SMALL AND MEDIUM SIZED ENTERPRISES IN TURKISH MANUFACTURING INDUSTRIES

Erol Taymaz*

The small firm has increasingly become the focus of public policy designed to decrease unemployment in the developed and less developed countries. In the 1970s, international organisations started to advocate the promotion of SMEs in LDCs to alleviate the problems of unemployment. It is argued that the capital intensive "modern" sector in LDCs is unable to generate employment opportunities for a rapidly growing population.

In the 1970s and early 1980s, the labour intensive technological structure was emphasised as the major factor behind the potential of SMEs to generate employment. In recent years, the emphasis has been gradually shifted towards the technological dynamism and entrepreneurial spirit of SMEs. The SME sector is now hailed for its flexibility and creativity.

The main aim of this paper is to analyse the role of SMEs in Turkish manufacturing industries, the effects of trade liberalisation and openness to trade on SMEs. The paper summarises recent theories on the new role of SMEs, changes in the share of SMEs in Turkish manufacturing industries at the ISIC 4-digit level, and the employment generation of new establishments.

1. INTRODUCTION

Turkey joined the customs union of the European Union (EU) to strengthen its economic development potential through a more extensive trade with the European Community. The customs union brings the Turkish industry into a more open and extensive competition with international organisations, both domestically and abroad. There is a pressing need for more factual information about the status of this sector of the economy, and, in particular, the small and medium-sized industries, in order to assess its ability in competing in the global economy and providing a basis for effective economic development

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* Middle East Technical University, Department of Economics.

policies by the Government and for developing appropriate business strategies by private sector organisations.

In most of the twentieth century, small and medium sized enterprises (SMEs) were considered to be an archetypal and declining sector in which "informal" and "pre-modern" labour relations and technologies hindered the process of economic development. The SME sector was thought to be eliminated by more efficient and advanced large firms. The tendency towards gigantism was dominant among public policy makers both in the developed and the less developed countries (LDCs) who try to imitate the industrial development experience of the former group. The apparent failure of the industrialisation attempt in most of the LDCs and the prolonged economic crisis in the developed countries in the 1970s and 1980s, on the one hand, and the striking resistance and vitality of SMEs in many sectors, on the other, forced policy makers to re-evaluate the role of SMEs in the economy.

The small firm has increasingly become the focus of public policy designed to decrease unemployment in the developed and less developed countries. In the 1970s, international organisations started to advocate the promotion of SMEs in LDCs to alleviate the problems of unemployment. It is argued that the capital-intensive "modern" sector in LDCs is unable to generate employment opportunities to a rapidly growing population.

In the 1970s and early 1980s, the labour-intensive technological structure was emphasised as the major factor behind the potential of SMEs to generate employment. In recent years, the emphasis has been gradually shifted towards the technological dynamism and entrepreneurial spirit of SMEs. The SME sector is now hailed for its flexibility and creativity.

Although the importance of SMEs for economic development and employment generation is accepted in the rhetoric of policy makers (establishments employing less than 100 people account for more than half of the manufacturing employment in Turkey), the real level of knowledge about such firms is surprisingly low. Because of the lack of data, most of the existing scholarly studies are based on small-sample survey data whose coverage is usually limited (see, for example, Bademli, 1977; Ayata, 1987 and 1991; Aktar, 1990; Evcimen, Kaytaz and Cinar, 1991; Kaytaz, 1994; and Ozcan, 1995). These studies present a very detailed (usually

sociological) description of the patterns of capitalist (under)development in specific sectors/regions. On the other hand, there are a number of studies that are published by the practitioners and policy makers (for example, see Koparal, 1977; Baykal, Pazarcik and Gulmez, 1985; MPM, 1987; SPO, 1989; and Muftuoglu, 1989). These studies are usually based on "macro" data, and discuss the "problems" of the SME sector as perceived by practitioners and policy makers.

The difficulty of collecting data on SMEs could explain the scarcity of analytical studies on small and medium-sized industry (SMI) in Turkey. In most cases the smallest firms (self-employed and those employing less than 10 people) are not fully included in government statistics. The survey studies that collect data on even the smallest firms lack the longitudinal dimension, i.e., the data are not available over the time dimension. Moreover, the survey data could be misleading to concentrate upon survivors.

This paper is restricted to small and medium-sized establishments in the manufacturing industry. This explains why we prefer to use the concept of "small and medium-sized industry" (SMI). Therefore, the concept of "SME" in this paper refers only to the small and medium-sized *manufacturing* establishments.

The main aim of this paper is to analyse the role of SMEs in Turkish manufacturing industries, and the effects of trade liberalisation and openness to trade on SMEs. The paper is organised as follows. Section 2 summarises recent theories on the new role of SMEs. Section 3 explores changes in the share of SMEs in manufacturing industries at the ISIC 4-digit level[*]. Section 4 is focused on the effects of trade liberalisation, and Section 5 on the performance of new establishments. Section 6 summarises major findings and draws attention to policy implications.

2. THE ECONOMICS OF SMES

The process of industrialisation and economic development in developed countries since the Industrial Revolution has been associated with economies of scale, mass production, and almost an inevitable drift

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[*] SIC Classification refers to International Standard Industry Classification, Rev. 2.

towards the creation of large enterprises. The dominant characteristic of industrial technologies was the bias towards large firms over small firms. The combination of intensive Fordist accumulation with mass consumption was the leitmotif of the *Golden Era* of development in the post-war period which is characterised by stable and unusually high growth rates in output, productivity and real wages. As a result, large-scale enterprises (LSEs) have grown steadily more important in the industrialised countries.

In manufacturing, the share of small firms in employment and total assets has fallen substantially and almost continuously since the late 19th century. There was also a dramatic fall in the number of small manufacturing firms up to 1948 and a slower but continual decline has been going on since then. For example, the share of "small" enterprises in manufacturing employment in the UK dropped from 38% in 1935 to 24% in 1958, then to 20% in 1963 (Boswell, 1972: 20). Similarly, the LSEs in the US raised their share in employment and in total assets throughout the period. Therefore, the average plant size (APS) jumped from 31 employees per plant in 1919 to 55 in 1939 (Bolino, 1966: 212). The percentage of total assets held by the 100 biggest firms increased from 34.5% in 1925 to 42.5% in 1933, then to 46% in 1958 and 48.4% in 1968 (Aglietta, 1987: 222).

The late developers, such as South Korea, and many other less successful LDCs, attempted to follow the experience of the industrialised countries. Gigantism seemed to be a technologically predetermined condition for and an inevitable consequence of economic development. For example, the Korean government "intentionally created large firms, *chaebols*, as an instrument to bring about the economies of scale in mature industries" (Kim and Dahlman, 1992: 442)*. The APS in Korean manufacturing grew steadily during the early industrialisation process: from 25 employees per plant in 1966 to 60 in 1981**.

The dominant paradigm that emphasises the role of the LSEs in economic development, and the LSEs themselves, has been increasingly

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* The combined sales of the five largest chaebols as percent of GNP increased from 12.8 in 1975 to 35.0 in 1980 and 52.4 in 1984 (Kim and Dahlman, 1992:446).
** The data covers all establishments employing more than 5 workers.

questioned and came under attack after the late 1960s because of four related factors.

Firstly, there was the growing sensitivity to the dangers of big industry nurtured especially in the political climate of 1968. As Boswell (1973: 13) says, "After many years of neglect the subject of smaller firms is at last coming to the fore again. There are several reasons for this, perhaps the most important of which is that the giant corporation has grown increasingly suspect."

Secondly, the repeated failure of attempts to follow the experience of the industrialised countries and the growing disappointment with the large-scale development policies programmes promoted an interest in less ambitious and more defensive strategies in the LDCs. Schumacher, who developed the "small is beautiful" concept, recommended LDCs to reject advanced large-scale, capital-intensive technologies and to adopt the "intermediate technology". The intermediate technology, which is replaced later by an appropriate concept, "appropriate technology" (AT), will be labour-intensive and will lend itself to use in small-scale establishments.

Thirdly, starting in the late 1960s, the industrial world entered a time of trouble. The first oil shock in 1973 was blamed for the recession in the mid-1970s. However, the persistent coexistence of high inflation and stagnation, which gave rise to the concept of "stagflation", ever-increasing unemployment and low rates of productivity growth, in spite of rapid technological progress, convinced many researchers that the industrialised countries were going through a major crisis that marked the end of the model of industrial development based on mass production.

The last, but not the least important, factor that explains the re-emergence of interest in small business is the re-emergence of small business itself. As explained before, the employment share of small manufacturing plants declined (in other words, the APS increased) in most of the industrialised countries until the early 1970s. However, this trend seems to reverse around 1970: the share of small plants has tended to increase in many countries. This finding has been confirmed for many countries (see Carlsson (1989 and 1992) for nine industrialised

countries, Storey and Johnson (1990) for the UK, Loveman and Sengenberger (1991) for the US, Japan, France, Germany, Italy and the UK, and Thurik (1990) for the Netherlands). Thus, economists have been forced to address the stubborn persistence, and even increasing share, of small businesses in industrialised countries.

Table 1
Average plant size in manufacturing in a selected group of countries, 1981 and 1991

	1981	1991
Germany[a]	160.3	143.5[d]
Italy[a]	126.2	88.3
United Kingdom[a]	54.0	33.6[e]
Spain[b]	15.0	13.2
South Korea[b]	61.1	39.5
Japan[c]	24.3	26.9[f]

Source: UNIDO, Industrial Statistics Yearbook, 1995 and 1985.
a covers establishments with 20 and more employees.
b covers establishments with 5 and more employees.
c covers establishments with 4 and more employees.
d 1993.
e 1990.
f 1992.

Table 1 shows the APS in manufacturing in four major EU countries (Germany, Italy, the UK and Spain). The data on South Korea and Japan are also included for comparison. It is shown that APS declines substantially in all countries but Japan. There is a slight increase in Japan where the APS is quite low compared to other industrialised countries. Thus, the data in Table 1 proves that the trend towards small plants continues in major EU countries in the 1980s.

The rise of SMEs made economists re-evaluate the history of industrial development. It is emphasised that while the share of SMEs declined throughout the late 19th and early 20th centuries, they were far from being extinct and, in several sectors, they have remained the dominant and typical form of industrial organisation. The "dual economy" argument has been developed to explain this phenomenon: the persistence of SMEs is attributed to a functional relationship with LSEs.

This relationship rests upon three factors: differences in markets, costs, and demand structures (Piore and Berger, 1980).

The dualism theory considers SMEs as a vulnerable and transient form of industrial organisation. Their conditions of existence are functionally dependent on the will and requirements of LSEs. They exist and survive to the extent that they serve LSEs. Although the dualism theory and various related concepts like "informal sector", "traditional sector", "pre-capitalist forms," etc., could illuminate various facets of the reality of SMEs, they are apparently incapable of explaining why the share of SMEs has tended to increase in the industrialised countries in the last couple of decades. The failure of traditional theories has led economists to develop new concepts and theories to explain the reversal in the historical trend towards gigantism. The Schumpeterian paradigm that emphasises the role of technological innovations in economic development has decisively become dominant in recent studies in a rather paradoxical way because Schumpeter himself claimed in his later studies (Schumpeter, 1942/1976: 132, 134) that "technological progress is increasingly becoming the business of teams of trained specialists who turn out what is required and make it work in predictable ways" so that capitalist enterprise tends to automate progress and "the perfectly bureaucratised giant industrial unit ... ousts small or medium-sized firm and 'expropriates' its owners", reinforcing the dominance of LSEs in the economy.

Schumpeterian/evolutionary economists explain the increasing importance of small firms by the economic and technological transformations in the world capitalist economy following the economic crisis of the 1970s. The two most influential contemporary small business economists, Zoltan J. Acs and David B. Audretsch (1990a: 4-5) say that

> There are at least six major factors underlying the shift in the size distribution [towards SMEs]... These are: (1) the implementation of new flexible technologies; (2) the increased globalisation of American markets; (3) a changing composition of the labour force; (4) the proliferation of consumer demand, away from standardised mass-produced goods and towards stylised and personalised products; (5) government deregulation in numerous markets; and (6) a period of "creative destruction", in the Schumpeterian [1911] sense, is currently ongoing, whereby a cluster of innovations, in the sense that Mensch (1979) introduced, are shaping industries, just as entrepreneurs developing new products and processes are displacing existing entrenched firms and institutions.

Increased global competition forces manufacturing firms to specialise in core business areas in which they are competitive (the so-called "back-to-basics" movement). Specialisation is regarded as "i) a way to cut overheads and fixed costs, ii) a way to reduce uncertainty, iii) a means of accessing cheap labour sources, and iv) a way to obtain new sources of supply of high quality, specialised inputs" (Carlsson and Taymaz, 1994: 202). Specialisation can take three forms: decentralisation, subcontracting, and outsourcing. Moreover, under the pressure of uncertainty and fragmentation of markets, firms are intensifying the search for greater flexibility. New flexible manufacturing technologies using microelectronics and organisational forms now enable firms to enhance their flexibility. Thus, smallness has become a competitive advantage thanks to the emphasis on flexibility and economies of scope.

3. SMES IN TURKISH MANUFACTURING INDUSTRIES

Any empirical investigation of small business should start with the main question: what is a small establishment? The question of definition is central to an empirical study. There is no universally accepted definition of an SME among different organisations and different countries. The definitions of small firms used by different authors and organisations are often confusing and inconsistent. The definition poses such a difficulty because of three factors. First, the SME sector is not a homogeneous entity. Any definition based upon a one-dimensional measure tends to blur the diversity of SMEs. Second, SMEs are supported in almost all countries by various means, and the definition will determine who will benefit from such SME support schemes. Institutions construct and recommend their own definitions to suit their own purposes. Finally, the deficiency of data on SMEs makes it difficult to use some definitions that are otherwise relevant on theoretical grounds.

There is almost a total lack of consistency between definitions proposed by various public agencies and institutions in Turkey. It seems that all agencies and institutions have their own definitions (for various definitions, see Muftuoglu, 1989). In this study, it was decided to use the State Institute of Statistics (SIS) definition which was first proposed by the State Planning Organisation (SPO). In this study, we apply the following categories:

Micro-enterprise: 0-9 employees,
Small enterprise: 10-49 employees (may be divided into 10-24
     and 25-49),
Medium-sized enterprise: 50-99 employees,
Large enterprise: more than 100 employees (may be divided into
     100-199, 200-499, and more than 500 employees).

The SIS definition uses employment as the measure of size. Small and medium-sized establishments are defined as establishments with less than 100 employees. This is of course an arbitrary definition and, as with any arbitrary definition, open to endless criticisms. The Institute uses "employment" to measure the size of an establishment because information about employment is readily available and it is considered by managers to be less confidential than other measures of size, such as sales revenue or capital stock. Moreover, employment generation is a social objective in Turkey, which means that the growth of establishments in terms of employment has important policy implications.

In the EU, SMEs are frequently defined as enterprises with fewer than 500 employees. We believe that the employment ceiling used in the EU definition is too high for Turkey for all practical purposes because according to the SIS data, there were only 339 establishments employing more than 500 persons in 1992. Thus, we use the SIS definition in this study but tend to present the data for sub-groups as far as possible to have internationally comparable figures.

Turkey is often characterised as a newly industrialising country. The share of manufacturing employment in the labour force is relatively low compared to the developed countries. In such a developing economy, the share of SMEs in manufacturing employment is expected to be high. Table 2 presents the data on the distribution of manufacturing employment by establishment size in a selected group of developed countries. Although there are some differences in the definition of "establishment" among countries, the data allow us to compare Turkey with those countries.

The share of micro establishments in the EU was around 13% in 1988. Portugal, the least developed region in the EU, has the highest share among the EU countries: 15%. The employment share of micro

establishments is substantially higher in Turkey than in the developed countries. Micro establishments, i.e., those establishments in which at most 9 persons are employed, generate 35% of all manufacturing employment.

Table 2
Distribution of manufacturing employment by establishment size, selected countries, 1990s

Country	Year	Number of emp. (000)	Distribution by size categories (%)			
			0-9	10-49	50-99	100+
Australia	1990	580	11	22	12	55
Austria	1992	580	2	16	14	68
Canada	1992	1,540	4	19	13	64
Germany	1993	6,929	13	23	9	55
Holland	1992	949	11	20	11	58
Japan	1992	11,156	12	29	13	46
Portugal	1992	989	15	26	14	45
Sweden	1989	749	1	16	12	71
Switzerland	1991	868	12	22	28	38
European Union, 12	1988	28,944	13	27	60	
Turkey	1992	1,508	35	12	6	47

Source: Palas, 1996.

The employment share of LSEs in Turkey is lower than the EU average but it is comparable to Japan which has the lowest APS among the developed countries because of its unique inter-firm networking. The share of SMEs seems to be lower in Turkey than the EU, but this is a result of the outstanding share of micro establishments.

The changes in APS in the Turkish manufacturing industry since 1950 are summarised in Table 3. The level of manufacturing employment and the share of employees in total employment, i.e., "the number of persons engaged", are also presented to observe any structural change in the manufacturing sector. The APS is measured for two categories of establishments. The first one is calculated for SMEs and LSEs, i.e., those establishments employing at least 10 employees. The second one is calculated for all establishments including the micro ones.

The two measures of APS display opposite trends after 1970. The

APS of SMEs and LSEs declined from 105.9 employees in 1970 to 87.9 in 1992. However, the APS measured for all establishments increases gradually but steadily after 1963: on average, 4.1 persons were employed per establishment in 1963, but the average reached 7.8 in 1992. These two trends show that the share of establishments at both extremes of the size distribution (micro establishments and LSEs) has been declining in the manufacturing industry. That is to say, manufacturing employment is concentrating in SMIs.

Table 3
Average plant size and employment in Turkish manufacturing industries, 1950-1992

| Year | Average plant size | | Employment[a] | Share of |
	SMEs+LSEs	All estab.	(000)	Wage earners[b]
1950	c	4.1	336	68.8
1963	101.1	4.1	655	65.8
1970	105.9	4.8	837	72.1
1980	91.3	6.9	1289	77.9
1985	88.0	7.6	1463	81.0
1992	87.9	7.8	1528	83.4

Source: SIS, Statistical Yearbook of Turkey, related years.
a Number of persons engaged.
b The proportion of employees (wage earners) in employment.
c The data is not available because a different size criterion was used in 1950.

The shift in the size distribution has been accompanied by a structural change in the composition of employment. The share of employees, i.e., wage labour, has increased continuously because of the dissolution of traditional sectors. The share of non-wage labour (owners and unpaid family members) dropped from 33.2% in 1963 to 16.6% in 1992. The transformation of the family labour reflects the increased penetration of capitalist relations in manufacturing industry.

Table 4 presents the data on APS in the Turkish manufacturing sector at the 2-digit industry level for the Census years (1980, 1985 and 1992). For data at the 4-digit industry level, see Table A1 in the Appendix. The APS in these tables does not include micro establishments.

There are significant inter-industry differences in APS. The lowest APS is found in the wood products industry (ISIC 33) and other manufacturing industries (ISIC 39) in which the APS is less than 50 employees, whereas a typical establishment in the basic metal industry (ISIC 37) employed more than 150 people. Although the APS at the manufacturing industry level does not show any significant change from 1980 to 1992, there are significant variations at the 2-digit and, especially, at the 4-digit levels. There seems to be no correlation between the net change in employment in the sector and the change in APS. The textile and engineering industries are the leading employment generating industries especially in the period 1980-85. However, employment generation in the textile industry is accompanied by a decline in APS whereas we observe the opposite trend in the engineering industry.

Table 4
Average plant size in 1980, 1985 and 1992, and net change in
employment in the periods 1980-85 and 1985-92 (2-digit industries)

	Average plant size			# of emp.	Net emp. creation	
	1980	1985	1992	1980	1980-85	1985-92
31 Food and tobacco	102	85	85	188382	4981	-8849
32 Textile	110	92	87	185701	49773	53709
33 Wood products	49	44	47	17248	4602	798
34 Paper products	78	80	89	28634	7748	-1412
35 Chemicals	75	87	100	75563	13390	5856
36 Non-metallic mineral products.	100	105	82	59367	12130	-1141
37 Basic metal	152	165	169	74688	6260	-9935
38 Engineering	72	80	85	163190	40068	9381
39 Other manufacturing	39	47	49	3124	2563	-497
3 Manufacturing	*91*	*88*	*88*	*795897*	*141515*	*47910*

Source: SIS.

The APS shows significant differences in the private and public sectors (see Taymaz 1997). An average public enterprise is much larger than a private enterprise in the same sector. The difference is most obvious in the basic metal industry in which typical public and private establishments employ 2971 and 72 persons, respectively, in 1985. The public establishments are large because i) employment creation is one of the implicit objectives of the public sector, and ii) the degree of vertical integration is higher in public establishments.

A sharp decline in APS is observed in the public sector, especially in the second half of the 1980s, because of serious employment loss in public establishments. The APS tends to increase slightly in the private sector, from 65 in 1985 to 70 in 1992.

A typical new establishment is smaller than the incumbent in all sectors. (There are only a few exceptions at the 4-digit industry level. For details, see Taymaz, 1997.) This proves that new establishments start small because of imperfect capital markets and/or the risks involved with entry to a new business.

Table A1 in the Appendix presents the data on APS at the 4-digit industry level. The data show that there are significant and persistent differences in APS across industries. Policy makers should understand the factors behind inter-industry differences in APS because these factors explain why SMEs are more successful in some industries. An analysis of the determinants of APS in Turkish manufacturing industries shows that the share of SMEs will be large in industries in which:

1. The share of administrative and technical personnel is high,

2. The wage rate is low,

3. Capital-intensive technology is used,

4. The intra-sectoral wage differential is large,

5. R&D intensity is low,

6. The scope for product differentiation is limited,

7. The coverage ratio is high,

8. The share of subcontracted inputs is low, and

9. The import penetration ratio is high.

4. TRADE LIBERALISATION AND AVERAGE PLANT SIZE

The Turkish economy achieved considerably high growth rates in the 1960s and 1970s under the import substitution industrialisation (ISI) strategy. However, as observed in many other countries that had adopted similar strategies in the same era, the process of rapid economic growth proved to be unsustainable in the late 1970s under the severe pressure of

balance of payments problems. On January 24, 1980, the Turkish government announced a stabilisation programme that was fully implemented under the military regime after September 1980.

The programme was based on an "outward-oriented trade" strategy and foreign trade, product, and, later, capital markets were liberalised largely. The policies followed as a part of the stabilisation and structural adjustment programme (SSAP) and accompanying institutional and legal changes have had far-reaching implications for the process of economic development in Turkey. The SSAP marked a major break from the import substitution industrialisation regime, and has firmly established a new regime based on outward-oriented/export-led "growth" strategy. The economy experienced an export boom, immediately responding to generous export incentives and continuous real depreciations in the early 1980s. While the share of exports in GNP increased substantially (from a mere 4.2% in 1980 to 9.2% in 1983), the inflation rate was also reduced from 89.6% in 1980 to 26.0% in 1983. The GNP decline in 1980 (-2.8%) was reversed and respectable growth rates were successfully attained (4.8% in 1981, 3.1% in 1982 and 4.2% in 1983). The GNP growth rate increased almost continuously until 1987 when it reached its 20 years' peak of 9.8%. The manufacturing industry was the engine of export growth. The share of manufactured exports in total exports jumped from 36.8% in 1980 to 64.3% in 1983 and to 88.0% in 1995.

The liberalisation of the economy followed closely the path suggested by guiding institutions. Three periods of liberalisation can be identified on the basis of changes in economic policies and political climate (for specific policies see Senses, 1990: 14-27; Uygur, 1993: 14-21).

The first period, 1980-83, starts with the announcement of the stabilisation programme in January 1980 and a subsequent major devaluation and relaxation of price controls for SOEs. The period is characterised by the implementation of the SSAP by the military government from September 1980 to November 1983. Continuous depreciations and generous export incentives, reaching up to 36% of export revenue in 1983, generated an export boom. The emphasis in this period was on stabilising the economy, on solving the balance of payments problems through export growth and on changing the structure of relative prices in favour of export-oriented sectors (through real depreciations and export subsidies), labour intensive sectors (by reducing real wages and allowing interest rates to rise), and manufacturing and energy sectors (by increasing agricultural support prices less than the inflation rate).

The second period from 1983 to 1988 observes a major liberalisation reform in the import regime. Meanwhile, new measures to encourage direct foreign investment were introduced in 1986.

The third period (1988-93) is characterised by liberalisation of interest rates in 1987-88, capital accounts in August 1989, a wage explosion and higher agricultural prices after 1988, and, therefore, further deterioration of public sector accounts. In this period, "short-term capital movements in response to relations between exchange and interest rates create erratic changes in balance of payments" (Boratav, Türel and Yeldan, 1995: 4). The period ended in a currency crisis in 1994 that led to a steep real depreciation and decline in output and imports, and an increase in exports.

Figure 1A shows the relationship between APS in the 1980-84 period and the growth rate* of export intensity (the share of exports in sectoral output) for the same period (each point on the figure represents an industry at the 4-digit level). There seems to be a negative correlation between APS and export growth. Industries where APS is low (in other words, industries dominated by SMEs) achieved a higher export growth in the crucial years of export-led growth of the early 1980s. Meat (ISIC 3111), textile, excluding wearing apparel (ISIC 3212), carpets and rugs (ISIC 3214), fur and leather products (ISIC 3221), wearing apparel (ISIC 3222) and furniture (ISIC 3320) succeeded in exporting a considerably large part of their output. Moreover, as shown in Figure 1B, there is also a positive correlation between growth rates of export intensity and APS. It seems that the export boom that was observed in industries dominated by SMEs tended to *increase* the average plant size through the expansion of output and, hence, employment in the period 1980-84. Note also that in this period, most of the industries have a growth rate in export intensity, i.e., almost all industries intensified their exports because of the export-led growth strategy.

Figures 2A-2B and 3A-3B show the relationships between export intensity and APS for the periods 1985-89 and 1989-93, respectively. These figures indicate that the negative correlation between APS and the growth rate of export intensity, and the positive correlation between

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* Growth rates are calculated as trend growth rates.

growth rates of APS and export intensity observed in the early 1980s were not carried on since the mid 1980s. A comparison between Figure 1B and 2B reveals that the growth in export intensity slowed down and even became negative in many industries in the second half of the 1980s, and in the early 1990s (Figure 3B).

Our findings reveal that export expansion in the early 1980s was beneficial for SMEs mainly because of the fact that traditional industries where SMEs have a considerably large share such as textile products had higher growth rates in exports. Because of the rapid expansion of output, employment growth in these industries exceeded the rate of growth in the number of establishments, thus leading to a rise in APS. Therefore, by favouring traditional industries, trade liberalisation has a rather indirect effect on small firms. This trend seems to be halted since the mid-1980s by the decline in the growth rate of exports. The share of small firms had a tendency to increase since the mid-1980s because of significant labour shedding in almost all industries except textiles.

5. SMES, GROWTH, AND EMPLOYMENT GENERATION

Recent literature on SMEs emphasises the role of the SME sector as the source for entrepreneurship and continual innovation. New products and processes are claimed to be introduced by new, small firms. New firms are typically small and grow rapidly if they prove to be successful. Moreover, since the employment generation effect of new firms is thought to be significant, support for new business is an essential component of employment promotion policies.

The effect on employment by new firms depends on two factors: survival and growth. If the survival rate is low, then creation of new establishments will merely increase the rate of labour turnover without making any lasting contribution to employment. Moreover, new firms are usually small when they start because of market imperfections. The successful ones grow rapidly and generate further employment opportunities.

The "survival rate" is the ratio of the number of surviving new plants, at a certain point in time, to the initial number of new plants. It shows the percentage of plants that have survived over time. Table 5

presents the data on one-year, three-year and five-year survival rates in a selected group of countries. As shown in the table, the five-year survival rate in Turkish manufacturing industries is 52%, i.e., almost half of the establishments founded in 1986 and 1987 were closed down within the first five years of their existence. The survival rate is quite high in Austria, Sweden and Holland where the entry rate is known to be low.

Table 5
Survival rates of new establishments, selected countries (%)

Year	Country	One year after entry	Three years after entry	Five years after entry
1985	Denmark	. .	. .	48
1985	Holland	84	68	65
1986	Austria	96	91	87
1986	United Kingdom	87	61	47
1987	France	87	67	52
1987	Finland	80	71	53
1988	Sweden	. .	66	61
1986-87	Turkey	85	66	52

Note: The data for Turkey cover only manufacturing establishments.

The entry and survival rates by plant size and sector are shown in Table 6. 524 plants founded in 1986 employed 10-24 people at the time of entry (see the figure at the top of the third column in Table 6). There

Table 6
Share of new establishments by size and sector, 1986-88

Plant size	# estab. 1985	# new estab. 1986	# new estab. 1987	# new estab. 1988	Entry rate[a] (%) 1986	Entry rate[a] (%) 1987	Entry rate[a] (%) 1988	Exit rate[b] (%) 1986	Exit rate[b] (%) 1987	Exit rate[b] (%) 1988
10-24	,629	524	268	282	11	6	7	64	56	55
25-49	,239	135	135	180	6	6	8	49	41	30
50-99	,124	70	71	92	6	6	7	31	32	34
100-249	747	48	48	50	6	5	5	38	42	24
250-499	392	14	12	24	4	3	5	50	50	21
500+	342	8	10	6	2	3	2	38	40	16

Source: Taymaz, 1997: 114.
a Entry rate is the proportion of the number of new establishments to total number of establishments.
b Exit rate is the ratio between the number of establishments closed in 1992 and the number of new establishments.

were only 8 plants established in 1986 that employed more than 500 people. The entry rates show that new firms begin small. In 1986, 11% of the establishments employing 10-24 people were opened. The entry rate was only 2% for the largest group (those employing more than 500 people). The entry rate is consistently low in the glass and cement industries (ISIC 36) and high in the textile (ISIC 32) and basic metal (ISIC 37) industries in the mid-1980s.

The exit rate is also correlated to the initial plant size. 64% of establishments employing 10-24 people when they were opened in 1986 were closed down by 1992. The exit rate for the comparable largest group was only 38%. Therefore, the data show that most of the new firms start small, but the risk of closure is also much higher for those that start small.

Table 7
Growth matrix by plant size (in percentage), 1985-1992

Initial plant size	Initial # Of plants	Plant size in 1992							
		1-9	10-24	25-49	50-99	100-249	250-499	500+	Other[a]
Plants existing in 1985									
10-24	2207	13.2	60.1	19.5	4.5	1.3	0.2	0.1	1.2
25-49	1412	1.2	25.8	48.7	18.1	5.3	0.2	0.0	0.7
50-99	806	0.1	9.3	26.3	37.2	21.5	4.7	0.4	0.5
100-249	551	0.2	3.1	5.3	22.0	52.6	14.9	1.6	0.4
250-499	321	0.0	0.3	0.9	2.8	27.1	52.7	15.9	0.3
500+	309	0.0	0.0	0.0	0.3	4.2	19.1	76.4	0.0
Plants opened in 1986									
10-24	188	16.0	58.0	15.4	5.3	2.1	0.0	0.0	3.2
25-49	69	2.9	20.3	47.8	18.8	8.7	0.0	0.0	1.5
50-99	48	0.0	10.4	27.1	33.3	27.1	2.1	0.0	0.0
100-249	30	0.0	0.0	16.7	10.0	53.3	13.3	6.7	0.0
250-499	7	0.0	0.0	0.0	28.6	42.9	28.6	0.0	0.0
500+	5	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0

Source: Taymaz, 1997: 115.
a Unidentified plants.

Table 7 summarises the growth patterns of plants existing in 1985 and those opened in 1986. The growth matrix shows the transition probabilities among size groups until 1992. For example, there were 2207 plants in the smallest size category (10-24) in 1985 that survived

until 1992; 13.2% of those establishments were in the 1-9 group in 1992, 60.1% maintained their initial category (10-24), 19.5% moved up to the 25-49 group, etc. The growth matrices show the "regression-towards-the mean" phenomenon: small plants tend to grow, and large plants tend to contract.

The contribution of new plants to manufacturing employment is shown in Table 8. There were 952 thousand people employed in the manufacturing industry in 1986. (The data do not include micro establishments). 4.25% of those workers were employed by the establishments opened in the same year. The employment share of these establishments (1986 entrants) declines steadily: the share of 1986 entrants in total employment in 1992 was 2.63%. The decline in the share of 1986 entrants shows that the employment loss in plant closures dominates the employment generated by growing plants. A similar pattern is observed for those establishments opened in 1987 and 1988.

Table 8
Employment generation by new establishments in Turkish manufacturing industries, 1986-92

	Total number of employees	Employment share[a] of new plants opened in		
		1986	**1987**	**1988**
1986	951,512	4.25		
1987	979,805	3.89	3.33	
1988	1,015,432	3.53	3.27	3.69
1989	1,027,353	3.15	3.02	3.72
1990	1,028,196	2.93	2.90	3.44
1991	946,838	3.00	2.77	3.48
1992	985,091	2.63	2.40	3.11

Source: Taymaz, 1997: 116.
a In percentage.

The net contribution of establishments opened in 1986-1988 to employment in 1992 is quite substantial: 8.14% of all workers in 1992 were working in establishments founded in 1986-1988. If the employment pattern of establishments opened in the period 1989-1992 is assumed to be the same as that of those opened in 1988, the net contribution of new establishments opened after 1985 rises to 22%. In

other words, one fifth of all employees in 1992 worked in establishments opened in the last seven years.

Table 9
Employment generation in new plants by plant size, 1986-92

Initial plant Size	Entrants in 1986			Entrants in 1987			Entrants in 1988		
	1986 Emp.	net change	growth rate[a]	1987 Emp.	net change	growth rate[a]	1988 Emp.	net change	growth rate[a]
10-24	2832	991	5.13	1955	1599	12.70	2086	1198	12.01
25-49	2294	889	5.61	2756	2700	14.64	4318	2031	10.12
50-99	3250	637	3.03	3227	718	4.10	4129	1061	5.88
100-249	4644	503	1.73	4224	848	3.73	6030	1137	4.41
250-499	2297	-782	-6.70	2378	-148	-1.28	6506	-598	-2.38
500+	8847	-509	-0.98	4308	-909	-4.63	3395	-626	-4.97
Total	*24164*	*1729*	*1.16*	*18848*	*4808*	*4.65*	*26464*	*4203*	*3.75*

Source: Taymaz, 1997: 116.
a "Growth rate" is the annualised growth rate employment (in percentage).

Table 9 disaggregates the employment generation by plant size. The data show that small plants, if they survive, grow faster than large plants. For example, the average annual employment growth in SMEs opened in 1986 was around 5-5.5% in the 1986-92 period. On the other hand, employment in LSEs shrank by 1.5% in the same period.

To summarise, new plants enter usually into the SME sector. The likelihood of survival is low for SMES, but those that survive grow faster than LSEs.

6. CONCLUSIONS

Recent literature on small businesses emphasises the technological dynamism, entrepreneurial spirit and employment generation effects of SMEs. This study describes the role of SMEs in the Turkish manufacturing industries. Our findings show that the SME sector is a major source of manufacturing employment in Turkey. SMEs (those establishments employing less than 100 people) employed more than 50% of all employees in the manufacturing industry in 1992. The data show that manufacturing employment has been concentrating in the SME sector since the early 1970s. Moreover, the net contribution of new firms to employment generation is quite substantial. For example, about 8% of all workers in 1992 were employed by establishments founded in 1986-88. Although the growth rate of employment in SMEs is higher,

the survival rate is considerably lower for SMEs. The 5-year survival rate for establishments employing 10-24 people is about 35%, whereas it is more than 60% for the largest size category (+500 employees).

Our findings indicate that SMEs in the Turkish manufacturing industries could play a very important role in industrial development if they could achieve technological dynamism. Thus, government policy should be focused on creating conditions that enhance technological upgrading and innovativeness of SMEs.

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Appendix

Table A.1
Average plant size in 1980, 1985 and 1992, and net change in employment in the periods 1980-85 and 1985-92 (4-digit industries)

	Average plant size			# of emp.	Net emp. creation	
	1980	1985	1992	1980	1980-85	1985-92
3111 Meat	143	118	115	7436	470	3364
3112 Dairy products	43	48	50	3741	915	1244
3113 Fruits and vegetables	102	123	129	9486	2691	4335
3114 Fish crustacean	70	63	106	840	42	1132
3115 Oils and fats	96	102	99	12672	1200	-2487
3116 Grain mill products	33	31	27	9867	1231	-1729
3117 Bakery products	28	24	26	19180	3788	-4872
3118 Sugar	1177	1166	808	21186	4466	-604
3119 Confectionery	38	44	83	3458	942	3236
3121 Other food products	183	177	120	32574	-4254	-1320
3122 Animal feeds	47	51	40	3243	2571	226
3131 Spirits	355	297	314	2840	-464	1078
3132 Wine	51	45	56	1326	-246	-296
3133 Malt liquors and malt	408	428	353	4080	-228	-1028
3134 Non-alcoholic beverages	81	84	109	3645	1311	1911
3140 Tobacco	1148	818	645	52808	-9454	-13039
3211 Spinning and weaving	181	180	173	143533	8207	-10918
3212 Textile exc. wearing apparel	98	65	71	3332	1803	4521
3213 Knitting	37	45	71	8843	5377	12760
3214 Carpets and rugs	109	121	113	8829	2182	-1067
3215 Cordage rope	34	45	51	442	53	-342
3219 Other textile products	45	74	46	1080	1066	-1594
3221 Fur and leather products	32	50	49	1216	3034	5991
3222 Wearing apparel	38	44	56	9462	23626	44304
3231 Leather finishing	32	32	33	3904	1824	-2065
3233 Other leather	20	31	60	320	641	1319
3240 Footwear	60	50	53	4740	1960	773
3311 Sawmills and planing	67	58	57	12998	1502	-136
3312 Wooden and cane cont.	38	34	15	494	118	-372
3319 Other wood products	25	24	44	350	178	220
3320 Furniture	26	30	38	3406	2804	1086
3411 Pulp and paper	524	480	233	12052	2348	-420

Table A.1 (continued)

	Average plant size			# of emp.	Net emp. creation	
	1980	1985	1992	1980	1980-85	1985-92
3412 Cont. and boxes of paper	65	64	77	4745	1079	-434
3419 Other paper and pulp	27	36	45	1215	765	-1080
3421 Printing and publishing	47	51	60	10622	3556	522
3511 Basic chemicals	131	120	327	9301	-421	7470
3512 Fertilisers and pesticides	336	542	340	6048	4250	-4858
3513 Synt. resins and plastics	397	488	241	7543	6121	-7398
3521 Paints, varnishes etc.	57	54	73	4047	219	-397
3522 Drugs and medicines	102	145	188	8160	1990	2070
3523 Soap and cleaning prep.	38	52	89	4598	82	1105
3529 Other chemical products	72	75	63	3960	690	516
3530 Petroleum refineries	1687	981	988	6748	-2824	1016
3541 Asphalt paving, roofing	28	32	172	364	20	304
3543 Lubric. oils and greases	132	118	122	1320	332	-66
3544 LPG tubing	168	153	140	1512	477	-29
3551 Tyre and tube	358	273	731	4296	-1020	1841
3559 Other rubber products	37	45	53	5920	1820	157
3560 Other plastic products	32	36	44	11648	1636	4184
3610 Pottery, china, etc.	201	192	215	8442	2886	-1438
3620 Glass and glass products	156	243	161	9048	4803	-1776
3691 Structural clay products	62	58	49	18662	304	1026
3692 Cement, lime and plaster	277	230	171	15235	1785	-1288
3699 Other non-metallic minerals	57	63	53	7980	2352	2335
3710 Iron and steel	163	184	189	53790	4538	-2195
3720 Non-ferrous metal	129	130	120	20898	1722	-7740
3811 Cutlery and hand tools	43	51	56	7611	2436	873
3812 Metal furniture	28	32	31	2436	636	-158
3813 Structural metal products	56	52	41	7168	1620	847
3819 Other fab. metal prod.	49	55	65	19159	4216	-3615

Table A.1 (continued)

	Average plant size			# of emp.	Net emp. creation	
	1980	**1985**	**1992**	**1980**	**1980-85**	**1985-92**
3821 Engines and turbines	155	209	223	2015	493	-947
3822 Agricultural machinery	89	83	80	9167	2287	-2254
3823 Metal and wood work. m/c	43	58	49	3827	929	46
3824 Special industrial machinery	77	71	44	9702	2581	-4363
3825 Office, comp. mach.	56	54	28	560	358	-414
3829 Other machinery	80	76	74	21760	2180	2108
3831 Electrical industrial machinery	88	102	78	9240	3714	-4062
3832 Radio, TV, comm. equipment	131	174	192	7074	4236	8850
3833 Electrical appliances	59	37	92	2360	-214	2730
3839 Other electrical mach.	56	78	77	12040	1688	-1639
3841 Ship building	253	201	140	9361	-2125	-2056
3842 Railway equipment	2083	2702	1883	10415	393	-3276
3843 Motor vehicles	78	105	145	27066	12414	11560
3844 Motorcycles and bicycles	49	97	99	784	962	-63
3849 Other transportation equipment	24	29	..	96	20	..
3851 Professional equipment	23	45	76	437	733	2022
3852 Photo. and optical goods	22	28	33	440	260	-172
3853 Watches and clocks	28	50	..	112	138	..
3854 Other professional equipment	40	43	88	360	113	935
3901 Jewellery	19	36	52	152	424	672
3909 Other manufacturing	41	50	49	2911	1939	-979

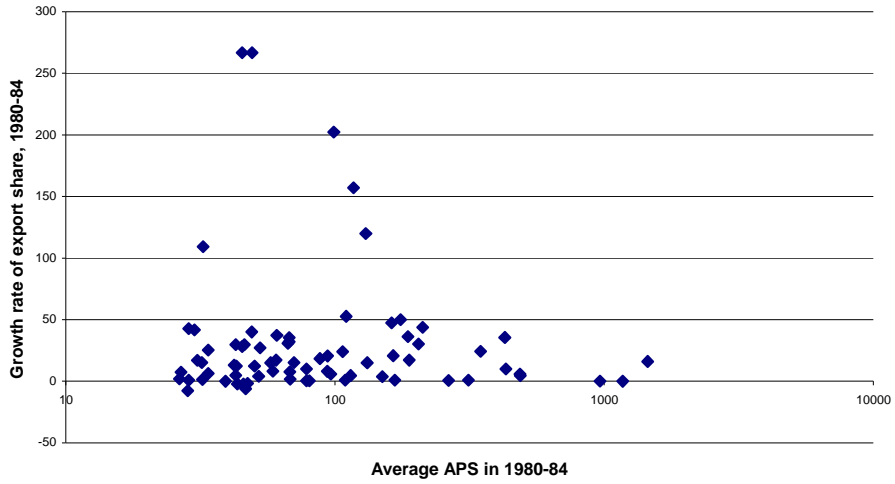Source: SIS.

Figure 1A. APS and changes in export shares, 1980-84

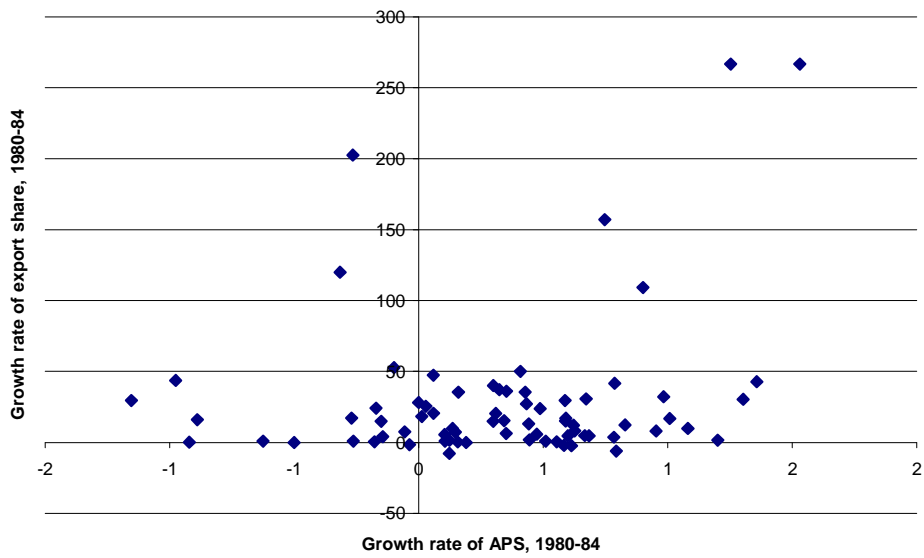

Figure 1B. Changes in APS and export intensity, 1980-84

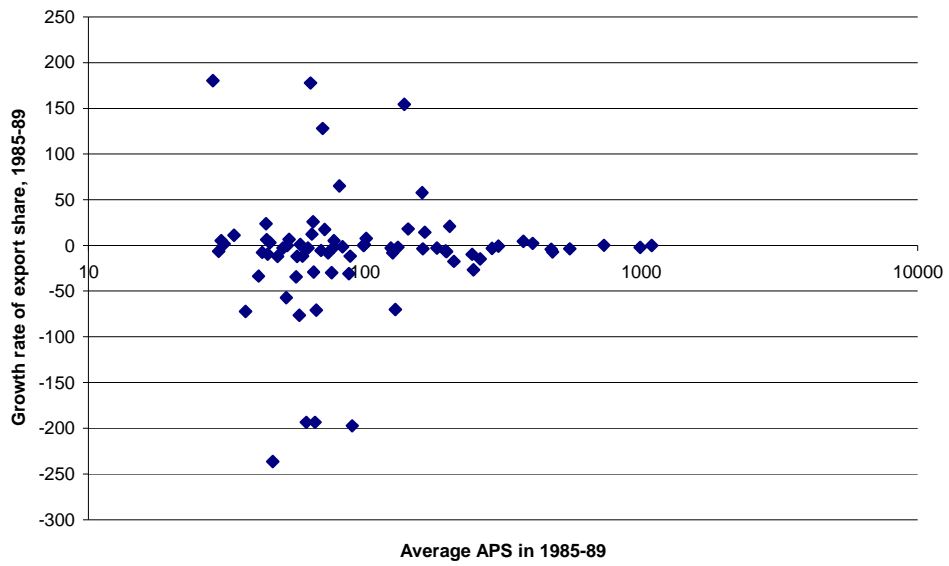**Figure 2A. APS and changes in export intensity, 1985-89**

Average APS in 1985-89

Figure 2B. Changes in APS and export intensity, 1985-89
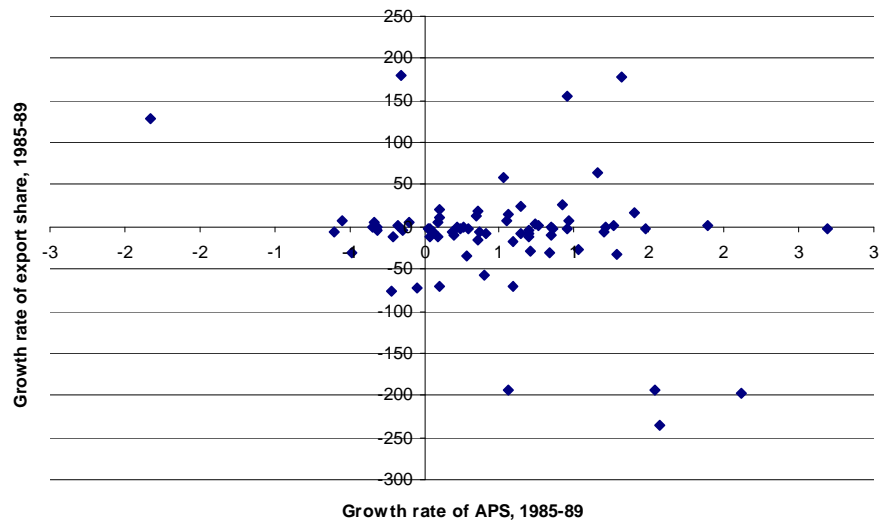

Growth rate of APS, 1985-89
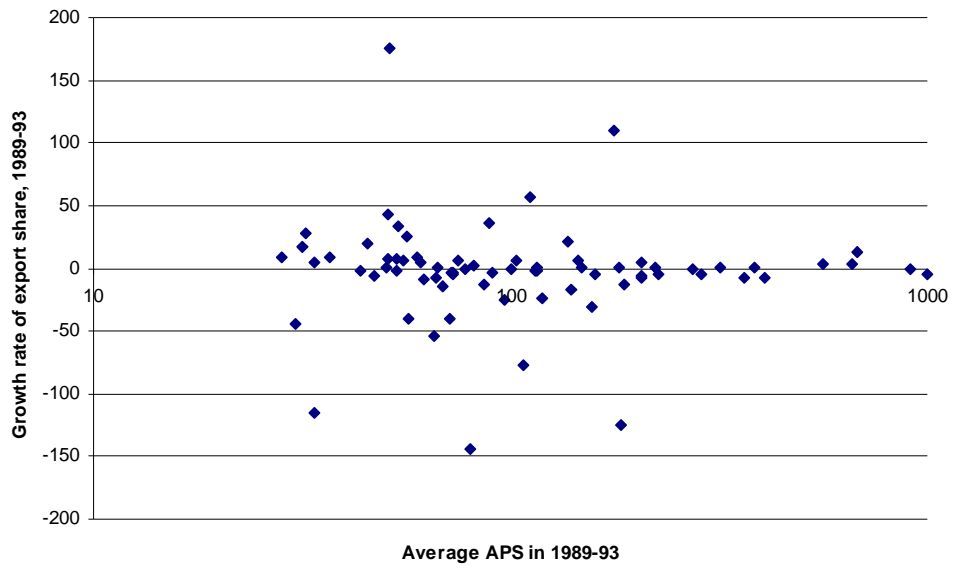
Figure 3A. APS and changes in export intensity, 1989-93

Figure 3B. Changes in APS and export intensity, 1989-93