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**STATUS OF PROGRAMME IMPLEMENTATION**

**PROMOTING AN ENABLING ENVIRONMENT FOR EFFICIENT FINANCIAL  
INTERMEDIATION IN SUPPORT OF INNOVATIVE DEVELOPMENT**

**SYNOPSIS OF GOOD PRACTICES IN FINANCIAL INTERMEDIATION IN SUPPORT  
OF INNOVATION AND KNOWLEDGE-DRIVEN DEVELOPMENT**

Note by the secretariat

*Summary*

The Programme of Work of the Committee on Economic Cooperation and Integration for 2006-2007 mandates the preparation of a Synopsis of good practices in financial intermediation in support of innovation and knowledge-driven development. This document largely draws on the findings of a Comparative Review of “Financial intermediation supporting the knowledge-driven development and of national practices facilitating access of innovating entrepreneurs to domestic and foreign finance” and the inputs from the CECI expert network in this area, including the outcome of the Meeting of Experts on Financing for Innovative Development held in Geneva on 3-4 May 2007.

This Synopsis discusses the rationale for policy intervention to address the financing challenges faced by innovative enterprises. It identifies a range of framework conditions and specific policy actions conducive to supporting the financing of innovation and foster the development of specialized financial intermediaries. It presents a number of good practices through the various phases of the equity financing cycle, serving as a basis for the identification of policy options and recommendations to facilitate the access of innovative enterprises to finance.

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## INTRODUCTION

1. The Programme of Work of the Committee on Economic Cooperation and Integration (CECI) for 2007-2008 in the focus area “Promoting an enabling environment for efficient financial intermediation in support of innovative development” envisages the preparation of the following documents:

(a) Comparative Review of financial intermediation supporting the knowledge-driven development and of national practices facilitating access of innovating entrepreneurs to domestic and foreign finance; and

(b) Synopsis of good practices in financial intermediation in support of innovation and knowledge-driven development.

2. The Comparative Review of national policies and practices, drafted in consultation with the CECI network of experts and stakeholders, is available on the CECI website (<http://www.unece.org/ceci/>) and will be released as an official UNECE publication under the title “Financing Innovative Development: Comparative Review of the Experiences of UNECE Countries in Early-Stage Financing”.

3. This Synopsis is based on the findings of the Comparative Review and the outcome of an expert meeting, which took place in Geneva on 3-4 May 2007 (ECE/CECI/FID/2007/2). It focuses on the provision of early-stage financing to innovative technology-based enterprises with a view to identifying policy options and recommendations to facilitate the access of these enterprises to early finance.

4. The experiences of the UNECE countries constitute a fertile ground for transnational policy learning. The diversity of national economic and institutional conditions and the related experiences provide valuable lessons to policymakers for further improvements in public policies dealing with the related policy issues.

### I. FINANCING INNOVATIVE ENTERPRISES

5. Innovative enterprises lack a track record, tangible evidence of product or service feasibility as well as market potential. Entrepreneurs are uniquely positioned to perceive business opportunities and anticipate their market potential. However, the financial resources needed for these efforts are beyond the means of the founders, who require external support while innovative enterprises usually face severe constraints in raising finance from mainstream financial intermediaries.

6. Potential investors find it difficult to verify the soundness of proposals and distinguish between high- and low-quality opportunities. In consequence, investors either set prohibitive financing costs or withdraw entirely from this early-stage enterprise space. Given the intangible nature of its assets, the value of an innovative enterprise is based on the long-term growth potential derived from scientific knowledge and intellectual property. This creates unproven and unpredictable patterns of cash generation, which may be a deterrent to external investors.

7. To fill this financing gap, specialized intermediaries need to emerge in order to provide financial support to innovative enterprises in their most uncertain development phases. The availability of informal individual investors and formal venture capital financing and the management and technical skills they can contribute are critical for innovation and knowledge-driven development.

8. The emergence and growth of a financing infrastructure for early-stage support of innovative enterprises is a complex process, depending on many enabling conditions and requiring efficient allocation and recycling of capital. The development of national venture capital industries has often received government support as a component of general innovation policies. Well-targeted public interventions play an important role in shaping a vibrant venture capital industry.

## **II. THE LEVERS OF EARLY-STAGE EQUITY FINANCING**

9. Any policy targeting the development of an effective infrastructure for financing innovative enterprises needs to be based on a sound understanding of the motivations of the major private players in the early-stage financing process as well as the “levers” that affect the smooth functioning of this process. Business angels and venture capital firms play central and complementary intermediary roles in the early-stage financing of enterprises, providing capital, expertise and legitimacy to ventures that the traditional financial intermediaries find too risky. While business angels invest their own money, venture capital firms need to raise funds from other sources (such as institutional investors), which also affects the development of the industry.

10. The early-stage financing process can be regarded as a self-reinforcing cycle consisting of four main stages:

- (a) Fund-raising
- (b) Investing
- (c) Managing / value adding
- (d) Exiting.

11. For business angels and venture capital (VC) firms to be effective and self-sustaining in their intermediary roles, they need to operate in an environment that allows them access to funds, investment opportunities, and exiting possibilities that in turn enable them to generate returns commensurate with the risk they undertake and to re-deploy their capital in the different stages of this cycle.

12. All four stages need to be developed and active for the early-stage financing process to function properly, avoiding possible bottlenecks. A preliminary policy action would be to map out the financial landscape to identify areas of intervention. There is a certain degree of overlap between the various instruments targeting these different stages, which should be borne in mind when designing policy interventions in order to maximize synergies. In addition, because each lever engages differently with business angels and venture capital firms, it needs to be attuned to the operating specifics of each of these players.

13. The fund-raising stage of the cycle pertains to the availability of funds for allocation to innovative enterprises by specialized financial intermediaries. For business angels this means overcoming the opportunity costs of alternative wealth allocations by making such investments attractive. For venture capital firms this involves access to institutional investors with long-term perspective as a source of funding and structuring of funds.

14. The investing stage of the cycle includes the flow of investment opportunities to business angels and venture capital firms as well as the availability of requisite investment skills to evaluate these opportunities and select projects suitable for funding. The flow of investment opportunities reflects a country's innovative environment, entrepreneurial culture as well as the existence of early-stage support infrastructure (for example, feasibility grants, science parks, incubators) that help make such opportunities "investment ready". The evaluation and selection skills result from the development and sharing of knowledge as a result of experience.

15. The value adding stage of the cycle concerns the availability of requisite skills for the oversight, management, and development of innovative enterprises through providing proper incentives to management, strategic and operational advice, access to external managerial, technical and marketing expertise as well as providing contacts with potential suppliers and customers. Many of these skills are honed by the investors' prior experience, either as investors or in relevant market or industry fields.

16. The exiting stage of the cycle pertains to the opportunity for investors to convert the value added into funds that can be deployed in another wave of innovative enterprises. Key in this stage is the presence of capital markets open to financing small and young enterprises with high-growth potential. Acquisitions by existing firms represent another form of exit.

17. A review of the early-stage equity financing landscape in the UNECE region reveals important differences across countries. Their understanding could serve as a background for policy discussions in individual countries:

(a) The scale and intensity of business angel activity, given sufficient supply of potential deals, is sensitive to the tax and economic environment in a country. Policymakers therefore need to identify and alleviate the perceived barriers to business angel investing.

(b) The absence of regulatory hurdles does not guarantee sufficient investment by institutional investors in venture capital funds as this depends also on expected investment returns. The venture capital industry needs to be given a chance to develop and mature to show evidence of positive performance.

(c) There are wide variations in entrepreneurship attitudes and availability of early-stage financing and support for innovative enterprises. These interact with other aspects of national economic policy, such as labour laws and taxation to influence the supply of high-quality innovative firms and, consequently, the demand for business angel and venture capital investment. Policy efforts to develop the venture capital industry (supply side of financing) should be complemented by initiatives fostering entrepreneurship (demand side).

(d) Critical business skills are needed for value added management of equity investments. While many of these skills emerge through hands-on experience, the industry learning effects are generally slow to materialize. The formation of networks and industry associations, the mobility of VC managers, interaction with experienced VC funds, and recruitment of experienced managers from a variety of industries should be encouraged to accelerate the industry learning curve.

(e) The VC industry in Europe is currently faced with a fragmentation of venture capital markets along national lines. As a result, cross-border VC investments are limited and hampered by divergent national VC frameworks. Ongoing policy efforts to reduce this fragmentation should be continued to fully reap the potential of VC funds for investing in innovative small and medium-sized enterprises (SMEs).

(f) Historically, the NASDAQ market in the United States has provided the most viable exit route for VC investments and thus given a significant boost to the development of the VC industry in the United States. The European stock-market segments designed for relatively young firms have also made a positive contribution to increasing exit possibilities. The Alternative Investment Market in the United Kingdom has developed into a fairly accessible platform, including for non-European companies. Reducing regulatory burdens and fragmentation across national frameworks can also help other exchanges emerge as attractive capital markets for small, innovative, high-growth firms.

### **III. GOOD PRACTICES IN EARLY-STAGE EQUITY FINANCING**

18. The equity financing cycle interfaces with several major aspects of a country's institutional and innovation environment and is sensitive to government policies that affect institutional investing, capital markets, innovation and entrepreneurship. Governments have played a key role in the development of VC industries, either indirectly, by affecting the conditions that influence the equity financing cycle or directly, by providing capital and incentives to innovative firms, business angels, and VC funds.

19. Governments have played major roles in jump-starting or facilitating the development of the VC industries in Denmark, Germany, Ireland, Israel, Norway, the United Kingdom, and the United States, among others. More recently, strong policy initiatives to develop early-stage financing have been implemented in Kazakhstan and the Russian Federation.

20. Countries vary in their economic and innovation history, in the conditions and institutions that support the cycle of innovation finance and in the nature and sequence of measures to address the deficiencies of that cycle. The transferability of national experiences cannot be taken for granted and needs to be carefully considered. On the other hand, cross-country comparisons can serve to better appreciate the importance of framework conditions and establish causal relations between instruments and outcomes.

21. Evaluating or imitating the experience of individual countries requires sufficient understanding of the context in which it has been enacted, in particular the set of initiatives preceding it as well as the degree of development of each of the components of the equity financing cycle within the particular country.

22. The identification and understanding of good practices is hindered by the relative lack of monitoring and formal evaluations of implemented programmes. The impact of particular programmes is often assessed only by the amount of capital allocated or the number of supported enterprises. More elaborate programme monitoring and evaluation should be a policy priority in order to provide learning opportunities for programme design and implementation.

23. The policy interventions in the area of early-stage financing can be distinguished according to:

- (a) Goal and focus;
- (b) Mode of delivery;
- (c) Comprehensiveness; and
- (d) Sustainability.

24. Policy schemes vary significantly in their espoused focus. Whereas most programmes aim to support innovative enterprises, there may be additional restrictions regarding the size, stage of development, industry sector, origin (for example, spin-offs from universities and other public research institutions), and geographical location of the recipient enterprises.

25. The specificity of the goal and focus of each initiative has important implications for its implementation and ultimate effectiveness. It is important to target exactly the enterprises that face problems in their access to financing in order to avoid allocating funds to firms that do not face such problems. Programmes need also to take into account how the future financing needs of the targeted companies would be covered, beyond the initial support, including the likelihood of raising private resources.

26. Government programmes can allocate resources either directly to the target enterprises, through publicly managed investment funds or grant agencies, or indirectly, through specially selected intermediaries such as private individuals (business angels), venture capital funds (including seed capital funds), incubators, and technology transfer offices. The choice of intermediary is typically related to the specific focus of the programme.

27. One form of engagement with intermediaries is based on funding their establishment and initial capital through loans, business development grants or equity. In some cases, the funding of venture capital funds requires a matched participation by private investors. There is wide variation across countries and programmes in terms of the amount of public funding provided as well as the matching private funds. Another form of engagement encompasses the provision of debt or equity guarantees to private investors as well as tax incentives to individual, corporate or institutional investors for investments in specific types of enterprises.

28. A major issue to consider in regard to the mode of delivery of each programme is whether the Government assumes the funding decision or delegates it to private operators. If funding decisions are handled by the Government, attention should be paid to the implications in terms of possible political interference and bureaucratic efficiency of using a central single agency versus multiple local agencies.

29. While central agencies may be more resistant to political capture in some contexts, regional delivery is more suitable to overcome the information problems involved in investment decisions. The regional dimension is crucial in the design of public programmes of support, particularly for large countries. At the very early stages of the financing cycle, proximity between investors (private and public) and target companies is highly desirable.

30. Achieving synergies and complementarities among programmes needs to be assigned high priority in the policy formulation. The effectiveness of a country's set of initiatives depends on whether all stages of the equity financing cycle are properly addressed. Regulation, tax, innovation, and early-stage financing policies could be used to target the existing gaps in the equity financing cycle.

31. There are great variations across countries in the comprehensives and coordination of the various programmes within the country as well as the Governments' sensitivity to the changing needs of the early-stage financing market. In some countries (for example, Finland, Israel, the United Kingdom, the United States) there is continuous learning from the experience with previous programmes, whereby new programmes are designed to address the deficiencies of their predecessors. The ability to learn from previous experience and continuously track and evaluate the market impact of a programme should be considered an integral part of the design of effective policy interventions.

32. The experience of individual countries shows ad hoc approaches in which public resources are provided (typically through grants) without consideration for the conditions in which the recipient enterprise will operate before and after receiving the grant. In contrast, coordinated approaches introduce series of schemes, each building on the experience of previous, or seeking to complement concurrent, schemes in addressing new constituents or providing increased support for existing constituents.

33. In Europe, the United Kingdom is a clear example of a coordinated approach, in which efforts to encourage business angel investing and university-related entrepreneurial activity are followed by initiatives to promote venture capital funds with a different focus regarding sectors, regions and stage in financing. Similarly, Denmark, Finland, France, Ireland, Norway, and Sweden are examples of countries in which large-scale public venture capital activity is complemented by support for seed-stage and incubator activity. Recently the Portuguese FINICIA Programme targeted the creation of regional platforms with universities, incubators, local partners and formal and informal VC investors.

34. Where national programmes aim to foster the creation of a national VC market, their success depends on their ability to leverage private funding. The economic viability of small seed funds has long been in question, as there is a delicate balance between the size of a fund and the practicality of making seed- or early-stage investments. Creating larger funds runs the risk of their moving towards expansion-stage financing; creating smaller funds runs the risk of their being unsustainable.

35. Many government-sponsored fund-of-funds programmes address the size and sustainability issue by leveraging private capital as well as providing an appropriate compensation structure, such as capping the returns on the government funds, with excess

returns accruing to the VC managers. Such an approach increases both the fund's ability to provide follow-on financing and the VC managers' potential returns from early-stage investments. In addition, it links the fund with institutional investors, which can serve as the basis for future fund-raising activity.

36. Sustainability has also a regional dimension as many of the SME financing programmes have an explicit regional focus. The state's provision of equity finance alone cannot resolve issues such as, for example, the local level of entrepreneurial experience, the quality of intellectual property and the role of local universities in the development process. Integrated interventions may be required to address these problems.

#### **IV. FUND-RAISING**

37. Good practices can be considered in different aspects of the fund-raising stage of the VC cycle such as enhancing the availability of risk capital, improving relations between private fund providers and VC firms and providing incentives for VC managers to invest in early-stage, innovative firms and identify and select commercially feasible, high-potential firms.

38. The provision of public funds for venture capital activities is among the most widespread practices seeking to increase the availability of risk capital. Two main approaches exist:

- (a) Publicly managed funds; and
- (b) Privately managed funds.

39. In several countries (Canada, Denmark, Finland, Norway, Portugal, Spain, and Sweden) funds are placed in special agencies, typically affiliated with institutions promoting business or industrial development, with a mandate for direct investing in new, small or innovative enterprises. Publicly managed funds may serve as an important initial source of capital that allows for the accumulation of investment knowledge and expertise that can gradually flow into the private sector. Funds that have an explicit focus on early-stage, high-risk projects may be particularly relevant.

40. However, special care should be taken to establish an adequate system of incentives and eliminate political interference into the activity of publicly managed funds. Evaluations of such public programmes have shown that the investments made through these programmes tend to be less risky and oriented towards more established companies.

41. As market mechanisms begin to emerge, public funds are best used to complement and support such mechanisms. In this regard, the programmes involving publicly managed funds have moved towards a greater involvement of private investment managers, either by shifting their focus to fund-of-funds allocations, privately managed funds (Canada, Denmark, Finland, and Norway) or through outright privatization (Sweden).

42. As privately managed funds take precedence and government venture capital activity is reduced, the Scandinavian countries have shifted their direct involvement towards nascent, seed-stage enterprises by establishing incubator programmes or seed funds. Such programmes can be

seen as complementing the existing market mechanisms by increasing the deal flow of “investment ready” firms.

43. Another approach to the provision of public funds for venture capital investment activities has been through engaging private investment managers and leveraging additional private funds. In a typical scenario, the Government (or its agency) acts as a cornerstone investor, providing a certain percentage of the fund’s capital. This approach is now widely followed in a number of countries: Canada, Denmark, Finland, France, Germany, Ireland, Israel, the United Kingdom, United States, and, more recently, Kazakhstan, Latvia, and the Russian Federation, as well as by the European Investment Fund. Governments’ investment includes both straight equity and subordinated loans.

44. The main logic behind privately managed funds is that professional VC managers have clear interests in identifying and backing commercially successful enterprises. Where there is a careful selection of the funds to be supported (through competitive bidding or detailed evaluation of applications), the Government’s involvement plays an important legitimacy role for establishing relationships between VC firms and institutional investors.

45. In addition, such government programmes pay increasing attention to ensuring that the risk-return profile that VC managers face is appropriate for undertaking early-stage investments and encouraging managers to pursue the investments’ upside (that is to say, its appreciation). Providing downside protection – through outright guarantees or through refinancing investments with subordinate loans – has been counterproductive, as the experience of Germany, Israel, and the Netherlands has shown.

46. The experience with the Small Business Investment Company (SBIC) programme in the United States exemplifies the importance of incentive structures for promoting early-stage investments. In the early period of the programme, the need to service the loans provided by the Small Business Administration (SBA) to the participating investment companies made it impractical for these companies to invest in enterprises without immediate cash-generation ability. The change from loans to participation through preferred securities, deferring early interest payments in exchange for subsequent profit participation, created a significant shift towards seed-stage investments.

47. The Yozma programme in Israel is another example of upside incentives to VC funds: each fund had the option to purchase the government’s shares for up to five years from the inception of the fund. To a similar effect, recent programmes launched in the United Kingdom (Enterprise Capital Funds), Latvia (through the Latvian Guarantee Agency) and the Russian Federation (Russian Venture Company) cap the returns accruing to the Government’s share with all excess returns going to the investment managers and limited partners. Such arrangements create an asymmetric allocation of the returns from successful investments, making them more commensurate with the higher risk of early-stage investments.

48. Tax incentives of various types and with different targets have been used to increase the availability of risk capital. Several countries have been offering tax incentives for individuals who invest in private businesses. Schemes can also target pre-angel sources of finance, notably founders themselves or their friends or relatives. A few programmes have explicitly targeted

existing companies investing in innovative SMEs. Some tax incentives have been designed to encourage individuals to invest in venture capital funds.

49. The review of policy initiatives in the area of fund-raising suggests as an overarching principle that government involvement should be designed to complement and support rather than displace market mechanisms for allocating capital to innovative enterprises, while fostering the development of the local formal and informal venture capital industry.

50. As a basic condition, national regulations on investments by pension funds, insurance companies, and other institutional investors in venture capital funds and the tax treatment of investment vehicles need to be in line with those in countries with leading VC markets. Some of the regulations that may need to be reviewed include the existence of quantitative restrictions on allocations to “alternative” asset classes as well as “safe haven” and “prudent man” rules that guide investment decisions.

51. Where the local pool of institutional capital is insufficient or inappropriate, policy efforts should target the creation of conditions attractive to capital from foreign institutional investors. Such conditions include aligning the local tax and regulatory framework with those available in countries competing for foreign institutional capital.

52. Some countries have developed dedicated fund structures for raising venture capital. In doing so, attention should be paid to ensure that these structures retain the most effective features, such as those of the Limited Liability Partnership – fixed life, flow-through distributions, deferral of tax liabilities until securities are sold and lack of interference by limited partners. In countries where such dedicated structures do not exist, policymakers may consider their introduction.

53. Government initiatives to encourage venture capital investments need to pay close attention to providing proper incentives for private investment managers to select and develop high-growth, commercially viable enterprises:

- (a) Downside protection does not create such incentives;
- (b) Providing asymmetric allocation of the gains on successful investments – through options to buy the Government’s stake or capping the returns accruing to the Government – provide such incentives by improving the risk-return profile of innovative enterprises; and
- (c) A clear programme focus can be more easily translated into proper incentives.

54. Tax incentives, including tax relief, loss relief and capital gains relief, are generally effective in encouraging individual and corporate investments in private enterprises. However, fiscal rules need to be unambiguous in ensuring that the recipient enterprises are those for which the scheme is intended and that the investments would have not taken place in the absence of fiscal advantages.

55. Even when the regulatory environment is favourable for raising VC funds, local institutional investors may stay at bay due to insufficient knowledge of the VC industry.

Programmes to educate managers of institutional funds and build relationships with the local VC community can help address such issues. Promoting the establishment of specialized investment advisors could give additional boost to the consideration of venture capital as an institutional investment class.

56. When institutional investors are open to investing in VC funds but have insufficient information about particular funds, Governments may act as cornerstone investors, providing the necessary certification to fund managers. Information service agencies on financial intermediaries, promoted with the participation of public authorities, could serve to disseminate key data facilitating investors' decisions.

57. To smoothen interruptions to VC cycles, government fund-of-funds programmes may be introduced in periods when VC fund-raising slows down. This would ensure that existing VC firms are able to raise additional funds for follow-on financing to their portfolio companies and would also help them in building a track record that will be instrumental for the next wave of private fund-raising.

## V. INVESTING

58. Good practices at the investing stage concern the following areas of intervention:

- (a) Improvement of the entrepreneurial climate;
- (b) Increasing the supply of investment ready enterprises;
- (c) Improving the information flow between entrepreneurs and investors; and
- (d) Providing investors' guarantees.

59. Programmes can be deployed to facilitate the investing process by promoting the creation of new enterprises, particularly those based on the commercialization of scientific knowledge generated in public research institutions, thus increasing the flow of "investment ready" enterprises to private investors and professional venture capital firms.

60. Among the most prominent initiatives in this area have been the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programmes in the United States, providing early-stage research and development (R&D) grants to small technology companies. The programmes provide crucial funding for feasibility studies (stage I) and prototype development (stage II), thereby "graduating" enterprises with strong commercialization potential that are able to attract private capital.

61. In addition to the staged nature of the funding, the effectiveness of these programmes stems from its decentralized decision structure, spread among 11 federal agencies and actively supported by technology-transfer offices in individual research universities. Technology-transfer offices not only make researchers aware of the existence of the R&D grants but also work with potential entrepreneurs to develop and appraise their ideas as well as prepare their grant applications.

62. In Europe, several programmes are engaged in relatively centralized provision of coaching and seed funding in the form of grants or loans to technology entrepreneurs in order to

make the recipient enterprises better prepared and more attractive to potential private investors. Examples of such programmes can be found in Austria (Seed Funding and “LISA” programmes), Belgium (Flemish Innovation Fund), Finland (TULI, TEKES, and Start Fund Vera programmes), Germany (High-Tech Start-Up Fund), the Netherlands (TechnoStarter programme), the Russian Federation (START programme) and Spain (New Technology Firms programme).

63. Business angel networks play an important role in bringing entrepreneurs and private investors closer and could therefore also benefit from public assistance. In order to overcome information problems and enhance investment readiness, policymakers could also consider programmes that facilitate presentation forums and investment negotiations for businesses in search for initial funding and private investors, such as the marketplace (INTRO) operated as part of the PreSeed Finance programme in Finland. Another example is the Centre for Innovation and Business Development in Spain (Catalonia), which functions as a “one stop shop” for feasibility studies, funding, and project development.

64. Many countries have programmes that provide some type of guarantee in order to facilitate the access of SMEs to bank lending. These programmes need to have a clear focus on innovative enterprises in order to increase their impact. One of the longest running programmes, the Small Firms Loan Guarantee Scheme in the United Kingdom, is notable for shifting its focus at the end of 2005 towards newer businesses. Such an approach is also present in the new FINICIA programme in Portugal.

65. Several guarantee schemes offering equity guarantees subject to certain limitations have an explicit focus on innovative enterprises. Such programmes exist in Austria, France (Oseo-Garantie), Italy (Guarantee Fund for Digital Technologies SMEs), and Portugal (New Technology Based Companies programme). To the extent that they cover early-stage innovative companies, these programmes resemble feasibility grants with the added supervision by the private investors receiving the guarantees.

66. There are a number of policy implications that can be drawn from the review of the experience of UNECE countries in this area:

(a) The supply of innovative enterprises depends on the existence of a well-established entrepreneurial culture and awareness, particularly in education and research institutions;

(b) Grants represent an important and potentially effective source of financing for feasibility studies and product development. Staged distribution of grants could be used as an effective tool for dealing with the uncertainty inherent to the commercialization of scientific knowledge and for ensuring that more funds are allocated to projects with increasing commercialization promise. Decentralization and the active engagement of research institutions in the grant giving process foster higher programme awareness and more effective decision-making; and

(c) There has been limited focus on the availability of investment skills among local private investors. There is much room to facilitate skills development and knowledge transfer from regions with more established infrastructure for early-stage innovation finance.

67. Education plays a major role in the promotion of entrepreneurship. Governments could consider introducing the teaching of entrepreneurship not only in higher education institutions but also in secondary education as well as in institutions for post-educational qualifications.

68. Educational programmes can also address the specifics of the venture financing process. Increasing the awareness of potential entrepreneurs of the various financing options as well as their understanding of what private investors look for and how they make decisions is likely to increase the demand for private capital. Industry bodies, such as business angel networks and venture capital associations, should be involved in these efforts.

69. Where the focus is on technology entrepreneurship, Governments can facilitate the establishment or strengthening of technology transfer offices or other agencies that bring together the scientific and business worlds. Such agencies can be located around major research institutions and should seek to educate faculty and researchers on identifying possible entrepreneurial opportunities and developing their commercial potential.

70. Governments also have a role to play in facilitating the information exchange between all relevant stakeholders in order to improve the flow of information to reveal potential innovative opportunities.

71. Incubator and seed capital programmes represent major sources of early-stage capital and viable avenues for making high-potential firms ready to be taken on by professional investors such as business angels and VC firms. Where such programmes are lacking, governments could consider their introduction.

72. For the Governments' involvement to have credibility in the eyes of private investors, public seed capital programmes should be infused with the elements that make the venture capital investment process effective: careful selection, incentives, monitoring, staged financing, strategic and managerial support.

73. The funding provided by early-stage support programmes should be staged in order to allocate capital more efficiently, and continue to fund enterprises that show increasing promise. The initial stage should provide small grants for feasibility study and market analysis. A second stage, for which enterprises apply upon successful completion of stage one, provides larger funds for product development and initial marketing. Upon completion of that stage, enterprises would be well geared for large-scale commercialization and should be able to attract private expansion capital.

74. The oversight and support of the recipients of financing is an important component of programme effectiveness. To this end, agencies should not only have proper business expertise but also develop an attitude of strategic flexibility, ready to accommodate strategy or market changes that become necessary as the enterprise deals with its uncertain environment.

75. Private informal investors are critical at the very early stage of innovative enterprises, when information costs and size considerations make them unattractive to formal venture capitalists. Facilitating investment by business angels and supporting the establishment of business angel networks are therefore crucial in the equity financing cycle. Countries with the most developed business angel markets do offer tax benefits to business angels and other private investors. Such tax incentives can be developed not only to increase informal investment but also to encourage investors to take a long-term perspective and become serial investors.

76. Formal training of informal investors on the private financing process as well as current market and technology trends could be provided to increase the investors' market awareness and financing potential. This could include sectoral training for some specific industries. Governments can cooperate with educational institutions and industry associations to provide such training to new or potential business angels and VC managers.

77. Another avenue for increasing industry learning involves formal and informal cooperation with more experienced foreign VC firms. Such cooperation can be made a pre-condition for government financing, as implemented in the Yozma programme in Israel.

78. To further facilitate deal sourcing, relationships should be built between the technology and innovation community (including incubators and seed capital funds), business angels, and the VC sector. Such relationships should focus on the exchange of relevant technology or market information, sharing of experience as well as referring promising investment deals.

## VI. VALUE-ADDING

79. Policymakers need to pay explicit attention to the value-adding stage of the innovation financing process to ensure effective governance of early-stage innovative enterprises. The frequent neglect of this issue reflects the assumption that there exist proper market mechanisms for allocating and accessing the necessary skills. However, this is often not the case.

80. An early assessment of the SBIC programme in the United States concluded that the sponsored funds were unable to attract high-calibre investment managers. In some countries, value-adding skills may be in limited supply. In such cases, it is necessary to facilitate learning and knowledge transfer for the benefit of local investors.

81. The design of privately managed venture capital funds influences the attraction and selection of skilled investment managers. A bidding process allows for proper evaluation of the investor's expertise, provided there is a sufficient amount of private competition. The preferential allocation of the returns accruing to the Government's stake provides compensation incentives that may attract skilled managers. Programmes in Israel (Yozma), the Russian Federation (Russian Venture Company) and the United Kingdom (Enterprise Capital Funds) exemplify this approach.

82. While there have been no programmes aimed at facilitating the learning by local VC investors, the approaches by two countries, Israel and the Russian Federation, in the design of their fund-of-funds programmes is notable for their explicit goal of harnessing international venture capital expertise. In Israel, each Yozma fund had to engage one reputable international

financial institution and one domestic institution. In the Russian Federation, the recently established Russian Venture Company has retained the services of expert policymakers from Israel and Finland.

83. There are two main policy implications that can be drawn in this area:

(a) Early-stage investors in innovative enterprises are expected to provide not only financing but also management and technical expertise. Availability and access to proper skills for the governance and development of such enterprises is an essential component of the financing infrastructure. Learning and knowledge sharing are the primary mechanisms for countries and regions lacking in such expertise to acquire it.

(b) Incentive stock option compensation is an important tool through which early-stage innovation enterprises attract and retain skilled managers and align their interests with those of the early-stage investors.

84. Public authorities could promote contractual arrangements and company structures that foster the ability of formal and informal venture capital investor to monitor and transfer their expertise to innovative companies, creating the right sort of incentives. This also concerns those situations in which public authorities appear as co-investors.

85. The VC funds' ability to provide follow-on finance to companies that successfully meet their development milestones and need capital for further development and expansion represents an important added value. Public programmes financing small early-stage funds should take into account the need for further financing for the companies they are backing. Bridges between the various investors (public, business angels, venture capitalists) need to be built to avoid the emergence of bottlenecks in the financing process. The synergies of instruments such as "sidecar funding", where business angels invest alongside the venture capital fund, should be encouraged.

86. A strong support network of professional services attuned to the needs of young, innovative or technology-intensive businesses is essential for the value-adding abilities of VC firms, which can draw on this external expertise for their managerial decisions. Many of these emerge as the VC industry grows. Access to such services in the early stages of the VC industry development may prove crucial for the success of the first VC funds and should be also borne in mind in the design of policy initiatives.

## **VII. EXITING**

87. Few programmes exist with explicit focus on improving the exit stage of the innovation finance process beyond initiatives focusing on regulatory changes concerning stock exchanges.

88. One of the examples of schemes facilitating exit is the Capital Pool Company (CPC) Programme in Canada. The programme allows the formation of a "Capital Pool Company" with no assets other than a small amount of seed capital to be listed on the Toronto Stock Exchange Venture Exchange to raise additional capital. The CPC then seeks an investment opportunity in a growing business and uses the raised funds to acquire the business in a "qualifying transaction". Following this, the shares of the CPC continue to trade as a regular listing on the Exchange.

89. Special stock market listing rules and regulations, tailored to the specific needs of small, growing companies, are important instruments for enhancing the access of such companies to growth capital and for improving the exit opportunities for the private investors backing them. Stock markets should be inviting of new listings of small, high-growth companies and provide trading liquidity in their secondary markets.

90. Existing stock markets, or specially created alternative investment markets, should be more accommodating of small, high-growth companies, for example by lowering their listing and disclosure requirements, reducing the hold periods and escrow requirements for new listings as well as providing listing preparation services.

91. More flexible regulations should be weighted against the signalling effects that lower listing requirements may have in the confidence of investors. An alternative or complementary approach is nurturing the development of a community of analysts for technological companies, as done by InvestBX in the United Kingdom, providing independent research on which investors can base their decisions.

92. Where Initial Public Offerings do not represent viable exit options, due to under-developed local capital markets or lack of access to foreign markets, an improvement to the acquisition infrastructure – especially in regard to foreign buyers – is another avenue for boosting exit opportunities for local equity investors. Such improvements may include tax incentives, streamlined regulations of domestic acquisitions or high-level networking and promotion activities for the leading domestic sectors.

93. As in the value-adding stage, policy efforts should be devoted to the development of a support network of professional experts that understand and properly convey the risk-return profile of such companies to mainstream investors, so that existing or specially created stock markets can effectively serve to provide capital to small, growing companies.

## **VIII. GENERAL POLICY CONCLUSIONS**

94. Any policy recommendations geared towards improving the environment for early-stage financing of innovative enterprises and, more specifically, the development of a local formal and informal (business angels) VC industry, should consider the fundamental challenges associated with creating markets for private financing and the more general limitations or potential challenges of public intervention.

95. The development of markets for entrepreneurial finance for innovative activities requires capital, specialized financial intermediaries and entrepreneurs. However, none of these elements is likely to emerge in the absence of the other two. Specific recommendations should therefore not be implemented without due consideration to the complementary elements of the private financing cycle. Policy initiatives should be preceded by an assessment of the country's potential venture capital landscape, highlighting both the conditions favourable to the emergence of a VC industry and the areas that need to be nurtured simultaneously.

96. Government programmes that involve financing of private businesses are susceptible to political and bureaucratic influences that may interfere with sound business decisions.

Bureaucratic interference occurs when programme managers are concerned with claiming credit for positive programme results that may have occurred without the public sector's involvement. An example of such a situation is supporting firms that do not need financing but are more likely to be successful, thereby ensuring that the programme will show positive results.

97. In addition to the specific recommendations regarding the different stages of the equity financing cycle, there are a number of general policy conclusions that can be drawn from the review of the country experiences in the UNECE region:

(a) The policy goals related to innovation finance need to be realistic, taking into account the prevailing background conditions in respect to the four stages of the innovation finance cycle and the links between the various supply and demand factors. Efforts should be made to gather reliable data that supports effective evidence-based policies;

(b) The policy goals need to be specific in terms of the types of enterprises they wish to support: innovative, new, growing, successful, etc. Each type of enterprise has different prospects for engaging private investors;

(c) Learning from the experience of other countries and thus the implementation of programmes that have proven successful in those countries calls for understanding the implications of past actions and historical legacies on innovation capabilities and market development. Better monitoring and formal evaluation of programmes would facilitate the exchange of experiences;

(d) Public programmes work best as complements and supporters of market mechanisms related to innovation finance. Governments are best placed to shape the parameters within which private investors make decisions – through the provision of proper incentives – rather than to make the decisions themselves; and

(e) Direct investment decisions made by Governments should be made in a decentralized way, engaging agencies close to the recipient companies and preferably covering projects at their earliest phases of the development. The release of resources should be made in stages and tied to the achievement of particular outcomes.

98. The development of a vibrant venture capital industry requires a wide range of supporting conditions, in particular those concerning the general economic, tax and regulatory environment, the innovating capability of the economy, the entrepreneurial culture and the intellectual property regime. Policies targeting the area of entrepreneurial finance need to be grounded on the awareness of these additional influencing factors. These complementary issues are covered in other focus areas of the CECI Programme of Work.

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