Small and Medium Size Enterprises :

Innovation and Growth in the

UK and Poland

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Abstract

This work highlights and compares some of the more recent studies and information regarding SMEs in Poland and the UK. In particular it focuses on the SME relationship with innovation, which can be a key concept in addressing questions of competitive advantage and increasing economic output.

There is support for the assumption that medium and fast growth firms are more likely to innovate. This study considers aspects affecting SME growth such as age of organisation, institutional support services, and barriers to growth.

Other identified variables relating to the likelihood of SME innovation include; type of activity and the constraint of capital in selecting an activity, differences between older and newer firms and the effect of the firm's size. Firm size influences are then looked at in relation to initial capital, personal background of entrepreneurs, education of entrepreneurs, the privatisation programme, enterprise lifespan and the possible effects of the informal sector.

Recent analysis on obtaining better innovation grouping by the use of alternative industrial groupings is identified, as well as the use of cluster analysis to identify potential innovators by reference to their input characteristics. Further factors that are looked at include the effect of greater intermediation in a region, knowledge transfer from public R&D and Universities, the effect of incubators and technology centres, R&D, and growth in technical consultancy.

The two countries' SME sectors are compared with regard to size, structure and growth. Importance and growth are measured in terms of number of enterprises, their output and the employment they provide. The disaggregation of SME activity, using the European Classification of Activities, gives an initial identification of some sectors where SME operation is most prevalent, is changing dramatically or appears likely to change.

Key words:
SME, UK, Poland, Innovation, Growth, Small firms, Micro firms, Medium firms

Introduction

This report compares and contrast important elements of SME development, particularly innovation and growth, in Poland and the UK.

There is a substantial difference in the two countries economic history. However the growth of Poland's SME sector, their development towards EU standards of SME reporting and the possible universality of some of the UK research findings gives us the opportunity for some relevant analysis.

The report is in four sections. The first two sections look at innovation, representing some of the most potentially rewarding elements in SME analysis. There is evidence that growth of the firm can be a highly relevant variable in the context of innovation, whether it be development applied to product, process or logistics. Exploration of recent work on some of the factors that can affect this growth of the firm, in the UK and Poland, is covered in the first section.

The second section looks at recent studies relating to a large number of the other variables that can impact on innovation. They range from factors that affect the size of the firm to theories on 'industrial deepening' of a region and development of knowledge based firms. There are a number of instances where the practice in one country seems, on the face of it, to have application to the other.

The last two sections provide background information about the size of both countries SME sectors and their growth patterns by industry sector. The profile of SME activity is presented in terms of number of enterprises, employment and output. Here growth can also refer to the numbers of firms and total inputs (employment) and outputs. We are able to see differences in growth patterns when looked at in terms of micro, small and medium enterprises.

The figures on SME development are broken down into each of the European Classification of Activities. The initial statistics indicate intriguing comparisons, for example the similarity in the countries manufacturing sectors and the larger average number of employees per firm in certain UK sectors such as, Transport, Storage and Communication.

SECTION 1

Innovation and Growth

Small firms have competitive advantages in many types of activity, with their rationale ranging from advantages of flexibility to operations where there are minimum economies of scale. One major distinctive capability that can help a firm achieve a competitive advantage, although there are problems with sustainability and appropriation (Kay, 1993), is innovation.

Innovation is more than just a potential source of competitive advantage however. It is a major element in technological development, productivity growth and the way that society becomes richer by shifting the long run supply curve.

The importance to society of innovation has long been recognised by economists. The importance of SMEs to this innovation has also been argued for a considerable time. In the UK we can point to the description of small firms as a 'seedbed' of innovation by Bolton (1971). In recent years, besides the theoretical output, there has been an increase in the use of large scale surveys to measure innovation activity (Hughes and Wood 1999), the European Union has produced two Community Innovation Surveys and it has been a major element in a regular large scale survey produced by the ESRC Centre for Business Research (ESRC 1998).

Innovation – relevant factors

Identification of appropriate variables relating to innovation facilitates analysis and policy development. The following Table 1a of survey results illustrates some of the appropriate variables to consider.

The survey results reported by the ESRC in the Table 2a, is based on a sample of over 2500 SMEs (less than 500 workers in this instance), in the UK. The sample was split with 1500 in manufacturing and 1000 in the business service sector.

The subsequent section in this report, Section 2, attempts to relate some of the current thinking and statistics on innovation, whether it be product, process or logistics, to SMEs in the UK and Poland.

Table 1a. Product and process innovation activity and intentions in the UK

% of firms	% of firms introducing product or process innovation in last three years	% of firms intending to introduce an innovation in next three years
All firms	64.6	65.4
Manufacturing	68.8**	67.5**
Services	58.6	62.3
Older	64.6	64.7
Newer	64.8	66.5
Micro	53.6**	55.9**
Small	70.8	70.5
Medium	82.8	82.3
Stable/Declining	56.3**	56.5**
Medium growth	70.8	70.4
Fast growth	74.9	75.2

The asterisks in the first row of a group indicate a statistically significant difference between members of that group. (** = significant at the 5% level or better)

Source: ESRC Centre for Business Research, 1998, Enterprise Britain. Growth Innovation and Public Policy in the Small and Medium Sized Enterprise Sector 1994-1997

Rate of Growth

From the UK research reported in Table 1a. we can state that stable / declining firms are less likely to introduce innovation. That is, that medium and fast growth firms are more likely to innovate. The ESRC Centre for Business Research (1996) also found that there were significant differences between the growth objectives of firms and whether they are innovators. Innovators are more likely to intend to grow substantially over the next three years.

In the UK there are some indications that the average SME has grown in size over the last six years. See Table 1b on the next page. Micro firms (0-9 employees) employ an extra 0.18 workers, their average turnover has increased by £41,000 and their average turnover per employee has increased by over £17,500.

The average small firm (0-49 employees) has also increased. It employees an extra 0.06 workers, has an extra £57,000 turnover and their average turnover per worker has increased by £20,500.

Table 1b. Average size of small firms in the UK. 1994 and 1999

	Employees/Businesses	Turnover/Businesses	Turnover/Employees
1994			
Micro firms (0-9 employees)	1.7	£83,766	£48,772
Small firms (0-49 employees)	2.56	£143,756	£56,099
1999			
Micro firms (0-9 employees)	1.88	£124,786	£66,363
Small firms (0-49 employees)	2.62	£200,885	£76,638

Source: Calculated from SME Statistics Unit, Department of Trade and Industry. 1999 and August 2000, Statistical News Release

In the subsequent part of this section, Section 1, we shall look at some of the important aspects of SME growth, for the UK and Poland.

The total number of micro and small firms within the UK has greatly increased since the 1970s although they have been relatively static for the last six years. An increase in total numbers of enterprises is also of relevance to the economies well being.

Deakins (1996) advanced 8 possible factors that could prompt a growth in numbers :
1. Structural changes in the economy. Particularly the growth of the service sector.
2. Changes in the level of the economies of scale. For example, technical changes which favour production on a smaller scale.
3. The ability of smaller firms to respond faster to changing market opportunities.
4. Government policy to foster the 'enterprise culture'
5. Favourable changes in macro economic policy for small firms
6. Specific government initiatives and structures such as setting up enterprise agencies
7. Large firms market developments such as contracting out
8. High unemployment rates

In our consideration of SME growth in the UK and Poland we shall come across most of these factors.

Gibrat's Law tells us that the mean and variance of growth rates of firms are the same across all size classes of firms. However a survey of evidence from the UK and USA (Ghatek, ..) does not give us a clear indication of whether there is a relationship between company growth and its age or size. The next topic in this section looks at the possibility of a relationship between age and growth.

Growth – Age of enterprise

We would expect, all things being equal, that there would be some relationship between age of firms and size. For example a survey in the UK has given us the figures in Table 3c.

Table 1c. Age distribution and employment shares

	% Companies		% Share of Employment	
Age (years)	1990	1995	1990	1995
<5	18	0	11	0
5<10	25.5	18	17	19
10<20	26.3	41.1	24	28
20<40	13.5	22.6	17	18
40 +	16.8	18.4	31	26
Total (no.)	979	979	100%	100%

Source: ESRC Centre for Business Research, 1996, The Changing State of British Enterprise. Growth Innovation and Competitive Advantage in Small and Medium Sized Firms 1986-95.

Further research would be required to explain the change from 1990 to 1995, but in general they both show that up-to 20 years the younger firms account for lower levels of employment.

Poland has had a turbulent environment for SMEs over the last decade, moving from the system of a centralised economy to preparation for full compliance with EU entry requirements. Rates of SME growth might accordingly have been more influenced by factors such as their particular date of origination.

Private sector small companies in Poland did not start with the transformation process. Before 1989 there were a significant number of 'craft' or 'quasi-craft' firms (see Table 3b).

The beginning of the 1990's saw a very fast growth in the number of enterprises (see Table 3c). A number of short term factors applied in this period. For example the capital privatisation process led to the setting up of small private firms producing services for the state owned enterprises undergoing privatisation. It also meant an asset sell off, which increased the supply of cheap factors of production. The market situation was not favourable to sellers at the time so that SMEs were able to buy these assets at low prices (Krajewski & Piasecki, 2000).

A survey of 300 Polish manufacturing firms was undertaken to determine the effect of starting in different time periods (Smallbone & Piasecki, 1996). It gives us a number of pointers on the relationship between the date of foundation (Pre 1981, 1981 – 88, 1988 – 91, 1991 – 94) and the firm's growth. Some of the main points from this empirical research related to profits, turnover, growth orientation, employment growth, education, use of information technology, technology employed and constraints on business development. Some of these points and a copy of some of the figures obtained are included in the Appendix, p35 – 37.

In conclusion to their survey, Smallbone and Piasecki (1996) reported that although there were some differences between firms that originated in different periods, they were surprised not to find more substantial differences. There was considerable heterogeneity between firms and age was not found to have made a substantial difference to the firms employment growth or economic performance.

Growth - Institutions for SME support

Government intervention in the form of programmes and assistance can be one of the important variables to influence SME growth. It is difficult to assess their effectiveness and make a concise comparison between countries. However there are some new features of the UK experience that may be considered for Poland.

These features include the thinking behind the Small Business Service launched in the UK in April 2000 and the further commercialisation of support structures.

The Polish strategy of SME development was heavily influenced by the input and money of outside agencies. For example Phare's financial contribution to these institutional programmes consisted of :
(in '000 Euro)

Table 1d Allocation to SME development by Phare in Poland

Programme	1990	1991	1992	1993	1994	1995	1996	1997	Total
Financial: SME programmes	2.3								2.3
Financial: regional programmes			44.5						44.5
Infrastructure: local & regional prog.		7.6	18.4			13.2	4.5	12.0	55.7
Institutional: SME programmes	6.0	6.0	10.0			3.0	10.0	2.8	37.8
Institutional: regional programmes			17.8			1.8	0.8	3.0	23.4
TOTAL	8.3	13.6	90.7			18.0	15.3	17.8	163.7

Source: Phare, (1999), An Evaluation of Phare SME Programmes, Poland, Final Report, October 1999.

The UK model has had a strong influence on the subsequent Polish format. The model for Phare's Business Support Centre programme in all Central and Eastern Europe countries, starting with Hungary in 1990, was the UK's Local Enterprise Agencies (LEAs) and Training and Enterprise Councils (TECs) (Phare 2000). A brief synopsis of some of the major elements in the UK's institutional support structure is given in Table 1e.

Some authorities criticised Poland for being slow in adopting an active SME policy. There is an argument that there was an over-emphasis on the potential of the large state corporations at the beginning of the 1990's and too little recognition of the SME role. However over the last seven years, with outside prompting, money and consultancy, the official support structure has developed considerably. A brief selection of the main government developments in Poland is given in Table 1f

It is noticeable that the broad aims of SME institutional development can be applied equally to the UK and Poland. For example the major donor Phare's most recent report on their programmes (Phare, 2000) identified four types of institutional development that all Central and Eastern Europe countries could benefit from:

* Local institutions to promote practical SME development at the community level

* a central institution to promote SME development nationally

* the need to develop legal systems which underpin SME development, such as the regulatory framework, taxation system, banking system, and so-on

* local institutions to promote higher value-added SME activities, particularly technology-based SME development, which the market mechanism unaided was unlikely to do.

This could be applied to much of the thinking behind the UK government programmes.

Relevant features of the Small Business Service in the UK

The Polish SME programme has been strongly influenced by the guiding philosophies of the main donors (eg, Phare, USAID, UK Know How Fund..). The Central European Small Business Enterprise Development Commission was set up as far back as 1990 by the United States to help establish business support programmes in Hungary the Czech Republic and Poland. In 1992 management and technical assistance programmes were established at SBCs in Warsaw, Gdansk and Lodz. In their first year of operations they provided seminars to 2,589 people and counselling to 1,116 clients. (Hoy, Kulawczuk, 1996).

In its last seven years it can be argued that Poland has caught up with the UK in much of its philosophy and strategy (compare Table 1e with Table 1f). So it is useful to assess how the thinking behind the latest UK initiative, the Small Business Service, can be related to the Polish position.

The strategic aims of the Small Business Service in achieving its mission of 'To help build an enterprise society in which small firms of all kinds thrive and achieve their potential' are instructive in the current development of the UK government focus. These aims are 'helping all small and medium sized businesses overcome the barriers to their success' 'enhancing the performance of small and medium sized businesses with high growth potential' 'helping promote enterprise across society and particularly in disadvantaged communities'.

The 'barriers to success' element appears to incorporate the previous emphasis on meeting customers needs, availability of information, technology access, finance etc.

Table 1e. Support services in the UK

1972 The Small Firms Service was set up on the recommendation of the Bolton Committee. Information was provided through a network of 13 Small Firms Centres and in 1978 over 100 Counselling Offices were added. By 1989/90, its last year, it was handling over 317,000 enquiries during the year and providing over 50,000 counselling session (Stokes, 1995)

1978 Enterprise Agencies were established and came to prominence in the 1980's with over 300 in the UK. Services range from business clubs, provision of common business services, analysis and counselling on propositions and business plans.
While the constitution and specific objectives of each agency was determined by the local sponsors, the aims common to all include the creation of enterprises plus jobs and to help small firms expand.
A survey of 148 agencies, (Halliday, H, (1990), estimated that 40% of their funding came from local authorities, 30% from central government and 30% from industry and commerce . Halliday also quoted a survey of provincial agencies that found an average of 405 start ups per agency and makes the assertion that a number of surveys have shown that 'businesses which seek the assistance of an enterprise agency before starting up are three times more likely to survive the first year's trading than those which decide to go it alone without advice'

1988 the DTI launched the 'Enterprise Initiative', which continued until 1994. This offered consultancy services in various skills such as marketing, design, finance etc and delivered through specialist organisations such as the Chartered Institute of Marketing and the Production Engineering Research Association. A firm with less than 500 people could obtain 5 – 15 days of consultancy with half the costs paid by the DTI.

1989 the Training and Enterprise Councils (TEC and LEC) were started. Consisting of partnerships between employers, training agency, and government, they are intended to assist in training and other government initiatives, aimed at regenerating local economies.
There were originally 82 TECS and 22 LECs (Scottish version), with an average £20m contract with central government and in 1990 they also took responsibility for the Small Firms Service activities.

1994 Business Links had opened over 60 centres. They were introduced by the DTI as the focal point to approach for the full range of business support services. It was an initiative to bring together the confusing range of available support services. They consisted of partnerships between the TECs, Enterprise Agencies, Chambers of Commerce and the DTI. They were intended to concentrate particularly on companies with the potential to grow, rather than start ups, which other initiatives had tended to focus on.

April 2000 the Small Business Service was launched. It was preceded by wide consultation regarding its role and activities (DTI Consultation Paper, 1999). The government then published a summary of the 700 responses that it received and its own response to these. The three tasks for the service were outlined as:

a. A strong voice for small business as the heart of government
b. Improving the coherence and quality of government support for small businesses
c. Helping small firms on regulation

The Service divided the country up into 45 franchise areas and invited Business Link partners to apply to run a Small Business Service franchise in its area. They were not guaranteed success in obtaining the new franchise, it depended on their proposals. However, the services are to be run under the Business Link brand.

Table 1f. Support services in Poland

*1993 – greater recognition of need to achieve better co-ordination of SME policies between the various government departments. Responsibility for SME development was allocated to a single Minister. The report of an SME Task Force 'Investing in the Future' was received. The Polish Regional Development Agency was set up.

* 1995 a special program for SME development was introduced by the government (1995 – 1997). As a result of this the Polish Foundation for Small and Medium Enterprise Promotion and Development was established, thanks to PHARE funds. (First funding in 1998 – Euro 0.4m) and with very small contributions from government.
In 1996 the agency started with 49 staff. The Foundation works with 240 Polish institutions in supporting SME activity and provides information to assist the Polish Government. It helped set up an improved system for monitoring SMEs with surveys by the main statistical office- GUS. Its yearly 'Report on the Condition of the Small and Medium-Size Enterprise Sector in Poland' gives an extensive amount of statistical information on the sector.

*1997 the National Credit Guarantee Fund of the National Economy Bank was set up, to guarantee bank credits for municipalities and Polish companies. Also the Techniques and Technology Agency was set up, to provide support for innovative techniques and technologies.

* By 1998 the Polish SME Foundation could identify 369 business support institutions. They consisted of Advisory Centres (including agricultural advisory centres) (43%), Business Support Centres (29%), Financial Institutions (17%), Incubators, Innovation and Technology Centres (7%) and Business Information Centres (4%).

* By 1999 the Director of the Department for Crafts, Small and Medium sized Enterprises, Ministry of Economy (Marek, M, 1999) was able to point to the network of 136 independent centres providing a national system of services for SMEs (KSU) and claimed that they were often cheaper than alternative commercial services because of the support of EU funds. They provide consulting, training, information and financial services to SMEs.

* Subsidised interest rates are now available for the creation of new workplaces. 50% of the National Bank discount rate is covered by the government.

* An SME export promotion program (EXPROM II) is in place to help increase SME export. It includes expert advice, promotion and financial support.

* Future institutional developments will be influenced by the direction of government policy
The objectives of the governments new policy program 'Directions of the Government Activity Towards Small and Medium-Sized Enterprises till year 2002' have been laid out ((Marek, M, 1999)):
1. Fundamental objective of governmental economic policy is stable economic growth.
2. Achieve full use of the development potential of the SME sector. This gives 3 sub objectives:
    a. Increasing the competitiveness of the SME sector, including:
        - Support of the transfer and development of technology
        - Reduction of employment and labour related costs
        - Facilitation of access to public procurement
        - Support to promotion of entrepreneurship
    b. Ensuring real growth in exports by the SME sector, including:
        - Elaboration of the strategy of export promotion of SMEs
        - SMEs promotion on foreign markets
        - Development of the information system on export opportunities, on EU regulations and on foreign public producements
        - Facilitation of access to foreign markets through the introduction of ISO certification and information on foreign administrative procedures
        - Facilitation of access to export bank credits
        - Support of SME participation in EU programs
    c. Ensuring real growth in investment in the SME sector, including
        - Creation of a tax system favourable to investment - Facilitation of access to external sources of financing (banks, capital market, venture capita funds, leasing)

The emphasis on firms with high growth potential would involve targeting specific firms with higher potential. There is considerable debate in the UK as to what structures and criteria will enable the support institutions to focus on appropriate potential growth firms. Discussion on this has already started for Poland. For example a recent Phare report has recommend (Phare, 1999) that the National SME Agency be 'encouraged to develop key SME sectors, clusters and technologies which tie in with other economic development potentials'

For the Small Business Service in the UK there is an emphasis on even quality throughout the country, possibly in response to one of the previous criticisms of Business Links. Of particular note however is the emphasis on promoting enterprise across society. The social value of enterprise appears to be recognised with particular emphasis on minorities, other types of enterprise such as non-profit making organisations, voluntary and social enterprises and the importance of integrating with specific regional requirements. (DTI 2000)

The regional aspect is already covered to a considerable extent in Poland. In addition to the specific SME programmes, there are various regional policy programmes. In 1993 the Polish Regional Development Agency was established and the STRUDER programmes had important SME support elements.

Move towards commercial operation

An important element in the UK structure has been the move towards the commercial operation of the support services. For example, the government allocated funds to the TECs who then asked for bids from the LEAs to supply a range of support services for their local enterprises. In addition to this form of market activity the government has encouraged the extension of end user charges and by the 1990s the initiatives such as Business Links have been prompted to be self financing from their inception.

This movement towards use of the market philosophy in the institutional support model has also been reflected in the Polish model. A tender operation has been introduced to encourage each BSC to compete against one another in an internal market system. Most Business Support Centres compete to provide a very wide variety of services and many are heavily involved in fee earning services. (Phare, 2000).

Whether from ideological or practical motives, the Polish model has also moved toward more commercialisation of its support structures. The central and regional government has continued to be slow in financially supporting the local SME structures. With the ending or decline in donor funding such as Phare, the BSCs have had to survive on a commercial footing, or like the Lodz BSC, effectively close down (Phare, 2000).

The majority of donor expenditure on SMEs was allocated in the early years. It accounted for a third of all Phare expenditure on SMEs in CIT countries, with the majority of the money allocated in the early transition years. Phare used its resources with the aim of making financial markets more accessible to SMEs and 'creating the institutional set-up required to help SMEs overcome information, risk and transaction cost disadvantages' (Phare, 2000). The importance of such support has been large. Phare supported 33 Business Support Centres and 14 Business Innovation Centres in Poland. Between 1991 to 1998 it allocated Euro11.16m for BSCs. The BSCs were often deliberately located in regions that were experiencing high unemployment.

Without substantial government or donor funding the BSCs have had to look at alternatives. One potential option for cash strapped BSCs has been to convert into Regional Development Agencies (RDA) or operate 'incubator units'. As a RDA the BSC is moving from its original brief of supporting SMEs. Operating 'incubator units' as a commercial concern will often mean charging full commercial rents. So although it might help the survival of the BSC, it would probably only have a marginal positive effect on SME sustainability. The Lodz BSC tried both these routes in its unsuccessful attempt to survive. (Phare, 2000).

An important questionmark against this policy is whether their wish to survive which leads to increasing commercialisation mean that the BSCs will ignore long term strategic activity in favour of short term, more immediately popular activity

Adoption of appropriate macro structure

There has been a noticeable trend in the UK towards the government taking notice of the macro economic requirements of the SME sector. One of the three principal tasks of the Small Business Services set up this year is 'A strong voice for small business at the heart of Government'

Poland has also reached the position of recognising its importance. The objectives of the Polish governments new policy program 'Directions of the Government Activity Towards Small and Medium-Sized Enterprises till year 2002' stated that the fundamental objective of governmental economic policy is stable economic growth. The Director of the Department for Crafts, Small and Medium-sized Enterprises, Miroslaw Marek has acknowledged the importance of policies such as deregulation of tax and labour law which will be included in this next SME Program (Marek, 1999).

The Small Business Service in the UK seeks to provide a conduit for such SME requirements to be fed back to government. Poland already has a large number of representation bodies. In fact, their large number probably fragments rather than unifies their interaction with government. In 1997 there were over 1,300 relevant voluntary associations.

Table 1g. Organisations representing entrepreneurs as at Dec 1997. Poland.

Chambers of Commerce	264
Craft organisations (guilds, co-operatives and chambers)	842
Entrepreneurs' organisations in trade services, transportation and other industries	70
Employers' organisations	107
Business Associations	72
TOTAL	1355

Source: Polish Foundation for small and medium enterprise promotion and development (1999)
Report on the Condition of the Small and Medium Size Enterprise Sector in Poland for the years 1997-1998

Effectiveness of institutions

How useful are institutions such as Small Business Development Centres? An independent survey (Smallbone, Piasecki,1996), of three centres in Poland, using the methodology applied by the U.S. General Accounting Office, showed a number of positive results.

The degree of client satisfaction was measured by comparing the expectations against what was received. Expectations were higher than the help actually received, but the absolute level of satisfaction was still reasonably high. The expectations versus actual level of counselling received was measured with regard to:

General Planning - General business advice, starting a business, changing businesses, advertising/sales promotion and marketing, advertising/sales promotion in the domestic market.

Financial – Filling out loan applications, applying for government contracts, identifying sources of money/capital, help with accounting and bookkeeping.

Technical – Legal advice, tax information, use of computers, business training, reference to other sources for assistance, business related publications.

The authors of the report commented that the index of satisfying clients demands was over 50% for each category, indicating that the counsellors understood their client's needs, and this compared favourably to their US counterparts.

Other elements in the study enabled the authors to make the following positive conclusion: '…brought about concrete results in the form of new investment projects, credits, implemented marketing strategies and the satisfaction of business owners with the counselling assistance. The assistance of the Centers in the development of small businesses created jobs. Companies co-operating with the Centers increased employment. In a number of cases the assistance of the Centers saved existing jobs' (Smallbone, Piasecki,1996).

Growth – Barriers

Growth of firms has been shown to be positively related to increased innovation (ESRC Centre for Business Research, 1998). With this link in mind it is relevant to continue to explore factors that can affect this growth.

Table 1h. Comparison of difficulties when starting up. The UK

	1996 (%)	1998 (%)
Organising start-up finance	31	32
Identifying potential customers	18	15
Setting the right price	16	3
Finding suitable premises	15	13
Knowing where to start	12	12
Finding appropriate staff	9	4

Source: Barclays Bank. Bulletin 2 1998

Table 1i. Comparison of current issues facing business. The UK

	1996 (%)	1998 (%)
Lack of business	25	15
Late payment	22	21
Competition	15	11
Red tape	5	4
Advertising/marketing	1	19

Source: Barclays Bank. Bulletin 2 1998

The importance of start up finance issues is reflected in the consistently high weighting given to it. The biggest change over two years, (Table 1h), was the reduction in the business owners perceptions of the problems of setting the right price. Possibly a reflection of the changing economic environment as the UK came out of recession.

In the comparison of current issues (Table 1i), the reduced significance of 'lack of business', dropping by 10 percentage points, might again indicate the improving economic climate. Barclays also comment that the 19 percentage point increased significance of advertising/marketing is a reflection that owners are eager to expand and tap into new and profitable markets.

The consistent concern about late payments is an area where the government has tried to influence matters. The payment period was given as a major barrier for SMEs in both the UK and Poland. However, by 1999, in the UK, the average payment period had fallen to 46 days, from its high of 50 days in 1996 (Bank of England, 2000)

The ESRC Centre for Business Research, (1998) survey found that every type of constraint recorded by their respondents was rated more significant by innovators, when compared to non innovators. This is shown in the following table 1j.

Table 1j. Constraints on ability to meet business objectives in the UK

Constraints	Older	Newer	Stable/ Declining	Medium growth	Fast growth	Non-innovators	Innovators
Increasing competition	2.80**	2.52	2.74**	2.85**	2.44**	2.60**	2.71**
Availability and cost of finance for expansion	2.45**	2.86	2.55**	2.35**	2.77**	2.56*	2.66*
Marketing and sales skills	2.61**	2.44	2.48**	2.66**	2.47**	2.41**	2.59**
Availability and cost of overdraft finance	2.29**	2.49	2.37**	2.08**	2.45**	2.34	2.39
Overall growth of market demand in principal product markets	2.49**	2.16	2.52**	2.56**	1.98**	2.21**	2.42**
Management skills	2.38**	2.24	2.11**	2.48**	2.49**	2.09**	2.44**
Skilled labour	2.27	2.23	1.96**	2.39**	2.55*	2.13**	2.33**
Acquisition of technology	1.96	1.92	1.88*	1.96*	1.86*	1.83**	2.01**
Difficulties in implementing new technology	1.94**	1.78	1.75**	2.00**	1.86**	1.70**	1.95**
Availability of appropriate premises or site	1.67**	1.85	1.57**	1.75**	1.99**	1.70	1.75
Access to overseas markets	1.62	1.59	1.48**	1.70**	1.68**	1.38**	1.71**
Total Responses	1289	1014	736	491	502	802	1490

Means are calculated from scores on a scale of 1-5 with 1= insignificant, 2 = slightly significant, 3 = moderately significant, 4 = very significant and 5 = crucial.
Asterisks in the first column of a group indicate statistically significant differences bvetween the types of businesses grouped by size, age, industry, growth, or innovation experiences (* significant at the 10% level, ** significant at the 5% level or better.

Source: ESRC Centre for Business Research, 1998, Enterprise Britain. Growth Innovation and Public Policy in the Small and Medium Sized Enterprise Sector 1994-1997.

The ESRC (1998) report did point out that the differences between different SME growth groups (stable/declining, medium growth, fast growth) and between different size groups (micro, small, medium) are larger than the differences between innovating and non innovating firms.

While we do not have similar statistics for Poland, broken down by innovating and non innovating group, and while the relative importance of the constraints vary between countries, it does give us some indication that Polish innovators are also likely to find their constraints at least as important as their non innovator counterparts in Poland.

In Poland a survey on the main types of constraint on the firm's growth gives us:

Table 1k. Most critical barriers identified by SMEs in manufacturing in Poland

Main types of constraint on the firm's growth	**Specific barriers identified**	**% of firms 1995**	**% of firms 1997**
Market related constraints	Low domestic demand	36	23
	Strength of competition (mainly from other domestic firms)		41
	Competition from illegal/unregistered activities	17	21
	Overall market related constraints	**75%**	**85%**
Financial constraints	Level of taxation	36	17
	Shortage of external financial	22	15
	Obtaining payments for goods	26	37
	Excessive debt	5	2
	Overall financial constraints	**60%**	**54%**
Government policy constraints	Government regulations and policies	14	12
	Overall government policy constraints	**56%**	**38%**
Production related	The need to modernise production equipment	16	18
	Insufficient production capacity	6	11
	Overall production related	**30%**	**34%**
Workplace related	Workforce related	15	9
Premises	Premises related	13	16
Infrastructure	Transport/communications infrastructure	5	2
Management related	Lack of experienced managers	4	2

Source: Phare, (1999), An Evaluation of Phare SME Programmes, Poland, Final Report.
Information credited to: Piasecki et al (1997), Strengths and weaknesses of manufacturing enterprises in Poland, USAID Warsaw.

The Phare information in Table 1k. show that the market related constraints have risen to a high level. Some of this is accorded to increased competition offsetting the improved position regarding domestic demand. The identification of the competition from illegal / unregistered activities might prove a particular barrier to growth as not only are legally trading firms disadvantaged but the illegally trading firms are also less likely to grow beyond a certain size. (looked at in later section).

The overall financial constraints have reduced but obtaining payment for goods has risen to become the most significant part of this section.

SECTION 2

Innovation

Innovation - Manufacturing and Services

The statistically significant finding in Table 1a supports the traditional understanding that innovation activity is more relevant to manufacturing than services. Although it should be noted that some authorities believe that the usual method of measurement underrates the significance of innovation to services.

In recent times Poland has experienced greater SME growth in services rather than manufactures. Some authorities believe that Poland was over-industrialised and that the services sector was under-developed during the communist era. Successful reform would then necessarily mean a decline in manufacturing's share of GDP and employment and an increase in services. (Johnson, Loveman, 1999).

Various other reasons to explain the SME preference for services include the requirement for capital and the available level of managerial skill.

It has been postulated that Polish manufacturing has been more constrained by the availability of credit because of the requirement for more capital investment and a longer payback period. However this may not have been a constraint on at least the initiation of SME activity, as shown in Table 2a.

Table 2a. Crosstabulation of Initial Capital and Sector of Activity

	Traditional Services		Modern Services		Transport		Restaurant		Retail		Wholesale		Production		All	
Initial Capital	N	PCT	N	PCT	N	PCT	N	PCT	N	PCT	N	PCT	N	PCT	N	PCT
Less than $100	76	32.9	40	51.3	3	23.1	1	6.7	28	15.7	45	47.4	59	58.4	252	35.4
$101 - $500	53	22.9	11	14.1	3	23.1	2	13.3	25	14.0	11	11.6	11	10.9	116	16.3
$501 - $1,000	22	9.5	6	7.7	1	7.7	3	20.0	22	12.4	2	2.1	6	5.9	62	8.7
$1,001 - $5,000	28	12.1	10	12.8	3	23.1	5	33.3	38	21.3	13	13.7	9	8.9	106	14.9
$5,001 - $10,000	27	11.7	5	6.4	1	7.7	1	6.7	20	11.2	8	8.4	10	9.9	72	10.1
$10,001 - $20,000	14	6.1	1	1.3	0	0	2	13.3	19	10.7	6	7.3	3	3.0	45	6.3
$20,001 - $50,000	5	2.2	3	3.8	2	15.4	0	0	18	10.1	9	9.5	1	1.0	38	5.3
More than $50,000	6	2.6	2	2.6	0	0	1	6.7	8	4.5	1	1.1	2	2.0	20	1.8
All	231	100	78	100	13	100	15	100	178	100	95	100	101	100	711	100

Note: N is the number of firms. PCT is the percentage of entrepreneurs in a sector that started with a given level of capital.
Source: Johnson S, Loveman G, (1999), Starting Over in Eastern Europe: Entrepreneurship and Economic Revival.

A study by Johnson and Loveman (1999) found that 60% of Production enterprises started out with less than $100 capital. The manufacturing sector does not seem to have had a higher initial capital requirement than the other service sectors. They found that the most important constraint on manufacturing, rather than initial capital was the managerial ability to run the enterprise.

Conversely it should be noted that authorities such as Krajewski & Piasecki (2000) state that one of the reasons why a half of SMEs in Poland deal with trade is the private entrepreneurs decision to choose a business activity with a low capital-output ratio.

Innovation - Older and Newer Firms

As shown in the survey results in Table 1a, innovation is likely to be more common amongst newer rather than older firms. However the figures are not statistically significant. It seems likely that this relationship is counterbalanced somewhat by newer firms tending to be smaller, and smaller firms tend to introduce less innovation than large firms. See next section.

Innovation - Size of Firm

Table 1a., showing the results of an ESRC survey of SMEs, indicates that larger firms are significantly more likely to be product, process and logistics innovators.

Empirical analysis, using the CBR data (ESRC Centre for Business Research), has shown that as a firm's size increased so did the probability of it innovating (Athreye and Keeble, 2000). This was interpreted by the authors as being related to the availability of the necessary resources required for innovation and also to cumulative learning.

Athreye and Keeble (2000) quoted wide empirical support for the theory that cumulative learning is important for innovation by the firm, stating that 'all else being equal, older and larger firms, with greater firm specific resources in the form of human capital, organisational abilities and accumulated knowledge and expertise, are more likely to be successful innovators than small firms are'.

Innovation is more likely in the larger enterprises. In Poland the recent trend has been for some increase in the number of medium sized enterprises and large increases in the number of small enterprises. Table 2b. below shows that the number of active small enterprises grew by 18% in 1996 and 1997, the number of medium enterprises grew by 6 and 8% in the same years and the number of firms with over 250 employees increased by 0.6% and 2.3% in these years. Within the large firms sector the movement from public to private sector enterprises is also likely to increase the chances of innovation and development.

Table 2b. Pace of Change in the Number of Active Enterprises in Poland (Preceeding year = 100)

	Total			Employees (0-50)			Employees (51-250)			Employees (>250)		
	1995	1996	1997	1995	1996	1997	1995	1996	1997	1995	1996	1997
Total	102.4	117.8	118.2	102.3	118.0	118.3	104.5	106.6	108.1	99.6	100.6	102.3
Public Sector	91.4	98.4	90.9	90.7	106.6	100.0	92.6	95.3	95.3	90.6	94.2	73.9
Private Sector	102.4	118.0	118.3	102.4	118.0	118.4	108.7	110.0	111.4	114.3	109.0	134.6

Source: Polish Foundation for small and medium enterprise promotion and development (1999)
Report on the Condition of the Small and Medium Size Enterprise Sector in Poland for the years 1997-1998

The size of the firm is an important variable in determining the probability of innovation. An analysis of the factors that affect the size of firms is accordingly appropriate to this section on innovation, as well as relating to the growth concerns of this report.

There are a number of variables that may be relevant to the size of the firm:

The personal background of entrepreneurs.

The Polish survey carried out by Johnson & Loveman (1999), produced 945 appropriate respondents for this question. Using the number of employees in a firm as a measure of growth and success (which was often the only reliable figure available), they made some useful findings on the factors affecting Polish entrepreneurs success:

* They did not find that age or total years experience was significant in the employment level regression. ie. This suggests that there is no advantage in being either older or younger.

* They did not find that the number of places that people had previously worked had any significant effect.

* Previous private sector experience did seem to influence performance. Having one or two private sector jobs was consistently significant with positive coefficients. ie.This suggests that it is private sector experience rather than just experience that helped entrepreneurs expand their firms.

This is a positive finding for the Polish economy as it suggests that over time, as the stock of entrepreneurs with private sector experience increases, there should be more potential for growth.

Education of Entrepreneurs.

The survey carried out by Johnson & Loveman (1999), did find a positive relationship between University education and the growth of a company (as measured by number of employees). A crosstabulation of the education and prior work experience indicated that higher levels of education did increase the ability of individuals to enter new lines of activity.

It seems reasonable to suppose that the higher level of human capital represented by university education is useful in meeting complex and changing business and macro economic environments. We would accordingly expect certain businesses or industries with greater complexity to demand a higher level of human capital.

A second survey by Johnson & Lovemen (1999) found that university educated entrepreneurs were more common in some sectors than others:

Modern services - 72% graduates
Transport - 67% graduates
Production - 47% graduates

Traditional services - 17% graduates
Rrestaurants - 13% graduates
Wholesale Trade - 25% graduates

Initial Capital

The survey results recorded in the previous Table 2a. showed the comparative low level of capital used in start-ups in all sectors of industry. Another element of Johnson & Lovemen's (1999) work shows that while a large amount of capital had not been necessary to enter the Polish private sector, having more than $5,000 initially may have helped subsequent performance.

Initial capital of less than $1,000 was not significant in the employment regression (used to proxy firm growth), but over a critical level of $5,000 it appeared easier to develop a larger business.

State sector and the privatisation programme

It was originally believed that the privatisation of Polish state enterprises would be the main method of boosting economic growth. However the emergence and growth of SMEs have been the more important mechanism. For various reasons such as flexibility and adaptability to a volatile environment, 'Starting Over' has proven the main method of enterprise development while state and even privatised firms have had a hard time adjusting (Johnson & Lovemen, 1999). This is another factor underlying the size of firms in Poland.

Lifespan

The size of businesses is related to their age. In a typical lifecycle a firm can expect to grow over a certain period. (See Table 1c).

Informal Sector

A further factor affecting the size of Polish SMEs is the size of the informal sector. It is estimated that over 17% of Polish GDP is generated in this informal sector (Krajewski & Piasecki, 2000). By failing to disclose their full figures on income and employment enterprises are able to pay lower taxes and reduce the high social insurance fees. By exaggerating their costs firms can also hide their real profits.

However such 'informal' activities can create barriers to growth. 'After surpassing a certain threshold firms cannot keep double accounting books and hide true information. In turn, revealing reliable information leads to the growth of financial burdens (taxes, social insurance of employees) and to the deterioration of the firm's market position' (Krajewski & Piasecki, 2000).

Innovation - Alternative Industrial Grouping

Up to this point we have looked at the more standard variables for innovation – manufacturing and services, older and newer firms, size of firm and its determinants, and the rate of growth. A recent paper (Hughes and Wood, 1999) produces analysis, using the CBR SME survey material, to show that an alternative to the traditional manufacture / service grouping can give us a useful method for innovation grouping.

The paper provides results that indicate that the Freeman's 1979 innovation groups for manufacturing industry can be more relevant for manufacturing analysis than the straightforward split between manufacture and service. (See Appendix p 38).

For example 'Engineering firms in both manufacturing and business services are significantly more innovation intensive by comparison with non-engineering firms in the same sector'

This alternative grouping suggests that in a number of cases there is a significant difference in 'sources of innovation information' and 'barriers to innovation in UK SMEs' between the groupings. Government policies could be more effectively targeted accordingly.

The CBR survey results applied to the alternative Freeman's innovation groups compared to the standard Manufacturing and Business Services groups, for 'Sources of Innovation Information' is shown in Appendix p 39.

Similar research would be useful in Poland to facilitate more effectively targeted policies.

Wood (1997) also used the CBR (Centre for Business Research, University of Cambridge) database to apply factor and cluster analysis. The analysis identified clusters of firms with various types of innovation 'outputs'. Some significant differences in their 'inputs' to innovation were found between the clusters.

The calculations (Wood, 1997, p26,29 & 30), enabled the author to reach conclusions such as:

- Firms with substantial innovation output are significantly more likely
'to have any staff engaged in R&D, to be engaged in R&D on a continuous as opposed to occasional basis and to enter into collaborative agreements'.

- Also conclusions were made about other inputs to innovation such as the importance of information from outside sources, including universities

- Also some conclusions about the characteristics of innovative output in the clusters.

The identification of alternative clusters of innovative type firms in the UK, by their input and output, has useful policy implications. A similar study of Polish firms could possibly produce equally useful results.

Innovation - Regional Innovation

It has been suggested that more innovation can be obtained by greater intermediation and a general 'industrial deepening' of a region (Athreye, Keeble, 2000).

In addition to an explanation of how the links between between sources of increasing returns and increasing innovation are connected, Athreye & Keeble (2000) produced an empirical analysis to provide support for the above hypothesis.

The study found that a large intermediate sector in the South East Region of the UK, characterised by increased division of labour and specialised markets, did account for increased innovation. In addition empirical support was found for the proposition that this regional environment also includes more imperfect (non price) competition between firms, which is an important feature of innovation.

The policy relevance of this research could be applied to Poland if a region could be identified where some assistance would efficiently move it towards substantially more intermediation. For example, something on the basis of an even more selective STRUDER[1] programme (which confined itself to just six regions).

In 1997 Poland had about 22% of total active SMEs located in the three largest urban centres of Lodz, Warsaw and the Katowice voivodships. At this time nearly 36% of enterprises with 6-50 persons were in just five voivodships (Warsaw, Katowice, Gdansk, Poznan and Cracow) From 1994 – 97 SMEs were also growing faster in these voivodships than in other areas. Nearly a third of the total increase in SMEs over these three years occurred in these five locations. (Polish Foundation for small and medium enterprise promotion and development, 1999)

The SME support infrastructure appears to have grown sufficiently to be of some assistance in any 'industrial deepening' policy (see section of business support). For example, The five regional divisions containing these voivodships contain nearly 60% of the 1184 business support institutions in Poland.

The role of SMEs in Polish regional development was laid out at the start of 1999 in the 'Assumptions for a national strategy of regional development in the years 2000 – 2006' and also in the draft 'Act on principles of state regional development policy'.

[1]The STRUDER programme was the largest PHARE regional SME programme. It aimed to accelerate transition and help develop the market economy and was geared towards regions facing restructuring problems.

Innovation - Public R&D, Universities

The empirical investigation of Athreye, & Keeble, (2000) suggests that one externality affecting innovation is public spending on R&D. That is, the higher the percentage of county GDP spent on public R&D (Universities, Higher Education and Government Laboratories), the higher the amount of innovation in any area.

The authors speculated that the cause may not necessarily be direct technology transfer, rather that the output from public R&D is often in the public domain and so can be exploited by firms. Also that a reserve of potential, well qualified entrepreneurs is created.

Within the UK the Government's public sector research establishments (PSREs) are currently engaged in commercialising their research and expertise. The Government 's policy is to increase the rate at which scientific knowledge is transferred to the private sector. There are various routes for 'knowledge transfer', ranging from licensing of technology, free dissemination of information, sales of services, formation of joint ventures, interchange of staff etc.

The problems, solutions and proposed methodology for knowledge transfer from the PSREs are fully explored in the Baker Report (HM Treasury, 1999).

Of the 1,235 business support organisations on the Polish SME Foundation's database, 4% are classified as research institutes and universities. Over the last decade there is believed to have been a significant amount of Polish academic involvement in commerce.

An equivalent to the Baker Report would be useful in focusing on methods for effective knowledge transfer from public sector establishments in Poland.

Innovation - Incubators, Innovation and Technology Centres

Another method of technology and information transference is the incubator. In the United States about 200 internet incubators alone have been launched in the last year (Economist, Aug 12, 2000). Incubators range from straightforward business ventures (with very low barriers to entry), to those run by universities and research laboratories. Also large companies such as Sony or Dupont and consultancies such as McKinsey have their own in-house incubators.

Their success is mixed and the values of the top four publicly listed incubators have fallen since April of this year to 15 – 30% of their previous highs. (Economist, Aug 12, 2000).

Within the Polish SME Foundation database of 369 support institutions, there are 26 listed as incubators, innovation and technology centres. As previously described in the section on support institutions, a number of support units, in their requirement to be self funding, have started incubators. Again with mixed success.

In assessing the programmes by PHARE to help some Regional Development Agencies to work as centres for development programmes and to target technology transfer, it was commented (Giergica, 1998) that:
'There is little evidence of a proactive program of technology transfer. Instead, a model evolved in which several RDA's established attractive offices and administrative training activities focused more on solving unemployment problems than supporting technology research or development and commercialisation of innovations'.

The explanation of the problems of Polish RDA technical assistance and why they have not produced a measurable impact on technical development includes (Giergica, 1998) :
- With political pressure to address transparent economic problems, technology initiatives are difficult to justify. (Training courses for redundant workers and job search services take precedence).

- The most common methods of technical assistance to SMEs relate to training for data systems and office skills.

- Many RDA's do not have the expertise or resources to follow technology initiatives.

Innovation - R&D Activity

R&D is an important aspect of innovation activity (ESRC Centre for Business Research, 1996). The ESRC study in the UK found that innovating firms are 4.5 times more likely to be carrying out continuous R&D compared to non innovating firms. The study found that the various relationships of R&D with other variables coincide with what would be expected :

* Manufacturers conduct more R&D and are more innovative than services.
* Medium size firms conduct more R&D and are more innovative than small firms
* Small size firms conduct more R&D and are more innovative than micro firms
* Fast growth firms conduct more R&D and are more innovative than medium growth firms
* Medium growth firms conduct more R&D and are more innovative than stable/declining firms
* Innovator firms conduct more R&D than non innovator firms.

Innovation - Technical Consultancy

An increase in the number of knowledge based firms is a development that links with some of the previous ideas presented in the sections on greater intermediation in some regions, the impact of public and university R&D and incubator developments. An increase in knowledge based firms would be expected to have a positive effect on SME innovation activity.

It is thought that there has been an emergence of more technical consultancies in both the UK and Poland (Kirby, Kwiatkowski, Jones-Evans, Schwalbach, & Futo, 1996). The following Table 2c. is a short summary of some of the main points from their work:

Table 2c.

It is postulated that the number of technical consultancies in the UK has grown. Brought about by larger firms sub-contracting out some of their non core activities and by the fast changing technological environment. Figures on number of enterprises supported this hypothesis.A previous study[1] was quoted as finding that small technical consultancies are most common in the industrial sectors of Computer services, Research & Development, Professional/Technical Services.

The authors believed that employees from larger organisations had left and set up their own firms.

The research supported the supposition that most self employed UK consultants had previously worked in a large organisation. They had obtained their technical expertise from this larger organisation. In a number of cases they had worked within an in-house consultancy or trouble shooting section.

Motivation for technical consultant start-ups can be classified as 'opportunist', 'lifestyle' and 'accidental'. The Kirby,Kwiatkowski et al (1996) study found all influences at work in the UK – called both 'push' and 'pull' factors

Formation problems of the UK technical consultancies were found to be typical of other small businesses, in particular the lack of finance and management experience. Two problems specific to this category of business were obtaining the initial contract work, due to a lack of track record and the small size of the company, and the second specific problem was in getting staff with appropriate technical skills and expertise.

The study found that there was growth in similar knowledge based firms in Poland. Numbers are hard to determine, but the study estimated that there were 2,000 such technical consultancies. It assumed an average of 5 employees per firms, to give a total of 10,000 workers. It was estimated that 600 of these enterprises were in Warsaw.

The reason for the Polish growth is credited to both demand and supply factors. On the supply side the potential pool of appropriate workers in Poland is illustrated by the decline in the number of scientists and technologists working in the science and technology institutions. Their numbers had declined from 22,300 in 1980 to only 11,000 in 1993.

On the demand side, it is attributed to an increased need for technical consultancy by manufacturing firms. This is caused by the increasing requirement for market re-orientation and restructuring.

The differences between countries are identified as:

* In Poland the supply of labour is possibly more of the 'forced' category of entrepreneurship, while in the UK the 'opportunity' and 'lifestyle' factors possibly have more importance.
* In Poland there are probably closer connections between the new technology firm and its large originator orginisation, while in the UK most consultancies do not have, in the initial stages, such close links with their original hosts.
* In Poland links with academia appear more developed than in the UK.

[1] Jones-Evans and Kirby, 1993, Technical Entrepreneurs in the Service Sector : The growth of small technical consultancies in the United Kingdom, in Chittenden, Robertson & Watkins (Eds) Small Firms Recession and Recovery, London, Paul Chapman Publishing.

SECTION 3

Size & Growth of the SME sector

The importance and growth of the SME sector is usually first measured in terms of the number of businesses, employment and output, although there are many other, more subjective criteria such as social stability through the development of a middle class, the development of an entrepreneurial class, export sales etc,

The following chapter give us an insight into the extent of SME development in both countries. The actual numbers often cannot be compared directly because of the differences in compilation[1] but a comparison of the trends is instructive.

Number of Enterprises

Table 3a.. Total number of businesses in the UK

	1980	84	87	89	90	91	92	93	94	95	96	97	98	99
UK (m)	2.4	2.9	3.2	3.7	3.8	3.8	3.6	3.5	3.6	3.7	3.7	3.7	3.7	3.7
Change (%)		21	10	16	3	0	-5	-3	1	3	0	0	0	0

Source: Calculated from UK figures from SME Statistics Unit, Department of Trade and Industry. 1999 and Statistical News Release, August 2000.

In the UK, at the time of the Bolton Report (1971) the British Government was concerned that the influence of the SME sector was declining. In the 60's the country had had a smaller small firm sector than any other advanced industrial economy. Or, from another perspective, the concentration of resources had gone further than in any other industrialised European country. (Deakins, 1996). In that decade only the USA had more multinationals than Britain in the worlds' top 500 companies.

[1] Even the official UK figures are not strictly comparable between different time series. The DTI figures for 1993 – 99 draws on the data from the Inter Departmental Business Register which is not available for estimates prior to 1992. The methodology for calculating the number of unregistered businesses also changed.

There are differences between countries in what is included or excluded from the official figures. For example the UK figures usually include agriculture, forestry and fishing while the Polish figures usually exclude them. The effect of this on the 1998 figures :

Number of enterprises - 192, 840. ie 5.3% to be deducted from the UK number.
Employment - 499,000 ie. 2.3 % to be deducted from the UK number.
Turnover - £28,041m ie 1.5% to be deducted from the UK number

In Poland we need to draw a distinction between the total number of enterprises and the number of estimated active enterprises. The official UK statistics are not reported as reflecting a similar requirement. For example, the Polish foundation for SME Enterprise Promotion and Development figure of 2,552,649 enterprises in 1997 should be reduced to 1,583,606 enterprises.

The UK figures refer to the start of the specified year. The Polish figures used from the Polish foundation for SME Enterprise Promotion and Development tend to refer to the end of the specified year. ie. The UK 1997 figures are more comparable with the Polish 1996 figures.

For the 60's and 70's numbers are difficult to compare in a meaningful manner with the DTI figures in the above Table 3a. However it is generally acknowledged that soon after the Bolton report, which had highlighted the various important roles that small firms can play in the economy, the relative decline of the small firm sector was reversed (Deakins, 1996).

The growth in the number of enterprises increased in the 1970's and by 1989 there were approximately 1.3 million more enterprises than there had been in 1980. However in the 1990's the total number has declined slightly from its highest level and for the last five years there has been no significant change in numbers.

For Poland, there was already a comparatively large craft sector by the start of the 1980's, (by command economy standards). The activities were governed by decrees dating back to 1927 but by 1980 147,000 firms were satisfying the criteria sufficiently well to be allowed to operate and employ around 280,000 people. [1]

Table 3b. Poland – growth of small firms during the Marshall Law period (1980 – 1988)

'000	1981	82	83	84	85	86	87	88
Number of craft firms	357	392	438	470	482	500	530	572
% change		10	12	7	3	4	6	8

Source: Calculated from Phare.Oct 1999, An Evaluation of Phare SME Programmes, Poland, Final Report.pp4. Statistics taken from Statistical Yearbooks of Industry, Central Statistical Office

Table 3c. Poland – Growth of sole traders and legal entities (1989 – 1997)

'000	1989	90	91	92	93	94	95	96	97
Total no of small firms	857	1202	1494	1733	1943	2036	2100	2310	2482
% change		40	24	16	12	5	3	10	7

Source: Calculated from Phare.Oct 1999, An Evaluation of Phare SME Programmes, Poland, Final Report.pp4. Statistics Interpreted from data from the Central Statistical Office

By the early 1990's research papers on SMEs in Poland had characterised the period from 1980 into three distinct periods. Smallbone and Piasecki (1996) used the three phases and accredited them to Piasecki & Rogut[2].

[1]Phare (Oct 1999), quoted Piasecki and Rogut (1994) Polish Craft Industries in the Transformation Process, in Koning and Muller (ed), Proceedings of Conference on Craft Industries in Europe, University of Goettingen.

[2]Piasecki B & Rogut A (1993a) 'Self Regulation of the SME Sector at a More Advanced Stage of Transformation', Paper presented to the 20th Annual Conference of E.A.R.I.E., Tel Aviv, September 1993.

The first phase was the steady growth in numbers during the Marshall Law period, resulting from a number of favourable legislative changes. Table 1b. above shows that the number of private firms grew from 357 thousand to 572 thousand in 1988. The number of employees grew from 654 thousand to over 1.28 million during this period. Smallbone and Piasecki (1996) identified that an important characteristic of this period was the 'rapid growth in the number of manufacturing and construction firms and a relatively slow growth of those in services and trade'.

Substantial growth in the number of SMEs followed the 'Law on Economic Activity' on 23/12/88. This introduced much greater freedom of economic activity and helpful changes to the accounting procedures and the tax system were also introduced (Marek, 1999). The second phase is identified as the very fast growth of entrepreneurship from 1989 – 91.

Other factors identified by Smallbone and Piasecki (1996) to account for this explosion (see Table 3c.) included the new socio-political atmosphere after the June 1989 elections, the underlying consumer demand for a wider range of products that had been surpressed until then and the market opportunities created by the limited competition and shortages of particular products.

After 1991 the growth rate in the number of enterprises slowed down and by 1993-4 returned to single digit increases (see Table 3c.). This period of slowdown was explained by Smallbone and Piasecki (1996) by a variety of factors, including:

* Rising cost of employer's social insurance contributions * Decreasing consumer purchasing power
* Gradual elimination of tax incentives for new firms to set up * Growing imports from the West
* Effects of increasing competition between firms * New market opportunities increasingly hard to find
* Rising raw material and energy prices – as Government reduced subsidies to match world price levels

Whether the period after 1993 should be categorised as another distinctive period because of the increased Government SME focus is another argument. So far as the growth in the number of enterprises is concerned, it is a period of consistent growth within a 13% band.

The consistent growth rate in Poland during the 1990's, compares to the relative plateau reached in the UK. A breakdown of the total numbers is given in Table 3d on the next page:

Table 3d. Number of enterprises by firm size.

	1994	1995	1996	1997	1998	1999
No employees						
UK (000's)	2589	2486	2517	2524	2340	2324
UK (% change)		-4	1	0	-7	-1
0 - 4 employees						
UK (000's)	3202	3298	3330	3327	3262	3288
UK (% change)		3	1	0	-2	1
0 - 5 persons						
Poland (000's)		1921	2192	2359		
Poland (% change)			14	8		
0 - 49 employees						
UK (000's)	3546	3674	3692	3676	3627	3646
UK (% change)		4	1	0	-1	1
0 - 50 persons						
Poland (000's)		2070	2349	2522		
Poland (% change)			14	7		
Poland active enterprises (000's)			1328	1567		
Poland active enterprises (% change)				18		
50 - 249 employees						
UK (000's)	29.2	26.2	25.7	25.1	24.6	24.2
UK (% change)		-10	-2	-2	-2	-2
51 - 250 persons						
Poland (000's)		23.2	24	24.6		
Poland (% change)			3	3		
Poland active enterprises (000's)			11.9	12.8		
Poland active enterprises (% change)				8		

Source: Calculated from UK figures from SME Statistics Unit, Department of Trade and Industry. 1999 and SME Statistics Unit, Department of Trade and Industry, August 2000, Statistical News Release
Polish figures from Report on the Condition of the Small and Medium Size Enterprise Sector in Poland for the years 1997-1998, 1996-1997, 1995-1996, Polish Foundation for small and medium enterprise promotion and development

The largest category of firm size in the UK is the 'size class zero' business which consists of sole traders or partners without employees. It has decreased in size by 265,000 over the five years from 1994. However nearly 120,000 of the decrease is accounted for by a drop in the construction sector from 1997 to 1998. Equivalent estimates for 'size class zero' business in Poland were not available for comparison.

The other UK figures for 0-4 employees and small enterprises up-to 49 employees do not show any strong trend over the latter half of the 90's. Medium size companies however consistently declined in number each year. Conversely the comparable figures that we have for Poland for the years 1995 – 1997 show increases in each of their category of enterprise size - micro (0-5 persons), small and medium sectors. The active enterprise figures, available for small and medium sized enterprises, show an even larger increase than the nominal total figures.

Table 3e. The percentage of businesses in the UK, by category of firm size

Number of employees	1994	1995	1996	1997	1998	1999
No employees	72.3	67.1	67.6	68.1	64.0	63.2
Small (0-49)	98.9	99.1	99.1	99.2	99.2	99.2
Medium (50 – 249)	0.7	0.7	0.6	0.6	0.6	0.7
Total SME	99.6	99.8	99.7	99.8	99.8	99.8

Source: SME Statistics Unit, Department of Trade and Industry. 1999 and SME Statistics Unit, Department of Trade and Industry, August 2000, Statistical News Release

Table 3f. The percentage of businesses in Poland, by category of firm size

	1995	1996	1997
Small (0-50)	98.6	98.7	98.8
Medium (51 – 250)	1.1	1.0	1.0
Total SME	99.7	99.7	99.8

Source: Reports on the Condition of the Small and Medium Size Enterprise Sector in Poland for the years 1997-1998, 1996-1997, 1995-1996, Polish Foundation for small and medium enterprise promotion and development.

In terms of SME numbers relative to the total number of enterprises, the UK and Poland are similar. Small firms dominate. However the UK has had a consistently higher percentage of Small firms while Poland's percentage of Medium sized firms is slightly higher.

Output

Table 3g. Turnover by firm size in the UK
(£ in £000'million)

	1994		1995		1996		1997		1998		1999	
Number of employees	£	%tot	£	%tot	£	%tot	£	%tot	£	%tot	£	%tot
No employees	83.7	5.5	70.5	4.2	81.3	4.5	86.7	4.8	88.6	4.6	90.4	4.7
Micro (0 – 9)	283.1	18.4	348.9	20.7	447.6	25.0	414.2	23.1	425.9	22.1	435.5	22.4
Small (0 – 49)	509.7	33.1	633.8	37.6	757.5	42.3	709.0	39.5	733.0	38.0	732.4	37.7
Medium (50 – 249)	284.2	18.5	313.2	18.5	251.6	14.0	256.6	14.2	265.7	13.9	258.1	13.3
Total SMEs	793.9	51.6	947.0	56.1	1009.1	56.3	965.6	53.7	998.7	51.9	990.5	51.0

These figures do not include 'financial intermediation' and exclude VAT.
Source: : Calculated from SME Statistics Unit, Department of Trade and Industry. 1999 and SME Statistics Unit, Department of Trade and Industry, August 2000, Statistical News Release

Over the last six years, the SME's contribution to total turnover in the UK(excluding the finance sector) rose from 51.6% in 1994 to 56.3% in 1996 and returned to 51% by 1999. This masked a 5.2% point drop in the contribution of Medium sized enterprises and increases in the contribution of the Small firm sector.

Over the six years from 1994 the number of Medium sized enterprises had decreased by 17%[1]. The 5.2% drop in the contribution to total turnover indicates that the average percentage contribution of each medium sized firm had increased. The firms average turnover figure in this size of firm rose 10% from the nominal £9.72m in 1994 to the nominal £10.67m in 1999[2]

Over the same period the number of Small enterprises had increased by 2.8 %[1] while the contribution to total turnover had also increased by 4.6 percentage points. This indicates that the average percentage contribution for each Small sized firm had also increased. The firms average turnover figure in this size of firm rose 40% from the nominal £143,756 in 1994 to the nominal £200,885 in 1999[2].

[1]Calculated from Table 3d.
[2]Calculated from SME Statistics Unit, Department of Trade and Industry. 1999 and SME Statistics Unit, Department of Trade and Industry, August 2000, Statistical News Release

In 1996 it has been estimated that Polish SMEs generated approximately 50.5% of gross value added for the entire economy and by 1997 this had increased to approximately 51.5%. (Polish Foundation for SME promotion and development, 1999). A comparison of the relative importance of the different category sizes of Polish firms is shown in Table 3h. below.

Table 3h. The share of SMEs in generating GDP in Poland[1]

	1995	1996	1997
Small (0-50)	23%	29%	36%
Medium (51-250)	7%	11%	9%
Large (251 +)	23%	26%	24%
Outside of enterprise sector + duties & taxes[2]	47%	34%	31%

Source: Reports on the Condition of the Small and Medium Size Enterprise Sector in Poland for the years 1997-1998, 1996-1997, 1995-1996, Polish Foundation for small and medium enterprise promotion and development.

The figures in Table 3h were published in yearly reports by the Polish Foundation for SME promotion and development. An amendment in their 1997 report puts the SME figure for 1996 at 45% rather than 40%. This is put down to revised consideration of the shadow economy and illustrates both the danger of placing too much emphasis on exact SME statistics at the moment and the extent of the shadow economy.

Of the gross value added by firms within the enterprise sector, Small firms accounted for 54% in 1996 and fell to 53% in 1997. Medium-size enterprises increased their share of the value added from 11% in 1996 to 12% in 1997. Accordingly in 1996 and 1997 the total share of gross value added by SMEs within the enterprise sector was 65% (Polish Foundation for SME promotion and development, 1999).

In contrast to the Polish gross value added figures and the amended figures for Table 3h. if we take a roughly equivalent time period in the UK[3], in the comparison of turnover by firm size in the UK[4] we have the importance of Small firms decreasing by 4.3 percentage points and Medium firms by 0.1 percentage points. The main drop in the UK's medium firm size ranking occurred just before and just after this period.

[1]Note – 1995 figures were for share of GNP. The 1996 figures were subsequently amended. Instead of SMEs accounting for 40%, when the shadow economy was taken into consideration the figure increased to about 44%.

[2]The Non Enterprise sector includes agriculture, fishing, and forestry. Also various religious and political organisations, budgetary units, auxiliary companies, special resources and targeted funds.

[3]The UK DTI figures are for the start of the year. The Polish Foundation for SME Enterprise Promotion and Development figures are for the end of the year. For comparison we shall take the Polish 1995 year figures to be more equivalent to the UK 1996 figures.

[4]Table 3g.

The trends in the UK and Poland's statistics appear to indicate that, with regard to output, the relative importance of SMEs in Poland had plateaud from 1996 to 97. In the UK the relative importance of SMEs over this three year period had declined at the expense of large firms.

Over a longer period in the UK (1994 – 1999) the trend appeared to be for the large firms to rise and then return to their original relative importance, for small firms to rise and then fall back to a level higher than their original relative importance and for medium firms to continually decline in their relative importance. Only the 'no employees' sector had consistently shown growth in absolute turnover since 1995.

Employment

'Ever since the publication of the Birch Report it is the contribution of SMEs to employment generation that has been the main focus of attention of policy makers in western countries' (Smallbone, Venesaar, 1997).

This unambiguous statement is indicative of the importance which researchers have attached to the relationship between SMEs and employment.

The size of the SME sector as measured by direct employment in the UK is given in Table 3i. below:

Table 3i Employment by size of business in the UK
(000's)

	1994		1995		1996		1997		1998		1999	
Number of employees	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
No employees	3017	14.6	2808	13.8	2856	13.6	2866	13.6	2749	12.7	2708	12.5
Micro (0 –9)	5805	28.1	6420	31.7	6409	30.6	6368	30.2	6588	30.5	6562	30.2
Small (0-49)	9086	44.0	9722	47.9	9608	45.9	9418	44.7	9652	44.7	9557	43.9
Medium (50 – 249)	2862	13.9	2574	12.7	2601	12.5	2544	12.1	2508	11.6	2491	11.5
Total SME	11948	57.9	12296	60.6	12209	58.4	11962	56.8	12160	56.3	12048	55.4
Total	20607		20279		20954		21073		21595		21746	

Source: Calculated from SME Statistics Unit, Department of Trade and Industry. 1999 and SME Statistics Unit, Department of Trade and Industry, August 2000, Statistical News Release

Over the six years since 1994 the SMEs in the UK have accounted for a yearly average employment of 12.1m people. They have accounted for between 55 – 61% of all non government employment.

The 'size class zero' businesses have shown an almost consistent decline in total numbers since 1994 and its relative importance in employment has fallen accordingly. The total number of business naturally also fallen, by 10% over the six years from 1994. It is interesting to note however that the total turnover for this sector has, conversely, consistently increased. The average turnover per worker in this category has consistently risen as shown in Table 3j. below. From £27.7 thousand turnover per worker

in 1994 the figure has risen to £33.4 thousand per worker in 1999.

Table 3j. Average turnover per worker in the UK, size class zero.

	1994	1995	1996	1997	1998	1999
Employment (000's)	3017	2808	2856	2866	2749	2708
Turnover (£m)	83734	70554	81352	86706	88634	90463
Av turnover / worker (£000's)	27.75406	25.12607	28.48459	30.25331	32.24227	33.40583

Source: Calculated from SME Statistics Unit, Department of Trade and Industry. 1999 and SME Statistics Unit, Department of Trade and Industry, August 2000, Statistical News Release

The micro sector (0-9 employees) has increased employment by 13% over the six years from 1994. This compares with a 54% increase in turnover. In 1994 the average turnover per worker in the micro sector was £48.8 thousand, by 1999 it had reached £66.4 thousand per worker[1]

The small firm sector (0 – 49 employees) has consistently accounted for between 43 – 48% of non government employment over the six years since 1994. However the total employment figure peaked in 1995 and in 1999 it was more than 160,000 less than the peak year. The turnover per worker figure has changed from £56.1 thousand in 1994 to £76.6 thousand in 1999[1]

The Medium firms sector (50 – 249 employees) employment has declined in absolute and relative terms over the six years up-to 1999. The turnover figure per worker however has risen from £99.3 thousand in 1994 to just £103.6 thousand in 1999[1].

From 1994 to 1999, from the above, we can say that the output per worker, in nominal money terms, has risen by:

Size class zero - 21%
Micro (0 – 9 employees) - 36%
Small (0 – 49 employees) - 36%
Medium (50 – 249 employees) - 4%

[1]Calculated from SME Statistics Unit, Department of Trade and Industry. 1999 and SME Statistics Unit, Department of Trade and Industry, August 2000, Statistical News Release

In Poland, the December 1997 figures for employment were 6.6m people working in the private sector and nearly 4.8m working in the public sector, giving a total of 11.4m working population (excluding agriculture, fishery and forestry) (Polish Foundation for small and medium enterprise promotion and development, 1999)

It would have been instructive to compare changes in average turnover per employee, by firm class size, with the equivalent changes in the UK. When estimates of turnover, by firm class size, are available for Poland this would be a useful exercise.

The rate of change in the total working population, over three years, is given in table 3k. below:

Table 3k. Rate of Change in Total Working Population, 1995 – 1997 (preceding year = 100). Poland.

	TOTAL			EMPLOYEES 0-5			EMPLOYEES 0-50			EMPLOYEES 51-250			EMPLOYEES >250		
	1995	1996	1997	1995	1996	1997	1995	1996	1997	1995	1996	1997	1995	1996	1997
Total	100.5	101.8	102.8	101.9	101.9	114.0	102.6	103.7	105.9	103.8	105.5	106.5	97.3	98.4	98.0
Public Sector	95.8	96.8	89.5				104.9	104.0	96.2	97.0	99.7	101.9	94.2	94.8	84.2
Private Sector	105.8	106.9	115.1	101.9	101.9	114.0	102.2	103.7	107.3	114.1	112.9	111.9	113.4	114.1	148.2

Source: *Report on the Condition of the Small and Medium Size Enterprise Sector in Poland for the years 1997-1998, Polish Foundation for small and medium enterprise promotion and development.*

From the figures in the above table 3k, it can be seen that:

* The total working population has increased each year. This compares to the consistent increase in the total UK working population over the last six years (with the exception of 1995).

* The total SME population increased each year. This compares to fluctuations, up and down in the UK.

* The micro firm (0-5 employees) showed substantial growth in 1997. The comparable UK sector also had 3.4% growth in employment in the equivalent period[1] (Agriculture, forestry and fishing are excluded from the UK figures to make them more comparable to the Polish statistics).

* The total small firm (0-50 employees) sector increased its employment each year. Private sector firms increased each year and the public sector two years out of three. In the UK, for the equivalent 1996 – - 97 period, there was also some growth in employment (2.3%), but the sector grew less than the increase in overall employment[1].

* The Polish medium sized sector (51 – 250 workers) also grew in employment during the three years covered. In contrast the UK medium firm sector employment declined in both relative and absolute terms[1].

* The Polish large firm sector (> 250 employees) consistently declined in employment during the three year period. This was due to the decline of the, still large, public sector. The private sector increased each year.

[1] See Appendix p17.

SECTION 4

Growth disaggregation - European Classification of Activities

A model for the size and growth of the Polish and UK SME sector would include a large number of micro and macro economic factors. One of the most appropriate determinants of growth that should be examined is the relationship of individual industrial sectors to SME participation, and their development within these particular industrial sectors.

Both UK and Polish SME statistics are available, broken down according to the European Classification of Activities. The calculations with some of these statistics are recorded in the Appendix, p 3 – 33.

Mining and quarrying:

Regarding employment, the Polish mining and quarrying sector is a significant, but not large, part of the Polish economy. It accounted for just under 3% of the population working in large firms and SMEs. In the UK it accounts for only 0.4% of non government employment.

The UK has a smaller number of large enterprises than Poland but very many more small and medium size enterprises. At the end of 1996/start of 1997 the UK had seven times as many enterprises in this sector. However the difference is narrowing and a year later the UK had less than six times as many enterprises.

The change was caused by a 34% increase in the number of Polish small enterprises and 9% increase in medium enterprises. This compares with only a 4% increase in the number of UK small businesses and nearly 4% decrease in medium size entities.

In Poland the public sector enterprises predominate (95%) and large firms account for over 95% of workers in this sector. However the size of the public sector is declining (from 338 thousand workers in 1996 to 311 thousand workers in 1997). In the Polish private sector the large firms only account for 49% of private sector employees. Accordingly, if the private sector continues to grow at the expense of the public sector, the average number of employees per enterprise can be expected to decrease.

In conclusion, the number of enterprises in Poland has been increasing while the average number of workers per enterprise is decreasing. At present SMEs play a proportionately smaller part in this Polish industry than they do in the UK, but with reduced public sector operation the role of SMEs may be expected to increase.

Manufacturing

The UK had more manufacturing enterprises than Poland. By the end of 1997 / start of 98, the UK had 332,000 enterprises compared to Poland's 212,000. However Poland's annual growth in numbers was 9.5% compared to 3% for the UK.

Manufacturing is a significant part of both economies. In the UK it accounts for over 20% of non government employment and in Poland it accounts for approximately 27% of the enterprise sector.

By the end of 1997 the public sector in Poland dropped to just 21% of all manufacturing employment. The average number of employees per enterprise accordingly dropped and was comparable to the UK (14.6 workers in Poland and 13 in the UK).

The employment profile is quite similar between the two countries. At the start of 1998 the Micro firm (Polish definition of 0-5 employees) accounted for 9.7% of UK manufacturing workers and 13.1% of Polish manufacturing workers, the Small Firm (0- 50 employees) accounted for 28.8% of UK manufacturing workers and 31.2% Polish manufacturing workers, and Medium enterprises accounted for 20.7% of UK manufacturing workers and 21.5% of Polish manufacturing workers.

Electricity, Gas and Water

In the UK an increase of 20 enterprises in the zero employees category increased the total number of enterprises in 1998 by 13% up-to 335. In Poland the total number at this time was far larger at 1514. Their number increased by nearly a third over the year, with small enterprises accounting for more than a 50% increase. The Micro firm (Polish definition of 0-5 employees) actually increased by nearly two thirds.

Despite having less than a quarter as many enterprises, the UK accounted for 153,000 employees in 1998 compared to nearly 281,000 in Poland. Accordingly in this sector, the UK had a far higher employment to enterprise ratio, with an average of 450 compared to the 185 in Poland.

Construction

There is a large difference in the total numbers and profile of enterprises between the UK and Poland. In 1998 the UK had nearly four times as many enterprises as Poland, but less than twice as many workers in the sector. Accordingly the UK had an average of 2 workers per enterprise while Poland had an average of 4.8 .

While the micro firms (Polish definition of 0-5 employees) employed 9% less in the UK from 1997 to 1998, the Polish micro firms increased their employment by 17%.

Small enterprises accounted for 99.8% of all enterprises in the UK and 78% of the employment in this sector. In Poland 98.8% of all enterprises are small but they only account for 55% of employment. However while the number of small enterprises went up by nearly 40% in Poland during the year from end of 96 – end of 97, in the UK the number of small enterprises went down by over 12% (start 97 – start 98). The UK figures declined because of a large drop (over 16%) in the no employees category.

In Poland the private sector appears to be growing at the expense of the public sector. From 96 – 97 the employment in the public sector dropped by 38% and the number of enterprises dropped by 16%, while employment in the private sector increased by 10% and number of enterprises increased by 37%.

If the trend toward less public enterprises and more private enterprises continues, it will probably mean more enterprises in total but not necessarily an increase in employment. The average number of employees in the Polish public sector was 118 (coming down from 160 in the previous year) while the private sector firm only had an average of 4.4 workers.

Wholesale trade and repairs

Poland's sector, in terms of number of enterprises is larger than the UK (17% more in 1998). In both countries over 99% of the enterprises can be classified as small. From 1997 – 98 they also both showed increases in their total numbers (UK up 5% and Poland up 14%).

In terms of employment however, the UK had twice as many workers in the sector. The UK had an average of 8 workers per enterprise compared to 3.1 in Poland at the start of 1998. The Polish public sector has a far larger average firm size, with an average of 135.1 employees. However as it only accounts for 3% of employees in this sector and 0.08% of enterprises, it only has a relatively small employment effect.

Hotels and restaurants

The UK has three times as many enterprises as Poland and it employs more than seven times as many people. The average employment per enterprise is 10 compared to 4.2 in Poland.

In the UK 98.9% of these enterprises can be classified as small compared to 99.7% in Poland. However just under half of all employees work in small enterprises within the UK compared to nearly four fifths in Poland. The UK has over 40% of employees in this sector working within large firms, compared to just 13.6% in Poland. It may be significant that large firms were the area of fastest employment growth within Poland for the year end 96 – end 97.

Transport, storage and communication

Given the expectations for electronic shopping this is a particularly high interest area. We might expect to see signs of growth and rationalisation.

The UK has 36% more enterprises in this sector compared to Poland and 69% more employees. The average enterprise employing 7 workers compared to 5.7 in Poland.

In the UK this sector accounts for nearly 6.9% of all non government workers and large enterprises predominate with over 60% of the labour within the sector. In Poland the sector accounts for 7.7% of enterprise sector workers and large enterprises have over 65% of labour within this sector.

Interestingly, within the UK, for the year 97 – 98 every type of firm classification (no employees, micro 0-5 employees, micro 0-9 employees, small, medium and large) showed some decrease in the numbers of enterprises. However micro firms, small firms and large firms showed some increase in employment. ie. The average number of workers in these categories of firms was increasing. In Poland only the number of large enterprises decreased and this was the only firm classification to show a decrease in employment.

Financial intermediation

In the UK this sector accounted for 4.8% of the total non government employment, compared to 1.9% in Poland. From 1997 – 98 the amount of employment in Polish small companies increased by more than 71%, while large enterprises showed an actual decrease. In the UK employment in small enterprises increased by nearly 11% while large companies also increased their total employment.

Real estate, renting and business activities

In 1998 this accounted for nearly 14% of UK non government employment and 19% of businesses. In Poland it accounted for just under 6% of non government employment and 11% of active businesses.

In both countries, from 1997 – 98, the number of enterprises and employees increased significantly.

The average number of workers per enterprise was fairly similar between the two countries. The UK with an average of 4 and Poland with an average of 3.6. However in Poland, in the private sector which accounted for 74% of all employees, the average number of workers was only 2.7. The Polish public sector saw an extra 20 enterprises from end of 96 – 97 (with an average of 245 employees) while the private sector saw an extra 29,408 enterprises.

If the Polish private sector continues to expand at this rate (the micro firms of 0-5 employees increased by 53%, compared to nearly 8% in the UK), the average number of employees per enterprise seems likely to be under pressure.

Education

In the UK this sector showed a decrease from 1997 – 98 in both number of enterprises and number of workers. In Poland the numbers indicate some problems with classification methodology. The 9 public sector enterprises had an average of 98948 employees per enterprise. The private sector enterprises had an average of 1.9 employees. This compares with the UK average of 2 employees.

Health and social work

The UK has three times as many enterprises and two times as many employees as Poland in this sector. The UK has an average of 10 employees per enterprise compared to 15 in Poland. However the Polish figures are again distorted by large discrepancies between the public and private sector calculation. The 178 public sector enterprises have an average of 5385 employees while the 66955 private sector enterprises have an average of 1 worker each.

From 1997 – 98 the number of workers in the micro sized firm (0- 5 employees) increased by 115% in Poland compared to a decrease of 3% in the UK. Overall however, because of an increase in the employment within large firms, the UK and Poland increased at approximately the same rate (UK – 4% more employees and 3% more employees in Poland).

Other community, social and personal services

The UK has nearly six times as many enterprises in this category as Poland. However it has slightly less than three times as many employees in this category. The average number of workers per enterprise in the UK is 3 compared to 5.6 in Poland.

The employment within Poland is fairly evenly split between the public and private sector (46% and 54% respectively). The public sector has an average of 398 workers per enterprise compared to an average of 3.1 in the private sector.

From 1997 – 98 both countries showed an increase in the number of micro firm employees (0-5), and the number of large firm employees. The UK had a higher percentage of employees within small and large companies, while Poland had a much higher percentage within medium sized enterprises (25% of all employees).

Conclusion

This report gives a comparative picture of the size and growth rate of the SME sector in the UK and Poland. It focuses on variables affecting innovation.

In addition to the more widely studied work on factors affecting the growth of firms and barriers to their growth, recent studies on a number of other innovation variables appear useful. Significant areas appear to include elements such as institutional support for SMEs and research in the ideas of alternative industrial clusters, regional innovation through 'industrial deepening', and knowledge transference.

The survey of secondary material indicates that; a study of Polish firms regarding alternative industrial grouping might be worth considering, similarly with alternative clusters of innovative type firms. It might be worth considering whether a more selective STRUDER programme could be used to work on the 'industrial deepening' of a region. A number of questions are raised such as, Would Poland benefit from an equivalent to the Baker Report (HM Treasury, 1999) regarding more effective methods for knowledge transfer from public sector establishments ? Are the problems with Polish Regional Development Agencies in following technology initiatives worth addressing ? Can the UK learn from the apparently closer links in Poland between academia and SMEs ?

The analysis of UK and Polish SME data in the third and fourth section of the report provides a picture of alternative development. Sets of consistent data are generally short but there are many points of comparison that may indicate significant underlying factors. One such example is that in the UK medium sized firms' employment numbers have actually declined over the period 1994 – 99 and they have had a minimal 4% increase in nominal output per worker. By comparison between 1995 – 97 the number of workers in the Polish medium sized sector increased by 2.6%, 3.7% and 5.9% respectively. An explanation of one of these trends, for example the influence of technology, might be appropriate for forecasting of the other. This is particularly apposite when looked at from the industry sector level. The comparison of micro, small and medium firm size data for both countries, and by industrial sector gives us many such examples.

The growth in enterprise numbers in Poland, since 1980, is usefully categorised into three phases. The Marshall Law period, the fast growth following the 'Law on Economic Activity' at the end of 1988 and the more sedate but consistent growth after 1991. This compares with the UK where, after a fast growth in numbers during the 1980's, the total numbers in 1999 are roughly still at the level at which they started in 1989. Within this context of total numbers that are not moving upward there were substantially increasing output/employee ratios and output/enterprise ratios, for size class zero, micro and small firms. Such findings may tie in with developments in technology and innovation but would require more sector analysis, to make a satisfactory link.

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