



**SWP 10/87 ENCOURAGING ENTREPRENEURSHIP AND
INNOVATION IN BRITISH BUSINESS**

PROFESSOR PAUL BURNS
National Westminster Bank Professor of
Small Business Development

Cranfield School of Management
Cranfield Institute of Technology
Cranfield
Bedford MK43 0AL
United Kingdom

(Tel: 0234-751122)

(Fax: 0234 751806)



THE PROBLEM

With the improvement in the environment for risk rapical in recent years, commentators are beginning to argue that there is no real shortage of risk capital for British firms - even small ones. Rather, there is an unwillingness on the part of firms to use this capital in an imaginative and innovative way to produce highly marketable products or services. In short, British management, even in smaller firms, lacks both entrepreneurial flair and the management skills necessary to seek out and implement innovation.

IS THIS THE CASE - IF SO, WHAT CAN BE DONE TO RECTIFY IT?

QUESTIONS TO ADDRESS

In answering this question you should imagine that you are a senior working party reporting to government, the CBI and City and propose recommendations for action. Your recommendations should address possible action to be taken over both the short and long term. You should address the following issues:

1. What do you see as the key elements in the problem?
2. Which elements of fiscal and/or macroeconomic policy may be used to alleviate the problem? How useful is general reflation as opposed to specifically targeted measures? Is there any mileage in further tax reductions and specific supply measures? Can and

should the cost of funds be reduced? Are there any new policies you would like to propose?

3. Has entrepreneurship disappeared in Britain? If so, why? What can be done to change attitudes? What can we learn from the "Cambridge Phenomenon"?
4. Do financial institutions place too much emphasis on companies' short-term results at the risk of stifling projects which may only show a return in the longer term?
5. What role does education and training have? Can the established education system fill this role or must it also change? If so, how? What other mechanisms may be used to meet education or training needs? Do you have any policies to encourage businesses to undertake training?

TABLE OF CONTENTS

Paragraph No.

PART I : BACKGROUND

- | | |
|--|---|
| A. Is there a problem? | 1 |
| B. Differences between small and large firms | 9 |

PART II : ANALYSIS

- | | |
|---|----|
| A. The search for business opportunities and their exploitation : a model | 13 |
| B. Causes of the problem | 15 |

PART III : REMEDIES

- | | |
|--|----|
| A. Fiscal and macroeconomic policies: | |
| Stimulation of the economy | 21 |
| Tax changes | 23 |
| Cost of funds | 26 |
| Other specific policies | 27 |
| B. Culture: | |
| Risk taking and status | 30 |
| The Cambridge phenomenon | 33 |
| Intrapreneurship in large companies | 36 |
| The pressure for short term results | 39 |
| C. Education and training: | |
| Levels | 40 |
| Business education | 43 |
| Training: the role of the Manpower Services Commission | 47 |
| Other delivery mechanisms | 49 |

<u>PART IV : SUMMARY</u>	52
--------------------------	----

References



I : BACKGROUND

A. Is There a Problem?

1. Britain's relative economic decline is well documented. Using normal exchange rates, the UK disposable product per person is now around 60% that of France or West Germany. Britain's share of world exports has fallen from 8.2% in 1960 to 5.1% in 1983. Imports of manufactured goods have risen by 55% in real terms between 1964 and 1983. In 1984 imports of manufactured goods exceeded exports for the first time since records were kept.
2. In the past it was argued that one of the reasons for this decline was the lack of availability of risk capital - particularly for the small firm sector, where much of a country's entrepreneurship and innovation should be evident. Certainly Britain's small business sector is one of the smallest in any of the Western industrial nations. Back in 1971 the Bolton Committee concluded that:

"... to our surprise the process of concentration has gone further here than elsewhere: no country was found where small firms had a lower share in manufacturing than in the UK".¹

Although over 98% of enterprises in the UK are defined as "small" (employing fewer than 500 employees), as can be seen from Table 1, they generate only 37% of employment. This compares with 49% in West Germany, 74% in France and 84% in Italy (although this figure includes self employed). However, Table 1 also reveals that all

Table 1 : Employment in the Small Firms Sector

1980 ('000)	SMALL 1-99	MEDIUM 100-499	LARGE 500+
<u>Manufacturing Sector :</u>			
Number of enterprises	84.9 (94%)	3.9 (4%)	1.3 (2%)
% annual change 1975-80	+0.2%	-3.5%	-2.9%
Employment	1145.7 (19%)	794.9 (13%)	4162.9 (68%)
% annual change 1975-80	+2.2%	0.1%	-0.6%
<u>Service Sector :</u>			
Number of enterprises	223.6 (99%)	1.4 (1%)	0.6 (-)
Employment	1047.0 (45%)	126.0 (5%)	1148.0 (50%)
<u>Total :</u>			
Number of enterprises	308.5 (98%)	5.3 (1.7%)	1.9 (0.3%)
Employment	2192.7 (26%)	920.9 (11%)	5310.9 (63%)

Source: National Statistics and EIU Estimates, Economic Intelligence Unit, The European Climate for Small Businesses - A 10 Country Study, 1983.

the growth in employment in manufacturing over the period 1975-80 has come from the small firms sector, a trend that has accelerated in the 1980's.

3. Over the last few years, however, the environment for the supply of risk capital in the UK has been transformed.

i. The venture capital industry has mushroomed. The 1984 Investors Chronicle Survey of Development and Venture Capital listed 106 different funds. Whilst 3i remains the main provider of venture funds in the UK, many specialist providers have sprung up (such as Equity Capital for Industry and Alan Patricof Associates) alongside subsidiaries of the principal clearing banks (such as Midland Bank Venture Capital).

ii. The banks themselves are now offering an imaginative range of term loan facilities, some based on "royalties on sales" and many with initial let periods for interest and capital repayments.

iii. The Government, with the assistance of the clearing banks, set up the Loan Guarantee Scheme in 1981, to extend bank lending, specifically to smaller, riskier businesses. In its original form the scheme helped over 14,000 businesses with about £450 million. But with claims from banks exceeding premium income by some £37 million and a failure rate of almost one in three, it has been substantially modified and the take up rate is now extremely low.

iv. The Government has also introduced the Business Expansion Scheme offering substantial tax incentives to those undertaking equity investment in eligible companies. The scheme is uniquely generous and unparalleled in the whole of Europe. In 1984 there were over 26 Business Expansion Funds seeking investments. Sadly many of the funds could not find good investments for all the money they had.

v. The Stock Exchange has initiated the Unlisted Securities Market, which has proved a major source of assistance to both the suppliers of risk capital and the businessmen themselves.

4. These developments have led one survey of small business to conclude:

"Britain therefore stands out as providing some of the best institutional facilities for equity capital for small businesses (in Europe)".²

Even in 1980, the Wilson Committee final report on the functioning of UK Financial Institutions concluded that the UK financial system provided a wide range of sources of finance for large and medium-sized companies, and that the problem was essentially one of a deteriorating rate of return on capital.³ In a survey of businesses financed under the Loan Guarantee Scheme, accountants Robson Rhodes concluded that the problem was not one of risk capital but of the quality of proposition available.⁴ In particular the small business sector often does not demonstrate the competence required to succeed in a tough, commercial world.

5. Ofcourse any firm seeking to finance new investments would probably firstly turn to internally generated funds simply because they control these funds themselves and by using them they can avoid transaction costs. Subsequent analysis will indicate that small businesses in particular have very low reserves of internal funds. The picture is far better, although varied for larger firms with many notable companies such as GEC sitting on "cash mountains". If internal funds are insufficient then firms will probably next turn to external borrowing. On the face of it, British companies seem to borrow less than their foreign competitors (see Table 2). This in itself has fuelled the argument about availability of external funds. However, closer analysis of the data indicates that the differences are much smaller than they appear at first. This is because of measurement problems such as accounting differences and off-balance sheet finance.⁵ Also, these differences may reflect underdeveloped equity markets in France, Germany and Japan rather than imperfections in the UK market.
6. A further dimension to this problem is indicated by a recent NEDO Report.⁶ This concludes that UK investment has been disproportionately directed towards cost-cutting and labour-saving mechanisation rather than exploitation of new products and markets involving new design, technology and higher value-added. It goes on to point out that there is some evidence that research and development in the UK may be less effective than elsewhere. The scale of expenditure is lower, and the rate of commercial exploitation poorer. In short, British industry places insufficient emphasis on innovation.

Table 2 : Capital Gearing Ratios of Companies

	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1981</u>
France	65	70	70	72
Germany	63	63	64	65
Japan	84	85	84	83
United Kingdom	52	51	49	49
United States	44	37	37	38

Gearing defined as total borrowing as a percentage of total assets.

Source: OECD, "Non-Financial Enterprises Finance Statements",
Financial Statistics Part 3.

7. Of special significance here is the role of the entrepreneur and the small firm. The nineteenth century saw the heyday of the British entrepreneur and engineer which laid the foundations of the big companies of today. Things have changed since then, throughout the world but particularly in Britain. A study of innovations by Dr Rothwell of the Science Policy Research Unit at Sussex University concluded:

"Universities and independent inventors had made the major contribution to radical inventions only up to 1930. Since then corporate R & D (mainly by large firms) played the dominant role".⁷

He cited a five year study by the US National Science Foundation which recorded that, averaged over five countries, small firms contributed about one third of all innovations. The highest contribution (35%) was in the US, the lowest 23% was in the UK. Interestingly, in the US small firms produced a reasonably even distribution of "radical breakthrough", "major technological shift" and "improvement" - type innovations (27%, 30%, 37% respectively), whereas in the UK the innovative output of small firms was almost entirely composed of "radical breakthroughs".

8. The question, therefore, posed by the evidence is:

Given an apparent improvement in the supply of risk capital in recent years, why has British business generally failed to invest?

- i. Why is the small firms sector of the economy still apparently slow to expand?

- ii. Why are large and medium companies failing to invest in innovative new products and services?

B. Differences Between Small and Large Firms

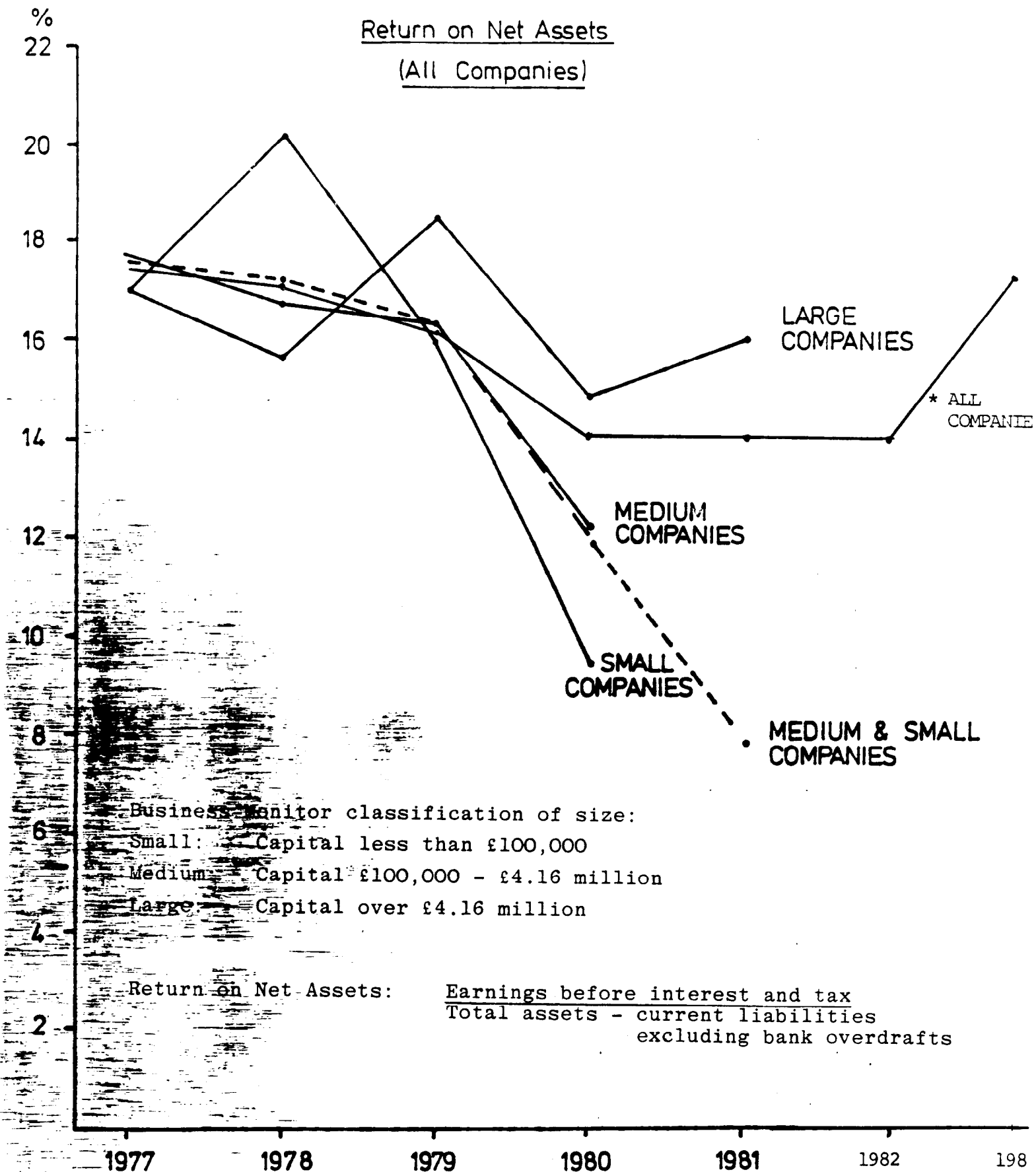
9. Before proceeding to analyse the problem it may be as well to provide some statistical background data. Figure 1 presents data on the performance of UK companies over the period 1977-1983. Return on net assets (sometimes called return on capital employed) is a key measure of performance which measures the productivity of capital in national terms, not just the return to the owner of capital. You will see that:

- i. Companies on average have earned a historical pre-tax return of between 18% and 14% over the period (Bank of England statistics) - a figure higher, but not significantly so than the cost of borrowing during the period.
- ii. Small and medium firms are significantly out performed by their larger brothers. This is very different from evidence presented to the Wilson Committee which analysed data from the same source and showed in 1973 to 1975 the reverse was true. Indeed the data in Figure 1, which includes all industrial sectors, disguises the fact that the smallest companies (with capital below £100,000) performed worst of all with a return of only just over 9% in 1980 - below the cost of borrowing in that year.

These figures are derived from analyses of a large sample of company accounts lodged with the Department of Trade and Industry.

Figure 1

Return on Net Assets
(All Companies)



There are, of course, reasons why profitability figures should be treated with caution, particularly for small companies, however, the differences are so large as to make the general conclusions clear. The results are disappointing and indicate how close returns are to the cost of capital.

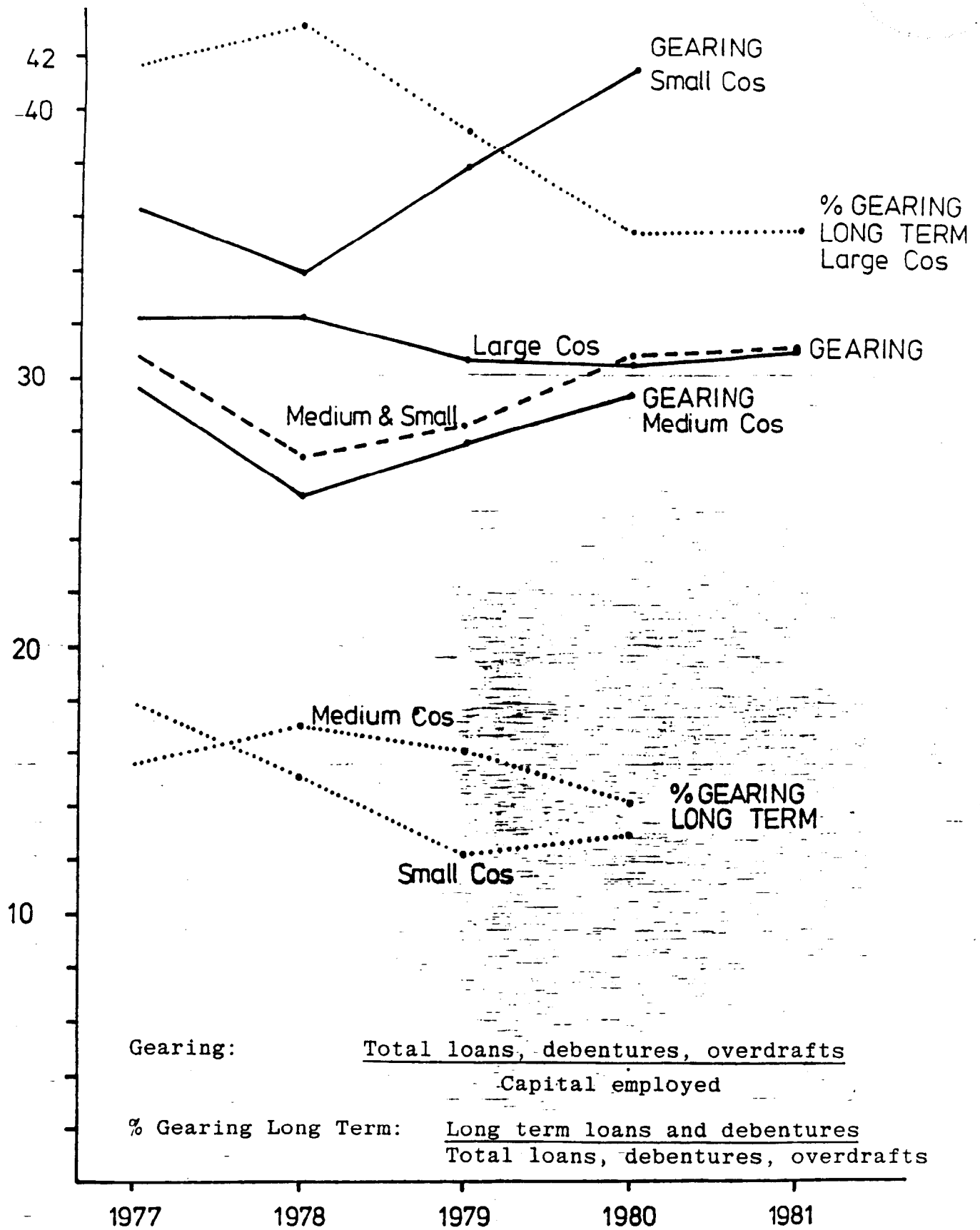
10. Figures 2 and 3 present data on the balance sheet structures of small and medium firms compared to large firms. They illustrate:

- i. The high gearing of smaller firms and their excessive reliance on short term funds, compared to larger firms.
- ii. The heavy reliance on creditor finance by smaller firms.
- iii. The lack of equity finance in smaller firms.
- iv. The lack of investment in long-term, fixed assets by smaller firms.

In short, the small firms, where we might hope and expect innovation to take place, are not well placed to finance and undertake that innovation, despite the fact that, on the supply side, there would appear many opportunities to fill the gap.

11. These results have led this author to conclude that, if small businesses are to invest more, what they need is not more loan capital but more equity capital.⁸ However, the businessman must be willing to part with a share of the business and involve outside shareholders. Nevertheless, small firms are often reluctant to allow outside equity into their firms because of the loss of control that may result.⁹ The £80 million JCB Excavators was

Figure 2
Gearing Levels



Balance Sheet Structures

(Average 1977-81)

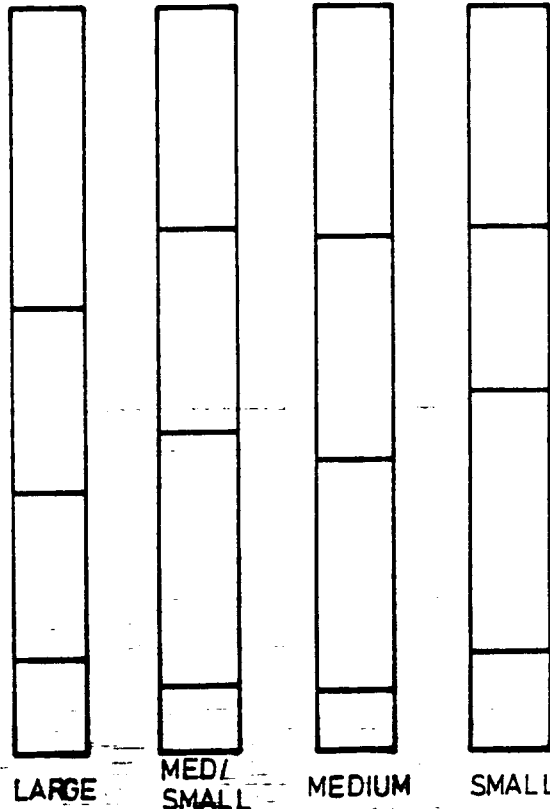
COMPANY ASSETS:

Fixed Assets

Stock

Debtors

Cash & Investments



100%

HOW IT'S FINANCED:

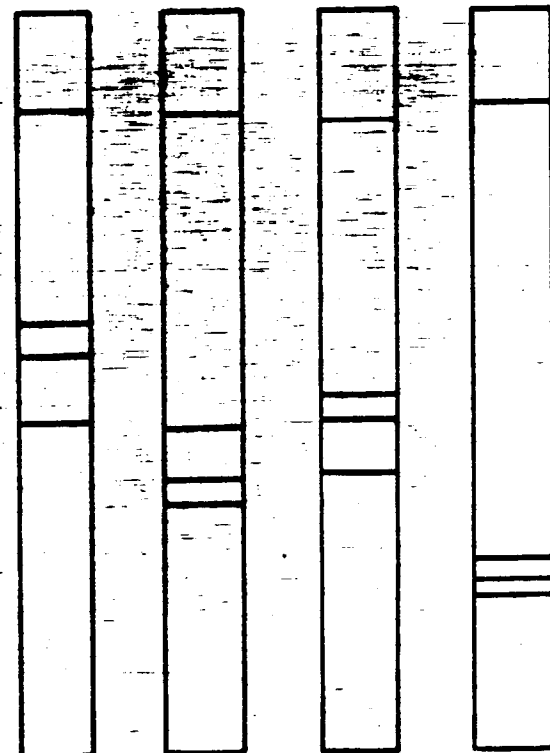
Bank Overdraft

Creditors, divis,
interest & tax

Deferred tax

Long-term Loans

Shareholders'
interest & minorities



100%

% of Balance Sheet totals.

started with 50 shillings and a welding kit and never had recourse to outside finance. Perhaps this is a question of attitude but perhaps it is also a question of effective communication with outside backers. A recent survey in Milton Keynes concluded that all reasonable loan applications from small businesses had been sanctioned but commented upon the "lamentable" quality of many of these proposals.¹⁰

12. Of course all aggregate figures must be treated with caution because they disguise wide variations in type of company (industrial sector, etc.) and stages in their life cycle. However, the statistics for small company performance must be particularly worrying because of the importance of new small businesses:

- i. For the new generation of big businesses. Historically the average UK company has no more than a 50% chance of remaining in the top 100 list of firms for more than a 20 year period.
- ii. For innovation and the development of new products and new markets.
- iii. For employment. Over the period 1975-80 small manufacturing businesses (up to 500 employees) increased employment by 2.3% whereas large firms decreased employment by 0.6%.

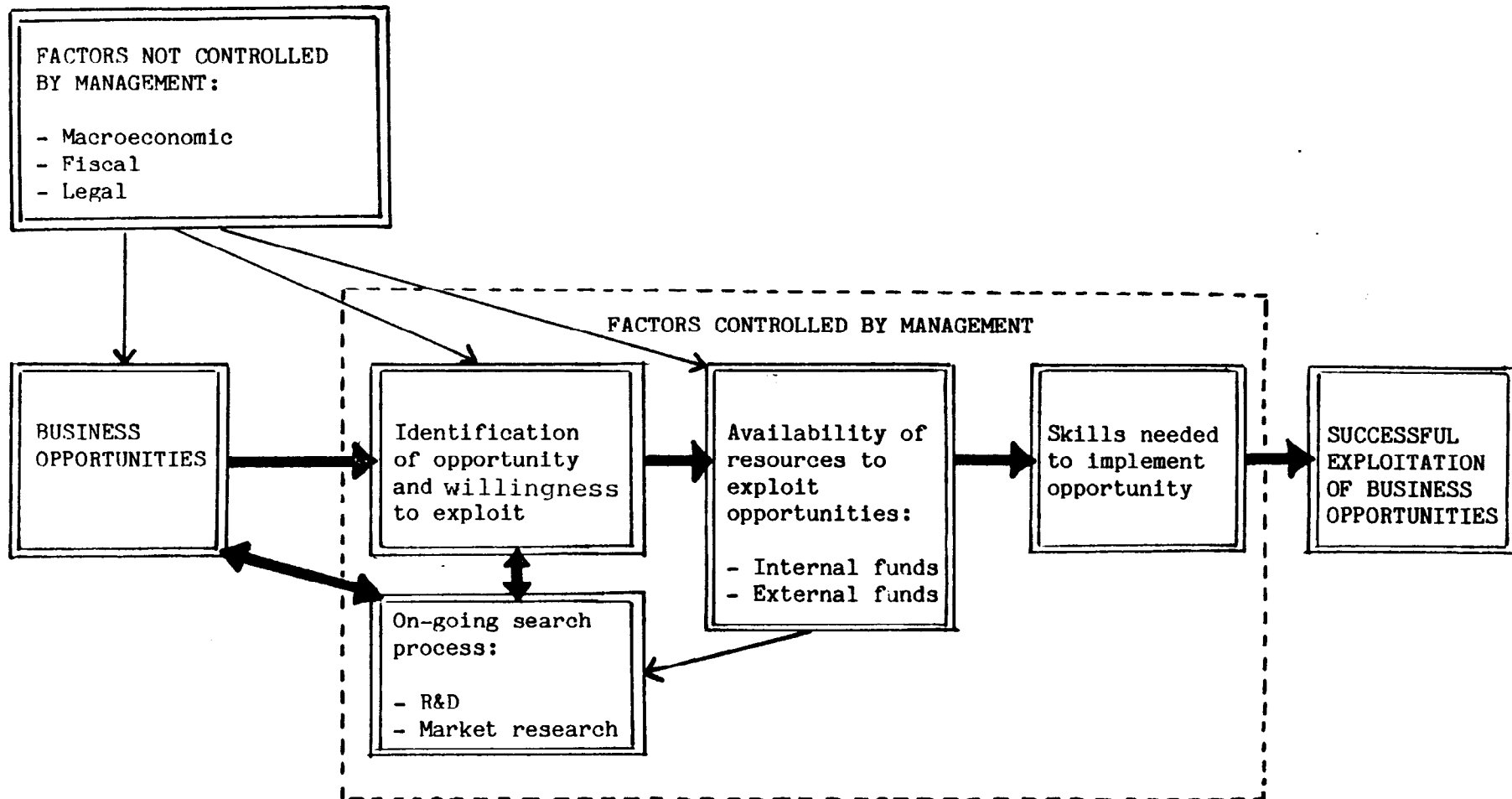
The worsening plight of the small business sector must clearly raise the question of their effect on these areas in the future.

II : ANALYSIS

A. The Search for Business Opportunities and Their Exploitation: A Model

13. Figure 4 presents a model which shows how opportunities are searched out and exploited by business. The model assumes that there is a stock of business opportunities which always exists. These opportunities are currently being met by existing businesses although there is always the possibility of displacing them by meeting customer needs more effectively. However, we are concerned with the new business opportunities that are constantly being generated. These come about by changes in consumer demands and technology and can be affected by Government through macroeconomic and fiscal policy as well as changes in legislation. The opportunities are constantly being investigated by business through market research and research and development programmes. However, management must be able to identify these opportunities and be willing to exploit them. Once an opportunity is identified then the business must have the resources to enable it to exploit that opportunity. These resources come from either internal or external funds. Government can affect business's willingness to exploit opportunities and its financial ability to do so through its macroeconomic and fiscal policies. Equally the process of research is affected in part by the business's financial resources. However, even if the business is willing and financially able to exploit the opportunities, it still must have the management skills needed to implement and exploit them successfully.

Figure 4 : Business Opportunities Model



14. This model facilitates analysis of the main elements of the problem. Support for the model comes from the NEDO Report⁶ which sees the main determinants of successful industrial expansion in the past record of the companies concerned. This determines:

- i. The profits available for innovation and expansion.
- ii. The state of the balance sheet on which the ability to raise new funds is heavily based.
- iii. The amount of research and development on which future competitiveness heavily depends.
- iv. The extent to which companies have a portfolio of products; some high, some low risk, some cash generators, some cash absorbers, all at different stages in their life cycle.

Other commentators, such as Lazonic,¹¹ have expanded on this and stressed the importance of government and other institutional factors which create a sense of confidence sufficient to encourage entrepreneurs to take a long view.

B. Causes of the Problem

15. Using this model, it is apparent that there are five possible causes of the problem:

- i. Insufficient opportunities or insufficient lucrative opportunities (returns must exceed the cost of capital).
- ii. Insufficient "search process" (market research, and research and development).

- iii. Inability of management to identify opportunities or unwillingness to exploit them.
- iv. Lack of resources available to exploit opportunities both from internal and external funds.
- v. Lack of management skill to implement opportunity.

These causes are not mutually exclusive. Indeed, part of the trouble with "real-world" problems is that they are made up of a number of different factors and trying to influence only one factor may therefore have little effect on the problem.

16. The volume of opportunities does not seem to have been a problem for foreign businesses. Not only has Britain seen its volume of world trade contract, it has also seen its home market gradually taken over by foreign competitors. However, one often hears the cry that business cannot afford to invest simply because of the high cost of borrowing. This implies that returns on these investments are less than the cost of capital. Certainly the analysis of UK company performance in 1977-83 (paragraph 9) indicates that the historic rates of return may only just exceed the historic cost of borrowing and in some sectors, such as the small business sector, may actually, on average, drop below it. Indeed, the Bank of England produces a regular review of British corporate performance and calculates a complicated "valuation ratio" which measures the forward looking, real, after tax rate of return to companies which it compares to the real cost of capital. Only if this ratio exceeds "1" is there a real incentive to invest. Their most recent review reveals that this ratio has never exceeded "1"

since 1973, although the "investment gap" has narrowed over the last two years.¹² So is there a lack of lucrative opportunities or is it just British inefficiency in exploiting them, or is it a little of both? Government can affect the volume of opportunities by their macroeconomic and fiscal policies. Since businessmen are really interested in after-tax returns, the volume of "lucrative" opportunities can be affected simply by lowering the tax thresholds. If British business is just inefficient then it is essential for them to become more efficient, and here education and training must play a part.

17. Insufficient "search process" can also be affected by macroeconomic and fiscal policies which can make that process cheaper. However, in the UK, companies are permitted to deduct the full cost of research and development in calculating their tax liability. Nevertheless, some direct government policies have successfully influenced the volume of research and development, for example in the European space programme where it is generally accepted that major long term development would not have taken place without Government playing a major role as a partner. Direct government policies have also encouraged the growth of new small firms.

18. The volume of "search process", the identification of opportunities and the willingness to exploit opportunities are all influenced by subtle cultural factors regarding enterprise and entrepreneurship. It is often said that the British are class ridden, risk averse and insufficiently "hungry" in business. These are difficult factors to evaluate and quantify.

Nevertheless, they are very important. In a recent article on the success of small businesses in the USA, David Birch commented:¹³

"From a cultural point of view, our greatest asset in this country is our attitude towards failure. We are tolerant of failure and enamoured of risk taking, and this is reflected and reinforced throughout our culture. The entrepreneur is a high status person in this country - as was once the case in Europe, as well. Clearly, Europe has suffered by giving up that cultural attribute".

19. Of course British business may also be insufficiently skilled to:

- i. Identify all business opportunities.
- ii. Undertake inadequate research into the opportunities.
- iii. Implement the opportunities.

And here education and training has a role to play. The question is what sort of education and training, and would British management be willing to invest in it?

20. The preceeding paragraphs have highlighted three major influences on the problem of encouraging the exploitation of business opportunities:

- i. Fiscal and macro economic factors.
- ii. Cultural factors.
- iii. Education and training.

We need to look at these factors in greater depth to understand their importance and to see how they may be influenced to encourage the exploitation of opportunities.

III : REMEDIES

A. Fiscal and Macroeconomic Policies

21. Stimulation of the Economy

A vigorous and growing economy is one that will offer greater scope and opportunity to business. There is evidence that in times of depression small businesses in particular tend to suffer disproportionately.⁸ Not only does Britain have a gross disposable product per person of only about 60% that of France or Germany, its growth rate has been extremely poor. Over 1973-1981 GDP grew by only 4.4% compared with an average of 17% for all EEC countries. However, since 1981 the growth rate has averaged almost 3% a year, double the pace in the rest of Europe. Most forecasters now expect 1985 to be the peak of that five year cycle and 1986/87 to be the downturn (see Table 3), although nobody believes there will be an absolute fall in output, rather a fall in the rate of growth.

22. Attempts to stimulate the UK economy have a bad track record as British industry seems incapable of making the most of such opportunities. The "gamble for growth" of the Heath Government resulted in a surge of imports, a worsening of our balance of payments position, a decline in the value of sterling on international exchanges and growing inflation. The emphasis of the current government's policy is to provide a stable climate in which the economy can flourish. This involves control of inflation through control of money supply and an attempt to hold down

Table 3 : Forecasts of GDP Growth (% Annual Change)

	<u>1985</u>	<u>1986</u>	<u>1987</u>
CBI	3.5	2.5	n/a
Henley Centre	3.1	1.6	1.8
James Capal	3.5	1.8	0.8
Liverpool University	3.4	4.0	3.6
London Business School	3.2	2.4	1.8
Neisr	3.6	1.4	n/a
Phillips and Drew	3.3	1.8	1.5
Simon and Coates	3.7	1.6	1.8
	—	—	—
Average	3.4	2.1	1.9

Source: The Economist, Slithering into Decline, The Economist,
14 September 1985, pp. 35

the level of public expenditure in order to try and reduce interest rates as far as possible. Additionally, the government is attempting to create a better climate for small businesses to flourish through the various financial schemes described earlier and by trying to reduce regulations which hamper the creation and growth of small businesses.

Tax Changes

23. Ask an entrepreneur what Government should do to encourage business, and he will probably rapidly reply "reduce taxes". This, of course, is not only a way of stimulating the economy but also a way of increasing the incentives for work and enterprise. The current government have done much to reduce the burden of business taxation over the last five years. Indeed, it would not be an overstatement to say that they have radically transformed the tax environment. A 1983 survey of 10 EEC countries looked at business taxation (tax as a percentage of GDP, local taxation, personal taxation, corporate taxation, capital gains tax, VAT and loss provisions) and concluded that Britain had the best tax environment of any of the countries.¹⁴ Not only did Britain have some of the lowest tax rates in the EEC, it also had some of the most liberal expense and loss relief provisions. Britain also has the second highest VAT level in the EEC. Certainly there is now no reason to believe that taxation should be a disincentive for investment in the UK. Whilst economists would agree that high rates of tax can be a disincentive for investment, they do not agree that low tax rates can positively encourage investment, and the scope for further cuts must be limited.

24. However, some commentators think that entrepreneurs are not concerned primarily with tax systems. David Birch says:¹³

"What really matters is how much return you get on the tax dollars you do pay. If the tax money is well spent on the infrastructure, and education, and R & D, then a business's money is being effectively used by the Government. If you look around the country (USA) where small businesses are formed you'll see that in general the higher the taxes, the higher the small business formation rate".

25. One cause for concern may be the changes in rates of capital allowances brought about in the 1984 Budget. Up until 1984 investments in plant, machinery and equipment qualified for a 100% capital allowance. From 1986 this rate will be reduced to 25% per annum. However, accompanying this has been a reduction in corporate tax rates from 52% (38% for "small companies") to 35% from 1986 (30% for "small companies"). Nevertheless these reductions will detrimentally affect:

- i. High investment businesses (who qualify for high capital allowances).
- ii. Manufacturing businesses (who invest predominantly in plant, machinery and equipment).
- iii. Small unincorporated businesses (who have not seen reductions in their tax rates).

Cost of Funds

26. Another of the options open to Government to stimulate the economy is, somehow, to reduce the cost of finance to business. Certainly Government can influence market interest rates through the market operations of the Bank of England and by its own public sector borrowing activities. The Government would point out that its own public sector borrowing requirement (PSBR) has been cut by £2½ billion between 1980/81 and 1984/85 and this should help reduce interest rates. However, PSBR can be misleading and, if one strips out the sale of public assets, which counts as negative expenditure, and borrowing by public corporations, which in other countries may not be part of the public sector, the resulting figure (called, general government financial deficit) shows a rise of £2½ billion over the same period.¹⁵ Certainly business thinks current costs of finance are too high. Small businesses feel particularly aggrieved. A recent report from the Institute of Manpower Studies at the University of Sussex concluded that the encouragement that small businessmen felt best was "cheaper finance".¹⁶ Cheaper finance would directly increase the "investment ratio" (paragraph 14) and should stimulate investment.

Other Specific Policies

27. This government has pursued a number of specific policies to encourage the growth of entrepreneurship and small business. The Loan Guarantee Scheme and Business Expansion Scheme are two such initiatives. Another is the Enterprise Allowance Scheme which provides those unemployed who set up their own business with an

allowance of £40 per week for the first year of trading. This scheme has been taken up by 85,000 people. 86% of business set up under the scheme were still trading after 15 months and for every 100 businesses supported for a full year, 68 extra jobs were created within 15 months of start-up. Certainly these "specifically targeted" schemes seem successful and are far more likely to find favour with the government than general economic policies to encourage reflation.

28. Government support for long term R & D is also an important issue. As mentioned earlier (paragraph 17), it was an essential element in ensuring the success of the European space programme. However it has not always been so successful at picking winners, witness Concorde. The French appear to be trying to develop national policies to support high technology research, for example the Esprit project. In Britain we have no coherent policy. Most of Government's R & D initiatives are in the area of defence. Indeed, 58% of Government R & D expenditure is into defence-related fields. Defence expenditure, currently some £8 billion, represents 45% of aerospace and 30% of electronics industries output. So Government is an important initiator of research in these industries. However, is Government really well placed to initiate R & D projects other than those related to defence, or should it confine its role to that of a facilitator?

29. Another issue is the relatively small spin-off of defence related expenditure into marketable civil projects. A recent report¹⁷ highlighted this problem and focused on what was considered to be the lack of entrepreneurial skill of large contrac-

tors to exploit the civil markets. The report recommended that Government takes positive steps to allocate a large portion of defense contracts to smaller firms who, it argued, would be quicker to exploit the market potential of an idea. In the USA this already happens. Government agencies are required to allocate a portion of all federal procurement expenditure to small firms. In addition, through the Small Business Innovation Research Program, small firms are directed to obtain at least a fixed, minimum percentage of federal R & D contracts.

B. Culture

Risk Taking and Status

30. The accountant's dilemma lies in always having to measure the measurable, whether or not it is of any relevance. Culture, in particular business and society's attitude to entrepreneurship, innovation and risk taking, is extremely difficult to measure objectively. However, we all know that there are certain general national traits. These develop in childhood and reflect themselves in our career patterns. We are taught to aspire to secure jobs in the professions or in the civil service. Last year one in nine graduates who found employment went into accountancy. For graduates, going into big businesses is still regarded as second best, going into small businesses a last resort, and setting up your own business is almost unheard of. Last year, out of almost 140,000 graduates in England, less than 400 of them set up their own business and most of these were graduates from craft-based courses (such as art and design) or those rare courses like veti-

nary science where self employment is the norm. Birch tells us that the "high status" person in the USA is the entrepreneur. In Britain it remains the professional. Birch tells us that Americans are "enamoured of risk-taking". In Britain we prefer security, even if the income level associated with that security is much lower. Birch tells us Americans are tolerant of failure. In Britain failure often attracts social disapproval (witness Sinclair in recent months, but contrast this with Laker).

31. Many commentators have said that Britain needs to see a rebirth of the entrepreneur and innovator - the person who has the desire to build and create, to take risks, to carve out niches. Why has he disappeared? What can we do to encourage his rebirth?
32. Of course there is evidence that the various government initiatives have had some effect. New businesses are being created at an ever-increasing rate. Over the four year period 1980-83, VAT statistics disclose a net surplus of start-ups over close-downs of 112,000 businesses. This was the result of a rising trend in start-ups, up from 158,000 in 1980 to 174,000 in 1983, while close-downs stayed constant at around 140,000. Only in the retail trade did close-downs exceed start-ups. Most of the net increase in new businesses took place in the south east.
33. This increase in new business must be partly due to the increasing number of unemployed. However, there is evidence of changing attitudes in society as a whole toward entrepreneurship. Open the pages of any national newspaper and there will be stories about people who have set up their own business, although normally we

only read of those who have been successful. Government has led the way in changing attitudes. Britain has had a Minister of Small Business for over a decade. The last few years have seen a number of measures to relieve business of its tax burden and improve the flow of finance. The Manpower Services Commission has been active in setting up a number of training programmes for entrepreneurs - those setting up new business as well as those already in business. Even the unthinkable has happened, a programme for graduates who want to set up their own business, the Graduate Enterprise Programme, has been set up.

The Cambridge Phenomenon

33. One of the notable successes in entrepreneurship and innovation has been called the "Cambridge Phenomenon". This is the growth of a large number of high technology growth businesses in and around Cambridge. There were some 350 by the end of 1984, and the net annual increase is currently of the order of 30-40. The firms are principally engaged in research-design-development or in small volume, high value production. Such large scale production as there is, is typically subcontracted elsewhere. These firms now account for nearly 20% of employment in the area, even those established over the past ten years account for 5% of jobs. They are now playing an important role in stimulating further development in local industrial and commercial sectors and are adding a new and dynamic element to what has for long been a stable, prosperous but "unexciting" local economy. Cambridge is probably now the major centre of high technology in the UK. (Other centres are Central Scotland, and the M4 corridor from London to Bristol).

34. The distinctive feature about the Cambridge Phenomenon is that it was not planned or encouraged by central government and that it took many years. It was "driven" by small local enterprises and local resources - the University, banks and the business community. A report on the Cambridge Phenomenon by Segal Quince¹⁸ highlighted the importance of networks in the development of the phenomenon. Networks with the University were particularly important. The University set a tone and style of quality, individualism and confidence and, most important of all, allowed academics to decide freely whether and in what way they might want to be engaged in outside work. Indeed, the University passively encouraged this involvement. Barclays Bank also had a part to play. It took a strategic decision in the late 1970's to invest the time of one of its business advisory managers in the development and implementation of the business plans of new technology based business start-ups. This gave confidence to the other professional advisors dealing with these entrepreneurs and the whole process of mutual support led to the financing and growth of the businesses.

35. The story is one of supportive local networks that changed attitudes to new, high technology, high risk businesses. Interestingly, Segal Quince comments that shortage of capital has not been a limiting factor for start-ups and development for many years. Indeed, it is suggested that the ready availability of funds has itself encouraged people to take risks and bring more deals to the market.

Intrapreneurship in Large Companies

36. Large companies, aware that as they grow larger they become more bureaucratic and less able to innovate, have also become concerned with the problems of fostering an entrepreneurial culture within their organisation. They prefer to call it "intrapreneurship". In the USA this has gone further than here with the development of "Strategic Business Units" (SBU's) within large companies. These are fairly autonomous businesses which are able to plan and implement specific strategies but remain within a "corporate umbrella". The SBU concerns itself with the essence of entrepreneurship - achieving competitive advantage, whilst the corporate management concerns itself with developing SBU configurations, their organisation and management systems and their financial transactions.

37. To work effectively an SBU must:

- i. Have a sufficiently unique business mission.
- ii. Have a clearly identified set of competitors.
- iii. Be a competitor in external markets.
- iv. Be able to plan products, markets, facilities and organisation relatively independently.
- v. Be able to make decisions regarding technology, manufacturing, marketing and cash management relatively independently.

In other words, an SBU must be able to act as independently as possible and its manager then given a high degree of autonomy in achieving overall strategic goals and objectives.

38. This SBU concept started in 1971 in the USA with the General Electric Company, widely thought of as the world's most diversified company. Corporate management at General Electric had been plagued during the 1960's with massive sales growth, but little profit growth. In co-operation with McKinsey and Co., the company developed the SBU concept by structuring the decentralisation of the firm to yield potentially independent components.

Whilst the total number of firms adopting some variant of the concept is unknown, it is estimated that in 1978 some 20% of the "Fortune 500" firms in the USA were using the concept. However, not all experience of SBU's is good. General Electric, IBM and 3M are publically acknowledged successes, but equally Texas Instruments and Phillips have had less success. One of the major problems with successful intrapreneurs is keeping them. Firstly they find life in the mainstream of a large company very difficult, having to fight what they see as reaction and inertia. As Drucker says:¹⁹

"Do not mix managerial units and entrepreneurial ones ... Do not make innovation an objective for people charged with running, exploiting and optimising what already exists."

Intrapreneurs are motivated by both money and challenge and the more successful companies have developed incentive packages including offers of rank, pay, bonuses and share options for the development of a product or service into a successful business.

The Pressure for Short Term Results

39. It is often said that the City pressures companies to achieve short-term results and that this can starve long term investment. Certainly, too sharp a focus on profitability can mean that the development of new products and markets takes a back seat to profit taking. Cutting research expenditure is an easy way to improve results in the short term. Unlike the USA, R & D expenditure need not be disclosed in UK company accounts and any far sighted investor who may favour R & D expenditure is not given the information he may need to make investment decisions. Indeed the Confederation of British Industry opposes making disclosure compulsory on the grounds that R & D figures are hard to interpret and it is only one of many factors affecting future performance. If anything, the pressure on small firms to achieve quick profits is even greater because of their heavy reliance on short term funds.
40. The problem with changing attitudes is that it takes time. It cannot be done overnight or even in the life of a Parliament. It is a gradual process. All the institutions that model public opinion have a role to play; Government, educational establishments, the media, the City, the Unions. Also attitudes cannot be changed unless the individuals that hold them want to or are willing to change them. It is far easier for a government to change tax legislation than it is to change attitudes.

C. Education and Training

Levels

41. G K Chesterton said that the objective of education is "not to learn things but to unlearn things". In other words, education is about giving people the skills to adapt to our changing world; the aptitude to train, to retrain and to retrain again. Education is a long term investment whilst training is a much shorter term activity concerned with imparting specific skills to an individual to enable him to undertake specific tasks. Both are important and must be kept in balance. Our formal education at school, college and university is a balance of true "education" and "training". It is a fine balance and one that, quite rightly, society is constantly reviewing.

42. By most measures Britain has one of the worst educated and worst trained workforces and management in the western industrial world. The quality of education and training is very difficult to measure. However, the volume or extent of it is not. Table 4 gives the enrolment rates for various ages of the population in the 10 EEC countries. It indicates the general education level of the population. The evidence speaks for itself. With the exception of Ireland and Luxemburg, Britain has a smaller proportion of its population enrolled for educational courses than any other European country. The picture is very similar for training. A recent MSC survey calculated that the total training expenditure of UK companies was some £2bn annually; which works out at £200 per employee or 0.15% of the average firm's turnover.²⁰ The

Table 4 : Education Enrolment Rates

(% of each age group)	----- Age -----									
	15	16	17	18	19	20	21	22	23	24
Belgium	92	82	67	47	33	24	16	11	7	4
Denmark	96	83	66	64	55	37	24	21	19	17
France	97	74	55	37	27	19	14	10	8	7
West Germany	86	60	38	40	28	12	18	16	18	17
Greece*	71	64	54	57	33	25	22	9	6	4
Irish Republic	85	64	43	23	15	13	9	6	4	3
Italy**	61	54	47	37	-----24-----					
Luxemburg	74	39	29	18	12	6	3	1	1	-
Netherlands	97	92	72	52	40	30	25	18	15	12
UK	98	38	24	17	15	15	-----6-----			

Source : Eurostat Statistical Bulletin for Education and Training
2 - 1982, "Full time education - school year 1980/81"

All figures for 1980/81 except:

* 1978/79

** 1975/76

Americans spend seven times as much. A British employee receives, on average, only 14 hours off the job training a year compared to 30-40 hours considered to be good practice in Western Germany. Commenting on these statistics Mr Bryan Nicholson, Chairman of the MSC, has said:²¹

"I think their lack of investment is bordering on the fool-hardy".

The same survey also found that high performance businesses were twice as likely to train, and train twice as many employees, as low performance businesses. It also showed that high performance businesses have increased their training by 25% over the last five years, whilst low performers reduced their training by 20%. However, cause and effect here are not easy to disentangle.

Business Education

43. In Britain, we still hang on to the notion that managers are born not made - we can pick up the skills as we go along, we can muddle through. By contrast, in France, management is treated as a major profession serviced by over 35 "Grandes Ecoles" who produce over 5,000 graduates annually. In the USA almost 25% of students read business as a first degree and 60,000 graduate with masters degrees (MBA's) each year. In Britain business degrees are well established but the level of output is small and has grown little over the last ten years. We produce only about 1,500 MBA's each year - one fortieth of the number in the USA from a population only one quarter the size. The annual output of undergraduates is little higher.

44. Of equal importance is the teaching of business in other degree courses. British engineering courses typically last three years, and even today many courses do not include business components. Few other countries believe engineers can properly be educated in such a short period. In West Germany an engineering degree takes 5/6 years with two years devoted to economics and management. Thus West Germany produces large numbers of engineers who have the educational background to undertake management positions as their careers develop.

45. However the failure of Britain's business education may well rest, in part, with the educators themselves. A recent report on British business schools by the Institute of Economic Affairs was critical of their role.²² It argued that they were insufficiently responsive to customer (i.e., student and employer) needs and had become too risk averse, secure and non-entrepreneurial. They had adopted normal University structures. Too few academics had business experience and too few regarded businessmen as their normal reference group. Research was not practical and orientated in the traditional way toward journal publications. In a recent article entitled "Why have British business schools failed?" Kenneth Fleet, the City editor of The Times, recalled the view of the chairman of one leading UK retail company.²³

"In management training we must go back to the drawing board. The present labyrinth of management education is staffed with jargon and academic theory, much of it utterly unrelated to practical needs".

46. These criticisms are not new. But when the establishment of business schools was originally proposed by Robbins and Franks in 1963, high expectations were held for them.²⁴ Clearly these hopes have not been met either in the volume of graduates they produce or in the quality of their education. Yet if business schools are like this what must the rest of our education system be like? Indeed, the Institute of Economic Affairs' main criticism is that the business schools are too like the rest of the university system. Is the education sector capable of helping foster entrepreneurship and innovation in British business?

Training: The Role of the Manpower Services Commission

47. We have already seen how little British business as a whole spends on training. Since the abolition of many of the Industry Training Boards with the Employment and Training Act of 1981, most of British business has been left to decide for itself on the level of training it wishes to undertake. However the Manpower Services Commission has developed its role in this area since its inception in 1973. Although its scope of activity is enormous, ranging from what many see as unemployment palliatives to training to help set up new businesses, so is its budget which now far exceeds that of the University Grants Committee. The MSC seems destined to play an ever increasing role in all forms of industrial training. Perhaps the largest part of the MSC's budget goes on the Youth Training Scheme, however, there are many other initiatives which are designed to foster entrepreneurship and innovation as well as to alleviate skill shortages. Each year over 1,000 places are available on programmes designed to help individuals set up their

own businesses. These are run by business schools, colleges or private consultants. They are not just "chalk and talk" courses but offer practical help and financial support. Strangely, recruitment for these programmes has been proving a problem recently. The MSC's Skillcentres experienced similar problems and have been cut back on the grounds that they were "too rigid and often provided the wrong type of training". However, the Government's view is clearly that the primary responsibility for training rests with employers not Government. One interesting initiative being developed is the "Open Tech" project which aims to "widen opportunities for mature adults through open access to learning, using new technology both as a teaching and learning tool". This has led to investment in a wide range of computer and video based distance learning packages.

48. In the USA there are a number of government initiatives designed to encourage companies to invest in training:

- i. Individual training accounts. Under this scheme an employee may ask an employer to set up a "training account" to which each party can make tax deductible contributions. Employees may draw on the account whether or not the training benefits the company.
- ii. Trade Union mutual funds. These are funds set up by companies to retrain employees who are to be made redundant. The best known is the Nickel Fund negotiated by the United Auto Workers whereby Ford pays \$5 per hour per employee to pay for the retraining of redundant workers.

iii. Job Training Partnership Act. This Act allows pump-priming Federal funds to go to local business consortia which undertake training initiatives. The local consortia has full responsibility for all aspects of the training.

Other Delivery Mechanisms

49. Consultants and counsellors have an increasingly important role to play in training - particularly with the smaller firm. Business training is itself moving towards an "action orientation" - training centred on the solution of a particular business problem -where the boundaries between teaching, counselling and consultancy become very blurred. Sometimes the trainers employ consultants to act as counsellors to supervise the specific business problems trainees are working on. Indeed, consultants themselves now provide training for many of their clients. This often happens as the consultant realises that training and management development are essential elements of the solution to the specific problem he was called in to solve. Frequently the client is more willing to undertake training in this situation because its direct relevance can be demonstrated. Also consultants have a more practical image than academic institutions. The MSC have not been slow to realise this and frequently use consultants in preference to academic institutions.
50. Of particular relevance to the small firm sector has been the development of the Enterprise Agencies which now provide over 240 locally based advice centres for small businesses. Some have existed for over a decade although most have only been set up in the last three or four years. They are usually run by a small staff of two or three (the largest Agency has 21), often made up

of secondees from large companies. Some services are free and others offered on a fee-paying basis. They are now expanding into training and the provision of "managed workshops". As you would expect in a network that has expanded so rapidly in such a short time the quality of service does vary considerably and it is generally felt that a period of consolidation is now needed. Providing a parallel service to the Enterprise Agencies but in rural areas is the Council for Small Firms in Rural Areas (CoSIRA). Alongside this is the Government's own Small Firms Service. Their role is currently changing and it is intended that they become more a "consultant" to the Enterprise Agencies concentrating on specialist areas like marketing, new technology and patent advice.

51. The picture is one of a developing range of delivery mechanisms for education and training which may well lead to some redefinition of the terms. Certainly the arrival of the MSC and other competitors into the education market has caused many academic institutions to reappraise their role. Perhaps this reappraisal will itself help change the negative attitude that British business seems to have towards training and here again the MSC is active with its "Adult Training Campaign" aimed at persuading businesses - both managers and employees - of the value of training. However, changing attitudes takes time and is a process often too subtle for governments who need to be seen to be taking "concrete measures" to solve problems. Time is not really on Britain's side.

IV : SUMMARY

52. This paper has argued that lack of finance is no longer a constraint for British business and that there are other deep seated problems which hinder entrepreneurship and innovation in British business. The paper focused on the volume of new business start-ups and the disappointing financial performance of small firms as well as the lack of innovation and entrepreneurship in large firms as evidence of this problem.

53. The business opportunities model provides a framework for understanding why more business opportunities are not successfully exploited by business. The basic causes of this problem could be:

- i. Insufficient financially lucrative business opportunities.
- ii. Insufficient "search process" for these opportunities.
- iii. Inability of management to identify opportunities or their unwillingness to exploit them.
- iv. Lack of management skill to implement them.

54. The remedies were reviewed under three headings:

- i. Fiscal and macroeconomic policies:
 - general economic stimuli
 - tax changes
 - cost of funds
 - other specific policies

ii. Culture:

- risk taking and status
- the Cambridge phenomenon
- intrapreneurship in large firms

iii. Education and training:

- levels
- management education
- the role of the Manpower Services Commission
- other delivery mechanisms

Changes under these headings and recent steps taken by Government were described and comparisons with other countries drawn.

55. The question that remains is what more can be done to stimulate entrepreneurship and innovation in Britain?

REFERENCES

1. Bolton Report, Report of the Committee of Enquiry on Small Firms, Cmnd. 4811, 1972.
2. Burns and Dewhurst (eds.), Small Business in Europe, Macmillan, forthcoming.
3. Wilson Report, Report of the Committee to Review the Functioning of Financial Institutions, Cmnd. 7939, 1980.
4. Robson Rhodes, A Study of Businesses Financed Under the Small Business Loan Guarantee Scheme, 1984.
5. White, International Differences in Gearing: How Important Are They?, National Westminster Bank Quarterly Review, November 1984.
6. NEDO, Trade Patterns and Industrial Change, 1984.
7. Zegveld and Rothwell, Small and Medium Sized Manufacturing Firms: Their Role and Problems in Innovation. Europe, the USA, Japan and Israel, Frances Pinter, December 1981.
8. Burns, Small Business - Myth and Reality, The Director, October 1985.
9. Jarrett and Wright, New Initiatives in the Financing of Smaller Firms, National Westminster Bank Quarterly Review, August 1982.
10. Robson Rhodes, Study of Venture Finance and the Needs of Smaller Businesses in Milton Keynes, 1984.
11. Lazonic, The Dynamics of Industrial Development, Paper prepared for ESRC Workshop, November 1984.
12. Bank of England Quarterly Bulletin, June 1985.
13. Emmons, Small is Bountiful, Harvard Business School Bulletin, April 1984.
14. Economist Intelligence Unit, The European Climate for Small Businesses - A 10 Country Study, 1983.
15. Economist, How Lawson Smuggled in a Boom, Economist, July 20, 1985.
16. Armstrong, Entrepreneurship Within Small Firms: Causes, Effects and Opportunities. University of Sussex, 1984.
17. Forrester and West, Defence Sector Procurement, Small Business Research Trust, September 1985.

18. Segal Quince, The Cambridge Phenomenon, 1984.
19. Drucker, Innovation and Entrepreneurship, Hernemann 1985.
20. MSC, Adult Training in Britain, 1985.
21. British Business, 28 June 1985, pp. 566.
22. Griffiths, Murray, Whose Business? A radical proposal to privatise British business schools, Hobart Paper 162, 1985.
23. Fleet, Why have British business schools failed?, in Touche Ross Report on Business Education, Touche Ross, 1984.
24. Lord Franks, British Business Schools, BIM 1963. Committee on Higher Education (Chairman Lord Robbins), Higher Education Report, Cmnd. 2154, 1963.