FINANCIAL MARKETS AND THE EUROPEAN ECONOMY:
A SYNTHESIS OF RESEARCH FINDINGS

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Abstract
If we accept the idea that several growth mechanisms exist then the analysis of the growth-finance nexus should consider the relationship between growth and financial variables conditional upon the specific growth mechanism, which is associated with different countries, sectors and innovations dynamics. The aim of the EIFC project was to initiate empirical research on capital markets and corporate performance in the European Union. The EIFC project covered four areas of comparative research on financial systems and corporate finance in European countries: (i) corporate finance, investment and employment; ii) financial markets and diffusion of innovation; (iii) patterns of venture capital development; and (iv) financial integration, growth dynamics and convergence. This paper presents a synthesis of the main research findings of the EIFC project.

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1. INTRODUCTION

The current stage of European integration is characterized by four specific, yet interconnected, processes: monetary union, enlargement, the single market program and the impact of a new wave of technological change. Each of these processes has implications for both the supply and the demand of financial integration and for the finance-growth nexus in Europe. Structural trends in the European banking market are accelerating under the pressure of capital market integration. After a first period of euphoria on the forthcoming growth effect of integrated capital markets, increasing emphasis has been placed in recent years to the role of financial intermediation as a set of specific mechanisms directly linked to the performance of the corporate sector.

Indeed, there are four major drivers for change in European capital markets with profound implications on the corporate sector. First, there is the growth of the corporate securities market itself, supported by the demand for such securities (including equity) on the part of insurance and pension funds. Second, there is the ‘Europeanisation’ of this market on the part of both issuers – increasingly using the two main markets in London and Frankfurt – and investors, who also cross borders in order to access liquid asset markets. The third driver is the competition between exchanges to provide these services – with scale economies rewarding the ‘winners’ but leaving local national or sub-national exchanges narrow and shallow – in the sense of quoting few securities and providing little turnover even in those quoted. And fourth, there is increasing pressure for consolidation of clearing and settlement consolidation in order to reduce costs, increase liquidity and reduce risk of payments failure. In this context, as European integration continues and capital markets become more integrated, many governments and policy makers have been exploring how they can deal with these challenges.
The aim of the EIFC project was to initiate empirical research on capital markets and corporate performance in the European Union. The EIFC project covered four areas of comparative research findings on financial systems and corporate finance in European countries: (i) corporate finance, investment and employment; ii) financial markets and diffusion of innovation; (iii) patterns of venture capital development; and (iv) financial integration, growth dynamics and convergence. In what follows, we provide a synthesis of the core research questions and research findings of the EIFC project.

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1 The EIFC (European Integration, Financial Systems and Corporate Performance) project was implemented from March 2000 to April 2004. The Project Co-ordinator was Anthony Bartzokas, Senior Research Fellow, UNU-INTECH and University of Athens, who worked in close co-operation with five research partners: Prof. Valpy K. FitzGerald, Finance and Trade Policy Research Centre, University. of Oxford; Professor Phil Molyneux, Director, Centre for Banking & Financial Studies-University of Wales; Professor Pier Carlo Padoan, University of Rome; Dr. Michael Stolpe, The Institute of World Economics, University of Kiel; Professor Paul Stoneman, Warwick Business School. EIFC was financed within the EU Key Action Improving the Socio-economic Knowledge Base (Contract no.: HPSE–CT–1999-00039). For a list of working papers, see Annex I. These working papers are available for downloading from the project’s home page: [http://www.intech.unu.edu](http://www.intech.unu.edu)
2. THE POLICY CONTEXT

The European financial environment is both heterogeneous and changing. On the one hand, in terms of the financial system per se, there are bank based systems as typified by the German situation and, on the other hand, market based systems as typified by the UK. Most continental European systems are largely bank based (although Sweden less than most) although there are signs of some movement in certain countries (e.g. France) to a market based system. Alongside these different systems there are different patterns of ownership of industry. The German system reflects greater private ownership, more concentrated ownership and more pyramid ownership. In the UK the pattern is for less concentrated holding, less private control and fewer intercorporate holdings. The different patterns of ownership allied with different financial systems generate different emphases upon insider and outsider control in the management of corporations. In the UK type system, although much of the equity may be owned by financial institutions, it is through the market itself, via the threat of take-over, that control is mainly exercised. In German type systems there is greater emphasis upon direct intervention by banks and co-operation between banks and management.

The financing of investment by firms also differs across countries. Although self-generated funds are the main finance source for all firms (except SMEs) these are more important in some EU countries. The primacy of such funding suggests that internal capital markets may be of particular importance, but we know little of their operation. New equity is of only limited relevance in most countries. Debt is a more important source of investment finance than new equity, especially bank debt in bank based systems, however the importance of commercial bonds and commercial paper, although currently limited, is growing in importance. Government finance is of differing importance across countries with little apparent relation to the system. Amongst SMEs the main source of finance is banks in all systems, however venture capital although growing in importance in all countries is of greatest importance in the UK.

A well established fact in the literature is that the different patterns observed in financial systems such as ownership patterns, control patterns and financing patterns have important implications for the way firms behave. The argument is that bank based systems with insider control are particularly favourable to longer term steady development built upon the construction of trust based relations, firm specific investments and steady change. On the other hand market based systems with outsider control and more arms length relationships between the financiers and the managers are seen as more favourable to major change and switches of
strategic direction. It is also suggested that bank based systems may generate a higher cost of capital due to bank monopoly power and perhaps undue conservatism.

Indeed, the process of financial integration in Europe has gathered pace in recent years with the introduction of the EMU, but reflects a much longer and deeper process of capital market liberalisation and expansion of large financial intermediaries. This process has been extensively studied, but mainly from the point of view of financial market efficiency – particularly the degree of inter-bank bank competition on the one hand, and the allocation of investment across stock markets on the other. Of the changes that have been occurring, the EIFC project provided detailed analysis of four major changes. First, the principal change in the European financial environment is the advent of EMU. The prime direct embodiment of EMU was the move first to rigidly fixed exchange rates between member countries and then to a common currency. (It should be noted of course that the UK has not as yet joined the EMU). It was argued that EMU would eliminate foreign exchange risk to a great degree and as such encourage investment and innovation. A further direct consequence of EMU is that the central banks of countries belonging to the Euro zone now have only loose control over their own monetary policy. That policy will be set zone-wide with individual country financial markets determining how the corporate performance of firms of different sizes will be affected. Differences in monetary transmission mechanisms resulting from different financial structures will thus mean that the single monetary policy conducted by the ECB may well have different effects on innovation in different countries.

The second major change we observe is that indicators suggest that the euro area is moving towards a more equity-oriented structure as shown by the growth of the stock market in nearly all countries and new markets being established. For example several stock exchanges (Frankfurt, Paris, Amsterdam, Milan and Brussels) launched markets for high growth company stocks. This should lead to (i) geographical location diminishing as a determinant of where companies choose to list and multi-market listing growing in importance; (ii) minority shareholders becoming more vocal; and (iii) attempts to be made by the EC to harmonize governance, information disclosure, investor protection and take-over rules across countries. Primarily however it is to be expected that companies will find it easier to raise finance locally from equity markets. However this opening up of local equity markets may not be of great advantage to smaller firms who rely upon debt and particularly bank finance.

The third major change has been in the European banking environment. With EMU there will be more pressure for less segmentation of national banking markets and as other institutional and regulatory barriers fall this is likely to be further emphasised. This is expected to increase competition and reduce costs and therefore charges. There have already been a steady stream of bank mergers in European banking throughout the 90s. This has led to larger banks and a
beginning of cross border expansion. Most bank mergers in the 90s have been domestic, but the
domestic proportion is now falling. However, even in early 2000, European banking markets
were still highly fragmented along national lines with shares of domestic inter-bank claims
standing at roughly 64% and that of domestic loans in total loans at roughly 80%. Nor is there
any evidence to suggest that banking mergers increased internal efficiency in terms of cost
improvements, he in fact suggests that one effect of increasing bank size has been to increase
the costs and reduce the availability of loans to SMEs. There does not seem any evidence (that
changes in banking markets have as yet led to cheaper or more readily available finance to
SMEs. This may be because SMEs (particularly very small firms) are typically very reluctant to
change banks because of the perceived complexity of switching for little benefit, the importance
of maintaining relationships with a particular bank, informational capture by the relationship
lender, and the ability of the existing bank to negotiate lower charge if there is a threat of
switching.

Finally, there have been changes over time in financial products and instruments available on
the market. The major financial innovations of the last twenty years have reflected two
interrelated trends. The first is securitisation and the second is the growth of the Off Balance
Sheet Activities (OBSA) of banks. They note the development and growth of a number of
specific markets and products, for example: (i) the growth of the Eurodollar market from the
early 1970s; (ii) the establishment of the Eurobond market in 1974 and is subsequent growth;
(iii) the launch and growth of issues of Floating Rate notes and Eurodollar floating rate notes;
(iv) the development of note issuance facilities, revolving underwriting facilities,
eurocommercial paper and euro medium-term notes in the euronote market; (v) the growth of
the syndicated loans market; and (vi) extensions of bank asset securitisation. One might think
once again that such changes would facilitate investment and innovation by firms.

Furthermore, European banks are now changing their behaviour in a number of ways. First,
their assets are increasingly made up of liquid assets traded on capital markets, and lending to
households for consumption purposes (e.g. credit cards). Their liabilities, in contrast, have
become less liquid as they provide longer term financial services such as insurance and
pensions. In other words, banks have moved away from the tradition function of providing
capital for production. So far, little attention has been given to the effect of this process of
financial integration on corporate investment in general (and that of small and medium firms in
particular) and thus on production, productivity and eventually employment. As far as large
firms are concerned, the simultaneous expansion of capital markets has meant that they can
issue longer-term bonds to finance capital expansion, and shorter-term commercial bills in order
to provide working capital. However, these instruments cannot be issued by smaller firms for
three reasons: first, the unit cost is too large in relation to the sums required; second, capital
markets require a good deal of information not available for small firms; and third, to be attractive assets must not only have a good yield but also be highly liquid - in other words, issued on a scale which allows for an active market.

Having said this, however, the implementation of Basel 2 is likely to have a larger impact on the strategic behaviour of banks. As in the original 1988 Accord it will set the benchmark for regulators over the next decade and longer. The 1988 rules were transformed into EU legislation without major changes and (by all accounts) it has served its purpose well. A major issue relates to how the EU should implement the new Accord. The new rules need to be implemented with the authority of a Directive but have the flexibility embodied under the Lamfalussy framework. The new rules require the stipulation of minimum standards that allow for flexibility in implementation but also credibility in ensuring that they establish a uniform and competitively equivalent framework for financial service regulation in the EU. Where the new rules allow for substantial flexibility - such as in the area of operational risk - minimum standards can be set with national supervisory agencies having substantial discretion in implementation. In the supervisory review and market discipline these areas also lend themselves to the setting of minimum standards based on mutual recognition and home country control that embrace the single market programme ethos. Interestingly, both Basle 2 and the FSAP place considerable emphasis on areas that are among the least integrated in the European financial services industry - retail lending, SME finance, bancassurance, securitisation and the regulatory treatment of collateral. The removal of barriers to trade in these areas coupled with new capital rules governing their regulation are likely to create a paradigm shift in the way in which this types of business is conducted over the next decade or so².

² Further analysis of these issues is available in the EIFC working paper no. 16.
3. RESEARCH FINDINGS

3.1 Corporate finance, investment and employment

It is well known that small and medium enterprises provide the bulk of employment - and thus by extension the greater part of in-firm labour skilling (‘on the job learning’) – in Europe. Indeed they not only provide three quarters of all jobs, but also half of all output. We would expect therefore, that when financial structures, integration and policy are considered at the European level, that the role of Small and Medium Enterprises (SME) and employment would be a central consideration. Smaller firms may be relatively more tightly constrained, when it comes to corporate finance, because (i) the availability of internally generated funds may be more limited for smaller firms than larger firms (ii) problems of information asymmetries may also be more severe for such firms (iii) smaller, newer firms may have no track record upon which to base a case for funding and/or there may be fewer realizable assets to use as collateral and (iv) the costs (to funding providers) of search may mean also that the supply of finance to smaller firms may be more severely limited. We would expect a consideration of this relationship in discussions of both the long-term growth process and of macroeconomic fluctuations within the business cycle. Unfortunately this is not the case. This is particularly serious because SME’s (and thus employment and skilling) are more vulnerable to changes in the financial environment than large firms, given their fragile balance sheets and vulnerability to exogenous market shocks that is reflected in their high birth and death rates.

Three key results emerged from our work on financial integration and corporate finance. First and foremost, small and medium-sized enterprises (SMEs) in each country are most reliant on credit from banks or other financial institutions as a source of external funds. With one exception, long-term credit is the major component of this funding and as such is the main external contributor to the investment – and hence growth, viability and employment provision – of SMEs in these countries. The second result is that the only systematic feature observed when examining external financing of large firms was the sharp growth of long-term credit in 2000-01. This may be a positive result of the creation of a pan-European pool of debt finance which larger firms are able to tap. The third result however is that SMEs’ access to the long-term debt which has been critical to their investment financing appears to be shrinking at the same time. The postulated shift from relationship-based to arm’s-length financing, or from
intermediary to market finance, may well be undermining the ability of smaller firms to carry out investment. It is at best unclear whether equity finance is growing to fill this gap³.

3.2 Labour markets and financial integration

Traditionally, the relationship between the acquisition of new capital goods and the labour market, on one hand, and financial markets, on the other, are analysed separately. Conditions prevailing in the labour market (wage rates, conflicts, etc.) may influence firms’ decisions to invest either by rendering capital relatively more convenient than labour, or by directly affecting profits. It is statistically more likely that firms will find themselves in the former condition when profits are low and their financial conditions are not optimal. In a Modigliani-Miller world (MM henceforth), profitable projects would not be precluded by low levels of internally generated funds and/or high levels of leverage. Funds would efficiently flow towards all projects with a positive net present value. Otherwise, investment decisions will face credit or equity rationing when capital markets show some type of imperfection. Then, financial markets, or their higher or lower degree of efficiency, will either lessen or reinforce the (dis)incentives to investments originating from the labour market. But it is also the case that differences in financial markets’ efficiency may not be useful in explaining the different paces of capital accumulation across countries, if differences in national labour markets (the type of bargaining systems, the degree of labour flexibility, etc.) are not taken into account. Indeed, countries with less efficient financial markets may possess labour market features that allow firms to promptly adjust to (negative) shocks and maintain balanced financial conditions. Therefore, a model that includes both labour and financial market features should represent a better description of investment decisions.

In the EIFC project, we examined how labour and financial markets influence investment⁴. Our results from a sample of twelve EU countries, and observations for the manufacturing industries over the period 1987-1999, are favourable towards this new approach and, therefore, to the richer empirical specification adopted here for the investment function. Specifically, we stressed the importance of considering labour market conditions within the most traditional theoretical framework that assigns a significant role to financial market imperfections in determining capital accumulation. This approach has two main advantages. First, investment models suffer less from mis-specification errors; secondly, it offers a more complete set of policy issues than traditional analyses. Our results show that financial markets’ configuration (market- vs. bank-based) does not significantly matter. Our estimates excluding data for the U.S. economy

³ For a detailed empirical analysis, see EIFC working papers 04-41 and 04-39.
⁴ See EIFC Working Papers 01-5, 03-23 and 03-26.
are not significantly different from those obtained for the whole sample. Most importantly, investment depends upon the degree of financial market imperfections. A higher degree of imperfections means that a firm’s value (or its profitability) depends on its financial policy (its liquidity conditions, leverage, etc). Therefore, away from the MM world, finance matters. When it comes to labour market conflict, as a result of institutional bargaining set-ups, has two effects on investment. On one hand, it reduces investment by causing a decrease in expected profitability; on the other hand, it makes it convenient for firms to substitute labour with capital. Both the size effect on firms’ capacity and that in favour of more labour saving technologies negatively feed back on the labour market by reducing employment opportunities. Finally, economies characterized by more labour conflicts are also those with less favourable financial indicators (i.e. lower liquidity and higher leverage); therefore, in these economies labour conflicts have the greatest negative effect on investment and job opportunities.

Investment is traditionally considered one of the most important economic variables. As a component of aggregate demand it helps determine both its level and volatility. On the supply side, it is the means through which innovations are introduced into the economy, it determines the expansion path of productive capacity and, therefore, provides opportunities to increase employment. Economic policies to promote investment should therefore promote policy moves towards more efficient capital markets and, at the same time, bargaining systems that help reduce labour market conflicts. As for the latter, economic literature is still debating whether a centralised bargaining system is preferable to a decentralised one. Our view is that, during the last decade, more changes occurred in the European financial markets than in national labour markets. While the consensus on the efficacy of the former is widespread, too many differences still characterise the latter. It is therefore imperative that more work be dedicated to improving understanding of different bargaining systems, both on a theoretical level as well as the practical one in which policy tools are chosen.

### 3.3 Financial markets and diffusion of innovation

Differences in national systems of innovation across countries may lead to differing financial constraints upon firms operating in different economies (as the result for example of differing taxes and subsidy regimes, the completeness of markets for finance, the legal environment as regards bankruptcy, government intervention etc.). There are many reasons postulated as to why financial constraints might exist. The existence of uncertainty and thus risk is a sine qua non of such constraints. Beyond this, the most commonly argued reasons for such constraints are asymmetric information between borrower and lender and moral hazard resulting from the separation of ownership and control, although capital market incompleteness and inefficiency,
the problems of measuring risk, taxes, subsidies, bankruptcy costs et. al. may also have roles to play. Furthermore the literature argues that the importance and relevance of financial constraints may also differ across firm sizes, industries and countries.

Despite the growth of the diffusion literature one factor that seems to have merited very little attention to date is the role of financial factors in the diffusion process, where financial factors may be taken to encompass all issues relating to the funding of those capital expenditures that are a part of the technological diffusion process. Although some empirical work has introduced finance indicators as an explanatory variable in diffusion equations this is not common and even in such cases is not justified on any theoretical grounds. This may be a significant omission. It is also a curious omission, for the role of financial factors in two related fields i.e. R&D determination and investment in plant and equipment has been discussed quite extensively. The main aim of the Warwick team in the EIFC project was to undertake a study of how and why financial factors may impinge upon the diffusion process.5

Our econometric work, based on Community Innovation Surveys data, suggested that firms will be differentially affected by financial constraints under different national financial systems. Differences across industries may also exist so that, for example, firms in high-tech and newer industries may face stricter constraints to raising external (and internal) funding either in terms of cost and/or availability. This is because: (i) in riskier industries it may be more difficult to raise funding from outside the firm purely because of the risk factor (ii) in more high-tech sectors not only may risk itself be a factor but also the proportion of assets that are realizable may be lower (iii) in high-tech industries innovation is more likely to be of a sort that has not been undertaken elsewhere before and it may be particularly difficult to observe the systematic risk of such projects and thus difficult to determine the appropriate discount rate to use in evaluating investment in the firm and (iv) information asymmetries may also be greater in such industries.

3.4 Venture Capital in Europe

Better access of new technology-based firms to venture capital has long been at the core of EU strategy for innovation and growth.6 In June 1998, the Cardiff European Council adopted the five-year Risk Capital Action Plan to promote the development of an integrated pan-European risk capital market. Yet relatively little has been known until recently about the economic determinants and institutional requirements of an efficient venture capital industry.

5 This presentation draws on the EIFC working papers 01-03, 01-08, 02-11 and 04-38.
6 The sixth EIFC workpackage provided original and detailed empirical assessment of patterns of development and levels of efficiency in the European venture capital industry. See the EIFC working papers 01-4, 02-12, 03-24
On the whole, Europe's venture capital industry is still too dependent on subsidies and - without substantial gains in efficiency - it may remain so for quite some time. Public support for venture capital has been substantial in many European countries during the 1990s and continues to be so. This should be a matter of some concern since subsidies can create a variety of incentive problems of their own. For example, subsidies may attract poor managers into venture capital organizations and reduce their quality of screening and of the corporate governance services they provide portfolio firms. In this case, subsidies may even raise the total user costs of venture capital for those technology-based start-ups that primarily want to benefit from the advertisement and certification effect of having won venture capital backing. For some start-ups, the direct financial resources that a venture capitalist provides may be much less important than the effective support in going public. If public funding were always limited to addressing identifiable market failures, as proclaimed by the European Commission, the inefficiencies from subsidies would be reduced. But to limit subsidies strictly to market failures requires that governments accept not only the extremely cyclical nature of the venture capital industry, but also the strongly divergent investment patterns across countries and regions that is implied by the theory of non-market interaction.

EIFC research findings support the views that international interdependence in venture capital is mainly due to information spillovers in primary equity markets, where the expectation of a hot issue market can serve as an effective coordinating mechanism for individual investments. In the presence of information spillovers, agents' individual expectations are formed endogenously. They often motivate investments in the early or expansion stage of new technology-based firms because exiting via an initial public offering (IPO) tends to be much more profitable during a hot issue market. In the aggregate, however, one cannot rule out reverse causality: an expanding number and volume of venture capital investments may help to make the arrival of a hot issue market more likely and increase its size, given that the main purpose of venture capitalists' management services is to select and prepare suitable start-ups for an early IPO. The empirical observation of a close link between the volatility of primary equity markets and the volume of venture capital investments suggests that either a third variable is responsible or that a new theoretical interpretation is required in which those cyclical co-movements are self-reinforcing. Dr Stolpe offered an analytical interpretation of these developments with the application of the concept of social multipliers. It was suggested that by creating social multipliers, information spillovers in primary equity markets can lead to non-ergodic growth and multiple equilibria in the development of venture capital.

Because the policy implications of social multipliers may vary depending on their actual size, it is important to identify the underlying causes empirically and to use empirical findings when the size of the relevant social multiplier must be predicted in order to assess the likely impact of
a specific policy proposal. A social multiplier that is relatively small may not imply multiple equilibria. But the presence of multiple equilibria may bring national and European policy objectives into conflict with each other. More precisely, if multiple equilibria are due to countryspecific economies of scale that one county exploits at the expense of another, policymakers will have to deal with an irreducible zero-sum aspect in the distribution of venture capital across countries. In this case, unless countries can find a cooperative solution, the dynamics of the allocation process will be characterized by international path dependence and a country with an initial advantage can expect to enjoy a long-term lead.

However, path dependence and multiple equilibria need not always imply locational competition in the absence of government co-operation. Instead, international linkages in financial markets may serve to coordinate national cycles in venture capital investments and boost the overall volume of venture capital inflows, creating a positive sum game for all. In this case, economies of scale in venture capital, such as learning by doing in an emerging industry, would accrue to the European economy as a whole and government co-operation might be superfluous. Efficient policies towards venture capital therefore require a thorough empirical analysis of how the link between primary equity markets and national venture capital investments actually works. From a policy point of view, venture capital investments are growth options that are exercised when a venture-backed start-up has its IPO.

3.5 Financial integration, growth dynamics and convergence

What does economic analysis of the growth finance nexus, say about the most appropriate model for financial integration in the EU? The theoretical and empirical debate on the growth finance relationship that has developed over the last decade has centered on the relative merits of bank-based versus market-based financial systems. However, the empirical analysis remains largely inconclusive on this issue. For example, some results indicate that the source of external financing does not matter for the impact on growth. Other contributors highlight the role of specific national differences in the growth finance nexus and note that there does not seem to be any compelling evidence that one financial model (bank versus market) is clearly superior in supporting growth, nor does there seem to be any clear evidence on the direction of causality between real and financial development. What matters is the size of financial systems as well as legal aspects such as governance rules and creditors protection, that reflect the “supply” factors of financial integration. The size of financial markets is also important in that it allows for a diversification, and to some extent a complementarity, of external finance sources. The issue of the source of finance, however, has been reconsidered against the background of the wave of

7 For a series of studies on the macroeconomic impact of financial markets integration, see EIFC working papers 01-5, 01-6, 03-26 (updated version available upon request).
technological innovations related to the communication and information technologies. In such a framework the dilemma between bank-or market-based financial systems can be restated as follows. Market-based systems operate more efficiently whenever “innovation” is the central driving force of growth. However, in Europe the banking system has played an important role in the financing of venture capital and start-ups in the ICT sector. Bank-based models should, in principle, work better in the capital-deepening phase of the spread of the new technologies, but successful OECD countries with a more developed stock market are also those were an investment boom has materialized.

Our research has provided empirical evidence in this respect with particular emphasis on the characteristics of the EU integration process. Our starting point has been the consideration that most of the empirical contributions share one common feature: they consider real growth from one perspective only. In so doing such contributions neglect that, while growth ultimately leads to higher GDP, there exist several alternative channels and mechanisms that lead to GDP growth. There is not one, but several growth drivers and, therefore it is not unrealistic to think that different financial mechanisms have a different impact on growth according to the different sources of growth. Therefore, the analysis of the growth finance nexus implies looking at what is the most effective finance model for each of the possible growth and specialization models. Sectors behave differently from one another as they respond to different growth mechanism and they also respond differently to financial conditions. Different growth mechanism operate at the more aggregate, regional and national, levels as well as at the sectoral one. And the process of European Integration offers a clear example in this respect. In sum, “demand” factors are very relevant in shaping the EU financial system.

We also examined to what extent financial development can affect innovation driven growth. To do this we develop a benchmark for technological integration by looking at the implications of the “Lisbon Strategy”. We build a simulation exercise on the Kok report that has suggested a list of 14 indicators against which to assess progress towards the Lisbon Strategy. We consider a comparable list of indicators including some financial development variables which have been omitted in the list in the Kok report. Through cluster analysis applied to the EU15 and a number of other industrial countries we identify three groups of countries. Group 1 (“strong structure”) that includes US, Japan, the two largest continental EU countries, and the UK. Countries in this group share a favorable employment outlook, a low rate of growth of unemployment, a strong innovative position and above average financial variables (both market and credit). We refer to this group as the “Lisbon benchmark”. Group 2 (“followers”) includes the Netherlands, Denmark, and Ireland, as well as Australia and Canada. Countries in this group share similar

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values in the rate of change of variables. Growth rates of both employment and GDP are higher than average. Unemployment grows less. Variables above average include productivity in R&D, foreign direct investment as a share of GDP, and the rate of change of the financial system (market with respect to credit). Group 3 (“weak structure”) includes the Mediterranean countries and Belgium. They share unemployment above average, low activity rate as well as low employment in innovative activities, low R&D expenditure and low R&D productivity. Credit finance is above average and market finance is below average. We estimated the probability of transition between the three clusters over the period 1980-2000 and we find that while there is a high probability for countries in groups 2 and 3 to move towards the “Lisbon benchmark” there is not necessarily a complete convergence. For countries belonging to groups 2 and 3 to move on to the strong structure groups would imply upgrade among other things, their innovation efforts as identified, for example by R&D spending. However, changes in the financial sector would also be necessary as they should move towards a more market based system to the extent that this is necessary to support more knowledge intensive activities. Countries belonging to the strong structure would remain in this group also because of the positive contribution of finance. Finally, Spain and Italy, two countries included in the weak structure group, might follow different paths, ending up in different groups, irrespective of the contribution of finance. In other words, financial integration might be a necessary but not sufficient condition for moving towards the “Lisbon benchmark”.
4. CONCLUDING REMARKS

The aims of the financial strategy of the EC are clear and logical from the point of view of ensuring financial competition and efficiency in the conventional sense. The first objective is to reduce the cost of capital (that is, bank lending rates) by lowering intermediation margins through competition. However, real interest rates are falling worldwide due to the inflation targeting discussed above, while long term rates are converging globally due to the integration of financial markets. The net benefit of lower margins, while not negligible in terms of costs to borrowers, in relation to the stimulus to investment is likely to be small. More important to SMEs are the length and conditions of loans (including collateral) on the one hand, and the level of credit available on the other. In fact, lower profit margins on conventional lending may well have the unintended effect of making this access more rather than less difficult.

The second strategic objective is to increase the size of the European savings pool in terms of both ‘depth’ (i.e. liquidity of assets) and ‘breadth’ (i.e. choice of assets) available. This in turn will give savers access to better yields and opportunities for risk diversification. A key future aspect of this trend is the pan-European pooling of pension funds, but for the present the trend is most marked in the pooling of bank assets in a single money market and, to a lesser extent, a concentration of equity and corporate bond issues on the leading European markets. However, as we shall see, this may cause problems for smaller borrowers such as SMEs because of the difficulty of accessing this central pool of savings which involves not only greater size for marketable assets, but also more stringent information requirements – making access for unquoted companies almost impossible. In other words, a reform which may increase the efficiency of the financial system from the point of view of large firms may not do so from the point of view of small firms.

Third, cross-border financial services sales to be promoted in order to increase competition. Policy makers are well aware that increased competition at the European level may mean increased market concentration on relatively few banks, but this would still imply more competition in any one national market, because concentration levels are already high there. It is not clear, however, this process will lead to better support for SMEs or not because lending to smaller clients tends to become standardised and detailed local knowledge of productive systems is lost. Of course these trends need not necessarily lead to a lack of investment finance for SMEs, if appropriate compensatory action is taken. However, this must logically be in the sphere of financial regulation itself – and not relying on enterprise promotion schemes at the local level or even national innovation systems.
If European policymakers are concerned with the funding of investment by SMEs, as they should be if employment in particular is a concern, then it is long-term – and to a lesser extent, short-term – credit from financial institutions which should be their focus. If firms are turning to informal equity to make up shortfalls in financial intermediary debt, then any hope of efficiency gains from financial integration may be wishful thinking. The employment dominance and contribution to growth of smaller firms within the eurozone means the risks identified here should not be ignored. Furthermore, the linkage between employment and output is not automatic, both because increased productivity may be gained by increased work intensity (‘labour shedding’) as well as investment in new technologies, and because employment creation may be only temporary and not based on generation of new skills. In consequence, labour market flexibility may increase sustainable employment only if the higher profitability for firms leads to new investment. And for this investment to take place it must be supported by adequate financial support – not only in terms of interest rates but also maturity of loans and risk sharing. In consequence, the low interest rates achieved in the EU through inflation targeting and labour market reforms are not sufficient in themselves to ensure sustainable employment growth.

The preference of either a market-oriented or a bank-oriented financial structure depends on how firms are managed. When the production possibility set is known and management decisions can be easily evaluated, bank-oriented financial systems prevail. Whenever, instead, uncertainty about the production function generates uncertainty on the evaluation of management decisions, market-oriented financial systems prevail. Therefore, the superiority of a system depends on the amount and the complexity of information to be taken into consideration in the decision making process. In sectors with many competitors, short production cycles and constant technology, the information set approaches completeness and the relationship between management decisions and the firm’s value is known to all agents. In such a case, the relevant problem is to monitor the management decision and the bank-oriented system is preferable one as it guarantees efficient monitoring. On the contrary, in sectors with a small number of firms, long production cycles and frequent technology changes, the information set available to each agent is incomplete, and therefore the mapping between firm’s values and investment decisions changes with the different information sets. In such conditions, the main problem for management is to approximate the complete information vector and, given the sectoral structure, financial markets, where a multiplicity of investors estimate their own action-value function, represent a superior alternative with respect to banking. In conclusion, while the empirical literature provides substantial evidence of a positive relationship between

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9 See, EIFC working paper 04-40.
financial development and growth most of the key questions addressed by the theoretical debate remain unanswered.

The debate on economic growth and innovation dynamics among academics and policy makers has largely ignored the possibility that firms may be constrained in the diffusion process by the availability and costs of finance and/or different financial instruments. Building upon the literature relating to investment, R&D and finance we have argued that this may be a significant omission. In fact the diffusion process may well involve considerable uncertainty, information asymmetries, new types of assets, intangible assets and firm specific assets to a degree greater than investment in general. If so this may mean that financial constraints are particularly significant in the diffusion process. We have also argued that these constraints may be of differing importance across countries with different capital markets and different institutions and may also have changed over time as financial markets mature and or develop. Given the paucity of work in this area there is a need for further research. Suggestions have been made to advance our knowledge through both theoretical modelling and through empirical analysis using existing data sets.

The overall process of EU integration affects the “demand factors” shaping financial regimes through the following channels:

- as financial integration proceeds so does real integration, however this takes place through a number of growth mechanisms ad growth finance relationships;
- the direction of causality between real and financial integration remains an open issue, and as financial integration is itself influenced by growth, the impact on growth of financial integration may be larger as a virtuous circle develops;
- national sectoral specialization might change in the process and so would the “optimal” demand for external finance, especially as Europe increasingly benefits from technology driven growth;
- the distinction between market and credit based external finance will persist in different country cases as different countries will continue to be characterized by different comparative advantages; and
- national inertia may slow down the move towards a common benchmark model.

Our research findings suggest that national inertia in factors driving growth and finance-industry relations may slow down the move towards a common benchmark model, but also that, as the Lisbon strategy implies a shift towards more knowledge intensive growth, convergence towards an “innovation driven pattern of growth” - the “Lisbon benchmark”- should be facilitated in those countries where technology accumulation is stronger and where
market based finance is more relevant, or where firms have an easier access to market based finance to a more integrated European financial market. Hence countries lagging behind might see their distance from the best performers increase rather than the opposite.

The ongoing process of EU integration is likely to generate continuing pressures for change in the demand for finance related to the changes in industrial structure and patterns of specialisation. It is therefore difficult, if not outright wrong, to single out one model for financial integration. Rather, a number of such models may coexist in the foreseeable future. If we accept the idea that several growth mechanism exist then the analysis of the growth finance nexus should consider the relationship between growth and financial variables conditional upon the specific growth mechanism, which is associated with different countries, sectors and time periods. This could, hopefully, provide us with new insights on the empirical relationship between growth and finance as well as a better understanding of the driving forces and the future of the European integration process.
ANNEX I: EIFC WORKING PAPERS


WP 01-6: EMU, Monetary Policy and the Role of Financial Constraints, Alex Cobham (December 2001).

WP 01-7: Heterogeneity and Change in European Financial Environments, Paul Stoneman (November 2001).


WP 02-12: The Determinants of Underpricing: Initial Public Offerings on the Neuer Markt and the Nouveau Marché, Andrea Schertler (March 2002).

WP 02-13: Technological and Structural Change in the European Banking Industry, Marie Panopoulou (May 2002).

WP 02-14: Integration of European Banking and Financial Markets, by David Marques Ibanez, European Central Bank and Phil Molyneux, Professor University of Wales, Bangor and Erasmus University, Rotterdam (May 2002).


WP 03-16: Regulation and Financial Innovation Trends in European Banking and The Impact on the Supply And Demand for Financial Services in Europe, Philip Molyneux (December 2002).
| WP 03-17: Financial Sector, Regulation And Corporate Performance: The Case Of Spain, Santiago Carbó (December 2002). |
| WP 03-19: External And Internal Financial Structures In Europe: A Corporate Finance Perspective, Claudia M. Buch, Ralph P. Heinrich and Andrea Schertler (December 2002). |
| WP 03-20: Shareholder Wealth Effects of European Domestic and Cross-Border Takeover Bids, Marc Goergen, and Luc Renneboog (October 2002). |
| WP 03-21: Technical Change, Costs and Profits in European Banking, Phil Molyneux (December 2002). |
| WP 03-22: Convergence And Divergence In The European Financial Services Sector: The Pace Of Diffusion Of Banking Technologies And Regulations In European Financial Environments, And Strategic Behaviour Of Incumbent Financial Firms, Bert Flier, Frans A. J. van den Bosch and Henk W. Volberda (February 2003). |
| WP 03-24: Learning And Signalling In The French And German Venture Capital Industries, Michael Stolpe (March 2003). |
| WP 03-27: Driving Forces Of Venture Capital Investments In Europe: A Dynamic Panel Data Analysis, Andrea Schertler (September 2003). |


WP 03-36: The Financing Role of the Stock Market in the French Corporate Economy, Mary O’Sullivan (December 2003).


WP 03-41: Sources of finance for European investment, A. Cobham (June 2004).