PENSION FUND REFORM AND EUROPEAN FINANCIAL MARKETS

a reappraisal of potential effects in the wake of EMU[1]

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Abstract

Pension reform is widely seen as essential in order to defuse the difficulties EU governments would otherwise face in respect of their social security pension systems in a context of population ageing. Particularly when such reform involves funding of future pensions, it may have radical implications for European financial markets, entailing important changes in the demand for financial assets by the private sector and qualitative developments in capital markets and banking which may impinge on banks' comparative advantages. It may thereby impact on some long-established features of EU financial markets, notably in respect of corporate finance and corporate governance. Meanwhile, the onset of EMU will strongly affect both the evolution of EU financial markets and funding; On balance, it will tend to lead the evolution of financial structures in the same direction as the effects of pension fund reform, in that both favour an increased role for securities markets and a lesser role for traditional banking. EMU will also encourage funding in various ways in and of itself. It is suggested that the forces unleashed by EMU and pension funding may act to change the European financial landscape more radically than would be the case for each alone, in the direction of a securitised financial system characterised by Anglo-Saxon market-based corporate finance and governance practices and away from "relationship banking". A number of theoretical, empirical and policy issues are raised, notably in respect of corporate finance, financial regulation and monetary policy.

Introduction

It is widely accepted that owing to the ageing of the population combined with comprehensive pay-as-you-go pension systems, pension reform is essential in a number of EU countries. Some commentators[2] have suggested that particularly when such reform involves funding of future pensions, it will have important implications for financial market structure and behaviour, which may impact on some long-established features of EU financial markets. In this paper we seek to reappraise and deepen such arguments, drawing inter alia on theories of corporate finance; we also contend that the onset of EMU is a new element to be taken into consideration, which will strongly affect both the evolution of EU financial markets and funding. For the most part, it is suggested that the likely integration of financial markets that EMU will bring about will tend to lead the evolution of financial structures in the same direction as the effects of pension fund reform per se. EMU will also encourage funding in various ways in and of itself.

Building on these suggestions, we maintain that taken together, the forces unleashed by EMU and pension funding may act to change the European financial landscape more radically than would be the case for each alone. In effect, they seem likely to shift European financial markets closer to the US model, with a relative decline in the importance of bank financing (although owing to regulatory and structural differences, an exact correspondence with the US is unlikely). Whereas some analysts see such a move as part of a natural progression in the financial system (see the stylised discussion in Annex 1), many would disagree – or at least would challenge whether such a shift is desirable. Our own view is that such an evolution is indeed inevitable in the long term, absent a return to capital controls and segmentation, but may "pause" for prolonged periods along the way. EMU and funding will in effect accelerate the process.

Among drivers for change unleashed by funding and EMU, we pinpoint the changing demand for financial assets by the private sector and qualitative developments in capital markets and banking, which may impinge on banks' comparative advantages. It should be noted at the outset that given the nature of the topic, the paper has to be wide ranging and is inherently forward-looking and to some extent speculative; in this context, the main aims are to draw out implications of current trends, provide suggestions as to how they may develop in the future and to hint at policy issues and lines of further research.

The paper is structured as follows; in the first section, we consider the prospective demographic patterns and generosity of social security pensions which lead to the need for pension reform. Section 2 looks at the way EMU will increase the pressures for early action. In Section 3 we outline the

[2] Davis (1993) referred to development of pension funds as "a coming financial revolution for Continental Europe".

potential types of reform that may be adopted and the degree to which they may lead to increased funding of pensions. Section 4 looks at some broad indicators of the current financial structure in EU countries and tendencies discernible over time in the G-7. In the light of this, Section 5 considers the potential effects on EU financial markets of a shift to funding, viewed in isolation; complementing Section 5, Section 6 presents some panel estimates showing in a preliminary manner the effects on financial market behaviour of increased "institutionalisation" that funding would entail. Sections 7 and 8 look correspondingly at effects of EMU on financial markets and on funding. Section 9 seeks to integrate these points and speculates how funding and EMU effects on financial markets may interact and combine in the future. As background, Annex 1 gives one stylised overview of the process of financial development.

1 Why is there a need for pension reform?

The issues facing EU countries in the field of retirement-income provision are readily summarised in Tables 1-4[3]. Table 1 shows the demographic development in the EU which is predicted by the World Bank in its latest population projection (Bos et al 1994). There is expected to be a sharp increase in the proportion of the population aged 65 and over. This increase links mainly to a decline in fertility to below replacement in most EU countries, albeit also relating to an increase in average life expectancy and a low level of net migration. With an unchanged retirement age, such a demographic shift will naturally lead to an increase in the scope of transfers in the context of pay-as-you-go pension systems. The problem is, however, compounded by the scope and generosity of public pension systems in the EU. As shown in Table 2, social security pension promises even for higher earners are extremely generous in a number of EU countries, with for example the net social security replacement rates (pension/earnings at retirement) being more than 50% even for those on twice average earnings except in Denmark, the Netherlands, Ireland and the UK – the countries where funding is most developed (see Table 7). Corresponding to this, as well as reflecting the overall generosity of the welfare state, the level of social security contributions as a percentage of GDP and as a proportion of individual earnings is already very high in most EU countries, despite the fact that the process of ageing is only just beginning.

Combining these elements of demography and the structure of social security systems gives rise to projections of pensions expenditure which feature sharp projected increases in a number of EU countries. As shown in Table 3, the OECD projected in 1996 that the share of GDP accounted for by social security pension costs will be 14% or more in 2040, again in all EU Member States except for Denmark, the Netherlands, Ireland and the UK. Although some reforms have taken place since 1996, the overall picture is considered still to hold. It is apparent that increases in public expenditure of this magnitude could not be sustained without considerable, possibly unbearable, strain on public finances

[3] More detail is provided in Davis (1997c, 1998c).

and the rest of the economy. An alternative means of showing the same outcome is the discounted present value of future pension liabilities (Table 4), which again shows sizeable burdens for a number of EU countries.

2 Effects of EMU on the pressure for reform

The EMU context enhances pressure for reform on public pension systems. A first point that may be made is that the fiscal convergence criteria of the Maastricht Treaty, which provide for limits on deficits and debts as a precondition for entering Monetary Union, have put a much greater focus on public finance issues than hitherto. In particular, attention is being paid to the influence of social security imbalances in contributing to current deficits[4]. A related point is that the so-called "Stability and Growth Pact" will apply to public finance positions after Monetary Union begins. Fines will be imposed on countries within the euro area whose public sector deficits exceed certain levels, except in certain exceptional circumstances. There will hence be much less scope than would otherwise be the case for governments to run large deficits when ageing becomes an acute burden on social security, even as part of a package of reforms; in effect, debt financing of a transition to funding will be made much more difficult (see Section 3). Contribution rates will have to be adjusted to closely match benefit payments at all times. By reducing the scope for such flexibility, the provisions of the Stability and Growth Pact should force governments to look more closely at their social security obligations at an early stage.

Nor will pressures on public pensions via fiscal policy arise solely from Treaty provisions and organisational aspects. As argued by De Ryck (1997), financial markets in general and rating agencies in particular will, after introduction of the euro, put an increasing focus on general government obligations, of which pension liabilities are the largest part. Particularly in the context of the single currency with a “no bail-out” provision and thus positive credit risk on government debt, these liabilities will have an increasing effect on the ratings that the agencies apply. Hence those governments retaining generous unfunded social security systems in the face of a deteriorating demographic situation will face higher long-term interest rates, risking to worsen both their public finance position and the overall performance of their economies.

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[4] In this context, it is widely recognised that the need to correct public finance positions before the ageing of the population sets in gives a powerful additional justification to adhere to the Maastricht targets. For it can be shown that the burden of pensions on public finances will be compounded or alleviated depending on the initial state in which public finances enter the period when population ageing begins to accelerate. A country with a high deficit and high existing debt would clearly run a much greater risk of a financing crisis than one with a more favourable fiscal position. For example, OECD (1995) show that for the EU-4 a permanently 1% better primary balance from 2000 would give a reduction in net debt positions of 40-55% of GDP by 2030. This underlines the importance of early steps to fiscal consolidation, preferably by reducing government outlays. Consolidation also “buys time”, allowing pension reform to be introduced gradually or with some delay (to allow individuals to adjust their plans appropriately) and defers the time when adverse debt dynamics emerge.

Furthermore, in the context of Monetary Union there will be even greater mobility of factors of production (notably capital) than was the case hitherto. This is important in the current context because differences in prices and costs, e.g. due to non wage labour costs such as social security contributions, will become entirely transparent in the context of a single currency (see Table 2). In combination, these elements will arguably tend to put countries imposing high taxes on employers for social security purposes under greater pressure to adapt their systems and reduce the burden on industry and commerce, as high taxes would otherwise lead firms to relocate their activities where such taxes are lower.

3 Types of reform

Having established a need for reform, which will be intensified in the context of EMU, the issue arises as to the form it should take. It should be pointed out at the outset that EU countries have already begun to reform pension systems; as noted by Franco and Munzi (1996), reforms have been sufficient in most cases to reduce the growth rate of pension expenditures to the rate at which the dependency ratio rises. But future problems remain acute. There is a well-established menu of pension reforms available, in two broad classes, namely reforms of pay-as-you-go and introduction of funding. Of course, a thoroughgoing reform may combine elements of both. As background to this discussion, Table 5 shows in a schematic manner the various costs and benefits of a switch from pay-as-you-go to funding[5], which we consider point strongly towards a need for funding of all but the most basic level of retirement income provision (see Davis 1997d).[6]

Whereas the paper is focused mainly on reforms leading to funding and the effects of pension fund growth on financial markets, it is important not to disregard entirely reforms of pay-as-you-go, which may have different implications for the degree to which funding is encouraged as a complement for pay-as-you-go. They may also have a role to play in a long term reform process leading to funding, to the extent that they reduce future liabilities of pay-as-you-go (Holzmann 1997). Reforms of pay-as-you-go may include changes in the ratio of beneficiaries to contributors, decreasing benefit levels and increases in revenue. An overview of potential reforms to pay-as-you-go and their implications for

[5] One important aspect of the pay-as-you-go/funding choice is that in equilibrium the rate of return to pay-as-you-go is equal to the growth of wages times the old age dependency ratio while that of funding is the interest rate net of administrative costs times the passivity ratio (years of retirement/years of work). Typically, the rate of return attainable does exceed the growth rate of the wage bill i.e. there is "dynamic efficiency" (Hemming 1998). But some analysts point to the fact that the difference may diminish when funding becomes more common in industrial countries – unless there is widespread investment in developing countries.

[6] We take a similar view to World Bank (1994), namely that given differing risks, both pay-as-you-go and funding may be best employed as a hedge. Its comparative advantage in terms of redistribution suggests pay-as-you-go should be basic - to act as a form of safety net for poverty alleviation - and funding cover the needs for maintenance of pre-retirement living standards. For as well as being vulnerable to the effects of population ageing, a comprehensive pay-as-you-go system is likely to engender considerable economic distortions (early retirement, disability pensions, evasion). It may be added that funding's success depends crucially on design; benefits of funding are vulnerable to inefficient investment and high administrative costs.

voluntary funding of pensions is shown in Table 6. Elements of many of these reforms have already been introduced in EU countries, although as noted they have not yet been sufficient to eliminate the pensions problem. Further details are given in Franco and Munzi (1996). The differing potential side-effects on voluntary funding are noteworthy; in particular, raising the retirement age creates a "natural" reduction in retirement-income needs because a lower proportion of the life cycle is spent in retirement (a lower "passivity ratio") while higher contributions will increasingly crowd out any form of funding.[7] It may be added that the size and even the sign of effects on funding may differ depending inter alia on whether the pay-as-you-go system is seen as credible.

Meanwhile, a policy of encouraging funding viewed in isolation may help to alleviate the difficulties of the demographic transition as well as increasing welfare in itself (see Table 5). In particular, as suggested by Holzmann (1997) benefits to financial-market development arising from funding (as set out in Section 5) may provide a major boost to economic growth. The current level of funding in EU countries is indicated by the assets/GDP ratios shown in Table 7. These show that only in Denmark, Ireland, the Netherlands and the UK, and to a lesser extent in Sweden, do private funded pensions make a major contribution to retirement income provision. Table 8 shows the portfolios of pension fund sectors. There are noteworthy differences in terms of equity and international asset holding vis-à-vis fixed income, which link inter alia to portfolio regulations (Davis 1998a), and which have strong effects on the costs of funding that apply in the different EU countries (Davis 1996a).

Experience suggests that, besides allowing opting out from earnings related social security, voluntary funding of pensions flourishes in a context where tax provisions are favourable, where investment of pension assets is unconstrained (subject to a requirement that investment be prudent) and where social security pensions are set at a low level for higher-income earners. Compulsory provision of occupational or personal pensions is of course an alternative approach, albeit one which imposes unavoidable costs on the corporate sector and which could hence impact on competitiveness.

A more radical alternative than merely encouraging funding in isolation is a thoroughgoing reform which reduces or eliminates social security obligations while setting up a comprehensive regime of funding. Such a policy has the additional benefit of eliminating distortions to capital and labour markets which pay-as-you-go generates (Table 5). In this context, a general problem that arises in

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[7] In addition, the practical difficulty of some of the reforms should not be underestimated. For example, whereas in principle action on the retirement age is highly desirable (as it both increases the number of contributors and reduces recipients of pensions), changing the statutory retirement age alone may not be sufficient to raise actual retirement ages; an attack on early retirement schemes is an essential complement in order to increase actual retirement ages. As discussed in Davis (1997c), early retirement imposes a considerable additional burden on social security in the EU – but it has also come to be seen almost as a right by individuals and a legitimate aspect of restructuring by companies. Equally, fertility incentives have tended to be ineffective in the past. Opting out of earnings related social security can ease the burden on the social security budget but needs careful design to avoid a more-than-offsetting loss of tax revenue.

policy discussion of funding in countries currently dependent on pay-as-you-go is that there may be major fiscal difficulties arising from such reform, which can spill over to political resistance[8]. In effect, a relative switch to funded pensions does not relieve pressure on public finances in the short run, as existing pension promises need to be met and, usually, tax relief granted on contributions and asset returns, with little tax revenue from the initially low amounts of funded pension payments to offset these costs. Hence the need for a rather contractionary fiscal stance, and the likelihood of political resistance to generations in the transition being thereby forced to "pay twice" for pensions, once for the previous generation via pay-as-you-go, and once for its own via funding.

These points raise an important public policy issue of how a transition is to be financed and the burden distributed between generations[9]. As noted in Holzmann (1997), the polar opposite of forcing the current generation to pay twice by tax financing of the transition is to recognise the implicit government debt which is represented by the accumulated benefit obligation of pay-as-you-go, and convert it immediately to explicit debt[10]. In this case the transition is financed largely by future generations. In this context, Feldstein (1995a) suggests such bond financing of the transition can help redistribute the burden between generations[11], so the future generations who will benefit from the efficiency gains of a more flexible labour market and financial market development, as stimulated by funding, will also pay some of the costs. However, given the scope of current accrued obligations under pay-as-you-go, typically well over 100% of GDP, this would seem not to be feasible without severe effects on financial markets and on confidence in the domestic economy. In the euro area it would of course risk to be contrary to the Stability and Growth Pact. Accordingly, EU governments have preferred in current circumstances to focus largely on scaling back incrementally their future benefit promises to current and future generations while maintaining pay-as-you-go financing[12]. As noted by Holzmann (1997), such a process of reform, by reducing the future benefit obligation of pay-as-you-go, may facilitate a more decisive switch to funding - whether financed by borrowing or taxation - at a later stage.

In recent years, the most radical shifts from pay-as-you-go to funding have been in the UK and Denmark. The UK has scaled down the earnings related social security scheme considerably (see

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8 Suspicion of capital market financing of retirement income per se, partly for historical reasons, may of course also generate opposition, as seems to be the case in France and Germany.

9 This choice will also affect the overall impact of the reform on national saving.

10 In Chile, this takes the form of “recognition bonds” that people may hold till retirement to indicate accrued pension claims.

11 In this context Feldstein (1995a) shows that the conditions for funding to improve welfare even abstracting from demographics and distortions to labour markets are quite likely to hold. These conditions are: that the return on capital exceeds economic growth (so the return to funding exceeds that to pay as you go); that the return on capital exceeds the rate of time preference (the capital intensity of the economy is below the welfare-maximising level); and the rate of growth of the economy is positive (so there is a gain in extra retirement income which more than offsets the (given) costs of the transition).

12 Note that Sweden and Finland have long-established systems of partially funding social security pensions.

Davis 1997b) and allowed opting out to private pensions, while Denmark has introduced compulsory private pensions for blue-collar workers, once collective bargaining agreements have been reached. Other recent trends towards private pensions (e.g. in the Netherlands and Ireland) are more the result of long standing features of retirement income systems.

Nevertheless, some recent reforms in countries such as Spain and Portugal are already leading to growth of funded pensions, and the completion of reforms underway in Sweden, France and Italy may have similar effects. As noted, reduction in the scope of pay-as-you-go, which is widely underway, can pave the way to a switch to funding by reducing the transition costs. Moreover, even in advance of reforms, individuals in countries with generous pay-as-you-go systems are increasing their long term saving via mutual funds and life insurers, owing to expectations of future difficulties and consequent reform. They apparently accept the view that in the medium to long term some shift to funding is inevitable in the light of the unsustainable benefit promises of existing social security schemes, and are thereby already boosting the institutionalisation of capital markets. Table 7 indicates the enormous scope of pension-fund asset accumulation which would be involved if EU countries were to converge on US[13] levels of funded pension provision (itself somewhat below that obtaining in the Netherlands and the UK).

4 The structure of EU financial markets

In the light of the above-mentioned grounds for anticipating future growth in pension funding, be it formal or "informal", in this section we briefly introduce some of the stylised differences in financial structure across EU countries, also providing where possible comparable data for the US, Japan and Canada. What is the "baseline" structure which growth in funding may influence? As background and as a basis for further discussion, we provide in Annex 1 an stylised outline of the predictions of the literature on financial development.

A broad overview is given by Table 9, which indicates the volumes of various financial instruments outstanding, together with the size of overall institutional investor sectors and the number of listed companies. Banking assets are larger than securities markets in the EU as a whole and most individual countries. Private bond markets in particular are less developed than in the US, and equity market capitalisation tends to be lower. It may be added that the nature of private bond market activity differs from the US in that in many EU countries, private bonds are mainly issued by financial institutions and rather few by non-financial companies. The differing size of government bond markets of course largely reflects past fiscal policies and recent efforts at consolidation. It may be added that these generalisations apply less to the Netherlands, Sweden and the UK, where the scope of securities

[13] The US figure shown in the table is an underestimate as it only includes life insurance company pension reserves, private and state and local pension funds but not 401(k) pension assets held in mutual funds.

markets – and especially equity market capitalisation relative to GDP[14] - is much greater than the EU average. There is a noteworthy correlation between the size of institutional investor sectors and equity markets, with the above-mentioned countries also having the largest institutional sectors in the EU (including pension funds, life insurance and mutual funds). Indeed, the correlation coefficient of institutional assets and equity market capitalisation across all of the countries shown is no less than 0.97. Finally, equity market capitalisation in combination with the number of listed companies gives an indicator of the scope of private as opposed to public information available, being sizeable in countries such as the US and UK, and rather less in most EU countries[15].

A number of behavioural elements may be added to the information in the table; for example, corporate bonds tend to sell largely to domestic investors, while markets for government bonds tend to be more internationalised. Moreover, a balance-sheet table such as Table 9 cannot provide information on financing patterns in flow sense. Historically, EU companies tended to rely mainly on internal finance, with bank lending providing most external finance. In other words, the equity share reflects valuation gains rather than new issues, with the latter traditionally occurring mainly in booms. More recently, however, securities issuance has become more important, and in the last recession it played a considerable role in corporate financing in countries such as the UK, contrary to theoretical expectations (Davis 1994a).

There are sharp differences across EU countries in the structure of the banking sector (Table 10) which underlies the asset figures given in Table 9. The number of banks varies, notably between France and the UK on the one hand and Germany and Italy on the other. There are also marked differences in smaller countries. Note in this context that the US retains a very atomistic banking sector, largely as a consequence of historical patterns of regulation. The figures for concentration correspondingly show that there are differences not only between small and large countries (as would be expected if there are economies of scale or scope to be exploited) but also within size classes. For example, the Scandinavian countries have rather high concentration ratios, reflecting restructuring after earlier crises (Davis 1995b). Population per branch – arguably one of the most comparable measures of relative banking capacity – shows major differences, with Austria, Belgium, Germany and Spain standing out as having a proportionately large numbers of branches. Interest margins are influenced by a number of factors (such as the division of retail and wholesale assets) but again show marked differences across EU countries on the verge of EMU.

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[14] Note that 1995 is before the latest boom in share prices, which some have seen as having bubble-like qualities.

[15] It may be borne in mind that the overall importance of the corporate sector is similar in industrialised countries, and hence the number of domestic listings should be broadly in line with the size of real GDP to indicate a similar level of equity market development.

A broader view of developments on financial structure, including patterns over time, is shown in Tables 11-14 for the G-7[16] countries. The tables show data for end-1997, drawn from National Flow of Funds Balance Sheets, and comparative data for 1980. The data are not directly comparable with those in Table 9. Table 11 shows that the volume[17] of financial claims relative to GDP has grown sharply in all of the G-7, albeit varying in terms of levels. This has coincided in most cases with an increase in financial intermediation - the proportion of claims held indirectly in banks or institutional investors as opposed to being held directly. In other words, the growth of financial markets has not led to a fall in intermediation, indeed quite the contrary. But the locus is changing - of the intermediated claims, a growing proportion has been in the form of institutional investment (including life insurance and mutual funds as well as pension funds). It is noteworthy that this tendency is apparent across all countries shown and not just the so-called Anglo-Saxon ones, although differences in levels are still marked. It is consistent with the stylised picture of financial market development given in Annex 1.

These changes have coincided with in most cases a sharper rise in securities (i.e. bonds and equities) than in deposits and loans, implying that bank assets and liabilities have declined relative to the total (Table 12). Meanwhile, households have tended to shift the composition of their balance sheets to institutions and away from deposits as well as directly-held equities and bonds (Table 13), although again levels still differ. Patterns for companies are less clear, but there would appear to be a tendency for them to reduce their dependence on loans and increase their reliance on equities, as shown in Table 14 (it being borne in mind that the balance sheet composition reflects capital gains as well as new issuance). On the other hand, in levels terms, the table still shows the expected difference between Anglo Saxon and other countries in terms of the importance of bank loans to companies, it being below 20% in the former and above it - at times well above - in the latter. Finally, use of corporate bonds is particularly low in all the EU countries shown – including the UK.

Balance sheet data of course do not tell the whole story of financial structure and behaviour. Most EU countries for example, tend to all have national stock markets and derivatives markets trading a limited range of domestic stocks/contracts. Lead management of bond issues tends to be by domestic institutions – historically enforced by regulation (the so-called “anchor principle”). More generally, it may be recalled that there are marked differences in corporate governance patterns and hence in behaviour, even among countries having broadly similar balance sheet structures, i.e. a preponderance of bank lending in corporate finance and relatively underdeveloped securities markets (see Berglöf 1996). In some countries such as Italy, this strongly reflects provision of equity finance via families, whereby such families have dominant positions (in the context of industrial groups) in the overall economy. Elsewhere, the state may play a relatively dominant role in corporate governance

16 UK data exclude offshore bank loans and deposits (i.e. the eurocurrency market)

17 The size indicator shows the total value of all financial assets of the conventional economic sectors in the System of National Accounts (household, corporate, banks, non-bank financial institutions, government, foreign).

(as was historically the case in France). In this paper, however, our main focus is on the "German model" of relationship banking (see Mayer (1988), Edwards and Fischer (1994)).

Key features of the German model include on the one hand close and often exclusive lending relations between banks and private firms, and on the other a pattern for publicly-quoted firms whereby equities are held either by banks themselves or by passive shareholders such as households (who may delegate voting rights to banks) and corporate cross holders. For publicly-quoted firms, banks are often represented on supervisory boards. In each case, banks may then benefit from sharing of information unavailable to other investors. By reducing information asymmetries and enhancing banks' control over borrowers in a situation where contracts are by nature incomplete, this system is often seen as an advantage, giving scope for firms to obtain long term debt finance for investment and R&D, and for banks to mount rescues of firms in difficulty. In the context of a relatively small number of publicly-quoted firms, whose ownership structure features "blocks" of shareholding, hostile take-overs in the Anglo-Saxon style of "tender offers" are rare, although mergers are common, and some are hostile in intent[18]. Bisignano (1991) has pinpointed key underlying features of the "German model", such as a low level of public information disclosure by companies; company statutes which recognise the rights of stakeholders, including creditors, to a say in management; scepticism regarding the allocative efficiency of markets; preference for "insider control" and close holding of companies, or block shareholdings in publicly-quoted firms; weak protection for minority shareholders; and maintenance of an informal rather than rule based system for governing financial relations. These are reflected in a low level of equity market capitalisation and small number of public corporations (see Table 9).

Finally, as shown in Table 15, debt maturity and the scope of collateralisation differ strongly across EU countries. It is widely suggested (see e.g. de Bondt 1998, Harhoff and Körting 1998) that these patterns reflect the differing scope of information available to lenders on corporate borrowers, and the consequent difference in the degree to which control needs to be exerted to prevent agency conflicts. Accordingly, collateralisation tends to be higher and maturity lower in countries such as the UK where bank-borrower relationships are relatively tenuous (Borio 1997).

5 Effects of pension fund growth on financial markets

In the rest of the paper we focus on the likely consequences for this "baseline" of a switch to funding, with additional reference to the effects of EMU. The effects typically identified as consequences of funding[19] may be conveniently divided into a number of categories; effects on saving, effects on

[18] As noted by Jenkinson and Ljungqvist (1997), hostile stakes may in the German context be accumulated by buying out existing blockholders rather than by open market purchases. 17 such cases were found out of 2500 changes in ownership structure between the late 1980s and 1996.

[19] See also Davis (1993), (1996b) and (1998b).

demand for capital market instruments and various qualitative effects. Note that the effects shown are for the most part identified by past experience and/or econometric estimation (e.g., in the UK, US and Chile) as shown in the references to this section; they are also consistent with the statistical work presented in Section 6. In this sense, they differ from the likely effects of EMU as identified in Section 7, which are largely a matter of a priori reasoning, given EMU is a project whose full effects are yet to become apparent.

There are a number of mechanisms whereby pension funding may change savings behaviour; imperfect substitution arising, for example, from illiquidity of pension assets may mean that other saving is not reduced one-to-one for an increase in pension wealth; liquidity constraints may imply that any forced saving (such as pension contributions) cannot be offset either by borrowing or reducing discretionary saving (Hubbard 1986)[20]; the interaction between pensions and retirement behaviour may increase saving in a growing economy, as workers increase saving in order to provide for an earlier planned retirement (Feldstein 1974); tax incentives which raise the rate of return on saving via pension funds may encourage higher aggregate saving;[21] and finally, a cut in social security as part of a shift to funding should increase saving, given the effect on implicit wealth (World Bank 1994).

On balance, research suggests that growth in funded pension schemes does appear to boost personal saving[22], subject to a partial offset arising via declines in discretionary saving. Much of the literature, such as Pesando (1992), which is focused on US defined benefit funds, suggest an increase in personal saving of around 0.35 results from every unit increase in pension fund assets, though the cost to the public sector of the tax incentives to pension funds reduces the overall benefit to *national* savings to around 0.2. Hubbard (1986) suggests a larger effect on personal saving of 0.84, Gale (1997), rather less[23]. Effects may be less marked for defined contribution funds, where the worker is more likely to be able to borrow against pension wealth and participation is generally optional. On the

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[20] It might be anticipated that liquidity effects on saving may weaken where credit markets are liberalised and thus access to credit less restricted, or participation in pension funds is optional.

[21] On the other hand, one should note that taxation provisions boosting rates of return will only influence saving at the margin for those whose desired saving is below that provided by social security and private pensions; for those whose desired saving exceeds this level, there will be an income effect but no offsetting substitution effect, and saving will tend to decline.

[22] Direct international comparisons of personal saving ratios are, however, not supportive of a simple relationship between pension funding and saving at a macro level. Countries with high levels of pension funding such as the US and UK have comparatively low saving while countries dependent on pay-as-you-go such as France and Germany have high saving ratios. These data show that saving depends on a large number of factors such as the demographic structure of the population, income per capita, income growth and the nature of credit markets as well as pension systems (Masson et al 1995).

[23] Estimation for sub-groups suggests extra saving is generated notably by lower income households with less education who are often subject to liquidity constraints, who have no assets to pledge, have less secure employment and may save less than they would require for retirement purposes (Bernheim and Scholz 1992). Such individuals are likely to accrue private pension rights only in the context of a comprehensive and compulsory funded pension scheme.

other hand, there is some contested[24] evidence for the US (Poterba, Venti and Wise 1996) that individual, albeit company-provided defined contribution accounts (so-called 401(k)'s) have strongly added to aggregate saving, with tax incentives being the main reason. Finally, regarding social security Feldstein (1995b) suggests that personal saving falls 0.5 for every unit increase in social security wealth. Neumann (1986) gives similar estimates for Germany. Of course, this estimate abstracts from effects on public saving that may be offsetting at a national level.

In Europe, the fact that personal saving ratios are already high would seem in most scenarios to favour an overall portfolio adjustment (discussed below) rather than a further rise in saving as the key effect of funding. There may in effect be only an income effect of tax incentives and no substitution effect. But radical cuts in social security could clearly generate some rise in accumulation.

The quantitative impact of development of pension funds on capital markets, abstracting from potential increases in saving and wealth, should arise mainly from differences in behaviour from the personal sector. Pension funds in most cases hold a greater proportion of capital-uncertain, long-term assets than households (compare Tables 8 and 13). These differences can be explained partly by time horizons, which for household are relatively short, whereas given the long term nature of liabilities, pension funds may concentrate portfolios on long term assets yielding the highest returns. But given their size, pension funds also have a comparative advantage in compensating for the increased risk by pooling and diversifying across assets whose returns are imperfectly correlated[25], an advantage linked also to lower transactions costs for large deals and ability to invest in large indivisible assets such as property. Although unlike banks they tend to rely on more on public than private information in investment[26], owing to economies of scale, specialisation, links to investment banks etc. their information may be typically superior to that of private individuals.

The implication is that even if saving and wealth did not increase, a switch to funding would increase the supply of long term funds to capital markets, notably in the form of equities and corporate bonds, and reduce bank deposits, so long as individuals do not adjust the liquidity of their portfolios to fully offset effects of growth of pension funds. A priori, one can argue that full offsetting is unlikely, especially if pension assets are defined benefit[27] and/or implicitly substitute for highly-illiquid implicit social security wealth. And indeed, empirical work by King and Dicks-Mireaux (1988) found

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[24] For a countervailing view, see Engen, Gale and Scholz (1994) and Thomas and Towe (1996).

[25] As noted by Bray (1991), pension funds and other institutional investors are close to the original Gurley and Shaw (1960) idea of financial intermediaries as a means of ensuring diversification and risk sharing for individual investors in the presence of transactions costs, which induce economies of scale.

[26] This is not to deny that pension funds may gain private information via "corporate governance" links as well as in the context of monitoring related to debt finance (e.g. in the Netherlands). But the comparative bias of pension funds to public information is clear.

[27] On the other hand, Friedman (1996) argues that a shift to funding via defined contribution plans may reduce or eliminate these shifts to longer term assets, if households can control the disposition of their pension assets, are rather risk averse and wish to maintain their existing portfolio structure.

no such offset for Canada, while Davis (1988) obtained similar results for the G-5 (see also Section 6). Moreover, radical changes in financial structure - inconsistent with full offsetting - have been widely observed to accompany growth of funding, not least in Chile[28].

Besides inducing shifts to longer term assets, funding would also increase international portfolio investment, where this is permitted, given the benefits it offers in terms of risk reduction to pension funds while household activity in this area is low. (Pension funds still tend to be subject to so-called "home asset preference" however, and do not tend to shift to the "global portfolio" even when permitted to do so.) It may be noted in this context that many EU countries still impose portfolio restrictions on pension fund assets, which limit both equity and foreign investment (Davis 1998a, EU Commission 1997). If not reformed, these restrictions would limit the scope of the effects identified in this section.

As regards the benefits of overall shifts to long term assets, they should tend to reduce the cost and increase the availability of equity and long term debt financing[29] to companies, and hence – assuming adequate shareholder-monitoring of the appropriateness of investment projects – may raise productive capital formation. Economically efficient capital formation could in turn raise output and "endogenously", growth itself (Holzmann 1997), thus in itself potentially contributing to resolve the European pension problem by increasing the scope of future resources available[30]. The literature on financial market development and growth (such as Levine and Zervos 1996) shows empirically that there is a link of stock market development to long term growth[31].

Besides the quantitative effects noted above, the development of pension funds is also often held to be directly responsible for a number of the key qualitative developments in financial markets in recent

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[28] Holzmann (1997) points to the fact that Chilean pension funds grew from zero in 1980 to 39% of GDP in 1995. This accompanied an expansion of overall financial assets from 28% of GDP in 1980 to 68% in 1993 (Fontaine 1997), with pension assets accounting for a third of this total. Initially funds invested mainly in debt securities owing to regulatory prohibition of equity investment, but not solely those of the government - also bank CDs and mortgage bonds. Debt maturities increased as a consequence of the development of pension funds to 12-20 years by 1990. Equity investment was permitted in 1985 and holdings have grown to over 30% of assets. This accompanied and encouraged a marked expansion of equity market capitalisation from 32% of GDP in 1988 to 90% in 1993. In 1991 the pension funds held 1/3 of public bonds, 2/3 of private bonds and 10% of equities. Holzmann (1997) shows econometrically that the development of financial markets in Chile correlates with strong development of the real side of the economy, via rising total factor productivity and capital accumulation.

[29] Evidence from studies such as Blanchard (1993), which show a decline in the premium of equity over bond yields corresponding to the growth of pension funds, are consistent with this.

[30] Holzmann estimates that long term growth in Chile is 1-3% higher owing to the effects of the pension reform operating via financial markets.

[31] Levine and Zervos (1996) also show *how* stock market development may aid growth potential, e.g. by increasing liquidity and thus facilitating financing of long term, high return projects; enabling international diversification thus encouraging investment in riskier long term projects; increasing incentives to acquire information about firms; facilitating the tying of management compensation to share prices via stock options; and facilitating take-overs to resolve corporate governance difficulties. But they point out that there are often counter arguments to these.

years. For example, Bodie (1990) suggests that their need for hedging against shortfalls of assets against liabilities has led to the development of a number of recent financial innovations such as zero coupon bonds and index futures. Similarly, the development of indexation strategies by and for pension funds has increased demand for futures and options. Funding would consequently boost demand for derivatives in the EU.

Other key issues for capital markets raised by pension funds are better seen as implications of the broader process of institutionalisation of saving. They may for example affect the structure of capital markets, in terms of market infrastructure and regulation (Steil 1996); given their focus on liquidity and lesser emphasis on investor protection, institutional investors may offer benefits to wholesale equity markets as opposed to heavily regulated retail markets. They are footloose in their trading, and thus make the business of trading "contestable" rather than monopolistic, and facilitate its concentration. The EU has already witnessed such a cycle of competition in the context of the success of SEAQ International in gaining international business at the turn of the decade, and the successful competitive response of Continental bourses. Increased funding would raise the proportion of "wholesale" trading activity which would be willing to translocate.

Funding also encourages securitisation of loans and securities market financing generally (Davis 1993, 1996b), and may offer stiff competition to the banking sector, notably on the asset side. As is well-known, in the past the growth of capital markets in countries such as the US and Japan (linked in turn to the rise of institutional investors) encouraged highly-rated corporate borrowers to shift their demand for funds from banks to markets, leaving the former with higher-risk credits. Securitised mortgages also met with strong demand from institutional investors (although it should be noted that the scope of such securitisation in the US was boosted by government support for the market). Abolition of exchange controls meant that demand for securities and securitised assets became global and was not limited to institutional investors from the country concerned.

Effects on banks were compounded by the fact that they were obliged to provision for previous losses on ldc debt and raise their capital ratios, thus further blunting their competitiveness as well as encouraging securitisation of loans to reduce capital needs. In addition, the scope of public as opposed to private information and the efficiency of its use by markets was increased by the development of information technology and the related growth in influence of rating agencies, investment banks and credit assessors covering a wider range of firms. The traditional comparative advantages of banks in this area resulting from economies of scale in information gathering, screening and monitoring (Diamond 1984) were thus eroded, even abstracting from price considerations. Meanwhile on the liabilities side of banks' balance sheets, institutional investors tended to be ready customers for repos, commercial paper and other money market instruments rather than bank deposits - and individuals had

attractive opportunities to hold money market funds[32] - in each case undermining banks' comparative advantage in liquidity provision (Dermine 1991).

Such disintermediation was combined with financial liberalisation, innovations and technical developments that enhanced competition also for traditional banking products such as mortgages, consumer credit and deposits (Vives 1991), between domestic and foreign banks, vis-à-vis non-bank financial institutions (notably insurance companies) and with non financial players such as department stores and car companies. Together with capital market disintermediation, these impacted strongly on banks' margins and made it difficult for banks to operate with their traditional mix of business alone. Banks responded partly by increasing their focus on non-interest income – including asset management income per se, mutual funds and insurance – and to reduce excess capacity by merger or branch closure, at times seeking to specialise in activities where they have a comparative advantage, including traditional retail banking per se.[33] However, disintermediation historically also led at times to increased risk-taking via aggressive balance sheet expansion (e.g. by lending to property developers,) with risk premia which in retrospect proved to be inadequate[34]. Ill-advised cross border ventures, which often proved unprofitable, were a part of this pattern. A further cycle of institutionalisation in the EU arising from pension funding could have similar effects.

Turning to the corporate sector, as outlined, the availability of equity capital should be increased by a wider investor base as funding develops. Besides equity issues by existing firms, IPOs and privatisations would tend to be encouraged. Particularly for existing firms with small equity bases, there may be important competitive advantages to be reaped from equity issuance in terms of growth potential as well as reducing risks of financial distress in case of economic downturn.

But experience suggest that firms would also need to fulfil certain requirements in order for equity funds to become available from institutional investors. They may need to adapt themselves in various ways, as well as putting pressure on their governments for appropriate legal provisions. The types of adaptation required are clear from the existing demands made by Anglo-Saxon institutional investors both on their own domestic companies and overseas - demands which would be multiplied by growth of domestic institutions via funding (Davis 1995a). For example, companies would face enhanced pressure for higher and more sustained dividend payments; primacy of equity holders as owners of the firm over stakeholders; greater provision of information by firms; removal of underperforming

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[32] The public also had the option of holding public debt which offered high yields relative to bank deposits.

[33] Note in this context that EU banks are freer to engage in a broad range of activities than has traditionally been the case in the US; and the Single Market Directives such as the Second Bank Co-ordination Directive increased this scope further. For example, since 2BCD, banks have been allowed to enter the capital markets in Spain, France, Italy, Greece and Portugal.

[34] It may be added that rapid economic growth and at times inappropriate monetary policy also played a role in this typical late 1980s pattern (Davis 1995b)

managers[35]; appropriate management structures; equal voting rights for all shares; pre-emption rights[36]; and equal treatment in take-overs (although note that the "corporate governance movement" whereby institutions who are long term shareholders exert direct influence on firms, has shown that take-overs need not be the only means of corporate control). To back up these requirements, pension funds would demand laws and regulations such as firm take-over codes, insider information restrictions and limits on dual classes of shares, which seek to protect minority shareholders, as well as equal treatment of creditors in bankruptcy, to protect their holdings of corporate bonds.

Viewed in a European context, such an overall development would have implications not just for balance sheet structure - with potentially lower debt-equity ratios - but also for corporate governance, implying a greater degree of control by capital markets and institutional investors. Following the discussion in Section 4, family enterprises which seek equity capital from the market may have to reduce their role in governance; privatisation - also encouraged by the need for fiscal consolidation - would obviously tend to diminish the role of the state. But perhaps the most interesting implications arise in the context of the "relationship banking" tradition and its potential convergence with the "Anglo-Saxon" model (Davis 1993).

In effect, it can be suggested that greater access of private firms to equity markets, combined with better protection of minority shareholders in publicly-quoted firms against blockholders, increased influence of institutional shareholders, demand for primacy of shareholders over stakeholders and increased availability of public information would weaken banks' comparative advantage arising from superior information and ability to control firms, and would mutually reinforce shifts of corporate financing to securities markets. Partly due to free rider problems[37], securities market development would have the side effect of reducing banks' willingness to "rescue" firms in difficulty. Companies would need to reduce their gearing in response to this; a move that is facilitated by the increased demand for equities from institutions. They might also face greater demands for collateralised loans and shorter maturities if agency conflicts were considered more likely (see Table 15).

Some such patterns are already discernible; flotations in countries such as Germany are at a record level[38] and on the side of universal banks, there are clear tendencies already to switch from traditional

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35 As noted by Kaplan (1993), managers are already subject to sanction by banks in countries such as Germany in the case of poor stock returns and earnings.

36 That is, the right of existing shareholders to first refusal on a new issue of shares, to prevent dilution of their holdings.

37 Because equity and bond holders would benefit from banks' actions.

38 As noted in Bowley (1998), establishment of the so-called Neuer Markt for small firms in Germany has facilitated flotation of small firms, albeit with the household sector and foreigners being a more prominent investor than domestic institutional investors. There has also been growth of venture capital, driven mainly by "adventurous foreign investors". Interestingly, the article also suggests that "the Neuer Markt and the flows of venture capital are breaking down traditional relationships between companies and banks….moving closer to the

lending to investment banking activities and decumulation of shareholdings. Note also that on the side of companies, research suggests that there is a preference for reducing dependence on "relationship banks", to avoid the risk of exploitation (see Edwards and Fischer (1994), Hoshi et al (1993)), which is facilitated by the growth of securities markets, and takes place even though the result is a greater vulnerability to financial distress (Hoshi et al (1991), Elston (1993)). As noted by Hellwig (1991), this may link to desire to avoid exploitation in the context of an exclusive relationship. In addition, as argued by Petersen and Rajan (1993) so-called "commitment" relations may be vulnerable to increased banking competition, due to risk of poaching of borrowers by other lenders. Empirically, Gorton and Schmid (1996), attribute a disappearance of the favourable effects of German bank equity holding on firm performance between 1974 and 1985 to disintermediation, reductions in equity holdings by banks and greater interbank competition. All of these were thought to weaken banks' oversight over management.[39]

But radical change will take time. For example, company statutes in countries would need to be reformed if stakeholders were no longer to have a say in management. And company secrecy is to some degree protected by law, thus maintaining banks' comparative advantage over markets as a source of finance. Large blocks of shareholding, by banks, families or other firms, will disperse at most only gradually. The example of the Netherlands, where pension funds do not have a strong voice in corporate governance, show that pension fund growth alone is not sufficient to ensure radical change in this area (Bolt and Peeters (1998), Hoogduin and Huisman (1998)) – although Dutch pension funds do apparently monitor their own debt exposures rather than delegating the task to banks.

More generally, limits to shifts of corporate finance and corporate governance to capital markets include the fact that even in a securitised financial system such as the US companies may prefer to incur some bank debt as a signal to capital markets that they are being monitored[40]. In all countries, there would remain a size class of firms too small for even IPOs which would still need a close bank link.

Indeed, there is evidence that pension funds and other institutional investors are reticent in investing equity in small firms, despite the fact that their potential for innovation, growth and job creation is

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Anglo-Saxon model in which growth is financed through equity…allowing new industries to flourish where under the old system they may have struggled to get off the ground".

[39] Blockholding per se was still found to be an important favourable influence on company performance.

[40] For example, James (1987) shows that the announcement of a bank loan agreement tends to have a positive effect on the overall valuation of the firm. James and Wier (1990) also give evidence that underpricing in initial public offerings of shares is much less for firms with established borrowing relationships, as it gives information about the firm's market value. These observations are clearly consistent with monitoring advantages for banks.

widely seen as crucial for economic growth[41]. For example, Revell (1994) shows that in 1989, UK pension funds held 32% of large firms and only 26% of smaller ones. Sias (1996), shows that for the United States institutional holding of the largest firms on average over 1977-91 is over 47% and for the smallest, only 8%. There are sharp cross country differences; UK funds reportedly invest at most only 1-2% in venture capital compared with 5-10% in the US. The UK is ahead of the rest of Europe in respect of venture capital; the overall stock of venture capital funds in 1994 was 25% of GDP, whereas in Germany it was 2.7%. If reproduced in Europe as funding develops, the consequence of neglect of small firms by institutional investors (assuming individual investors do not fill the gap) may be biases in the European economy towards sectors with larger firms (for even if small firms can obtain bank loan finance, growth potential via debt is likely to be more restricted than with equity in addition). This may be contrary to the comparative advantage of the economy as a whole.

Of course, problems of equity provision to small firms are much more severe with book-reserve pension financing as in Germany, which tends to preserve the existing industrial structure and not aid equity financing of new firms (Nürk and Schrader 1996). Widespread adoption of this type of funding - which would seem unlikely given the concentration of risks involved - would hence tend to entrench existing forms of corporate finance and corporate governance.

A further key financial market topic is institutions' effect on liquidity and price formation. Do pension funds increase or dampen volatility? In normal times institutions, having good information and low transactions costs, should tend to speed the adjustment of prices to fundamentals. It need hardly be added that such market sensitivity generates an efficient allocation of funds and acts as a useful discipline on lax macroeconomic policies. Again, the liquidity that institutional activity generates may dampen volatility, as is suggested by lower share price volatility in countries with large institutional sectors[42]. And evidence on average day-to-day asset price fluctuations shows no tendency for such volatility to increase (Davis 1996b). On the other hand, some medium term deviations of asset prices from levels consistent with fundamentals - at times affecting global capital markets - may link to institutionalisation. Correction of such situations may involve massive price adjustments or even market liquidity failure. Examples (see Davis 1994b, 1995b, 1995c) are the stock market crash of 1987, the ERM crises of 1992-3, the bond markets in 1993-4 and the Mexican crisis of 1994-95. Such events were characterised by features such as heavy involvement of institutional investors in both buying and selling waves; international investment; signs of overreaction to the fundamentals and excessive optimism prior to the crisis; at times, inappropriate monetary policies; a shock to

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41 This tendency may link to illiquidity or lack of marketability of shares, levels of risk which may be difficult to diversify away, difficulty and costs of researching firms without track records and limits on the proportion of a firm's equity that may be held. The development and improvement of stock markets for small company shares is one initiative that may make such holdings more attractive to pension funds.

42 This is not to deny that markets may be subject to forms of excess volatility relative to fundamentals, but that the scope of volatility does not seem to be linked to institutionalisation

confidence which precipitated the crisis, albeit not necessarily sufficient in itself to explain the scale of the reaction; and rapid and wholesale shifts between markets, often facilitated by financial innovations.

Underlying factors appear to be, crucially, influences on fund managers which induce herding behaviour (notably the prevalence of performance measurement, due in turn to principal-agent problems between the sponsor and the fund manager[43]). Such pressures may be greater for defined benefit funds, where companies have a direct interest in funds' performance - and for competitive mutual fund sectors where inflows are highly dependent on recent performance.[44]

As is the case for excess volatility as outlined above, regular performance evaluation of pension fund managers by trustees is said to underpin the short-termist hypothesis, (entailing under-valuation of firms with good earnings prospects and willingness of funds to sell shares in take-over battles). This in turn is held to discourage long term investment or R&D as opposed to distribution of dividends. Schleifer and Vishny (1990) provide an empirical model suggesting that short time horizons are an equilibrium property of capital markets, owing to the higher cost of long-term than short-term arbitrage. Some recent empirical research seems to confirm the existence of short termist effects in the UK, with overvaluation of profits in the short term (Miles 1993). Evidence from a survey of US CEOs goes in the same direction (Poterba and Summers 1992) Against this, Marsh (1990) notes that in the absence of information relevant to valuations, excessive turnover will hurt performance of asset managers, and reaction to relevant information on firms' long term prospects, which itself generates turnover, is a key function of markets. High stock-market ratings of drug companies, with large research expenditures and long product lead times, would seem to tell against the short-termist hypothesis[45]. The "corporate governance movement" reflects dissatisfaction among pension funds with costs of the take-over mechanism, and preference for direct influence as equity holders on incumbent management (Davis 1995a).

It is interesting to add that Von Thadden (1992) has noted that bank monitoring can in theory increase investment time horizons by enabling banks to detect at an early stage whether projects will be viable. Thus, entrepreneurs may be more willing to undertake long term projects as they can be confident banks will not assume low initial returns to a project (as is typical of projects yielding a long term return) will not be seen as signalling credit risk, leading to a cutting off of credit. On the other hand

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[43] See Scharfstein and Stein (1990), Froot et al (1990).

[44] It is important to add, however, that the "cure" (of seeking to reduce performance pressure) may be worse than the "disease" (potential for herding). An uncompetitive fund management sector without pressure from performance assessment may actually be "value deducting", investing in securities which do not minimise risk for given return and possibly investing client funds in a way which favours holdings of a parent institution (e.g. "front running").

[45] Indeed markets seem to favour capital gains over dividends (Levis (1989)), and some research suggests announcement of capital expenditure or R&D boosts share prices (McConnell and Muscarella 1985).

entrepreneurs may prefer several to one bank, to avoid exploitation. Nevertheless, this argument implies that a weakening of "relationship banking" as hypothesised above may induce a further shortening of time horizons.

6 Some exploratory panel estimates of effects of “institutionalisation”

In this section we use data on financial structure indicators for the G-7 countries to investigate further the potential effects of growth in institutionalisation on European capital markets. The simple estimates shown utilise the variables shown in Tables 11-14 (5 yearly over the period 1970-95) as a panel (pooled cross section and time series) dataset. An additional variable was monthly equity market volatility averaged over quinquennia. There are in effect 42 observations for each series, with 6 observations each for 7 countries. We then regressed various indicators of the size of the institutional sector on indicators of financial structure which were highlighted in the section above. We used both of the standard panel data estimation techniques, namely testing for random and fixed effects. The latter being considered more appropriate, we only report results of this (while noting the random effects results are very similar). The work thus differs from otherwise-comparable work such as Demirguc-Kunt and Levine (1996), which estimated correlations on purely cross sectional data. It should be emphasised that the results will not have any causality implication, but rather show what patterns or changes in financial market structure and behaviour has accompanied institutionalisation. It cannot be ruled out that other causes have affected both dependent and independent variables (such as liberalisation generally and technological change). Finally, the datasets are small so again conclusions must be drawn cautiously; outliers may have a disproportionate effect. More generally, further and more systematic investigation is needed.

With these caveats in mind the results for the G-7 (Table 16) tend to indicate the following: higher levels of institutionalisation (measured by the share of total financial assets) accompanies a larger size of the financial superstructure (total financial assets/GDP), even when national differences in levels of the latter are taken into account by the dummies. Second, higher institutionalisation accompanies a higher share of equity in total financial assets. Third, there is no significant link of the level of institutionalisation to volatility. Of course, as noted above, average volatility may still be consistent with occasional, disruptive, peaks of volatility.

Concerning household sector portfolios, the share of institutional investment in households' portfolios appears to be negatively related to the share of deposits and bonds, suggesting some substitution. Looking finally at company liabilities, the share of institutional investment in total financial assets tends to accompany higher levels of the share of equities in corporate liabilities and lower levels of loans. Concerning bonds, the coefficient is insignificant. It is notable that strong substitution is

indicated for both key elements of banks' balance sheets, namely household deposits and company loans.

We split the sample between the "Anglo Saxon countries" i.e. the UK, US and Canada (with 18 observations) and "Continental Europe and Japan", i.e. Germany, France, Italy and Japan (24 observations). Were the results for the G-7 "driven" by only one group, bearing in mind that institutional growth has been much more marked in the Anglo Saxon countries – and are the results thus only applicable to a certain type of financial system? In fact, there are a number of results that appear consistently for both groups examined separately. In each case, the rise in institutions in total financial assets has accompanied a larger overall financial superstructure as shown by total financial assets/GDP; the growth of institutions' share of household portfolios has accompanied a decline in deposits; and a higher level of institutional assets as a proportion of total assets has accompanied a higher level of corporate equity and a lower level of corporate loans. Interesting "idiosyncratic" results are that in the Anglo Saxon countries, a larger institutional sector is indeed associated with a lower level of capital market volatility; that there is strong substitution from equities and bonds to institutions in households' portfolios in the Anglo Saxon countries; and some evidence of higher bond shares in company liabilities in Continental Europe and Japan as institutions increase in size and importance.

To sum up Sections 5 and 6, Section 5 suggested that the development of funded pensions in EU countries will impact quite strongly on European financial market structure and behaviour. There may be a mild increase in saving, ceteris paribus, and there should be a more significant rise in the demand for equities and corporate bonds from what are currently often rather low levels, as well as cross-border investment. Important qualitative effects may impact on the structure of secondary markets, corporate finance and governance and market volatility. In this context, banks are likely to face enhanced competitive pressure, both on the assets and liabilities side. The econometrics results of Section 6 lent tentative support to some of these quantitative predictions. But this is not the end of the story for European financial markets, given the ongoing structural change which EMU represents.

7 EMU's effects on financial markets

In this section we briefly discuss EMU's effects on financial markets as a prelude to considering the means whereby it may further encourage funded pension provision and assessing how EMU and funding will interact. For a more detailed discussion of effects of EMU see inter alia articles by De Bandt (1998), Dermine (1996), IMF (1997), McCauley and White (1997), Hannoun (1996) and Schinasi and Prati (1997), as well as commentaries by Mantel and Bowers (1997), UBS (1997), Flemings (1998) and HSBC (1998).

As regards the direct changes in financial market conditions that EMU will entail, by definition, Monetary Union will be characterised by an elimination of exchange rate risk; this will eliminate not only short-term intra-euro area exchange rate volatility, but also the risk of longer-term real exchange rate misalignments. Second, as a consequence of monetary integration (as generated by the single monetary policy directed through the TARGET linked payments system), overnight money market interest rates should be equalised across the euro area. Money markets will be fully integrated from day one. The repo will prove to be an attractive money market instrument, with the ECB operating with an range of paper as collateral. Third, although exchange rate risk will be eliminated, fiscal positions will continue to vary, which will lead to heightened credit risk differentials between government bonds (Bishop 1996).

Market commentators make the following suggestions regarding the consequences of EMU for returns and risks on bonds and equities. Elimination of exchange rate risk for a wide group of investors (i.e. these in the euro area), correction of budgetary difficulties, a reduction in perceptions of inflation risk, in some countries a decline in expected inflation per se and lower short-term rates in such countries has already tended to reduce long term interest rates. For similar reasons average long term interest rates could well remain lower in the longer term than in the absence of EMU. Perceived risk as well as return seems likely to decline; lower long rates should, in turn, stimulate economic growth.

Meanwhile, corporate restructuring[46], especially if combined with higher growth, may raise the return on equities as well as the corporate cashflow from which contributions are generated. Companies desiring to issue in the integrated euro area equity markets (as opposed to selling shares largely to more passive domestic holders such as households and companies) may face greater pressure to act in the interests of investors, again tending to boost returns. However, note that the removal of the exchange rate instrument and limitation of the use of automatic stabilisers of fiscal policy puts considerable weight on labour and product market flexibility as an instrument of economic adjustment in response to those shocks to which monetary policy cannot respond (because they only affect one country and not the whole euro area). This could lead to heightened macroeconomic volatility of individual countries in the case of such asymmetric shocks, to add to the increase in competitive pressures owing to price transparency, which could in turn increase risks on equity for companies dependent on the domestic economy. Property would perhaps be yet more severely affected. On the other hand, such an increase in risk would be less marked for companies whose business is well-diversified across the euro area, across which growth will be much less volatile than in individual countries. Even for "domestic" firms' shares it will be partly diversifiable. It could also be attenuated by a lower debt/equity ratio, as could be achieved by flotation or new equity issues.

[46] Restructuring may link inter alia to enhanced price transparency, generating a desire to seek economies of scale across the larger market and heightened cross border competition.

Concerning market integration across the euro area, reductions of inflation uncertainty and elimination of exchange rate uncertainty as well as fiscal consolidation should aid the integration of bond markets[47]. Integration will interact in a positive manner with flows from respective national market to other euro area markets, as EU investors, notably pension funds and other institutional investors seek to diversify within the new 'domestic' zone[48] subject to any portfolio limits that may apply. Activity will also be boosted by enhanced attractiveness of euro-bond markets to global issuers and investors. This will lead to further benefits both in terms of market conditions and a wider range of instruments available. Government bonds, for example, may well become more liquid and transactions costs may fall owing to competition between bourses; liquidity should tend to reduce day-to-day volatility. Some segmentation may remain owing to differences in credit risk, market conventions etc.; however, governments, since they could in EMU no longer rely on a domestic investor base, will come under pressure to eliminate causes of segmentation, in order to satisfy international investors (owing to their effects on the cost of borrowing).

Meanwhile, given a euro yield curve derived from the swap curve and/or the benchmark sovereign issues, a broader corporate bond market seems likely to develop after EMU. The process should benefit from intensified competition among underwriters and better pricing[49] compared with existing segmented markets dominated by home currency lead managers (Dermine 1996). Competition should be more intense because any national advantage to underwriters will diminish owing to a reduced value of access to home investors (as the investor base becomes euro wide), of knowledge of monetary policy and various idiosyncratic features of national markets. Moreover, the “anchoring principle” whereby domestic authorities would insist on domestic institutions lead managing domestic issues, will no longer hold across the euro area, increasing competition further. Meanwhile issuers and lead managers will seek to minimise unnecessary yield differences arising from issuing technology, financial infrastructure and other market practices which segment markets. Securitisation of loans would also be facilitated albeit, as noted, without the type of government assistance typical of the US.

A focus on credit risk differentials which will in any case arise for government bonds may be helpful to the development of private debt instruments. On the one hand, increased demand may compress existing risk premia, making issuance more attractive. On the other, risk tolerance in search of a yield pick-up may allow a wider range of credits to access the market[50], see Cooper (1998). The Stability and Growth Pact should ensure more scope for such corporate issuance, by limiting net sovereign

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47 Note that the process does not start from zero; owing to large stocks of debt, the use of large issues as benchmarks and heightened capital mobility, integration of EU bond markets is already apparent, as evidenced by co-movements of yields (Fell 1996).

48 Note that there may also be outflows, owing to the lesser diversification benefits of holding assets in the individual euro-area countries.

49 Easier hedging in a liquid government bond market would contribute to this development.

50 Note that in the past many EU governments discouraged issue of high-yield bonds of low credit quality.

issuance. Bond as well as money market development will be aided by the chosen monetary policy instruments of the ECB, notably the use of repos.

Equity market integration should also be furthered by EMU, not only owing to removal of exchange rate risk and the common interest rate, but also because, abstracting from asymmetric shocks, the cyclical situation within the euro area is likely to be rather homogeneous. Even more than for bonds, there will be strong flows from the national market to other euro area markets[51], as institutional investors seek to diversify within the new 'domestic' zone.[52] EMU should create a larger and more liquid market than existing national bourses with lower transactions costs, thus generating improved market conditions. Flotations and new issues should be facilitated. The link up of London and Frankfurt may foreshadow unification of European bourses – at least for blue-chip stocks - under EMU[53]. The services of electronic exchanges become rather identical with a single currency. Of course, the growth of screen based trading and remote access means the location of an exchange is a less important matter than was hitherto the case.

Banks' profitability may come under yet more intense pressure in the context of EMU (Dermine 1996, De Bandt 1998). There will be a direct reduction in profitability owing to the elimination of foreign exchange transactions and the costs of the changeover to EMU. Changeover costs are higher for commercial banks than for investment banks, given the complexity of their business (McCauley and White 1997). Banks will also face pressure owing to disintermediation from the securities markets, given the above-mentioned stimulus to the development of money, bond and equity markets. In improved market conditions, companies of higher credit quality will find corporate bond issuance[54] and commercial paper programmes increasingly attractive alternatives to bank borrowing. Meanwhile, institutional investors and corporate treasurers will find repos as well as commercial paper attractive alternative repositories of liquidity to traditional deposits. In other words, integrated capital markets will reduce banks comparative advantage in provision of liquidity insurance in the sense of Diamond and Dybvig (1993). Lower inflation per se in some countries will tend to reduce interest rate margins. Competition between banks for deposits and loans will also tend to intensify in a Single Currency environment. This will be the case notably for financial business of large companies and institutions which face low switching costs and face a wide range of options in terms of banking as well as use of

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[51] In this context, sectoral distinctions between shares within the euro area will become much more important than national distinctions.

[52] As is the case for bonds, a corollary of the common cycle and reduction of exchange rate risk is that the diversification benefits of investing in euro area equities will be reduced because of the single currency and single monetary policy (same interest rate, real exchange rate and hence likely cyclical synchronisation). This will increase the correlation of equity prices. It may thus become relatively more attractive, notably for investors from outside the Monetary Union to invest outside the euro area.

[53] A market seeking to protect itself from competition, e.g. by use of the "regulated market" concept under ISD, or by retaining idiosyncratic accounting or operating procedures, may risk to lose business.

[54] In the US, junk bond issuance grew from near zero in the early 1980s to around $200 bn now, equivalent to a quarter of bank lending to companies.

capital markets. Customer poaching may as noted undermine relationship banking. On balance, owing to disintermediation and competition, banks will find the credit quality of their loan books deteriorating while net interest margins tend to narrow.

Meanwhile, non-interest income may become more difficult to earn. For besides loss of foreign exchange commissions, multi-national enterprises may rationalise their banking relationships with the single currency. There will be enhanced competition in correspondent banking. In this overall context, a dynamic process of loss of credit rating leading to further disintermediation, heightened competition and risk-taking as noted in Section 5 could not be ruled out.

In the longer term, formerly insulated[55] national retail banking markets may also become subject to intensified cross border competition, especially on the deposit side where owing to electronic/internet/telephone banking, ATMs and related changing tastes, customer relations are becoming increasingly unimportant. Margins may narrow further as banks are driven to attract more costly wholesale finance (CDs, interbank deposits, bonds). The assets side of retail banking seems less likely to become integrated owing to the importance of idiosyncratic information about small firms. (Diamond 1984), although penetration of consumer lending markets by non financial firms, finance companies etc. is a clear threat. Indeed, a risk in this context of pressure on margins and heightened competitiveness is that banks may charge higher spreads on their remaining "captive customers", namely small companies.

Note that retail banks confined to national markets may be more vulnerable to variations in credit risk owing to the increased incidence of asymmetric shocks, also owing to an environment where national cartels in any industrial sector[56] will be much harder to sustain owing to the transparency that EMU and the Single Market will induce. This links to an overall issue for banks in the context of EMU, namely that as noted by Canals (1997), "most banks are limited to their own country, and their ability to identify opportunities [world wide] is less than that of the capital markets" whose reach is already global and which will have the additional stimulus in EMU to operate cross border owing to a common currency and diversification opportunities. There is an interesting paradox here, that whereas cross border diversification is natural for securities market investors, the banks face an evident danger of adverse selection in entering new foreign markets even with a common currency; the quality of information is at the root of this. Do banks risk to become less diversified by investing only in domestic markets, given the risk of asymmetric shocks? It is worth noting that the origin of mortgage

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[55] As noted by Vives (1991), barriers to entry in retail banking include branch proliferation, creation of ATM networks, switching costs to consumers and reputation effects for incumbents. To this one could add on the asset side a risk of adverse selection, as a new entrant gains all the loan customers the incumbents refuse to lend to owing to perceptions of credit risk.

[56] As noted by Hellwig (1991), in the past banks may often have used their influence to induce borrowing customers to cartelise, thus protecting the loans made by the banks.

securitisation in the US was the need to reduce risk for local lenders from regional economic difficulties, that could be diversified considerably when mortgages are pooled across the whole country. Similar incentives for securitisation could operate in the future euro-zone, as a means for banks of reducing risks from their home country orientation. There will also be an incentive for cross-border mergers to smooth income and expand distribution possibilities (Dermine 1996).

Finally, legal, fiscal and regulatory barriers as well as differences in consumer preferences may still imply some degree of segmentation[57] among banking sectors, although the incidence of 'regulatory capture' will be reduced further by EMU, as idiosyncratic national regulations are swept away by the scope for cross border banking. Cartels and oligopolies among banks that regulated competition and minimised "customer poaching" will also break down. All of these banking developments will occur in the context of pre-existing symptoms of excess capacity, high cost-income ratios and rather low profitability in banking in a number of countries (McCauley and White 1997, Davis and Salo 1998). The emergence of excess capacity was linked to the forces of deregulation in the context of the Single Market, existing global competition, technical change and competition from non-banks, which may be expected to intensify even abstracting from the effects of EMU. The number and scope of bank mergers, notably with an aim to reduce costs, may be expected to increase; a wave of both domestic and cross-border mergers among banks is already underway (Salomon Smith Barney 1998).

Whereas in the context of heightened competition in commercial banking activities, some large EU banks may seek to shift to investment banking activities such as underwriting, structured financing, trading and distribution, they may meet tough competition from US investment banks, which are highly skilled in credit risk evaluation and securitisation. Moreover,[58] in the medium term, competition will intensify in further owing to the integration of money, bond and equity markets. This may plausibly lead to a concentration of trading activity, particularly for “commoditised products” where idiosyncratic information is relatively unimportant and home country benefit consequently diminishes, notably as the investor base becomes pan-European. There may be less revenue from bond trading if credit risk perceptions are less volatile than exchange rate expectations. In the primary securities markets too, the dominance of underwriters based in the former domestic currency zone will cease to hold in what is now a subsection of the euro area.

Concerning corporate governance, owing to EMU, institutional investors will seek to diversify much more widely across the Union, and seek to ensure that corporate management perform in line with “shareholder value”, be it via development of hostile take-overs or direct shareholder pressure. Companies will be under pressure to issue equity as outlined, which implies a need to satisfy the

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[57] It is notable that the 1996 update to the original "Price Waterhouse" calculation of the benefits of 1992 found that the price dispersion in retail financial services across the EU had changed rather little.

[58] EMU in the area of investment banking will in effect “leverage” the Single Market in financial services, where the ISD granted the cross border passport to securities firms portfolio managers and investment advisors.

expectations of institutional investors regarding dividends, information disclosure, minority protection and profitability. Development of a high-yield euro bond market (Cooper 1998) would help underpin a shift in modes of corporate governance by facilitating leveraged buyouts and take-overs as a means to discipline management. Companies, under pressure to maximise profits and also facing attractive prices in the context of pressures for institutions to diversify across the euro area, may divest their cross-holdings thus eliminating a proportion of currently passive shareholders. Banks may equally seek to further reduce equity holdings, partly owing to capital adequacy considerations.

There will be a need for adequate adaptation of information to creditors and investors. Whereas banks rely on private information derived e.g. from ongoing credit relations, knowledge of the borrowers deposit history[59] and use of transactions services, securities markets must rely on public information. In IMF (1997) it is argued that EMU will lower public information costs owing to the integration of markets for goods and services across the Union. This is because in such a situation there will be less need for detailed knowledge of local market conditions; sectoral specialisation by equity or credit analysts across the Union would be sufficient for pricing of equity and debt claims. While this argument cannot be pressed too far, not least given the issue of asymmetric shocks and differing fiscal situations, it does (in combination with other points made above) answer the potential criticism that a change in financial structure as is widely predicted in the literature on EMU would need not merely changes in the supply and demand for financial assets but also appropriate adaptation in respect of information.

8 How might EMU encourage private pension provision?

Drawing on the section above, we can distinguish a number of ways in which EMU may impact on pension funding. First, if EMU indeed generates more growth and lower inflation in the ways outlined, this environment tends to encourage private saving, which will link to demand for funded pensions. Certainly, high growth and high saving tend to correlate (see Masson et al (1995)), although the relationship may be two-way[60]. Lower inflation will make it easier for defined benefit pension funds to finance inflation indexation, while pension benefits from defined contribution funds will also more readily retain their purchasing power (Dickinson 1992).

Further favourable effects of EMU per se on funding of private pensions link to the above-mentioned potential changes in financial-market conditions, that may make funding more attractive, by improving the risk/return trade-off or allowing better asset/liability matching. It is worth emphasising that such effects are subject to considerable uncertainty and hence conclusions should be drawn with

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59 Note that disintermediation may disturb these information sources.

60 It could not be ruled out that reduced uncertainty about asset returns as a consequence of less volatile inflation will encourage borrowing and higher consumption rather than saving.

considerable caution. In this context, a case has been made in Section 7 that the risk and return on "domestic" bonds will tend to fall, and the risk and return on equity could increase, thus potentially widening out the frontier of efficient portfolios in the euro area. Meanwhile, the broader availability of corporate bonds and securitised loans will increase the range of instruments available in terms of credit risk. Both bonds and equities may benefit from market integration (especially by increased liquidity and lower transactions costs) as noted above. Moreover, in a deeper securities market there may arise financial innovations tailored to pension funds' needs such as price- or average earnings-linked bonds. In combination, these may in turn lead to a better risk/return trade-off being attainable to pension funds. Asset/liability matching will also be favoured. These should reduce the cost of funding and stimulate growth of private pensions.[61]

It was noted that the enhanced degree of transparency and competition under EMU may entail a heightened phase of corporate restructuring, as companies perceive a need to adjust in order to maintain competitiveness in the new environment. EMU would also put downward pressure on wage settlements and may put an even greater premium on labour market flexibility. Such a context may enhance private pension systems by increasing precautionary saving by the household sector on the one hand and increasing corporate profitability (and hence both cash flow to contribute to pensions and the return on equity), on the other.

One of the most important effects of EMU on private pension funds may be to ease costs of regulation. Institutions which are currently subject to currency matching restrictions (European Commission 1997) would no longer be subject to them across the euro area, thus enabling a more diversified set of investments to be held. As noted, any retention of such limits would expose pension funds to undue levels of idiosyncratic risk. Such deregulation will also further enhance integration of bond and equity markets across the euro area. An indirect effect of deregulation may be greater comparability between performance of pension fund asset managers - because they are investing in a common market and are no longer largely confined to their national markets - and hence face greater pressure to improve performance in terms of risk and return. Freedom for funds formerly restricted to national boundaries to invest across the euro area may lead to broader deregulation, especially of international investment, because of pressures by sponsoring firms to reduce costs of their own pension provision in the context of higher price and cost transparency following EMU. Such pressure would work 'with the grain' of continued pressure for deregulation by the Commission.

9 Potential overall effects on EU financial markets

[61] Also, lower long term interest rates have already provided one-off windfall gains to existing pension funds on their bond holdings, which will strengthen their financial resources. Such an effect will be compounded to the extent that equity holdings are also being effectively revalued (owing to a lower long term interest rate at which future dividends are discounted).

In this final section we offer some tentative views as to how the potential effects of pension funds and of EMU as set out in Sections 5-8 might combine to affect the European financial structure outlined in Section 4. Table 17 seeks to summarise the effects. On balance, enhanced institutionalisation owing to population ageing and related increases in funding seems likely to compound a number of the anticipated consequences of EMU, often by "bringing supply and demand together". They may not only accelerate progress to a new equilibrium but also change the nature of the equilibrium, bringing it closer to a securitised financial system of the "Anglo Saxon" type than would otherwise be the case. Whereas the change may be viewed as beneficial on balance, there are also potential concerns, for example in respect of the adjustment of the banking sector and the financing of small firms.

As was reflected in Section 5, in the United States, there is considerable interest in the potential increase in saving that could be generated by institutionalisation and funding of pensions. In Europe however, given high existing levels of saving, there are reasons to expect less of an impact, unless social security were radically cut back.

Both institutionalisation and EMU seem likely to entail increased securitisation of EU financial markets, in the sense that transactions that previously took place on bank's balance sheets will occur via market instruments (repos, commercial paper, bonds as well as equity issuance). There should be greater choice for both borrowers and lenders as a consequence. Here EMU and funding effects appear to be strongly reinforcing. It is suggested that a shift in households' portfolios towards institutional investment tends to increase aggregate demand for long term assets such as bonds and equities, while EMU improves underlying conditions for the development of securitised transactions. Companies may be stimulated to issue more equity after EMU owing to corporate restructuring and/or greater macroeconomic volatility.

Funded pensions tend to increase the scope of cross border flows in search of risk diversification, while EMU implies that such cross border investment will be essential even to eliminate diversifiable risk within the new "domestic currency markets". Heightened cross border flows should themselves reinforce the integration of capital markets. It may be added that EMU also implies an incentive to invest outside the euro area, owing to the decline in overall diversification benefits from investing in euro area assets. However, the increased scope for institutionalisation – as well as inflows from the rest of the world due inter alia to diversification of official reserve holdings – would mean that the overall demand for securities in the euro area does not diminish.

Institutionalisation and EMU may lead to pressures on banks' profits, mainly but not exclusively operating via disintermediation, both on the assets and liabilities side. EMU may also intensify competition between banks per se, in particular cross border. The combination of the two will lead to an intensification of pressure for adjustment by the banking sector. Banks will seek also to diversify

income into portfolio management and institutional investment per se, as is already the case in the move to "bancassurance" and the purchase of US and UK asset managers by European universal banks. But here too competition will intensify. Investment banking services such as primary issuance may on the one hand face increased demand for underwriting services owing to the development of institutional investors and on the other, effects of EMU which permit greater concentration and scope for competition from outside. Overall, there will be pressures arising from EMU and funding for bank restructuring and mergers, a movement that is already intensifying and may lead to greater convergence in the light of marked current differences in banking structure shown in Table 10. But note that public banks, which are prominent in a number of EU countries, may be under less pressure from owners than those which are private, and hence restructuring may be slowed.

It may be underlined that a stable banking sector is of course crucial in itself, given the immense economic costs of systemic bank failures (Davis 1995a). But note that even in a securitised financial system, banks play an important role in providing credit to underwriters and market makers, even when they do not take on security positions themselves, as well as in running the payments system underlying capital market transactions and lending to small firms. They hence remain indispensable.

Meanwhile, trading activity, becoming increasingly footloose owing to institutionalisation, could tend to concentrate under the influence of EMU. Large, integrated and liquid securities markets under EMU should be less volatile, an effect that may be enhanced on average by increased institutionalisation, although there may also be sharp peaks in volatility.

It has also been argued that a shift in corporate governance towards the Anglo Saxon paradigm, which funding is seen likely to entail, may also be accelerated by EMU. Whereas we have talked mainly about relationship banking in the German tradition, pressures may equally be brought to bear on other forms of governance. Following EMU, banks would be less willing to mount rescues of firms in distress, or even lending to cushion needs to restructure. This is because owing to the risk of disintermediation as well as greater competition among banks they could not be certain to recoup their investment via higher lending spreads on the firm in question[62]. This again increases the need for equity issuance as well as potential incidence of bankruptcy. Among the most interesting outworkings of a shift in corporate governance will be in the governance of banks per se, which Dermine (1996) sees shifting from "market share based to value based" strategies in the EMU context[63].

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62 See Edwards and Fischer (1994).

63 Indeed, the behaviour of universal banks during a transition which EMU and funding may induce a point of considerable interest. As argued in Canals (1997), one possibility is to follow the route taken by Bankers Trust in the US, which was basically to switch from being a commercial bank to an investment bank. And it is clear that a shift to fee income is widely underway, with the large universal banks seeking notably to buy investment banks, asset managers and associated expertise from their considerable reserves. The issue though is whether a financial system still dominated by universal banking institutions but with an Anglo Saxon form of financing could retain elements of the relationship banking tradition. Here we suggest that a universal bank which becomes an

There may be wider effects on corporate finance. Economic theory and cross-sectional data suggest that debt maturity is shorter and collateralisation more often required where there is a greater risk of information asymmetry between borrower and lender (de Bondt 1998), because financial systems are based on capital markets and "transactions banking" as opposed to "relationship banking". Going against this is the tendency for the growth of institutions and low inflation during EMU to favour issue of long term corporate bonds, as well as some points made in Section 7 which suggest that information may be more readily collected and compared in the context of integrated markets for goods and services. There will be strong incentives for rating agencies and investment banks to fill the "information gap" so as to make such issuance viable. Nevertheless, lenders may expect a lower debt/equity ratio from corporate borrowers in order to reduce their risks.

Banks will retain a role with smaller companies for whom collection of information by the market is uneconomic; a risk in the context of pressure on margins arising from both EMU and disintermediation is that banks may charge higher spreads on loans to captive customers, namely small companies, or ration credit in recessions (see Bernanke 1993)[64]. It may be added that these are also the size class which pension funds may neglect in terms of equity finance.

Predictions of a quantitative nature regarding the future pattern of European financial market structure following EMU and pension funding must of necessity be taken merely as indicative. It is nonetheless interesting to show the adjustment that would be involved if European markets were to resemble the US in the details shown in Table 9. As shown in Table 18, this would involve enormous growth of equity market capitalisation and stocks of bonds outstanding, offset by a major contraction of the banking sector. The latter would vary considerably across countries. Note however that the overall change in *total* assets is very small. Institutional investment would also rise markedly except in Luxembourg, the UK and the Netherlands. Of course, it should be pointed out that such an absolute adjustment is most unlikely to occur; it would rather take place over time in terms of differential growth rates, as has been the case in the US. Second, the US banking system was historically in a more restricted situation in terms of regulation of activities than the European, which may attenuate effects on the latter. Equally, there are various structural factors that would limit balance-sheet convergence with the US and within Europe, such as the differing liquidity preferences of the household sector, fiscal differences and residual regulatory differences.

Conclusions

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investment bank has to behave as one, lest it be outflanked by the genuine article. And as noted, barriers to entry in investment banking, which were never high, will fall much further with the advent of the Single Currency. Similar comments apply to asset management, with the proviso that relationships between corporate sponsors and asset managers may make market penetration more difficult.

[64] For UK experience in the last recession see Bank of England (1993)

Pension fund reform is widely seen as essential in order to defuse the difficulties EU governments would otherwise face in respect of their social security pension systems in a context of population ageing. In the wake of this, European financial markets will be strongly affected by pension fund reform as well as by EMU, and there will be important interactions between the two. Among the key elements are that both funding and EMU would seem to favour an increased role for securities markets and a lesser role for traditional banking – a pattern which is itself often seen as a standard aspect of financial development (see Annex 1). Adaptation of banking sectors, notably in terms of capacity and income sources, will be needed in order to ensure the associated adjustment in capacity occurs smoothly. The likely pattern raises a number of theoretical, empirical and policy issues. We focus on three aspects; corporate finance, prudential supervision and monetary policy.

In the field of corporate finance, a relative shift towards shareholder-based corporate governance systems is envisaged, with a degree of convergence on an Anglo-Saxon model. Traditionally, financial structures have been subject to “path dependence”, with for example the German system being marked by the historic development of banks to finance industrialisation in the Nineteenth Century. It has been suggested that EMU and institutionalisation together would lead to a caesura in this pattern. As noted in the paper, particularly for countries characterised by "relationship banking", such a shift would involve marked changes in the loci of information provision and of control and would disturb commitment relationships – the basic building blocks of corporate financial relations and financial intermediation. As argued by Allen and Gale (1994), a major shift to capital market financing could well be economically beneficial if the future lies with emerging industries, with high financial and economic risks and where knowledge about industry is uncertain (IT, biotechnology). In contrast, banking may have a comparative advantage in industries where markets are mature and innovation and uncertainty are low, as banks can then accurately monitor and diversify risk among companies.[65]

This of course raises the further issue of whether alternative means of corporate control (hostile take-overs and direct influence by institutional investors) as well as means of reducing asymmetric information and aiding control by debt holders (rating agencies, changes in credit structure and possibly a lower debt/equity ratio) can rapidly develop. Otherwise, there could tend to be a "vacuum" in corporate governance and corporate finance, with possible misallocation of investment, heightened agency costs and increased credit rationing. Some results in the literature underline the potential importance of this issue. The risk that fragmented shareholders will all "free ride" and hence corporate governance will be inadequate is a standard critique of capital market based financial systems (Grossman and Hart 1980). There may be similar free riding in bond markets which

[65] It may be added that mature industries, unless in difficulty, may well generate sufficient internal funds to cover investment needs in any case.

discourage monitoring owing to the public good features of information about the borrower (Diamond 1984). Equally, there is concern that initial lenders will be less careful regarding monitoring and credit risk in the case of loan packaging, while investors in such securities may be less able than banks to deal with rescheduling problems (Hellwig 1991), and syndicated loans may suffer from the interest of lead managers in their fees and their low exposure to credit risk (thus indicating difficulties for corporate finance). (Davis and Mayer 1992). Again, US experience shows that bond markets generally find rescheduling after financial distress difficult, and banks generally play a major role in restructuring, acting in many ways like German or Japanese relationship banks (Gilson et al 1990).

Finally, one may add that the issue of finance for small firms needs close attention in the context of EMU and institutionalisation, since potential pressures on cost and availability of both debt and equity finance to such firms could result. This may suggest a need for greater public action to foster venture capital (although recent initiatives to open “small cap” markets are clearly helpful).

We conclude by offering brief comments on regulatory and monetary policy issues; there is considerable scope for further research and analysis in this area. Regulatory authorities would need to be vigilant for the danger of risk taking by banks as funding develops following EMU. There may need to be acquiescence in or even encouragement for banking mergers which could help to mop up spare capacity (Davis and Salo 1998). The risks of cross border lending need to be made clear. It may be added that a stable banking system is a complement and not just a substitute for growth of securities markets, given the role of banks in providing credit to underwriters and market makers, even when they do not take on security positions themselves, as well as running the payments system and lending to small firms. The importance of satisfactory regulation is thus further underlined.

As regards implications for financial stability of growth of pension funds and other institutional investors, whereas institutions are not in general subject to runs, having matched assets and liabilities, liquidity failure of securities markets which may be generated by institutional behaviour may raise prudential concerns and lead to call for a market maker of last resort (raising a risk of moral hazard), especially if such markets are relied upon by money market funds, banks and companies for their liquidity (Davis 1994b).

Meanwhile monetary policy makers may face an evolution in the responsiveness of the economy to interest rates, notably an increasing sensitivity of securities markets to monetary policy signals and expectations, but also a shift in the responsiveness of household and corporate sector expenditures in the context of changed balance sheets and relations with financial intermediaries. It is widely suggested that a shift towards Anglo Saxon types of financing - involving a higher proportion of securities markets financing - would lead to lower debt maturities, more adjustable rate debt and higher collateralisation. This is because banks and other creditors, lacking the form of direct influence

offered by the "relationship banking" tradition would seek alternative means of overcoming moral hazard when lending. Caution is however needed in attributing all of the current cross sectional differences between countries to such influences. The relative level of inflation in the past may also have a major role to play. Regardless of the cause, such a pattern may also lead to heightened monetary policy sensitivity of the economy, also because banks may be less willing to lend when firms face liquidity constraints. Finally, the “specialness of bank credit” being seen to decline, the so-called credit channel of monetary policy transmission (Bernanke and Blinder 1992) could tend to weaken overall, although its incidence for smaller firms could increase with banks changing higher spreads to such captive customers and/or being more willing to cut off credit during recessions.

Annex 1: A stylised description of the long term development of financial systems

The processes whereby an economy develops from an informal financial system through banking to securities markets can be analysed by use of the theories of corporate finance (see Rybczynski 1997). Whereas an entrepreneur can begin a firm by relying on his own funds and retained earnings, rapid growth of his enterprise requires access to external finance. The simplest form of this is from the family, who will be able to monitor him closely and hence protect their own interests. As noted, families remain important providers of finance in many EU countries.

Beyond this, banks tend to be the first to offer funds, as they have a comparative advantage in monitoring and control of entrepreneurs lacking a track record, for example in terms of access to information, ability to take security and to exert control via short maturities. Obviously, they are also able to offer benefits to depositors in terms of pooling across investments and 'liquidity insurance' (Diamond and Dybvig 1983), that is, ability to offer access to deposited funds at any time, at a positive interest rate. This may then dominate the alternatives of extremely undiversified finance of enterprises or hoarding.

Share issuance becomes important when bank debt becomes sizeable in relation to existing own-funds, as the high resultant level of gearing gives rise to conflicts of interest between debt and equity holders, as for example owner-managers have the incentive to carry out high risk investments. Banks may also protect themselves by means of covenants or even the acceptance of equity stakes, which internalises the associated agency costs. Apart from banks, at the initial stages of development of share markets, securities are typically held by wealthy individuals as an alternative, diversifiable, liquid, higher return albeit riskier alternative to bank deposits, as well as by "friendly companies". Corporate bond markets are only viable when firms have a very high reputation, as this then constitutes a capital asset, that would depreciate if the firm engaged in opportunistic behaviour (Diamond 1991). High credit quality is needed because bond market investors are likely to have less influence and control over management than equity holders or banks, even if one allows for the existence of covenants. Rating agencies help to alleviate associated information problems, but do not thereby open the bond market for firms with poor reputations or volatile profitability. The pattern is completed by institutional investors, as outlined in the main paper.

Evidence from history suggests that the progress of an economy through these stages depends on a number of preconditions. Partly these relate to macroeconomic and structural factors. But they also require a satisfactory regulatory structure and a sound banking system. Without a satisfactory framework for enforcing property rights and financial contracts, as well as for providing public information, securities markets will not tend to develop; forms of relationship banking with equity stakes held mainly by banks in borrowers are likely to be the limits of financial development.

Institution of limited liability for equity claims, a structure for collateralising debt, satisfactory accounting standards and appropriate protection against securities fraud (listing requirements and insider trading rules, for example) are also important for public securities markets (see Stiglitz 1993). Moreover, the development and satisfactory regulation of the banking system may be a precondition for growth of securities markets, given the role of banks in providing credit to underwriters and market makers, even when they do not take on security positions themselves.

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Table 1: Projections of elderly dependency ratio, 1990-2030

Population 65 and over as % population 15-64	1990	2010	2030
Belgium	22.4	25.6	41.1
Denmark	22.7	24.9	37.7
Germany	21.7	30.3	49.2
Greece	21.2	28.8	40.9
Spain	19.8	25.9	41.0
France	20.8	24.6	39.1
Ireland	18.4	18.0	25.3
Italy	21.6	31.2	48.3
Luxembourg	19.9	25.9	44.2
Netherlands	19.1	24.2	45.1
Austria	22.4	27.7	44.0
Portugal	19.5	22.0	33.5
Finland	19.7	24.3	41.1
Sweden	27.6	29.1	39.4
UK	24.0	25.8	38.7
EU average	21.4	25.9	40.3
United States	19.1	20.4	36.8

Source: Bos et al (1994).

Table 2: Characteristics of social security pension systems in the EU

	Type of old age system[1]	Form of indexation of benefits	Net social-security replacement rate (Eurostat 1993) at 1x and 2x average earnings (%)[2]	Gross Social security replacement rate (Wyatt 1997) at final salary of $20,000 and $50,000 (%)[3]	Social-security contributions as % of GDP, 1993	Social-security contributions (1997) as % of earnings (at a salary of $20,000 and $50,000)[4]	Employers' social-security contribution rate (1997) (at a salary of $20,000 and $50,000) (%)[4]
Belgium	Insurance	Prices	80-62	58-45	18.4	46-47	33-33
Denmark	Mixed	Wages	77-48	93-37	2.8	10-9[5]	2-1
Germany	Insurance	Net wages	69-55	45-43	18.9	42-42	21-21
Greece	Insurance	Wages	114-99	70-48	12.3	43-25	27-16
Spain	Insurance	Prices	98-97	94-63	14.3	37-27	31-23
France	Insurance[6]	Prices	83-73	67-51[7]	21.5	63-63	42-43
Ireland	Basic	Prices (discretionary)	62-35	53-21	5.6	18-16	12-11
Italy	Insurance	Prices	89-94	78-75	15.5	61-58	51-48
Luxembourg	Insurance	Wages	77-65	87-76	12.5	21-21	11-11
Netherlands	Basic	Net wages	67-37	76-31	18.6	24-20	18-13
Austria	Insurance	Net wages	n/a	70-70	15.8	36-36	19-19
Portugal	Insurance	Prices (discretionary)	98-103	74-74	10.7	35-35	24-24
Finland	Mixed	Prices/net wages	n/a	60-59	15.4	31-32	24-24
Sweden	Mixed	Prices	n/a	63-50	14.3	37-37	32-32
UK	Mixed	Prices	59-39	60-33[8]	6.2	18-17[9]	10-10
United States	Insurance	Prices	n/a	71-45	8.2	15-15	8-8

(1) (2) Source: OECD (1988); For married couple, source Eurostat (1993a);
(3) Source: Watson Wyatt (1997); for married man; tax treatment of benefits varies across countries; notably German benefits are tax free.
(4) Source: Watson Wyatt (1997);
(5) Contributions to social security are included in state income tax.;
(6) Complemented by mandatory occupational pensions;
(7) Includes ARRCO;
(8) Includes state earnings related pension scheme (SERPS); for those contracted out, the ratios are 35% and 14%;
(9) Contributions are 5% lower for those contracted out of SERPS.

Table 3: Projections of pension costs (OECD estimates)

Pension expenditure/ GDP	1995	2000	2010	2020	2030	2040
Belgium	10.4	9.7	8.7	10.7	13.9	15.0
Denmark	6.8	6.4	7.6	9.3	10.9	11.6
Germany	11.1	11.5	11.8	12.3	16.5	18.4
Spain	10.0	9.8	10.0	11.3	14.1	16.8
Ireland	3.6	2.9	2.6	2.7	2.8	2.9
Italy	13.3	12.6	13.2	15.3	20.3	21.4
France	10.6	9.8	9.7	11.6	13.5	14.3
Netherlands	6.0	5.7	6.1	8.4	11.2	12.1
Portugal	7.1	6.9	8.1	9.6	13.0	15.2
Finland	10.1	9.5	10.7	15.2	17.8	18.0
Sweden	11.8	11.1	12.4	13.9	15.0	14.9
UK	4.5	4.5	5.2	5.1	5.5	5.0
United States	4.1	4.2	4.5	5.2	6.6	7.1

Source: Roseveare et al. (1996).

Table 4 Present value of net pension liability 1995-2050 (IMF estimates)

As % of 1994 GDP	Net pension liability	Memo: Contribution gap
Germany	111	3.4
France	114	3.3
Italy	76	2.5
Sweden	20	0.9
UK	5	0.1
United States	26	0.8

Source: IMF (1996). The contribution gap is the difference between the contribution rate needed to reduce the net asset position to zero and the current contribution rate.

Table 5: Benefits and *Costs* of pay-as-you-go and funding

	Funding	**Pay-as-you-go**
Retirement income security	May invest internationally and hence diversify risk away from the performance of the domestic economy. May be less vulnerable to "political risk" of a reduction in replacement ratios, if property rights under funding are considered more inviolable than accrued rights to pensions under pay-as-you-go. May reduce old-age poverty by mandating saving. *Is vulnerable to risk of overall asset market volatility, notably losses in real value of assets that may be sustained following unexpected inflation (if there are no reliable indexed instruments available).* *May be more vulnerable to fraud than pay-as-you-go.* *Is typically unable to redistribute income to the lifetime poor; low income workers and those with broken careers may suffer low pensions. Given social preferences to redistribute, another system of social assistance will tend to be set up in any case.*	Is not vulnerable to asset market volatility. Can provide immediate pensions without waiting for assets to build up. May be used by governments to redistribute income to the lifetime poor, or to older generations in the context of rapid economic growth. *Dependent on the performance of the domestic economy, notably in terms of wage and productivity growth. Returns to individuals may fall sharply as population ages.* *Often involves unintended transfers to the rich, who enter the workforce later and live longer than the poor.* *Relies on the goodwill of future generations of workers to pay pensions (pensions are subject to "political risk"). This may manifest itself in cuts in replacement rates or failure to index pensions.*
Financing issues	Offers a potentially lower cost of pension provision, as long as the return on assets exceeds the growth rate of the wage bill. Spreads the burden of provision across the generations and over time, and is likely to require less extreme peaks in contribution rates as a consequence. If it increases saving and investment may have direct and "endogenous" effects on economic growth, thus facilitating future pension provision by raising GNP. Eases burden of remaining pay-as-you-go, notably reducing the political pressure to make it more generous. *Usually is subject to higher administrative and regulatory costs, especially for personal pensions.* *The costs of transition from pay-as-you-go may make switching to funding unattractive, notably the issue of the generation being forced to "pay twice" in case of tax financing. Whereas bond-financing allows a spreading of these costs between generations, this solution may generate financial market difficulties such as loss of credit rating.*	Typically benefits from lower administrative costs than funding. *Requires continued rapid population and wage growth to be viable; is particularly vulnerable to population ageing and its impact on required contribution rates; ultimately the system may become unviable.* *Concentrates the burden of provision on generations that are working as the population ages.* *Depending on the benefit formula, costs may rise faster than ageing owing to early retirement and disability provisions. There may also be direct political manipulation of benefit formulae.* *Evasion of contributions may drive up contribution rates for remaining payers.* *Owing to high contribution rates and/or subsidies from general revenue, may crowd-out government expenditure on valuable public goods (education, infrastructure), reducing growth.* *Builds up long term expectations that are hard to reverse (a "built-in constituency" of the middle aged and elderly).*

Effects on labour markets	Since funded schemes (especially defined contribution schemes) are more actuarially fair than pay-as-you-go, they typically have a less distortionary impact on labour supply decisions, boosting labour force participation. Workers may be more willing to accept adjustments in working conditions ("labour market flexibility") if they have a stake in profitability via a defined contribution pension fund; more generally, at a national level the conflict of capital and labour could be alleviated. *Occupational funded schemes (notably defined benefit) may hinder labour mobility, and also lead firms to press workers into early retirement.*	Are usually freely transferable between jobs without any loss. *Contributions are more likely to be seen as taxes, as the systems are usually not actuarially fair. They thus reduce labour supply and/or may lead to widespread evasion of contributions and misallocation of labour to the "black economy".* *Typically has provisions which encourage early retirement, thus raising the costs of the plan unduly and depriving the economy of productive workers.* *Contributions may also affect labour demand and induce substitution of capital for labour to the extent that the cost of contributions falls on the employer (e.g. if there are wage rigidities and products are sold in competitive markets), also impacting on overall competitiveness of the economy.*
Effects on capital markets	May generate increases in national saving, especially if mandatory, (and as long as funding does not induce governments to raise consumption). This in turn increases the stock of fixed capital and output from which pensions are paid. Is likely to generate increases in the supply of long term assets, thus encouraging productive investment as well as boosting development of capital markets (including "qualitative improvements" such as disclosure, innovation, regulation, better accounting) and improving resource allocation. Facilitates privatisation. *At a national level, demographic change may lead to sharp changes in capital accumulation that may destabilise capital markets; at a global level, if funding becomes predominant, rates of return on financial assets may decline.* *If funded schemes are forced to hold domestic assets, they may generate "bubbles" in narrow markets; or if they hold government paper, the government may be tempted to spend more.* *Requires a degree of financial development (banking system, regulation, capital markets) to be viable; more generally, increased saving only benefits growth if it is well-allocated.*	*Pay-as-you-go may reduce saving, especially if benefit promises are generous and considered to be credible. This is particularly because the first generation receives "free pensions" in excess of their saving, while succeeding generations pay taxes in the expectation of a pension rather than saving for it; lower saving will reduce capital accumulation and growth.* *Generous and credible insurance-based pay-as-you-go systems will tend to "crowd-out" voluntary funded pension schemes.* *Generates "implicit government debt" which may impact on cost of funds in international financial markets, credit ratings etc.*

Source: Davis (1998d)

Table 6: Options for reform of pay-as you-go and effects on funding

Policy	Issues raised	Effects on voluntary funding
(1) Changing the ratio of beneficiaries to contributors		
Raising the retirement age	Politically difficult; requires clampdown on early retirement	Reduces retirement saving, given lower "passivity ratio"
Higher labour force participation of younger workers	Requires solution of general problem of unemployment	Increased volume of funding if labour force increases
Increases in fertility and migration	Fertility incentives tend to prove ineffective. Mass migration is politically problematic.	Increases volume of funding if labour force increases
Incentives to opt-out of earnings related social security	May be costly if scope is to be sufficient to induce major shift	Increases scope of funding
(2) Reducing benefits		
Cutting replacement ratios directly	Involves a "default" if it cuts accrued benefits.	Increases scope of funding
Suspension of indexation	Arbitrary in its effects	Increases scope of funding
Taxation of social security pensions	Raises issue of double taxation	Increases scope of funding
(3) Raising contributions		
General rise in contribution rates, maintaining current scope of social security	Occurs automatically if pay-as-you-go retained. Heightens distortions to labour/capital markets	Tends to crowd out funding
Shifts to general taxation	Reduces actuarial fairness	Neutral
Increases in eligibility period	Increases actuarial fairness	Neutral

Table 7: Private pension financing in the EU end-1996

	USD	**% of GDP**	***Adjust-ment to US level:***	***Change in USD***	***Change in % of GDP***
Belgium	11	4.3		*148*	*58.1*
Denmark	38	22.2		*69*	*40.2*
Germany	137	5.8		*1341*	*56.6*
Greece	4	2.8		*74*	*59.6*
Spain	22	4.1		*317*	*58.3*
France	69	4.5		*893*	*57.9*
Ireland	32	43.3		*14*	*19.1*
Italy	32	2.5		*777*	*59.9*
Luxembourg	0	0.2		*9*	*62.2*
Netherlands	349	88.9		*-103*	*-26.5*
Austria	3	1.1		*139*	*61.3*
Portugal	10	10.7		*50*	*51.7*
Finland	18	14.4		*59*	*48*
Sweden	38	32.7		*34*	*29.7*
UK	966	75.6		*-168*	*-13.2*
EU	1730	20.9		*3435*	*41.5*
United States	4763	62.4		*0*	*0*
Japan	943	21.8		*1756*	*40.6*
Canada	213	45.4		*79*	*17*

Source: EFRP, National Data

Table 8: Pension funds' portfolio composition 1996

	Equities	Bonds	Property	Liquid assets	O/w Foreign assets (1995)
Belgium	40	46	6	8	37
Denmark	27	63	7	3	8
Germany	8	74	7	12	6
Greece	10	56	13	21	3
Spain	5	76	1	18	3
France	14	38	8	40	4
Ireland	58	30	7	5	39
Italy	8	63	21	8	Na
Luxembourg	21	61	0	18	18
Netherlands	26	63	8	3	23
Austria	13	71	1	16	12
Portugal	9	27	4	60	6
Finland	9	61	13	17	Na
Sweden	28	62	6	5	11
United Kingdom	78	14	5	4	27
Canada (1997)	28	43	3	5	16
Japan					17
United States (1997)	62	23	0	4	10

Source: HSBC (1997), National data

Table 9: European Union and G-7, financial structure indicators, 1995, $ billion/*% of GDP*

	Equities (mkt cap)	***% of GDP***	**Govern-ment bonds**	***% of GDP***	**Private bonds**	***% of GDP***	**Bank assets**	***% of GDP***	**Total**	***% of GDP***	**Memo: Instit-utional investors**	**% of GDP**	**Memo: Listed comp-anies (domesti c /foreign)**
EU-15	3779	*45*	4810	*57*	3864	*46*	14818	*176*	27270	*324*	6214	74	3997/ 2972
EU-11	2119	*31*	3904	*57*	3089	*45*	11972	*176*	21083	*310*	4041	59	
Belgium	105	*39*	305	*113*	166	*62*	734	*273*	1310	*487*	156	58	146/145
Denmark	56	*32*	142	*82*	189	*109*	156	*90*	542	*313*	116	67	237/12
Germany	577	*24*	894	*37*	1284	*53*	3752	*155*	6508	*270*	1113	46	681/1290
Greece	17	*15*	100	*88*	6	*5*	64	*56*	187	*164*	na	na	217/0
Spain	198	*35*	302	*54*	63	*11*	840	*150*	1402	*250*	215	38	357/4
France	522	*34*	682	*44*	801	*52*	2923	*190*	4928	*320*	1159	75	686/187
Ireland	26	*42*	39	*63*	7	*11*	82	*132*	154	*248*	na	na	61/10
Italy	210	*19*	1222	*112*	397	*36*	1514	*139*	3342	*307*	223	20	244/4
Luxembourg	30	*158*	1	*5*	16	*84*	555	*2921*	602	*3168*	369	1942	54/224
Netherlands	356	*90*	204	*52*	184	*46*	808	*204*	1552	*392*	626	158	217/216
Austria	33	*14*	106	*45*	106	*45*	458	*197*	702	*301*	82	35	94/35
Portugal	18	*17*	56	*54*	16	*16*	162	*157*	252	*245*	35	34	158/0
Finland	44	*35*	95	*76*	50	*40*	144	*115*	332	*266*	63	50	71/0
Sweden	178	*77*	234	*101*	184	*80*	203	*88*	799	*346*	267	116	217/12
United Kingdom	1408	*127*	430	*39*	396	*36*	2424	*219*	4658	*422*	1790	162	557/833
Canada	366	*65*	581	*103*	93	*16*	516	*91*	1556	*275*	493	87	
US	6857	*95*	6728	*93*	4323	*60*	5000	*69*	22908	*316*	10501	145	7755/708
Japan	3667	*71*	3448	*67*	1877	*37*	7382	*144*	16374	*319*	3035	59	1766/67

Source: IMF (1997), BIS (1998)

Table 10: European Union and G-7, banking sector indicators, 1995

	Number of banks	5-firm concentr-ation ratio	Population per branch	Interest margins
Belgium	150	59	1315	1.76
Denmark			2381	2.10
Germany	3487	17	1719	2.6
Greece			4545	1.75
Spain	318	49	1190	3.23
France	593	47	2272	2.21
Ireland			3100	1.98
Italy	941	29	2326	3.06
Luxembourg				0.93
Netherlands	174	81	2325	1.70
Austria			1402	2.13
Portugal			2778	2.87
Finland	352	74	2632	2.12
Sweden	112	86	3448	5.52
United Kingdom	560	57	3572	1.66
Canada	1030	65		1.93
US	23854	13	3778	2.77
Japan	571	27		2.36

Source: IMF (1997), Davis and Salo (1998)

Table 11: Aspects of financial structure 1997 (1980)

	Size indicator (total financial assets/GDP)	Financial intermediation ratio	Of which: Bank intermediation	Of which: Institutional intermediation
Germany	6.1 (3.6)	47 (45)	75 (86)	22 (12)
France	10.0 (4.8)	35 (62)	73 (68)	27 (4)
Italy	5.3 (3.9)	32 (32)	91 (98)	9 (5)
United Kingdom	11.4 (4.2)	42 (34)	42 (64)	38 (26)
Canada	7.1 (5.1)	41 (34)	46 (55)	33 (19)
Japan	8.5 (5.1)	45 (42)	34 (36)	19 (10)
United States	7.7 (4.1)	38 (37)	26 (58)	52 (31)

Source: National balance-sheet data

Table 12: Financial instruments as a proportion of the total, 1997 (1980)

	Equities	Bonds	Deposits	Loans
Germany	15 (8)	22 (12)	28 (37)	35 (43)
France	40 (15)	9 (5)	20 (36)	26 (43)
Italy	23 (17)	26 (11)	21 (33)	26 (33)
United Kingdom	40 (24)	9 (16)	28 (35)	18 (24)
Canada	25 (22)	25 (19)	21 (27)	24 (28)
Japan	10 (10)	17 (16)	36 (35)	35 (38)
United States	33 (19)	29 (23)	11 (22)	24 (33)

Source: National balance-sheet data

Table 13: Household sector assets 1997 (1980)

	Equities	Bonds	Deposits	Institutional investment
Germany	8 (4)	14 (12)	40 (59)	30 (17)
France	32 (12)	3 (9)	31 (59)	29 (9)
Italy	25 (10)	22 (8)	23 (58)	10 (6)
United Kingdom	20 (12)	1 (7)	21 (43)	53 (30)
Canada	28 (24)	5 (8)	30 (38)	32 (21)
Japan	5 (7)	3 (9)	62 (69)	31 (13)
United States	24 (21)	7 (10)	14 (33)	47 (28)

Source: National balance-sheet data

Table 14: Corporate sector liabilities, 1997 (1980)

	Equities	Bonds	Loans
Germany	32 (20)	2 (2)	46 (52)
France	72 (34)	4 (4)	23 (60)
Italy	53 (52)	1 (4)	38 (43)
United Kingdom	69 (37)	1 (2)	11 (22)
Canada	37 (41)	17 (8)	17 (22)
Japan	20 (22)	7 (3)	45 (45)
United States	58 (49)	13 (17)	12 (13)

Source: National balance-sheet data

Table 15: Debt maturity and collateralisation 1993

	Corporate Loans collateralised by real estate (%)	**Short term corporate credit (%)**	**Long term corporate credit (%)**
Germany	36	22	78
France	41	27	73
Italy	40	56	44
United Kingdom	59	50	50
Belgium	34	37	63
Netherlands	36	23	77
Canada	56	35	65
Japan	28	35	65
United States	66	19	81

Source: Borio (1997)

Table 16: Results of correlation analysis
(fixed effects regressions; variables significant at 95% level)

Dependent variable	**Independent variable(1)**	**G-7 Coun-tries**	**Anglo-Saxon**	**Contin-ental Europe and Japan**
Size indicator	Institutional assets/total financial assets	47.9 (9.1)	42.5 (5.6)	54.3 (7.5)
Equity/total financial assets	Institutional assets/total financial assets	0.8 (2.8)		1.28 (3.2)
Volatility of share prices (monthly s.d.)	Institutional assets/total financial assets		-35.2 (3.7)	
Household equity/ household financial assets	Household institutional assets/household financial assets		-0.4 (3.4)	
Household bonds/ household financial assets	Household institutional assets/household financial assets	-0.13 (2.0)	-0.24 (3.8)	
Household deposits/ household financial assets	Household institutional assets/household financial assets	-0.63 (4.4)	-0.45 (4.0)	-0.9 (3.4)
Corporate equity/corporate liabilities	Institutional assets/total financial assets	1.8 (3.4)	1.1 (1.9)	2.6 (3.2)
Corporate bonds and market paper/corporate liabilities	Institutional assets/total financial assets			0.35 (1.8)
Corporate loans/corporate liabilities	Institutional assets/total financial assets	-1.4 (2.9)	-0.56 (2.0)	-2.3 (2.8)

Table 17: Summary of financial market effects of funding and of EMU

	Pension funding	**EMU**
Saving	Potential for small increase	Potential increase owing to precautionary saving/GDP growth
Money market instruments	Increase in demand	EMU generates an integrated money market with attractive products for liquidity management.
Government bonds	Increase in demand	Integration of markets. Reduction in supply owing to Maastricht criteria.
Corporate bonds	Increase in demand for corporate bonds (including junk bonds) and securitised loans	Increased scope for issuance owing to lesser crowding out by government bonds, unified yield curve to price off in context of an integrated market, increased competition among underwriters.
Equities	Increased demand if regulations permit	Integration of markets. Potential increase in supply for restructuring and to cope with asymmetric shocks in the context of weaker banking relationships.
Derivatives	Increase in demand	Reduction in number of contracts and exchanges. Lesser need for certain types of hedging.
Cross-border portfolio investment	Increased demand, if regulations permit	Under EMU risk in domestic currency is reduced by diversification across the Euro area, as well as outside it. There will be pressure to ease regulations limiting cross-border investment.
Commercial banking	Reduction in demand for loans and deposits; increased competition on assets and liabilities side of balance sheet. Pressure for decline in relationship banking. Incentive for banks to switch to non-interest income, reduced capacity or higher risk lending.	Increased disintermediation from integrated euro securities markets. Increased cross border competition (initially in wholesale banking) in the context of existing excess capacity. Potential narrowing of interest margins. Incentive for banks to switch to non-interest income, reduce capacity or higher risk lending.
Investment banking	Increased demand for underwriting services, trading and asset management	Increased scope for cross border competition as home country advantages are weakened and regulations become inoperable. Potential for concentration of activity.
Trading activity	Potential for "footloose" moves to efficient and lightly regulated markets	Potential for concentration in the context of the single currency
Market volatility	Potential for lower average volatility but sharper peaks	Larger and more liquid markets should be subject to lower volatility
Corporate finance	Possibly lower cost of capital, owing to increased demand for equities and corporate bonds; potential risk of limited finance to small firms and “short-termism”	Likely to desire lower debt-equity ratio to cope with asymmetric shocks in the context of weaker banking relationships. May face pressure to reduce maturity and increase collateralisation. Will find securitised finance increasingly attractive
Corporate governance	Likely to move from “relationship banking” to focus on “shareholder value”	Increased competition among banks may weaken “relationship banking” links. Increased shareholder pressures for adequate return on equity.
Information	Institutionalisation increases demand for services of rating agencies and investment banks specialised in information provision. Companies relying on market finance will have incentives to disclose information to them.	EMU, by easing the completion of the single market, may increase comparability of information on corporate borrowers across euro countries.

Table 18: EU countries: convergence on the US financial structure - adjustments ($ billion/*% of GDP*)

	Equities (mkt cap)	***% of GDP***	**Govt bonds**	***% of GDP***	**Priv bonds**	***% of GDP***	**Bank assets**	***% of GDP***	**Total**	***% of GDP***	**Institutional investors**	% of GDP
EU-15	4228	*50*	3028	*36*	1193	*14*	-9003	*-107*	-638	*-8*	6007	71
EU-11	4346	*64*	2425	*36*	994	*15*	-7277	*-107*	421	*6*	5826	86
Belgium	151	*56*	-55	*-20*	-5	*-2*	-548	*-204*	-460	*-171*	234	87
Denmark	108	*63*	19	*11*	-85	*-49*	-37	*-21*	5	*3*	135	78
Germany	1715	*71*	1350	*56*	164	*7*	-2087	*-86*	1117	*46*	2386	99
Greece	91	*80*	6	*5*	62	*55*	15	*13*	173	*152*	na	na
Spain	334	*60*	219	*39*	273	*49*	-454	*-81*	368	*66*	597	107
France	940	*61*	749	*49*	122	*8*	-1861	*-121*	-65	*-4*	1073	70
Ireland	33	*53*	19	*30*	30	*49*	-39	*-63*	42	*68*	na	na
Italy	824	*76*	-210	*-19*	256	*24*	-763	*-70*	96	*9*	1355	125
Luxembourg	-12	*-63*	17	*88*	-5	*-24*	-542	*-2852*	-542	*-2852*	-341	-1797
Netherlands	20	*5*	164	*41*	54	*14*	-535	*-135*	-301	*-76*	-52	-13
Austria	188	*81*	111	*48*	34	*15*	-297	*-128*	34	*15*	256	110
Portugal	80	*78*	40	*39*	46	*44*	-91	*-88*	73	*71*	114	111
Finland	75	*60*	21	*17*	25	*20*	-58	*-46*	63	*50*	118	95
Sweden	41	*18*	-19	*-8*	-45	*-20*	-44	*-19*	-69	*-30*	68	29
United Kingdom	-358	*-32*	598	*54*	267	*24*	-1662	*-150*	-1166	*-106*	-188	-17