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(Editors)

FINANCIAL SYSTEMS AND
FIRM PERFORMANCE:
THEORETICAL AND
EMPIRICAL PERSPECTIVES

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EDITORS' FOREWORD

This volume reports the outcome and associated work of "*Challenges for a Financial System in an Era of Technological and Industrial Change*", a research project of Etlatiето Ltd (a subsidiary of The Research Institute of the Finnish Economy, ETLA) that has been initiated and funded by *Tekes* (The National Technology Agency) and *Sitra* (The Finnish National Fund for Research and Development). The project was launched in summer 2001 and completed by spring 2003.

Both the project and this volume have focused on long-term financial development in Finland. By the term financial development we mean the general advance of the Finnish financial system during the past twenty years and particularly since the economic crisis of the early 1990s. We have considered, in particular, what challenges there are for Finland, a country amidst an era of technological and industrial change but with a long-lasting concern of having an Achilles heel of insufficient supply of capital. To identify these challenges, we have addressed the following kinds of questions: How has the Finnish financial system advanced during the past two decades? How has the overall availability of external finance to Finnish firms and especially to small and medium-sized enterprises (SMEs) changed as a result? What are the main sources of capital to Finnish SMEs? Is there a sufficient amount of capital available for Finnish firms at the various stages of their financial growth cycle? What are the roles of private and public sources of capital in a constantly developing financial system? It is our hope that this volume provides the reader with tools for thought and insights to these challenging questions.

We researchers have benefited enormously from the comments and insights of the research project's steering group. Members of the group have been Markus Koskenlinna (Executive Director, Tekes), Eija Ahola (Head of Unit, Tekes), Anu Nokso-Koivisto (Director, Sitra), Otto Toivanen (Professor, Helsinki School of Economics), Eva Liljebloom (Professor, Swedish School of Economics), Vesa Puttonen (Professor, Helsinki School of Economics), Erkko Autio (Professor, Helsinki University of Technology), Pekka Ylä-Anttila (Research Director, ETLA), and Petri Rouvinen (Research Director, Etlatiето Ltd). The outcome and associated work of the research project, and particularly

the Chapters of this volume, have also benefited from comments of participants at different workshops and seminars, such as those held at Tekes in February 2002, at the Ministry of Trade and Industry in December 2002, and at the Bank of Finland in January 2003. We would also like to thank Iikka Kuosa, Johanna Liukkonen, and Lotta Väänänen, who have worked as project researchers at Etlatieto, as well as Lasse Luoma and Jarmo Huttunen from Tietoykkönen Ltd, Sirpa Hautala from the Ministry of Trade and Industry, Pasi Holm from the Federation of Finnish Enterprises, Harri Laajarinne from Tekes, Eija Korhonen from the Bank of Finland, and the people in firms, venture capital industry and Statistics Finland who have accepted our requests for interviews, research material and data during the various stages of this research project, for their help.

Finally, we editors to this volume would like to thank Jyrki Ali-Yrkkö (Head of Unit, Etlatieto Ltd), Timo Kaisanlahti (Legal Consultant, Klegal), Vesa Kanninen (Professor, University of Helsinki), Iikka Kuosa (Researcher, Helsinki School of Economics and LTT Research Ltd), Johanna Liukkonen (MPhil Candidate, Graduate Institute of International Studies in Geneva), Markku Maula (Senior Researcher, Helsinki University of Technology), Markus Mäkelä (Researcher, Helsinki University of Technology), Petri Rouvinen (Research Director, Etlatieto Ltd), Tuomas Takalo (Research Supervisor, Bank of Finland), Otto Toivanen (Professor, Helsinki School of Economics), Lotta Väänänen (Project Researcher, Etlatieto Ltd), and Pekka Ylä-Anttila (Research Director, ETLA) for their contributions to this volume.

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LIST OF PROJECT PUBLICATIONS

Research papers and associated work of Etlatieto Ltd's research project "Challenges for a Financial System in an Era of Technological and Industrial Change"

- Ali-Yrkkö, J., 2002, Mergers and acquisitions – Reasons and results, The Research Institute of the Finnish Economy (ETLA), Discussion papers nr. 792, revised version is a Chapter of this volume.
- Ali-Yrkkö, J., Hyytinen, A. and Liukkonen, J., 2001, Exiting venture capital investments: Lessons from Finland, The Research Institute of the Finnish Economy (ETLA), Discussion papers nr. 781, revised version is a Chapter of this volume.
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- Hyytinen, A., 2002, How important are exits for venture capital finance? Evidence from Finland, Paper prepared for CESifo Conference on Venture Capital, Entrepreneurship and Public Policy, Munich 2002.
- Hyytinen, A., Kuosa, I. and Takalo T., 2002, Investor protection and financial development in Finland, mimeo, revised version is a Chapter of this volume.
- Hyytinen, A., Kuosa, I. and Takalo, T., 2003, Law or finance: Evidence from Finland, *European Journal of Law and Economics*, forthcoming, Earlier versions published as ETLA discussion papers nr. 775 and Bank of Finland discussion paper 8/2002.
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INTRODUCTION TO THE
VOLUME

INTRODUCTION

Ari Hyytinen and Mika Pajarinen*

1.1. SETTING THE AGENDA

Lack of capital has for long if not always been perceived as one of the most important impediments to economic activity in Finland – the Achilles heel of the Finnish economy. In the early 1990s, amidst one of the deepest economic and banking crisis Finland has ever experienced, the concerns were more real than ever. The *National Industrial Strategy for Finland* – published in 1993 by the Ministry of Trade and Industry (MTI) – concluded for example that while developing new technology that promotes economic growth is known to be difficult, it is especially difficult for Finnish firms because

“[I]n Finland, the greatest shortcomings are in financing” (*ibid*, p. 137).

The report moreover noted that

“Financing is one of the most difficult problems of small and medium-sized enterprises” (*ibid*, p. 138).

No one disagreed with the view that the shoring up of the banking system and development of capital markets was then key to stabilizing the economy and to promoting the country’s long-term economic growth. Developing capital markets was key not so much because of the then acute crisis but because high-technology industries and R&D started at about the same time to play an increasingly important role in the Finnish economy. Paralleling this development, unemployment, which had increased rapidly during the crisis, turned to a persistent characteristic of the Finnish economy. Momentum was therefore gathering also for entrepreneurs and small and medium-sized enterprises (SMEs) to become another instrumental determinant of economic growth and source of employment. These changes combined with rapid advances in technology created demand for new forms of financing and, as some argued, for a restructuring of the whole financial system.

* Ari Hyytinen and Mika Pajarinen are both at The Research Institute of the Finnish Economy (ETLA) and Etlätieto Ltd. The authors are indebted to Petri Rouvinen, Otto Toivanen and Pekka Ylä-Anttila for their careful comments and suggestions.

A great deal of attention has recently been paid to the financing of start-up firms and SMEs also in countries other than Finland. The topic has been of particular policy relevance in the Continental Europe and in the Nordic countries, where banks have historically played a pivotal role as a source of funds to firms and where the activities of entrepreneurs and SMEs have been somewhat subdued. Unlike in these countries, private risk capital and stock markets have in the US been among the most important driving forces behind a good number of the most dynamic sectors at least since the 1980s. Private equity has for example been used to finance both the emergence of new businesses and their growth (“venture capital”) as well as the restructuring of matured firms and sectors (i.e. management and leveraged buy-outs and buy-ins). Consistent with these views, Kortum and Lerner (2000) have estimated that increases in venture capital activity in an industry are associated with significantly higher patenting rates and that venture capital may have accounted for as much as 8% of industrial innovations over 1983–1992 even though the ratio of venture capital to R&D averaged less than 3% in that period.

Partly due to the recent success of the US in developing new technology with the help of venture capital, there have been a number of intense academic and policy debates of whether bank-based and stock market-based financial systems support the development of new technology differently, and produce different growth patterns, and if so, which one is better. The superiority of one system over another depends on the system's ability to mobilize resources for investment, select best ventures to be funded, and to provide incentives for the monitoring of the ventures that have received external funding. There is, for example, some evidence – and certainly strong views – that especially innovative and technology-oriented SMEs with above average and informationally opaque risks, negligible cash flows, and intangible assets are prime candidates for facing financial constraints in financial systems where banks and debt play a dominant role. The question of whether a stock market-based system performs these tasks more or less efficiently than a bank-centered system in which financial intermediaries of various types have a significant role, remains nevertheless unanswered. Some even argue that the distinction between bank-based and stock market-based systems is of second-order importance because it is the legal system of a country, i.e., the character of legal rules and the quality of law enforcement, that is the primary determinant of the ability of financial systems to allocate capital efficiently.

At the end of the 1990s increasing amounts of private risk capital began to flow into new ventures and firms in need of restructuring both in the Continental Europe and in the Nordic countries. Simultaneously, the relative importance of stock markets started to increase, partly of course due to the growth of information and communications technology (ICT) sector and emergence of (what many call) the 'New Economy'.

In this volume we look at these recent trends in *financial development* from a Finnish perspective. We consider, in particular, what challenges there are for Finland, a country amidst an era of technological and industrial change but with the concern of having an Achilles heel due to insufficient supply of capital. Because changes in capital market conditions that result from changes in overall macroeconomic fluctuations are typically not an indication of financial development or contraction, this volume takes explicitly a long-term look at the recent developments and provides a detailed analysis of the main *structural* changes in the Finnish financial markets and in the roles of various actors.

Why a long-term view? There are many reasons why it is important to take a long-term perspective when analyzing financial development and its consequences to the availability of capital. *First*, even though the latest research shows that finance may lead to growth, it is a long-standing view that where real economy goes, finance follows. If that were the case, one should probably just wait patiently and see how financial development comes to meet the financing demand of firms. *Second*, the ability of market participants, policy-makers and researchers to differentiate between demand and supply factors is likely to be increasing with the length of the observation window. Therefore, the longer the perspective, the likelier that one can genuinely distinguish real financial development (or contraction) from changes in capital market conditions that are due to normal macroeconomic fluctuations (which are integral to market economies). *Finally*, an apparent contradiction in the views of some contemporary observers makes the case in point: In a recent evaluation report by the *Nordic Industrial Fund*, dated November 2001, it is concluded (p. 161) that "[I]n the Nordic region, Finland has the best functioning seed capital market, both quantitatively and with respect to publicly initiated programmes stimulating the growth of the market." About a year later in early 2003, Maula and Murray (2003) conclude in the executive summary of their evaluation of the *Finnish Industry Investment Ltd* – one of the publicly initiated programmes to support the development of the Finnish early stage venture capital – that "In terms of market failures, the limited availability of seed and startup stage venture capital is the most persistent and

urgent market failure in the Finnish venture capital market” and that “[A]t the margin, there is real confusion expressed by industry observers as to the proper authority, roles and relations of the main [governmental] actors...”. Taking a sufficiently long-term view and focusing on structural developments is a means to solve this contradiction – and to show that it may indeed be more apparent than real.

The key questions that are addressed in this volume are:

- How has the Finnish financial system advanced during the past two decades? How has the overall availability of external finance to Finnish firms and especially to SMEs changed as a result? What are the main sources of capital to Finnish SMEs? Is there a sufficient amount of capital available for Finnish firms at the various stages of their financial growth cycle?
- What are the roles of private and public sources of capital in a constantly developing financial system? To what extent should the government intervene in the Finnish capital markets and on what grounds? What implications, if any, does financial development have for industrial policy at large and innovation policy in particular?

1.2. OVERVIEW OF THE VOLUME

This volume consists of eleven Chapters, each of which addresses the relation between financial systems and firm performance from different perspectives. The Chapters are outputs of and associated work to “*Challenges for a Financial System in an Era of Technological and Industrial Change*”, a research project that was done at Etlatiето Ltd, a subsidiary of The Research Institute of the Finnish Economy (ETLA) between summer 2001 and spring 2003.¹

The volume is organized in three parts. *Part One* takes a look at the overall financial development in Finland from a macro perspective during the past twenty years and especially since the economic crisis of the early 1990s. *Part Two* investigates financial development and current corporate financing patterns in Finland from a micro perspective. It contains, for example, an extensive descriptive study of the capital structure of Finnish SMEs. *Part Three* of the volume is policy-oriented. It focuses on government funding of Finnish firms and considers the implications of the recent financial development in Finland for the public policy towards capital markets and innovation policy. In what follows, we provide an overview of each of these parts:

Part one begins with *Financial Systems and Venture Capital in Nordic Countries: A Comparative Study* (Chapter 1) written by A. Hyytinen and M. Pajarinen. The Chapter presents a comparative analysis of Nordic countries' financial systems and considers in particular the recent growth of Nordic private equity (venture capital and restructuring capital). The authors document that the Nordic countries' financial systems display several similarities that have characterized their evolution over the past decades. For one, it is shown that during the past decade the Nordic countries' financial systems have not necessarily grown larger overall but they have become more stock market-centered. This characterization seems to apply particularly to Finland. It is moreover found in the Chapter that despite the growth especially at the end of the 1990s, only the Swedish private equity market has reached the scale of fundraising and investment activity that the country's GDP share in Europe predicts. This suggests that the Finnish venture capital industry may lack a degree or two of maturity when compared to the other European countries.

It has been convincingly documented in the so-called *law and finance* research program in financial economics that the size and effectiveness of financial systems around the world can at least partly be traced to the differences in how the legal system (legal rules and the quality of enforcement) of a country protects investors against expropriation by corporate insiders. In *Investor Protection and Financial Development in Finland* (Chapter 2), A. Hyytinen, I. Kuosa and T. Takalo take a closer look at the recent Finnish financial development in the spirit of this growing and influential research program. Building on Hyytinen, Kuosa and Takalo (2003a), they show that during the period of 1980–2002 shareholder rights have been strengthened whereas creditor rights have been weakened in Finland. As reflected in the indices used in the study, the shareholder rights are currently in many ways comparable to their US counterparts. Enhancing the stock market's overall integrity, including its liquidity, has been one of the most important drivers of the improvements in shareholder protection. The outcome of the Finnish reforms is a financial system where the rights of shareholders are not so undeveloped as they used to be. T. Kaisanlahti reviews in *The Role of Shareholder Protection Rules in Financing Finnish Companies* (Chapter 3) – again in the spirit of the law and finance research program – the legal landscape that minority shareholders face in Finland. He takes a look at the material provisions of the Finnish legislation (beyond the indices used in Hyytinen et al.) and concludes that they are in many ways comparable to their US counterparts and not so undeveloped as some recent studies suggest. More worrisome than the material provisions are the Finnish ex post remedies against actual minority op-

pression. There are several procedural features that can be interpreted to be biased against a minority shareholder. Without effective remedies potential local and foreign financiers have a lesser incentive to place equity capital in Finnish companies than otherwise. Kaisanlahti concludes that this deficiency can lead to a higher required rate of return for capital, or reduce its supply altogether.

The remaining two chapters of *Part One* examine two specific parts of the Finnish financial system that have previously received relatively little, if any, attention. In *Exiting Venture Capital Investments: Lessons from Finland* (Chapter 4), J. Ali-Yrkkö, A. Hyytinen and J. Liukkonen pay attention to the fact that because the exit stage of venture capital process may have several feedback effects on the earlier stages (i.e., fundraising and investing) in the process, the long-run development of the venture capital industry is dependent on the exit possibilities the financial system (in which the venture capital firms operate in) generates. In this Chapter, the authors consider the Finnish financial system from this perspective. The analysis suggests that despite its favorable development during the 1990s and success in serving the needs of larger firms, the Finnish stock market does not fully meet the exit needs of Finnish venture capitalists. This is because of the strong clustering of initial public offerings (IPOs) and the volatility and certain other documented characteristics of the Finnish stock market. The market for mergers and acquisitions (M&As) has provided a substitute route for exits (trade sales) for the Finnish venture capitalists. The analysis indicates the development of Finnish venture capital industry may slow down because the structure of the Finnish financial system is such that it only imperfectly supports successful exiting, something that lies at the heart of the venture capital process. J. Ali-Yrkkö takes a more detailed look at the Finnish M&A activity in *Patterns of the Finnish Merger and Acquisition Activity* (Chapter 5). The Chapter considers the key motives behind M&A activity and provides an analysis of the Finnish market for M&As. A main finding of the Chapter is that after taking into account the size of the economy, Finland ranks first out of all EU member states during the 1990s in terms of M&A activity. This high level of activity is not only due to domestic deals but also due to a high number of outward and inward cross-border M&As.

Part Two begins with *Small Business Finance in Finland – A Descriptive Study* (Chapter 6) by A. Hyytinen and M. Pajarinen. Using new data originating from a recently conducted survey, the authors examine the financing of SMEs in private debt and equity markets in Finland. They find that the three most important sources of funds are the principal owner's equity, trade credit

provided by non-financial firms and debt provided by financial institutions (FIs). These account for about 2/3 of total debt and equity. The Finnish SMEs run a debt ratio of 54%, but it is lower for small than for large SMEs. The debt ratio also varies non-monotonically with the age of firms. Overall, the capital structure of the Finnish SMEs does not seem to fundamentally differ from that in the US (when the study of Berger and Udell (1998) is used as the US benchmark). There is, however, some evidence that as the Finnish SMEs age, they increase indebtedness slowly compared to the US SMEs. The young SMEs also utilize less debt provided by financial institutions in Finland than in the US. The authors also find that the financing of innovative and R&D-intensive SMEs differs in several aspects from that of other SMEs. The data shows, for example, that innovative firms, firms with R&D-activities and firms that own patents and/or intangible assets run a lower debt ratio than their counterparts and that the difference is most notable for the most R&D-intensive SMEs. It also turns out that outside equity is heavily concentrated on few firms within the subset of SMEs doing R&D.

While the studies by Hyytinen and Pajarinen (Chapters 1 and 6) provide a comprehensive descriptive overview of the financial development and the financing patterns of SMEs in Finland, one important issue they leave untouched is the role of foreign investors in the Finnish financial system. In *Globalization of Business in a Small Country – Does Ownership Matter?* (Chapter 7), J. Ali-Yrkkö and P. Ylä-Anttila take as a starting point that the ownership structures and corporate governance systems of many small countries have recently changed because of globalization. The authors investigate the implications of these changes by examining the effects of ownership nationality on the goals and performance of large firms in Finland. The empirical analysis shows that large Finnish firms adopted the maximization of shareholder value as a major goal during the 1990s. The change coincided with increases in foreign ownership. Furthermore, the results suggest that the foreign-owned companies have performed better than the domestically owned ones.

The findings in *Cross-border Venture Capital* (Chapter 8), written by M. Maula and M. Mäkelä, echo these views. The focus of that Chapter is on the role of cross-border venture capitalists in supporting the internationalization of Finnish firms as well as in the development of venture capital markets. Based on received literature, new Finnish data, and interviews conducted in summer 2002, the authors argue that well-connected foreign venture capitalists open doors and improve the credibility of their portfolio companies, thus helping young firms in establishing operations in foreign markets. Market

knowledge of experienced foreign investors may help ventures avoid expensive mistakes in the internationalization process.

Venture Capital Finance: What is Different? (Chapter 9), a theoretical inquiry by V. Kanninen closes *Part Two*. Kanninen asks some fundamental questions about venture capital finance, which he considers as a recent phenomenon in the long history of financial innovations. Why has venture capital finance emerged? What are the efficiency gains involved? What are the limits to venture capital financing? Understanding the basic problems of corporate finance is key to addressing these questions. Kanninen concludes that venture capital finance is a particular form of “*informed finance*” that has mainly emerged to address the commercial inexperience of start-up firms by advising them on how to grow. However, venture capital may also cause negative external effects on the quality of projects financed by “*uninformed finance*” (such as ordinary banks). Kanninen’s analysis suggests that relative to many other sources of capital, venture capital remains a marginal source of funds. It tends to focus on a few sectors at a time and its availability may be restricted by risk aversion of investors and lack of the expertise required in project evaluation and advising start-up firms.

Part Three begins with *Government Funding of Small and Medium-Sized Enterprises in Finland* (Chapter 10) by A. Hyytinen and L. Väänänen. This Chapter reviews, in the light of the economic rationales for public efforts to finance SMEs, all of the government institutions providing SME funding in Finland and the objectives and tasks assigned to them. Using recently collected data on SMEs, the authors then explore what kinds of SMEs apply for and receive government funding in Finland. It is found i) that the “rhetoric” on what the institutions are set to do is not fully in line with what the economic rationales suggest; ii) that the total amount of government funding awarded to SMEs has over the past four years grown quite rapidly and covaried with the availability of external finance on the marketplace; and iii) that every third SME has applied for and received at least one type of government funding. The econometric results suggest that overall, the characteristics of SMEs applying for and receiving different types of government funding are consistent with the official rhetoric and the general idea of what the different institutions are set to do. Some of the results of the Chapter highlight nevertheless the importance of emphasizing selectivity in the provision of government funding to SMEs. Finally, in the Chapter that closes this volume and is titled *Does Financial Development Matter for Innovation and Economic Growth? Implications for Public Policy* (Chapter 11), A. Hyytinen, P. Rouvinen, O. Toivanen and P. Ylä-Anttila consider why financial development might mat-

ter for innovation and economic growth, and what implications the recent financial development in Finland has for public policy towards the financing of Finnish firms, especially that of SMEs, as well as for innovation policy. The Chapter also focuses on the needs, if any, to redirect the public policy towards capital markets and innovation policy. The main message of the Chapter is essentially what is presented next – the main findings of the research project.

1.3. SUMMARY OF MAIN FINDINGS²

An important starting point for the conclusions of the research project – the outcome and associated work of which is reported in this volume – is that *domestic financing still matters*. In particular, the available evidence from economic research shows that domestic financial institutions are *not* becoming irrelevant for innovation and economic growth despite the financial systems becoming increasingly integrated throughout the world. *Local* financial development *disproportionately* matters for the economic success of the smallest firms and entrepreneurs of an area.

Do financial constraints hold back innovation and growth in Finland?

The first major conclusion of ours is that the recent financial development in Finland, by which we mean the advance of the Finnish financial system during the past twenty years and particularly since the economic crisis of the early 1990s, has had profound consequences on the Finnish corporate financing environment. *It is difficult not to agree with the view that the overall availability of external finance to Finnish firms has improved a great deal*. The recent financial development has enhanced both the accumulation of capital and the rate of technological innovation, not least because the Finnish financial system is more diversified and stock market-oriented than it has been in the past.

In particular, it is very difficult to make a case that larger Finnish firms are constrained by the unavailability of external finance, despite their (potentially) large financing needs. The availability of finance is not likely to be an issue for a representative Finnish SME either, not least because the need for external finance by such an SME seems to be rather negligible. The situation is therefore quite different from the times when, for example, many of the government institutions providing funding to Finnish firms were initially established.

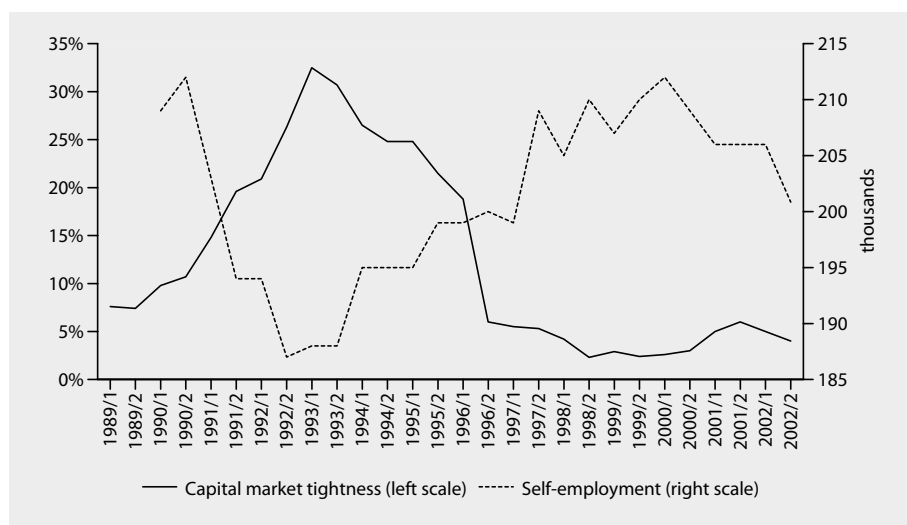
Despite the recent favorable financial development, the availability of financing at the various stages of some SMEs' growth-cycle may still be an issue. *First, the available evidence is in harmony with the view that the market for capital that certain types of Finnish SMEs face is characterized by various "black spots", or market imperfections.* In SMEs' view, the (private) debt market functions better than the (private) equity market, but the remaining problems in the debt and equity markets are related to unwillingness and inability of the private financiers to assume risk. These views are echoed *both* by our analyses of the current state of the Finnish financial system, i.e., the limits of Finnish venture capital and stock market, the willingness and ability of Finnish credit institutions to assume risk, and the role of foreign investors *and* by our empirical findings suggesting that the growth-oriented and innovative sub-segments of the SME sector are held back by financial constraints. It therefore seems warranted to conclude that such Finnish firms would benefit above all from having a *continuum* of strong markets for external equity capital. In particular, the Finnish economy would benefit from having i) more risk capital available for seed stage firms, ii) a more mature venture capital industry and iii) a stronger stock market for growth companies. Despite the steps taken towards a more stock market-oriented financial system, these different markets for equity capital are the black spots of the Finnish financial system from the perspective of the financial growth-cycle of technology entrepreneurs and "equity-dependent" innovative and technology-based new firms.

"Equity-dependent" SMEs and credit institutions: Finnish credit institutions are a very important but potentially cautiously behaving source of finance to SMEs. There is therefore a possibility that SMEs in need of external finance that are likely to be *equity-dependent*, e.g., those with no established relationship with a financial institution, those that are growth-oriented or innovative but currently not "eligible" for venture capital and those with few assets that can be pledged as collateral, are held back by the imperfections in the market for external equity capital and, to the extent that they could consider loans as a substitute, by the cautious behavior of Finnish credit institutions.

Foreign investors: Albeit the role of foreign investors in Finland has become increasingly important since the early 1990s, there is some evidence that the most important contribution of the foreign investors investing in Finland may be their positive effect on existing firms' performance rather than their role as a source of *new* capital to the most risky SME sectors or very small firms.

Second, not all growth-oriented or innovative SMEs are equally constrained by the availability of finance, as there seem to be differences in the allocation of finance to SMEs also within these sub-segments of the SME sector. We have, for example, found that very R&D-intensive SMEs in industries other than the ICT may suffer more from lack of capital than otherwise identical SMEs in the ICT sector. We have also found that within the SME sector, the smallest SMEs and entrepreneurs face more severe financial constraints than other SMEs. In particular, despite the overall favourable financial development that has continued since the early 1990s and the government's involvement in the market for seed capital, *the unavailability of capital as an impediment to entrepreneurship should not be overlooked* (see also Figure 1).

Figure 1. Self-employed and capital market tightness



Note: This figure is taken from Hyytinen, Rouvinen, Toivanen and Ylä-Anttila (Chapter 11 in this volume). Data sources are the various surveys by Finnvera Ltd and The Federation of Finnish Enterprises and Statistics Finland. The correlation between the two series is -0.87 between 1989/1 and 2002/2 and still as low as -0.76 between 1995/1 and 2002/2.

Implications for public policy

The financial development has several implications for the public policy towards the financing of Finnish SMEs, as well as for innovation policy. Because of the improved overall availability of external finance to Finnish firms, *omnipresent government intervention in the Finnish capital markets is increasingly harder to justify purely on the basis of the existence of market failures in these mar-*

kets. As a result of this, *selective capital market intervention is called for*. Because changes in capital market conditions that result from changes in overall macroeconomic fluctuations are typically not an indication of market failures, selective capital market intervention calls for taking a *long-term* view on capital availability and addressing *structural* problems in the capital markets. Moreover, *the risk of crowding out* potentially profitable businesses of private financiers or *distorting their investment incentives* increases as the Finnish financial system develops and matures. *Conditions providing or enabling* policies could therefore be adopted as another major guideline in the public policy toward the financing of Finnish firms.

Would Finland benefit from having Venture Capital Trusts (VCTs)? Introducing an appropriately tailored version of (partially) tax-exempt VCTs (such as those that operate in the UK) might be a conditions-providing means to strengthen the continuum of markets for external equity in Finland. Besides being a direct source of capital to some growth-oriented and innovative SMEs, they would have positive effects also indirectly: First, they would increase the availability of capital to yet unlisted, private entrepreneurial projects and firms indirectly by enhancing the exit opportunities of Finnish venture capitalists and early-stage equity investors (such as business angels). Second, their activity would support the development of the stock markets for growth-oriented and innovative SMEs. The existence of specialized stock markets has at least three potential benefits: Such markets i) provide a platform for high-technology SMEs to raise capital for further growth; ii) have positive spillover effects on the availability of capital to earlier stage ventures; iii) may be a means to ensure that promising high-technology companies are not sold to foreign (industrial) buyers at a discount (as has recently been argued for example in the financial press).³

The recent financial development in Finland does not mean, however, that the current magnitude of the government intervention in the Finnish “market for innovation” would be harder to justify. The case for innovation policy may have even become stronger due to it being – at least potentially – complementary to financial development. The case could become stronger if social returns to innovation policy increase with the financial system’s ability to commercialize innovations and new technologies and support Finnish firms’ growth. Public policy towards the capital markets is for this reason becoming secondary to innovation policy. The wedge between social and private returns that arises due to positive spillover effects of R&D and innovation activity grows thus to be a *primary* rationale for the government to provide funding to Fin-

nish firms. This increases the need to *identify* and *measure* the wedge and spillovers.

Even though domestic financing matters, increasing the availability of capital is not an all-curing medicine. Increasing the availability of capital will probably not suffice to enhance entrepreneurship, services production, ICT adoption and development of biotechnology, which are (some of the) areas that have been regarded as “black spots” in the current Finnish economic development. It will not suffice even if the availability of capital was an impediment to progress in these areas. The reason for this is that we are in each case talking about a complementary system. Reforming such systems requires a *simultaneous* reform of its major components. In the case of entrepreneurship that might for example mean improving in a coordinated fashion *both* the availability of capital *and also* the other determinants of entrepreneurship, such as the labor market conditions for failed entrepreneurs and entrepreneurial opportunities for the employees of established companies, which could be a means to enhance the *supply* of *high-quality* entrepreneurs. More economic research is called for to understand what should be done to better identify and to rectify the perceived black spots.

The Achilles heel of the Finnish economy has so long been the lack of capital that it may be difficult to see that the lack *is* gradually disappearing. To see it requires taking a sufficiently long-term view, preferably over the most recent and next foreseeable periods of macroeconomic turbulence. If the market-driven financial development continues, which is something that policy-makers should support by providing enabling conditions for the private financial sector to mature, the lack of capital will soon stop being the Achilles heel. On the other hand, if this development does not continue, we face the risk of not being able to exploit all the growth opportunities that we currently have as one of the most competitive countries in the world.

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ENDNOTES

¹ Not all outputs of the project are published in this volume. Besides the Chapters of this volume, altogether five research papers have been published as ETLA Discussion Papers. Of these papers, all have been submitted for publication elsewhere (e.g. in academic journals). The views and research findings of these papers are however duly reflected in the writings and conclusions of this volume. See also the list of publications of the research project at the beginning of this volume.

² This Section builds to a significant extent on Hyytinen et al., Chapter 11 in this volume.

³ See Hyytinen, Rouvinen, Toivanen and Ylä-Anttila (Chapter 11 in this volume) for further discussion.