
The financing of technology-based small firms: an update

By Adrian Piper and Melanie Lund of the Bank's Business Finance Division.

In October 1996, the Bank published a report on the problems faced by technology-based small firms.⁽¹⁾ A summary of the main findings and recommendations was published in the February Quarterly Bulletin. This article outlines recent discussion of this issue and highlights areas where the Bank intends to carry out further work.

This article is in five sections. The first describes the immediate response to the Bank's report; the second summarises the recommendations made by the CBI in a report published in parallel with that of the Bank; the third sets out some of the highlights of the conference held by the Bank, CBI and the Royal Society; the fourth outlines a further report by the House of Lords Select Committee on Science and Technology. The final section sets out the Bank's current plans for further work on the issue.

Response to the Bank's report

Over three and a half thousand copies of the report have been distributed so far, with much international interest via the Internet. The Bank has received many letters in response, which have helped to highlight some of the problems faced by technology-based small firms, and have outlined a number of initiatives already under way.

Several meetings have been held with overseas delegations: for example, the Australian Industry Research and Development Board and the Australian Minister for Industry, Science and Tourism came to the Bank to discuss international experiences of financing technology-based firms and how Australian Government programmes might be developed to encourage private investment in venture capital. The Australian Government has since announced the establishment of a Small Business Innovation Fund based on the Small Business Investment Company programme in the United States. Officials from the Dutch Ministry of Economic Affairs also visited the United Kingdom to discuss the role of the public sector in promoting technology-based firms.

CBI report⁽²⁾

This report, published in February, was the culmination of the CBI's study on technology-based small firms, which ran in parallel with the Bank's work. At the start of the research it was agreed that the CBI would focus primarily on the issues of management, training and corporate alliances—topics aligned naturally with its membership profile. The

report's key observations and recommendations are summarised below.

Building management teams

Technology-based firms, like all other businesses, need a strong management team if they are to achieve commercial success. But though the managers of these firms have the necessary technical knowledge, they often lack business skills. They need help to build management teams around the firm's founders and new product ideas, but have difficulty in attracting experienced managers. To address this:

- the public and private sectors could consider setting up a 'Business Boost' group to help potentially viable businesses strengthen their management team and attract the finance they need. This builds on suggestions made by the Bank, and could involve the British Venture Capital Association (BVCA) and the British Bankers' Association (BBA), as well as the Department of Trade and Industry (DTI).
- Business Links (one-stop business support agencies operated by local partnerships) could help to build experienced teams around technological developments ('empty hive' initiatives).
- the regulation of Approved Share Option Schemes, which could attract more experienced managers from industry into these firms, should be reviewed.

Developing entrepreneurship and market focus

Although Business Links could offer training for technology-based small firms to bridge the skills gap in terms of marketing and sales, it was felt that lack of entrepreneurship was partly a result of the current education system. The CBI supports the Bank's recommendations for closer links between university science, engineering and technology departments and business schools, as well as improved ties between universities and industry. This would recognise industry collaboration as another career path in

(1) A copy of the full report can be obtained by writing to the Business Finance Division, Bank of England, Threadneedle Street, London EC2R 8AH, or by telephoning Public Enquiries on 0171-601 4878. Questions relating to the content of the report should be addressed to the authors, Adrian Piper (0171-601 4117) and Melanie Lund (0171-601 4430).

(2) 'Tech Stars—Breaking the Growth Barriers for Technology-based SMEs', Confederation of British Industry, February 1997.

academia and increase the involvement of students on programmes such as the Teaching Company Scheme.

Realising the potential of corporate alliances

Many technology-based small firms are either unaware of the potential benefits of alliances with other businesses or are wary of such links. The report sets out key steps in forming these alliances. The CBI is also considering ways of implementing the Bank's recommendation to set up a centre of expertise in corporate alliances to raise awareness and spread best practice, possibly in collaboration with the DTI.

Raising finance

This section closely reflects the findings of the Bank's report, but makes some additional recommendations on fiscal issues:

- to allow small and medium-sized enterprises (SMEs) to offset research and development expenditure against other tax streams;
- to give tax relief on costs of raising equity for reinvestment in one's own company and for corporate venturing activity; and
- to hold full debate on the reform of Capital Gains Tax, to encourage investment in growth businesses.

The final recommendation of the report is that the DTI should set up a unit to help spread best practice and co-ordinate support for fast-growth technology-based firms ('Tech Stars').

Partners in Business Conference

The recommendations in the Bank's report were primarily put forward for further debate. It was therefore proposed to co-host a conference with the Royal Society and the CBI as an opportunity to discuss the recommendations made by the Bank and the CBI, and also as a further step in the Royal Society's 'City, Science and Technology Dialogue' (which began in September 1995, with the active encouragement of the Governor). The conference took place on 3 March at the Royal Society. It brought together representatives from the scientific, financial and business communities to discuss the way forward in promoting technology-based small firms.

The Deputy Governor opened proceedings, along with Sir Aaron Klug, President of the Royal Society, and Adair Turner, Director General of the CBI. The Deputy Prime Minister, Michael Heseltine, and Barbara Roche, Shadow Minister for Small Firms, also addressed the conference. The following summarises the main points made.⁽¹⁾

- The United Kingdom has one of the most creative science bases in the world, but it has not reached the

same level of practical innovation. And although the UK financial system is highly enterprising, it remains difficult for some technology-based firms to secure finance.

- Fast-growing technology-based firms need high quality management (as highlighted in the CBI report), particularly when they are trying to obtain finance. The current skills gap and ways of attracting and retaining the right people were discussed.
- Business Angels (individual investors of high net worth with commercial experience) are an important and increasing source of finance and business advice. Opportunities and funding need to be better matched, and the complementarity between the formal and informal venture capital markets should be developed.
- Few long-term fund management institutions have significant investments in private companies, and only a small proportion of these are in technology-based firms. The challenge for firms is to convince these institutions that they are an attractive business proposition, either as a direct investment or indirectly through venture capital funds.
- Although the clearing banks cannot be expected to provide risk capital to technology-based small firms, they can help to direct businesses towards source of finance, as well as providing other banking services.
- The potential benefits of developing corporate alliances were explained. There need to be strong networks around technology-based firms to create the linkages that will facilitate an increase in the number of alliances.
- The Small Firms Merit Award for Research and Technology (SMART) and Support for Products Under Research (SPUR) awards were applauded as valuable public sector contributions to the promotion of technology-based firms. They are seen as an accreditation of a business and a useful lever for other sources of finance.
- A call was made to ensure that Venture Capital Trusts fulfilled their original objectives, and did not become just a vehicle for supporting lower-risk investments.
- The Government's approach to public purchasing might be developed to encourage more innovative small firms.

The Bank will continue to collaborate with the CBI and the Royal Society on these issues.

House of Lords Select Committee on Science and Technology

On 21 March 1997, the House of Lords Select Committee on Science and Technology published a report on *The*

(1) A longer summary of conference proceedings is available on request from the Business Finance Division, Bank of England, Threadneedle Street, London, EC2R 8AH.

Innovation-Exploitation Barrier, which followed an earlier report *Innovation in Manufacturing Industry*, produced in 1991. The report concentrated on innovation, the point at which inventions are exploited for commercial interest, and on the links between universities and small businesses.

The Select Committee drew on the reports produced by the Bank and the CBI. In particular, the Bank's report was used as the primary source of written evidence on financing issues. Oral evidence was given by Pen Kent, former Executive Director of the Bank, and Adrian Piper, one of the authors of this article.

The Select Committee concluded that, although more finance had become available to exploit new ideas by small start-up companies, there was still evidence of a market failure in the provision of seed capital. The main findings and recommendations, particularly on the issue of finance, are outlined below.

- It was recognised that Business Angels were an important source of risk capital and of hands-on business advice. However, there were problems of awareness and information dissemination. To address these, it was recommended that the role of Business Angels should be examined further by Government, universities and financial institutions. Particular attention should be paid to Business Angel introduction services, with the possibility of a national network.
- It was recommended that the DTI should examine the due diligence issue further, as the relatively high costs are a barrier to investing small amounts. Concern was also expressed about recent moves by the largest accountancy firms to limit their liability on venture capital due diligence.
- The United States Small Business Innovative Research Program (SBIR)—which sets aside a fixed percentage of government contracts for small innovative firms—was seen to have an accreditation effect and to attract private investors. Although it was recognised that the existing SMART and SPUR award schemes had a similar effect in the United Kingdom, it was recommended that the Government should examine ways in which its existing schemes might be used to support innovation, along the lines of the SBIR programme.
- The Government's Foresight⁽¹⁾ exercise was thought to be useful in identifying broad research priorities, and in developing a network of contacts in academia and industry. However, the Select Committee was concerned about the lack of awareness among small firms of the existence of this initiative. It recommended, therefore, that Government and industry should raise the awareness of innovators, both within academia and outside, and make future Foresight reports more accessible to small businesses.

- Based on experience of industrial clustering, it was thought that a critical mass had to be achieved before new firms were attracted in significant numbers. It was felt that this was relevant to the success of science parks, in addition to organisational and sectoral considerations. The Select Committee also recommended additional research into the effectiveness of business incubators (which support and nurture start-up firms) in promoting technology-based small firms and industry-university relations.
- Emphasis was placed on developing business skills and promoting management education among scientists and technologists, as well as improving the scientific and technological understanding of financiers. To this end it was recommended that business schools should play a greater role in teaching management skills to science and engineering students, and that financial institutions should be encouraged to develop an awareness of science and technology.

Further work

The Bank is pursuing a number of its recommendations with government departments and private sector bodies.

The Bank's report recognised that the clearing banks were not a natural source of risk capital for technology-based firms. But they could provide such firms with working capital and banking services from an early stage. They also have an important role to play in developing packaged finance. The provision of working capital will need to take into account the viability of the business, which would also require a better understanding of the risks involved—high technology should not necessarily be equated with high risk. Moreover, the downside risks might be reduced by encouraging access to the Small Firms Loan Guarantee Scheme for technology-based small firms. The Bank is discussing with the main clearing banks how they are developing their approach to this type of firm.

The Bank's report noted the reluctance on the part of institutional investors, such as pension funds and insurance companies, to have any significant involvement in this area. This was partly because investors were looking for a higher rate of return than that suggested by the British Venture Capital Association's performance figures. But these figures largely reflected a number of under-performing funds from the 1980s. Potentially more successful funds had a high proportion of their portfolio unrealised and had been valued conservatively. How the information on returns might be improved is under discussion. It was also suggested to the Bank that the current legislative environment in the United Kingdom might impede institutional investment in technology-based small firms. This issue is also being examined.

The Bank and the CBI highlighted the potential benefits to technology-based small firms of developing corporate

(1) The Foresight programme brings together business people, scientists and Government representatives to identify wealth creation and quality of life opportunities in markets and technologies, and the actions and investments required to exploit these opportunities.

alliances. It was recommended that further research should explore the extent of corporate venturing currently undertaken in the United Kingdom and firms' strategies in this area. In March 1997, Withers, a City firm of solicitors, published the findings of a survey of leading UK firms on this topic. The results were interesting, although they were based on a relatively small sample. The Bank intends to build on this evidence through its regular programme of visits to major UK companies.

In spite of the increase in the supply of informal venture capital, Business Angels in this country play a less prominent role in the financing of technology-based firms than in the United States. As mentioned earlier, there is an information barrier to the successful matching of investment opportunities and investors. It is hoped that this will be improved by building on the current combination of national

and local introduction networks. It was also suggested that the Financial Services Act represented a regulatory barrier. The Bank will look further into this issue.

In the summer of 1996, the Enterprise Panel (set up by the Treasury in 1995) reported on the current position of business incubation in the United Kingdom. One of its recommendations was the establishment of a national centre to raise the profile of business incubation and to disseminate best practice. It is expected that this initiative will be taken forward this year. The Bank, which is represented on the Panel by one of the authors of this report, will monitor developments.

A progress report on these issues will be given in the Bank's fifth annual report on Finance for Small Firms, due to be published in January 1998.