposed in the literature to cope with specific characteristics of non-corporatist countries. In Europe, for example, France is sometimes referred to as a “statist” country, whereas Greece, Spain and Portugal are classified among the “syndicalist” nations (fragmented and decentralized economic interests, conflictual modes of interest intermediation, uneven development); Italy is assumed to share a number of features of both the statist and the syndicalist models. (Quinn and Inclan 1997)

As to the expected relation between corporatist political economy and financial repression, there is no clear-cut prediction. A centralised, powerful and active state, involved in the co-ordinated management of the economy, can in principle be more inclined to resort to some degree of financial repression and impose “conduct” regulation in order consistently to integrate the financial system within the overall management of the economy. However, some of the corporatist nations traditionally adopted a liberal, market-oriented attitude, while some of the non-corporatist nations –

especially in the Southern Periphery – made use of large state-owned enterprise and bank sectors in order to support investments and smooth out the impact of economic fragmentation along both regional and societal lines. While other studies have used multiple dummy variables to represent corporatist, liberal, statist and syndicalist political economies, here I prefer to resort to a simpler operationalization based on the degree of corporatism that can better account for changes over time and avoid problems of multicollinearity. The explanatory variable (CORP) is based on the Siaroff index of corporatism (Siaroff 1999), which ranks nations under a 1-5 score where 5 means high corporatism and 1 pluralism. Again, the period 1950-59 has been assigned the same value of 1960.

Two time-varying political variables are also used as regressors. It is a usual assumption in public finance empirical studies that governments dominated by left-wing parties can be more unemployment averse and pro-high public spending than centre or right-wing governments. Thus, they can attempt to exploit the Phillips curve by creating inflation, to resort more systematically to seigniorage to ease their budget constraint and/or to impose financial restraints in order to implement redistributive policies in favour of labour (Alesina and Tabellini 1989). To test whether there exists any relation between political orientation and the intensity of financial repression, a dummy variable (LEFT) is used that takes the value of 1 in case of left-centre complexion or left-wing dominance, and 0 otherwise. The variable is based on information about the *Ideological Complexion of Government and Parliament Index* reported in Woldendorp et al. (2000: 19-20). Non-democratic regimes of Southern countries such as Spain, Portugal and Greece have been classified as right-wing governments with 0 score.

Finally, governments based on majoritarian rule can find it easier to reach an agreement on tax increase, thus can have lower incentives to resort to implicit taxation. They can also depend less on the support of a large number of different constituencies, thus having lower incentives to allocate resources for political purposes. Moreover, as a large literature on financial liberalization emphasises, coalition governments may easily get caught in a stalemate, since the conflict between different groups over the distribution of the cost of reforms may end up in a prolonged war of attrition (Alesina and Drazen 1991). Thus, in principle, I expect majoritarian governments to resort less to financial repression and to implement earlier financial reforms. To test for this hypothesis, a dummy variable (MAJOR) is used that takes the value of 1 in case of majoritarian

government, and 0 otherwise (coalition or minority government). Again, the variable is based on information about the *Type of Government* reported in Woldendorp et al. (2000: 17-18). Non-democratic regimes have been classified as majoritarian governments with 1 score.

The general specification of the model is as follows:

$$FRI_{i,t} = a + b_1REV_{i,t-1} + b_2DEF_{i,t-1} + b_3INF_{i,t-1} + b_4DEBT_{i,t-1} + b_5BANK_{i,t} + b_6CORP_{i,t} + b_7OPEN_{i,t} + b_8LEFT_{i,t} + b_9MAJOR_{i,t} + e_{i,t}$$

The estimation method is based on pooling, where all units are characterized by the same equation at all times. The pooling of time series (T=42 years) and cross-sections (N=16 nations) allows large-sample analyses that draw on temporal and cross-national variations. All regression are in levels. To avoid simultaneity bias and specifications searching for optimal lags, economic explanatory variables are lagged one year. First, I estimate the regression by OLS imposing the restrictive assumption of common intercept and common partial regression coefficients. Second, the restriction of common intercept is relaxed and country fixed effects are introduced, allowing intercepts to vary across cross-sections. Since institutional variables, such as BANK, CORP and OPEN, have low time variability, their coefficient are less likely to result statistically significant in the regression when country fixed effects are included. The results are presented in Table 1. The estimates show that the inclusion of fixed effects significantly improves the explanatory power of the regression. Coefficients for REV, INF and DEBT are statistically significant, economically relevant and have the expected sign: this suggests – not surprisingly – that lower revenues from regular taxes, higher inflation rate and higher debt are associated with higher financial repression. On the contrary, the coefficient for the ratio budget deficit/GDP is not statistically significant. Among the institutional variables, BANK and CORP are the only ones to have both statistical significance and economic relevance. Both have the expected sign: higher dependence of the central bank and a higher degree of “corporatism” are associated with higher levels of financial repression. The degree of openness of external financial transactions is statistically significant but economically irrelevant. On the contrary, neither the political complexion nor the type of government seem to have any impact on financial repression.

Table 1

Determinants of Financial Repression, 1950-1991

(Whole sample, annual data estimation by Pooled Least Squares)

Common Intercept				
	(1)	(2)	(3)	(4)
C	0.46 (42.54)	0.42 (40.10)	0.64 (23.54)	0.52 (14.10)
REV	-0.05 (-1.34)	-0.17 (-4.50)	0.14 (3.29)	-0.09 (-1.93)
DEF	-0.48 (-4.30)	-0.03 (-0.26)	-0.34 (-3.26)	-0.05 (-0.42)
INF	0.49 (6.07)	0.79 (9.09)	0.28 (3.56)	0.72 (7.44)
DEBT		0.15 (8.06)		0.15 (7.48)
BANK			-0.02 (-3.79)	-0.01 (-1.97)
CORP			-0.02 (-4.48)	-0.00 (-0.98)
OPEN			-0.01 (-7.13)	-0.01 (-3.24)
LEFT			-0.00 (-0.59)	-0.01 (-0.73)
MAJOR			0.01 (1.33)	-0.01 (-0.88)
Adjusted R ²	0.14	0.30	0.29	0.31
Panel observations (unbalanced)	591	424	591	424
Fixed Effects				
	(1)	(2)	(3)	(4)
REV	-0.39 (-9.39)	-0.46 (-10.30)	-0.16 (-3.45)	-0.30 (-6.33)
DEF	-0.08 (-0.73)	0.07 (0.62)	-0.17 (-1.74)	0.06 (0.56)
INF	0.77 (11.50)	1.12 (13.98)	0.74 (11.74)	1.00 (12.80)
DEBT		0.12 (5.55)		0.13 (6.35)
BANK			0.09 (1.79)	0.11 (2.15)
CORP			0.07 (4.55)	0.04 (2.41)
OPEN			-0.01 (-9.02)	-0.01 (-5.92)
LEFT			-0.01 (-2.30)	-0.01 (-1.23)
MAJOR			-0.00 (-0.46)	-0.00 (-0.16)
Adjusted R ²	0.57	0.58	0.64	0.63
Panel observations (unbalanced)	591	424	591	424

Note: t-statistics in parentheses.

These results should be carefully checked, however. As it is known, for OLS to be optimal and standard errors correct, strong assumptions are to be made as for homoscedasticity (all error process have the same variance) and absence of both serial and spatial correlation (i.e., errors for one unit at one time are unrelated to errors for the same unit at all other times and unrelated to errors for other units). That is not the case, however, for cross-section time-series, where in fact we can reasonably expect panel heteroscedasticity, unit specific serial correlation and contemporaneous spatial correlation (Beck and Katz 1995). In order to address this pitfalls, the regression is re-

estimated by using a Feasible GLS specification (Parks method, or Seemingly Unrelated Regression), which corrects for both cross-section heteroscedasticity and contemporaneous correlation. It should be noted however that, as Beck and Katz (1995) demonstrate, Parks' specification can induce serious overconfidence, especially when the ratio of T to N is too close to unity – a problem which, incidentally, should be less serious for our study, where $T/N = 2.6$. One final caveat: since my measure of financial repression shows very high persistence, it might be useful to follow Grilli and Milesi Ferretti (1995: 542) and use 5-year non-overlapping averages of each variable (instead of annual observations) in order to reduce serial correlation problems and smooth out the effect of temporary shocks. However, this procedure would bring the number of T down to 7, and consequently the T/N ratio to 0.4, which makes it impossible to use FGLS.

With these qualifications in mind, Table 2 shows the results of the Feasible GLS estimation. The results, especially when fixed effects are introduced, generally confirm the previous conclusions. A relatively lower efficiency of the tax system, a higher inflation and a higher debt appear to be the most significant economic determinants of higher financial repression. Among institutional variables, a dependent central banks goes hand in hand with more repressed financial systems. After controlling for these variables, integrated “corporatist” political economies also seem weakly related to relatively higher financial repression. These results appear to be broadly consistent with the political economy characteristics of highly repressed countries in the 1950s and 60s, as well as with the transition of pluralist countries (either of the statist or syndicalist type) to more corporatist regimes from the late 1970s onwards. Obviously, such conclusions will have to pass further tests in order to properly assess their robustness.

Table 2

Determinants of Financial Repression, 1950-1991
(Whole sample, annual data estimation by Seemingly Unrelated Regression)

Common Intercept				
	(1)	(2)	(3)	(4)
C	0.46 (108.29)	0.43 (70.88)	0.63 (59.53)	0.53 (28.33)
REV	-0.05 (-4.60)	-0.17 (-8.89)	0.12 (8.07)	-0.07 (-3.07)
DEF	-0.38 (-11.10)	-0.01 (-0.22)	-0.27 (-6.69)	0.04 (0.60)
INF	0.57 (18.55)	0.73 (17.38)	0.42 (11.55)	0.65 (12.21)
DEBT		0.15 (17.03)		0.14 (13.30)
BANK			-0.02 (-9.50)	-0.01 (-3.69)
CORP			-0.02 (-14.08)	-0.01 (-3.08)
OPEN			-0.01 (-14.59)	-0.01 (-6.06)
LEFT			-0.01 (-3.18)	-0.01 (-1.62)
MAJOR			0.01 (2.24)	-0.01 (-2.08)
Weighted Statistics				
Log likelihood	1232.82	1305.71	1205.446	1279.160
Panel observations (unbalanced)				
	591	424	591	424
Fixed Effects				
	(1)	(2)	(3)	(4)
REV	-0.36 (-20.12)	-0.38 (-13.56)	-0.17 (-8.49)	-0.27 (-9.80)
DEF	-0.08 (-1.88)	-0.03 (-0.69)	-0.11 (-2.53)	0.04 (0.68)
INF	0.77 (25.95)	0.92 (18.77)	0.76 (25.78)	0.86 (16.79)
DEBT		0.09 (9.19)		0.10 (9.22)
BANK			0.08 (4.13)	0.10 (6.52)
CORP			0.05 (9.01)	0.04 (4.30)
OPEN			-0.01 (-14.11)	-0.01 (-9.42)
LEFT			-0.01 (-5.14)	-0.01 (-3.38)
MAJOR			-0.01 (-1.75)	-0.00 (-0.84)
Weighted Statistics				
Log likelihood	1415.69	1442.16	1385.86	1428.65
Panel observations (unbalanced)				
	591	424	591	424

Note: t-statistics in parentheses.

(5) CONCLUSIONS

The paper aimed at testing whether a public finance approach can explain the rise and persistence of financial repression – including securities markets’ repression – in Western Europe in the second half of the 20th century. For such purpose, a new index of financial repression was constructed for the period 1950-91. The index provided evidence that European countries converged towards lower levels of financial repression in the 1950s-60s. The 1970s reversed this trend, driving financial repression back to the level of the late 1950s. Divergence among European countries increased in the 1970s and persisted throughout the 1980s, when financial repression receded again. While initially high financial repression was essentially a Northern European phenomenon, by the end of the period it had moved southwards and westwards to become a characteristic of peripheral areas such as Ireland and the Mediterranean nations. The paper also tested empirically the possible determinants of financial repression. Fiscal, institutional and political indicators were used as independent variables to estimate a regression based on pooling cross-section time-series data. The tentative results suggest that a lower efficiency of the tax system, a higher inflation, a higher debt and a dependent central bank appear to be the most significant determinants of higher financial repression – evidence that is consistent with a public finance story. However, the estimates also provide weak evidence that, after controlling for fiscal and other institutional determinants, political economy regimes with “corporatist” characteristics can be more prone to financial repression than “pluralist” regimes.

APPENDIX

Variables: Definition, Method and Sources

Variables used to construct the Financial Repression Index (Section 2)

RESERVE: ratio of bank reserves to total bank deposits

RATE: real deposit (or bank) rate, calculated as nominal deposit (bank) rates minus realized inflation rate (based on Consumer Price Index); three-year moving average.

INTERMEDIATION: ratio of M2 to nominal GDP.

GOVERNMENT: ratio of commercial banks' claims on government to claims on the private sector.

Source: IMF International Financial Statistics CD-ROM

STOCK: ratio of stock market capitalization to GDP

Source: World Bank

Following the Beim and Calomiris (2001) method, each measure was mapped onto a 0-100 index, approximately normally distributed with mean 50 and s.d. 20:

Index = a + bx

where

x = measure (log of measure for INTERMEDIATION)

a = 50 – b mean(x)

b = 20/s.d.(x)

Censoring was adopted when the formula produced an index lower than 0 and higher than 100. In these cases, values were set at 0 and 100 respectively.

Variables used as regressors in the econometric specification (Section 3)

REV: ratio of central government revenues to nominal GDP

DEF: ratio of central government budget balance to nominal GDP (- = deficit)

DEBT: ratio of central government debt to nominal GDP

INF: inflation rate (based on Consumer Price Index)

Source: IMF International Financial Statistics CD-ROM

BANK: Index of central bank independence. Summary index of different measures.

Takes values from 1 (maximum independence) to 3 (maximum dependence).

OPEN: Quinn Index of financial openness based on statutory regulation of international transactions. Takes values from 0 (minimum openness) to 14 (maximum openness).

CORP: Siaroff Index of "integration", considered a proxy for corporatism. Takes values from 1 (low corporatism) to 5 (high corporatism)

Source: Armigeon et al (2001), CPDS-Comparative Political Data Set 1960-2001

LEFT: dummy variable taking value of 1 when left-wing government in power, 0 otherwise. Based on an Index of Ideological Complexion of Government and Parliament.

MAJOR: dummy variable taking value of 1 when majoritarian government in power, 0 otherwise (coalition or minority government). Based on an Index of Type of Government.

Source: Woldendorp et al. (1998 and 2000)

NOTES

¹ It may be of interest however to mention that Continental Europe on average was assigned ratings on accounting standards generally below the UK and the USA. A major exception are Scandinavian countries, with ratings above Anglo-saxon countries.

² It is generally accepted that prudential regulation is not distortionary. Consequently, the paper focuses on “conduct” regulation, whose distortionary impact is reasonably non controversial.

³ This represents the main nexus between seigniorage and financial repression addressed in the literature: reserve requirement policy can be used directly to increase the seigniorage tax base. However, a second nexus there exists, since in a wider sense, in financially repressed systems a limited array of financial instruments is available, generally with very low (or even negative) interest rates. This situation, other things equal, also tends to increase money demand (Dornbusch and Giovannini 1990).

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