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Public Policy and SME Development

Charles Harvie

and

Boon-Chye Lee

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Abstract

We review the policy arguments in favour of assisting SMEs in various areas of their operations. Our review suggests that many of the arguments put forward for subsidising SME activities (as distinct from some activities of firms regardless of size) are not economically justified. Nonetheless, it is widely acknowledged that SMEs suffer from disadvantage relative to large firms, principally in the areas of access to information and technology.

We then study the possibilities offered by networks in helping SMEs deal with the disadvantages they experience. Our examination indicates that there are benefits that firms can derive from participating in networks. Further, because networks can assist firms overcome some of their inherent disadvantages, they can become less reliant on public assistance and more able to compete on an equal footing with larger firms once the initial impetus is provided for the formation of cooperative networks that can enable firms to compete more effectively.

Tóm tắt

Public Policy and SME Development – Chính sách công và sự phát triển của Doanh nghiệp vừa và nhỏ

Nghiên cứu xem xét các văn bản chính sách trợ giúp cho các doanh nghiệp vừa và nhỏ. Kết quả cho thấy, rất nhiều các chính sách trợ cấp cho các hoạt động của doanh nghiệp vừa và nhỏ không công bằng về mặt kinh tế. Dù sao, các doanh nghiệp vừa và nhỏ thường có nhiều bất lợi hơn so với các công ty lớn, đặc biệt là trong tiếp cận thông tin và tiếp cận công nghệ mới.

Thêm vào đó nghiên cứu cũng xem xét khả năng giải quyết khó khăn mà doanh nghiệp gặp phải. Nghiên cứu cho thấy, các công ty doanh nghiệp cũng đạt được những lợi ích từ việc tham gia hệ thống liên kết. Mạng lưới này có thể giúp đỡ khắc phục những hạn chế cố hữu của doanh nghiệp, do đó doanh nghiệp có thể giảm dần sự phụ thuộc vào sự hỗ trợ của các dịch vụ công và doanh nghiệp vừa và nhỏ có thể cạnh tranh với các hàng lớn hơn kể từ khi thúc đẩy cho sự hình thành của các hệ thống hợp tác xã tăng khả năng cạnh tranh hiệu quả hơn.

1. INTRODUCTION

Policies to promote the development of SMEs are common in both developed and developing countries (Storey, 1994; Levitsky, 1996; Hallberg, 2000). In the case of developed countries, it has become commonplace for governments during the last two or three decades to implement policies or programs designed to promote aspects of small and medium-sized enterprises (SMEs). This has coincided with an increase in the importance, in terms of contribution to employment and GDP growth, of SMEs in most of the developed economies (Storey, 1994). In the OECD countries, SMEs currently account for more than 95 percent of firms and 60-70 percent of employment (OECD, 2000). This is in part the result of an ongoing process of industrial restructuring that began in the late 1970s which saw large firms substantially reduce their output and labour, creating large pools of unemployed workers, a proportion of whom were motivated to start their own businesses (Storey, 1982). That process was given added impetus with the move towards privatisation and market deregulation in the late 1980s and 1990s, resulting in broad organisational trends that have included outsourcing and downsizing (Parker, 2000). Developments in information and communications technology, rising affluence and the development of niche markets, as well as the declining importance of economies of scale as the key source of competitiveness, have also contributed to the growth of the SME sector in developed economies.

In the case of developing economies, policies designed to assist SMEs have been an important aspect of industrial policy and multilateral aid programs such as those of the United Nations since the 1950s (Levitsky, 1996). Micro and small businesses are playing an important role in the alleviation of poverty and empowering certain groups including that of women. Moreover, the movement by some formerly centrally planned developing economies (such as Vietnam and China) and highly regulated economies such as India towards deregulated and market oriented economies, with the emphasis on developing a vibrant private sector oriented economy, have given further impetus to the development of small businesses in many developing economies. However, while there are wide variations across countries the traditional picture is one where the relative importance of SMEs tends to decline as a country moves up the developmental ladder (see for example Hallberg, 2000; and Liedholm and Meade, 1999). The process of globalisation, characterised by increasing trade and capital flows, market opening and liberalisation and knowledge flows, has resulted in global sourcing and marketing for large enterprises. Outsourcing and the increasing involvement of small businesses in the supply chains of large transnational corporations has presented them with many business opportunities. Hence the traditional decline in the role and importance of SMEs in developing countries may likely change in the future.

As the available data for the Asia-Pacific Economic Cooperation (APEC) economies indicate, SMEs account for a significant proportion of the labour force in both developed and developing economies (see Table 1). In addition, they also comprise a significant proportion of the business enterprises (see Table 2). It may therefore be argued that, purely from the viewpoint of their significance in their economies, SMEs warrant attention from governments. Storey (1994) has argued, in the UK context, that the

increased importance of SMEs means that public policies towards them cannot be considered in isolation from other influences in the economy and cannot be left to those with a particular interest in SMEs. The significance of SMEs in their economies makes it important for policymakers to ensure that these enterprises do not face impediments that hamper their ability to operate efficiently and do not face onerous administrative compliance costs. We should be careful, however, not to conclude from this that it necessarily follows that policies specifically favouring SMEs over larger firms should be implemented. As Lattimore et al. (1998) note, “while economic importance provides a strong basis for public policy consultation with small business, in itself it provides little justification for specific interventions.”

TABLE 1: Contribution of Micro, Small and Medium Sized Enterprises to Private Non-Agricultural Employment, Selected APEC Countries (%)

	<i>Micro (<5 employees)</i>	<i>Small (5-19 employees)</i>	<i>Medium (20-99 employees)</i>	<i>All SMEs</i>
Australia	25.9	20.9	19.2	66.0
Hong Kong, China	31.1	13.0	24.8	59.4
Japan	13.1	29.9	26.9	69.9
Korea	31.2	11.3	36.2	78.7
Mexico	36.2	13.9	15.2	65.2
New Zealand	23.0	18.0	19.0	60.0
Peru	62.5	16.6	8.8	87.9
Philippines	36.7	25.8	7.1	69.5
Singapore	7.1	16.8	19.2	43.1
USA	5.2	13.6	17.9	36.7

Source: Hall (2002)¹

¹ Hall (2002) reports the “latest available data” as at the time of his study.

TABLE 2: Number of Private Non-Agricultural SMEs as a Percentage of Firms, Selected APEC Countries (%)

	<i>Micro</i> (<i><5</i> <i>employees</i>)	<i>Small</i> (<i>5-19</i> <i>employees</i>)	<i>Medium</i> (<i>20-99</i> <i>employees</i>)	<i>All SMEs</i>
Australia	69.9	24.3	4.9	99.0
Chile	82.1	15.0	2.1	99.1
Hong Kong, China	86.8	7.6	4.9	99.3
Japan	56.5	34.7	7.4	98.7
Korea	72.7	17.8	8.6	99.1
Mexico	91.7	6.3	1.6	99.6
New Zealand	84.2	7.1	8.0	99.4
Peru	96.5	3.1	0.3	99.9
Philippines	91.1	8.2	0.4	99.6
Singapore	67.4	24.3	6.1	97.8
Thailand	79.0	18.4	2.0	99.4
USA	60.5	28.9	8.9	98.3

Source: Hall (2002)²

Many policies relating to SMEs are based on the perceived weaknesses or disadvantages that they suffer relative to large firms. Studies of the problems faced by SMEs have concluded that they suffer from similar weaknesses in developing countries as they do in developed countries (Levitsky, 1996). However, a problem with government policies with respect to SMEs is that they have tended to be characterised by a lack of coherence, as Storey (1994) observed in the context of European countries, where “public policies have been developed, jettisoned, and often reintroduced on a piecemeal basis.” Second, as Hallberg (2000: 1) noted of developing-country SMEs, they are:

... a very heterogeneous group. They include a wide variety of firms – village handicraft makers, small machine shops, restaurants, and computer software firms – that possess a wide range of sophistication and skills, and operate in very different markets and social environments. Their owners may or may not be poor. Some are dynamic, innovative and growth oriented; others are traditional ‘lifestyle’ enterprises that are satisfied to remain small.

These observations are largely pertinent also to SMEs in developed countries and point to a key difficulty in policies designed to cater to such a diverse grouping of enterprises. However, recent trends, in both developed and developing countries, suggest that public policy is increasingly being focused more upon market oriented strategies and the establishment of a level playing field for all enterprises, rather than, as in the past, direct measures aimed at, for example, reducing the cost of credit. The microenterprise literature is particularly pertinent in explaining this change of emphasis.

² Hall (2002) reports the “latest available data” as at the time of his study.

In section 2 we offer a categorisation and critical appraisal of the various policies. As Storey (1994) has argued, “The prime objective of macroeconomic policy is not solely to assist smaller firms, but rather to provide a framework for all sizes of enterprise in the economy to flourish.” Thus, the test that a policy or program favouring SMEs must pass is that it not only must have a sound economic rationale but also, given the costs of design and implementation of such programs and the possibility of distortions to business incentives, demonstrate that it is capable of delivering net welfare benefits to society as a whole. We examine each policy argument from this viewpoint.

In section 3, we examine the possibilities offered by networks in helping SMEs deal with the disadvantages they experience because of their relatively small size. Finally, we summarise our main conclusions in section 4.

2. CATEGORIES OF GOVERNMENT SUPPORT POLICIES FOR SMEs

Policies in support of SMEs may generally be categorised according to their objectives (see Table 3): broad macroeconomic objectives, such as the creation of jobs or the reduction of unemployment; social or equity objectives such as the redistribution of income; market failure or efficiency arguments, which relate essentially to considerations of static efficiency; and dynamic efficiency arguments, in particular the promotion of innovative activities. It is apparent that there are broad areas where these policies overlap with those in other areas of concern, in particular with competition policy.

TABLE 3: Categories of SME Support Policies

Macro objectives	<ul style="list-style-type: none"> • Creation of employment • Economic development • Export growth
Social objectives	<ul style="list-style-type: none"> • Income redistribution • Poverty alleviation in developing countries
Correction of Market failure/inefficiency (static efficiency objectives)	<ul style="list-style-type: none"> • Presence of externalities • Market access barriers • Asymmetric information • Small number of competitors • Information imperfection (lack of access to information about potential markets) • Levelling the playing field
Dynamic efficiency objectives	<ul style="list-style-type: none"> • Promotion of innovation

Each of these categories of SME support policies is now discussed in turn.

2.1 Macroeconomic objectives

The broadest objectives of SME policy are macroeconomic in nature. These include the creation of employment (or the reduction of unemployment) (although the first may not achieve the second if participation rates rise) and, in the case of developing countries, developmental objectives. As Levitsky (1996) noted in the case of donor aid programs targeting SMEs in developing countries, “all programmes were justified by arguing that small enterprises generated more employment for a given investment of scarce capital... Donors also looked to small enterprises as a way of dispersing economic development and of raising the standard of living of the rural sectors of the population.” Employment creation is also a major objective of many SME policies in developed countries (de Koning et al., 1992; Revesz and Lattimore, 1997).

Creation of employment

Because SMEs account for a significant proportion of employment in their economies, it is argued that selective policies aimed at creating employment in small business should be pursued. More recent analyses have pointed out flaws in the rationale for such an objective. Revesz and Lattimore (1997), for example, argue against adopting such an approach on several grounds. Although their arguments relate to the Australian case, they are largely applicable to other countries as well.

Revesz and Lattimore (1997) note that the argument that small firms are a major source of new jobs is based on inconclusive cross-sectional data, pointing out that no long-term longitudinal study of job creation has yet been undertaken. Further, even if it is true that small business has been responsible for more than a proportionate amount of net new jobs, it does not follow that policies to promote the SME sector are justified. First, they note that although the SME sector may be where many of the new jobs have been created, this does not mean that they are responsible for their creation and, indeed, they argue that many of the new jobs were created in this sector not because SMEs are better able to generate new jobs but because the products for which demand has increased are largely supplied by SMEs. That is, the recent trends in employment shares reflect changes in demand patterns in the economy (Lattimore et al., 1998) – and there is what Revesz and Lattimore (1997) term a “confusion of medium and cause”. By implication, policies promoting SMEs will be misconceived if the pattern of demand shifts in the future.

Second, Revesz and Lattimore (1997) argue that, given that the optimal size of the business unit is determined by technology and transaction costs,³ government intervention may serve to distort the optimal distribution of firm sizes. Third, they argue that small firm survival rates are far lower than those for large firms, so that selective policies favouring small firm start-ups may increase turbulence, with attendant social and economic costs. Fourth, subsidies imply higher taxes, which may reduce incentives to work in addition to creating distortions in other sectors of the economy.. Further, any subsidies to one sector of the economy at the expense of other sectors, or financed by

³ See the discussion under “number of competitors” below.

additional taxes, should be justified on the basis that the net welfare benefits to society of such subsidies are positive (Storey, 1994; Belli, 1997).

Fifth, Revesz and Lattimore (1997) point out the arbitrariness of the focus on job creation rather than job destruction – arguing that an equally arbitrary (and unsatisfactory) approach would be for an advocate of big business to argue for policies to stop job destruction on the basis that saving a job from being lost in a large firm is as valuable as creating one in a small firm; or for an advocate of a large public sector to argue against public sector rationalisation on the same grounds.

Sixth, most small firms do not grow much or contribute significantly to net job creation. Job creation policies are therefore better targeted at those firms that do grow rapidly, but this would require unusual facility on the part of policymakers in picking winners. A program to create jobs in SMEs is therefore not likely to be very successful in achieving its objective (Lattimore et al., 1998).

Seventh, even if it is true that SMEs have been responsible for most of the new jobs created in their economies in the recent past, a policy of assisting SMEs would not necessarily be the most effective way of creating new jobs. For example, a subsidy to SMEs to employ a previously unemployed person would not necessarily be more effective at eliciting a positive response from SMEs than it would from large firms along a range of dimensions such as the initial recruitment response, the duration of employment of any subsidised worker, the quality of the job and any associated training, and the extent to which participating firms would get a subsidy for a worker they would have hired anyway.

Finally, Revesz and Lattimore (1997) argue that government assistance programs for “small” firms can be counterproductive if they reduce the incentive for growth of businesses that are about to exceed the threshold definition of a small firm. Levitsky (1996) reports evidence from India in the 1980s indicating that the government’s policies of concessional assistance to SMEs was “constraining the growth of many enterprises that preferred to stay small rather than lose their privileged status” and indeed may have reduced the competitiveness of industry as a whole.

2.2 Social objectives

Income redistribution

Assistance to SMEs is sometimes justified by governments on the basis that the existing distribution of income is less than socially equitable. Aid agencies operating in developing countries have been drawn to provide assistance to small enterprises as a means of poverty alleviation and of improving the distribution of income (Levitsky, 1996). This is often tied in with other objectives such as creating employment, training, dispersing the benefits of development to rural areas and catering for rural markets through rural small enterprise programs, and promoting indigenous entrepreneurship. However, as Hallberg (2000) points out, “SME owners and workers are unlikely to be the

poorest of the poor, so that SME promotion may not be the most effective poverty alleviation instrument.”

For developed countries, the income redistribution justification may be even less compelling. Storey (1982) has argued, in the UK context, that financial assistance to small firms would most benefit the relatively wealthy who are more able to start new businesses – citing evidence that although there were more “working class” entrepreneurs than “middle class” ones, small firms were much more likely to be started up by people from middle-class backgrounds than by those with working class backgrounds.

In addition, there are more direct methods – such as income transfers – to achieve income redistribution objectives which are likely to be more effective than SME support policies (Hallberg, 2000).

2.3 Market Failure or Inefficiency

The conventional economic rationale for government intervention in markets based on market failure derives from the insight that competitive markets deliver optimal outcomes. According to the neoclassical economic paradigm, consumer welfare is maximised under conditions of perfect competition, and this outcome is Pareto-optimal, or ideal, in that no other outcome can achieve the same level of welfare for society as a whole (Van Cayseele and Van den Bergh, 2000). The conditions for markets to deliver Pareto-optimal outcomes are well known: many buyers and sellers in the market; a homogeneous product; perfect information regarding the availability of goods and services and the state of the technology; freedom of entry and exit by producers; and the absence of “spillover” or external effects. Under these stringent conditions, unencumbered markets represent the best way of organising the allocation of scarce resources.

Failure of the market to deliver competitive outcomes results when any of these conditions is not met to a significant degree, and may therefore warrant government intervention. From this perspective, perfectly competitive markets may be regarded as an ideal that, while unattainable by and large, can be approximated by a judicious mix of market-oriented policies and government intervention. However, the presence of market failure does not in itself justify government intervention. A market failure argument for government policy in favour of SMEs must demonstrate not only that there is a failure of the market in some sense but also – since, in general, subsidies to one sector of the economy have to be provided at the expense of other sectors or by way of additional taxes raised for the purpose – that such a policy is capable of delivering net welfare benefits to society as a whole.⁴

A related set of arguments pertains to competitive conditions that, for various reasons, may be a source of disadvantage to smaller firms relative to larger ones. We call attempts to remove these sources of disadvantage “levelling the playing field” so that SMEs can

⁴ See Belli (1997) for a good discussion of the role of government in relation to the market.

compete on a more equal footing with their larger counterparts. These are discussed below.

Presence of externalities

The presence of positive externalities or spillover effects from a particular activity is often taken as a justification for government involvement in that activity. Research and development activities, because they generate positive effects for external parties that are not fully appropriable by those undertaking the activities, fall into this category and government subsidies or direct grants are commonly employed to encourage them. From the viewpoint of SME policy, however, there is no particular reason why R&D that is undertaken by SMEs should be treated more favourably than if it is undertaken by large firms. The available research on the relative innovativeness of small versus large firms has been inconclusive despite extensive research into this issue since the 1950s.⁵ Other instances of externalities are discussed below.

Subsidies for small firm startups is sometimes justified on the basis that they create more employment than comparable assistance to large firms (Storey, 1982). We examine this argument and discuss the issue of employment creation below.

Number of competitors

Competition is an area where SME policy overlaps with other policy concerns. Firm start-ups are sometimes encouraged on the basis that they result in net additions to the existing stock of firms in an industry, and this is therefore a good thing if the number of the existing firms is too “small” (market concentration is “high”) so that there is an insufficient degree of competition in that industry. However, a policy aiming to achieve a particular size distribution of firms in any industry would be misconceived. As Hallberg (2000) points out, there is in fact no optimal or ideal size distribution of firms, but rather an “equilibrium” size distribution determined by “resource endowments, technology, markets, laws, and institutions.”⁶ Indeed, some of the factors that determine the equilibrium size distribution of firms – technology-determined economies of scale, resource endowments, and consumption patterns – are in a sense “natural” determinants of firm size (Hallberg, 2000) that are arguably best left to the determination of market forces.

Further, although a high market concentration has traditionally been regarded as conducive to the abuse of market power by firms, this is not necessarily the case: the opposite may be true, with more intense competition reducing profit margins and the number of firms that can survive in an industry (Symeonidis, 2000). Symeonidis (2000: 22) argues that “[t]his means that concerns with the level of concentration need not take precedence over the need to ensure that competition remains effective, i.e., firms do not engage in collusive practices and no barriers to entry are created.”

⁵ See Rothwell (1991, Table 4) for a summary of the advantages and disadvantages of small versus large firms in innovation.

⁶ See also Gans and Quiggin (2003).

Information imperfection

A commonly cited disadvantage that SMEs are said to suffer is lack of information about potential or current markets, which hampers their ability to compete effectively and/or exploit potential market opportunities. Lattimore et al. (1998) cite evidence indicating that small firms experience greater difficulties than large ones establishing a distribution network in export markets and that they suffer more from lack of information. However, they argue that:

... greater difficulty is not, by itself, a good basis for policy intervention. An economic rationale for assistance to small firms to commence exporting would require that there was some failure which led to firms not exporting when the benefits of exporting – either private benefits or the sum of private benefits and other benefits to the rest of the economy – were greater than its costs. (Lattimore et al., 1998: 76)

Lattimore et al. (1998) list three types of externalities which may justify government intervention in the form of export assistance to SMEs. First, reputational externalities may exist in the form of a firm's marketing building up product reputations and market presence for other competitors from the same country as well as for itself – for example, Australian wines. Second, firms may learn a lot from leading-edge customers overseas and from the mere challenges of exporting, and there may be knowledge spillovers to other firms in the same country as the exporting firms. Third, firms entering new markets learn about how to sell in those markets and there may again be knowledge spillovers. The presence of spillovers or externalities, Lattimore et al. (1998) argue, would provide the most durable theoretical case for export subsidies. However, it is likely that the size of the spillovers is relatively small, which would imply that any assistance should be correspondingly small.

Levelling the playing field

SMEs operate at a disadvantage relative to larger firms in a number of areas. Lack of access to finance and to technology are commonly cited as key areas of disadvantage suffered by smaller firms and constitute significant hurdles faced by SMEs.

Disadvantage resulting from government policies

In some cases the disadvantage may be the result of government policies that generate fixed costs that create a competitive disadvantage for smaller firms, or otherwise tilt the playing field against them. In particular, the cost of regulatory compliance may be more onerous for small firms than for larger ones. Smaller businesses may experience greater difficulties for a number of reasons (Lattimore et al., 1998). First, if there are fixed costs in compliance, such as learning about the regulations and putting in place systems to ensure compliance, these costs are likely to represent a higher proportion of turnover for SMEs than for large firms. Second, smaller firms are less likely to have the resources to employ staff to deal with regulatory matters, forcing a larger proportion of managers' time to be devoted to these issues and diverting attention away from the job of running the business. Lattimore et al. (1998) cite Australian evidence indicating that, in 1994-95, although SMEs' share of economic activity was around one third, they bore around 85 percent of the total paperwork compliance burden.

Recognition of the relatively higher burden on SMEs with regard to compliance costs has turned much recent policy attention to the question of regulatory reform. Many aspects of this – including the elimination of unnecessary regulations, more simple compliance, easier access to information about regulatory requirements and the elimination of inconsistencies in regulations between different jurisdictions and/or agencies – are relevant to firms of all sizes (Lattimore et al., 1998). These reforms are desirable from the viewpoint of removing regulatory hurdles to the efficient operation of all businesses regardless of their size.

Other government policies may have the effect, albeit unintended, of discriminating against smaller firms. These include the following (see Hallberg, 2000):

- Official and unofficial levies that discourage small firms from growing and becoming formal
- Tax structures that distort incentives and discriminate against small firms
- Government procurement procedures that discourage successful bidding by small firms
- Zoning regulations that restrict SME operations and entry into high-income markets
- Labour market rigidities that make hiring and firing workers difficult and expensive, and limit the flexibility and mobility of the labour force

However, it is not always clear that policies – e.g., labour market regulations such as redundancy payments or provisions against unfair dismissals – which are claimed to disadvantage smaller firms proportionately more than larger ones should be removed for the former in what is sometimes known as “regulatory tiering”. This is the term used to describe the practice of applying more lenient regulations to small businesses or exempting them altogether from regulations judged to be overly burdensome to them (Lattimore et al., 1998). While governments are aware of the impact that regulatory tiering can have on the small business vote, they also need to take into account the interests of the wider community, the employment conditions of employees generally, and the impact on overall economic efficiency. As Storey (1994: 267) has expressed it, “the entrepreneur’s ‘red tape’ is often the same as a worker’s ‘right’ or a neighbour’s ‘environment’.”

Bickerdyke and Lattimore (1997: 55-56) make the same point:

What [regulatory tiering] does is lower standards in order to lower the costs of compliance for owner-managers. And it is other people (workers and consumers in the broader community) who bear the costs of such lower standards. So any attempts to alleviate the apparently unfair burden on small business owner-managers occasions other re-distributions, which may also be regarded as unfair.

Achieving an appropriate balance between the overall interests and welfare of the community and those of the SME sector is likely to remain a difficult task.

Lack of access to finance

Lack of access to finance has been one of the more pervasive problems faced by SMEs in both developed and developing countries. It represents a major constraint which can significantly affect the ability of a firm to grow, upgrade its technology, expand its markets, improve its management capabilities, raise productivity, or simply to survive (Levitsky, 1996). Lack of access to finance by SMEs is generally attributed to capital market imperfections which have resulted in financial institutions being less skilled at servicing the financial needs of SMEs and the lack of nonbank capital markets that SMEs can tap into (Hawtrey, 1996).

With respect to the difficulties that SMEs encounter in gaining access to debt financing, a recent conference of the Pacific Economic Cooperation Council (PECC) concluded that the reasons typically relate to:

“... firm size, risk, knowledge, and flexibility. SME borrowing requirements are small and frequently do not appeal to financial institutions. More collateral may be required than SMEs can pledge. Financial institutions may lack expertise in understanding small and medium knowledge-based business. The flexibility in terms and conditions of financing that SMEs require may not be available.” (PECC, 2003)

In addition, banks generally have difficulty assessing loans to SMEs because of the lack of accurate and reliable information on their financial condition and performance, unconvincing and weak business plans, all of which imply higher transaction costs in the processing of such loans. As a result, SMEs generally find themselves faced with higher interest rates for any loans they are able to secure, as well as more stringent requirements for collateral (Lattimore et al., 1998).

The alternatives to debt financing involve equity capital but here the problems are even more pronounced, particularly for SMEs in developing countries which tend to be undercapitalised. Equity capital would allow firms to spread and share the risk of high growth strategies by sharing equity ownership, but attempts to develop capital markets geared to small firms have not proved successful (PECC, 2003). The high fixed costs involved in stock exchange listing and the ongoing requirements for continuing disclosure act as a disincentive to SMEs. In turn, the higher risk profiles of these firms and the limited information they can provide means that they do not represent very attractive propositions to the broking community (PECC, 2003).

Hall (2000) reports evidence for some APEC economies suggesting that the proportion of bank loans to SMEs has declined in the last decade: from 39 percent in 1994 to 19 percent in 2000 in Australia; from 40 percent in 1992 to 27 percent in 1999 in Chinese Taipei; and a less pronounced but similar downward trend in Canada, Indonesia, Japan and Korea. The only exception to this pattern for APEC countries, for which comparable data were available, is the US. While the reasons for the decline (in both relative and absolute terms) in funds available to SMEs are unclear, Hall (2000) postulates three possible explanations: (1) some statistical anomaly such as bracket creep as borrowers seek larger loans to offset the effects of inflation; (2) other more attractive sources of

finance such as venture capital becoming available to SMEs; and (3) banks tightened their lending to SMEs, either as a result of regulatory changes (e.g., BIS requirements) or because of the banks' perception of SME loans as less attractive. Hall concludes that the third explanation is the most likely. If correct, this may have long-term consequences for the number of new firm start-ups and for SME growth.

Hall's (2002) study also reports an apparent trend in the APEC economies towards policies that positively discriminate in favour of smaller firms gaining better access to finance (see Table 3.4). Between the periods 1994/1996 and 2000/2001, for example, the proportion of APEC economies that provided discriminatory tax rates favouring SMEs increased from 18 percent to 60 percent, while the proportion of countries with programs to provide financial support for start-ups increased from 6 percent to 60 percent.

**TABLE 4: Finance Policies in Support of SMEs in APEC Countries
(% of APEC Countries)**

<i>Policy</i>	<i>1994/95</i>	<i>2000/01</i>
Government underwriting of credit guarantee for SMEs in domestic operations	47	45
Government support for SMEs engaged in exports	53	70
Venture capital support	41	70
General finance support (e.g., subsidised or regulated interest rates)	65	50
Support program to provide micro finance for start-ups	6	60
Concessionary tax rates or favourable tax treatments for SMEs	18	60

Source: Adapted from Hall (2002, Table 7.3.1)

In contrast to the observed trends in recent years that appear to favour policies actively favouring SMEs through policies such as subsidised loans and exports assistance, subsidies for start-ups and concessionary tax rates, Hawtrey (1997) argues for more market-oriented policies that aim for greater diversity and depth in the capital markets for the small business sector. He notes a number of developments arising from increased competition which indicate that the problems faced by SMEs in Australia are being alleviated. The developments include an increase in the availability of finance for SMEs, a decrease in interest margins, an increase in willingness to lend on the basis of cash flow, and innovations in loan schemes tailored to the requirements of SMEs. He suggests that policies should have three main objectives: (1) genuine competition between the various strata of the financial sector, from banks to non-bank financial intermediaries to foreign banks; (2) the removal of artificial disadvantages to SME financing such as the lack of advocacy (i.e., expanding the powers of the Banking Ombudsman to allow representation for not just individuals but also small businesses) and the absence of national codes of behaviour for the extension of credit; and (3) actively nurturing the growth of open (particularly equity) capital markets for SME financial products.

Likewise, PECC (2003) recommends the promotion of a flexible environment for a venture capital market specific to SMEs. And, drawing on the very successful experience

of Bank Rakyat Indonesia in developing its own approach to the provision of uniquely tailored lending programs to SMEs, it also recommends that financial institutions be encouraged to tailor credit to SMEs and greater emphasis placed on training programs to help bank staff better understand the special requirements of SMEs.

Lack of access to technology

It is generally accepted that smaller firms are disadvantaged relative to large firms in terms of access to technology. Access to technology and making improvements to current technology are not ends in themselves, but a means to achieving dynamic efficiency and innovativeness. This issue is discussed in the following subsection.

2.4 Dynamic efficiency and the promotion of innovation

The market failure rationale for government intervention in markets discussed above is based on the notion of departures from static efficiency. In the kind of world envisaged by static efficiency arguments, the implicit assumption is that the technology of production is stable and that companies will compete on the basis of price and quality. However, a relatively recent occurrence has been the increasing focus on the importance of dynamic efficiency as an objective of policy (American Bar Association, 2002; Clarke and Evenett, 2003). A survey of competition policy regimes by Industry Canada (1995) found that “around the world, competition policy is increasingly recognised as a vital element of the framework for a dynamic market economy.”

Dynamic efficiency is concerned with technological innovations enhancing welfare, and refers to “the use of resources so as to make timely changes to technology and products in response to changes in consumer tastes and productive opportunities” (Bureau of Industry Economics, 1996). As Audretsch et al. (2001) argue, “In a dynamic economy competition in product and process innovations may have a more significant effect on welfare, at least in the long run, than does any likely variation in price.” UNCTAD (1998) is less equivocal, asserting that “[d]ynamic efficiency is probably the most important beneficial effect of competition.” The conceptual underpinnings linking competition to dynamic efficiency or innovation are provided by Porter (1990), who argues that “healthy competition” is essential to delivering ongoing innovations in products, processes and methods, which in turn are critical to a country’s prosperity.

The available research on the relative innovativeness of small versus large firms has been inconclusive despite extensive research into this issue since the 1950s. Policies intended to encourage R&D activities in all firms regardless of their size, through grants and subsidies, therefore seem appropriate in this context. Indeed, the evidence would seem to suggest that it is technological opportunities, rather than firm size, that explain firm innovativeness (see, for example, Scherer, 1970; Shrieves, 1978; Cohen and Levinthal, 1989; and Geroski, 1990). However, it is generally accepted that smaller firms, because of their relatively low levels of employment of technical specialists, are disadvantaged relative to large firms in a number of areas, including establishing communication with external sources of scientific and technological expertise and knowledge. From the

viewpoint of their management, there are opportunity costs in seeking out appropriate external sources of technical and other advice (Rothwell, 1991). In section 3 we explore firm networks and their potential in assisting smaller firms to overcome the disadvantages associated with small size.

2.5 Summary

The review in this section suggests that many of the arguments put forward for subsidising SME activities (as distinct from some activities of firms regardless of size) are not economically justified. As Hallberg (2000) argued, SME assistance programs are often motivated more by social or political considerations than by economic ones. Nonetheless, SMEs are widely acknowledged to suffer from disadvantage relative to large firms, principally in the areas of access to information and technology. In the following section we examine the possibilities offered by networks in meeting the needs of SMEs in these areas.

3. FIRM NETWORKS

There is increasing recognition that collaborative and other kinds of networks of firms offer a way in which small firms can circumvent some of the disadvantages associated with their lack of size. In addition, such networks can promote knowledge sharing, specialisation and exploit joint production economies (Lattimore et al., 1998). Humphrey and Schmitz (1996) cite mounting evidence in both developed and developing countries that networking helps SMEs to become more competitive. As a result, governments have increasingly promoted firm networks, particularly amongst smaller firms. Government intervention to promote such cooperative networks would appear to be economically justified because of (1) the benefits, in terms of static and dynamic efficiency and enhanced competitiveness, that derive from such cooperation; and (2) the apparent difficulties in coordination experienced by firms in initiating the formation of networks. In this section, we review some of the recent literature on firm networks and explore the implications for policy.

3.1 Types of Networks

A number of taxonomies of firm networks have been identified in the literature. The typical examples are geographically based, but these are by no means the only forms of network possible. Humphrey and Schmitz (1995: 8-9) identify three kinds of firm networks. A *cluster* is a sectoral and geographical concentration of enterprises. Some of the benefits arising from such a concentration, known as “external economies” (which we discuss in the next subsection) include the emergence of suppliers catering to the firms in the cluster, the emergence of a pool of workers with skills required by the sector, and the possible emergence of marketing or distributional agents who provide service links to more distant markets.

The second kind of firm network identified by Humphrey and Schmitz (1995) is the *industrial district*. According to Rabellotti (1995), an industrial district emerges when a cluster develops beyond mere specialisation and divisions of labour between firms, and develops “implicit and explicit forms of collaboration among local economic agents within the districts, enhancing local production and sometimes innovation capability” (Rabellotti, 1995). Rabellotti defines industrial districts in terms of four key factors:

- a cluster of geographically proximate and sectorally specialised firms (mainly SMEs);
- both forward and backward linkages among firms, based on both market and non-market exchanges of goods, information and people;
- a common cultural and social background linking firms and creating a behavioural code, sometimes explicit but often implicit; and
- supportive regional and municipal governments.

Finally, Humphrey and Schmitz (1995) use the term *network* to refer to a cooperative enterprise of firms exhibiting collective efficiency, which is not necessarily tied to being in the same locality, although most networks that have been studied are geographically concentrated. While the external economies of networks that are not geographically concentrated tend to be small, the gains from joint action can be substantial (Humphrey and Schmitz, 1995) and presumably provide the motivation for the network. We use the general term network to refer to all three.

Another, more commonly used, taxonomy takes a supply chain perspective in distinguishing between horizontal (or lateral) and vertical networks (e.g., Berry, 1997; Nooteboom, 1999; Fritsch, 2001). Indeed, Berry (1997) argues that the distinction between small-large firm cooperation (comprising mainly vertical subcontracting relationships) and small-small firm cooperation is the basic analytical one. Horizontal network relationships are those between firms at the same level of the supply chain, while vertical ones are those between firms at different levels of the supply chain, typically with suppliers or customers. The exact form that is manifested in practice varies by industry and is determined by, among other things, differences in technology and market structure (Berry, 1997). However, while the distinction serves as a convenient starting point for analysis, Berry (1997) argues that the key to understanding networks is not so much the static structural differences but “to understand the dynamic processes by which firms and sectors are transformed to create the system that finally emerges.” This echoes a theme sounded earlier in Humphrey (1995) emphasising the need for further study of the processes of change that result in the failure or success of networks.

3.2 Network Concepts

Networking by small firms allows them to derive efficiency gains. Central to understanding how this occurs is the concept of *external economies*, which may be traced

⁷ Alfred Marshall, *Principles of Economics* (eighth ed., 1920), quoted in Humphrey and Schmitz (1995).

to Alfred Marshall's nineteenth century analysis of industrial districts in Britain (Humphrey and Schmitz, 1995, 1996). Marshall noted the economies which "can often be secured by the concentration of many small businesses of a similar character in particular localities".⁸ Examples of such external economies include the accumulation of a pool of specialised workers, easy access to suppliers of specialised inputs and services, and the ready dissemination of knowledge among firms in the cluster (Schmitz and Nadvi, 1999). External economies are incidental effects produced as unintended consequences of other activities which are consciously (or deliberately) pursued as *joint actions*. There are two types of joint action: individual firms cooperating together, for example, in sharing equipment or in product development; and groups of firms cooperating in business associations, consortia, etc (Humphrey and Schmitz, 1995, 1996).

The incidental and the deliberate effects are combined into the concept of *collective efficiency*, which may be defined as "the competitive advantage derived from external economies and joint action" (Schmitz and Nadvi, 1999: 1504). This definition emphasises the notion that competitiveness in this context cannot be understood by focusing on individual firms. Examples of collective efficiency gains arising from a cluster of producers of similar products include the gains from specialisation, the attraction by the cluster of suppliers and buyers, the creation of a pool of specialised workers, and the ready diffusion of knowledge among firms in the cluster. Efficiency gains can be static, such as the easy availability of inputs, or dynamic, such as the speedier dissemination of new ideas (Humphrey and Schmitz, 1995).

However, while it is generally accepted that the conceptual framework described above is useful, it remains incomplete. Schmitz and Nadvi (1999) identified two main areas of deficiency in the theory. First, the collective efficiency framework fails to adequately capture the importance and role of external linkages, which can be critical to the development and success of the cluster. Second, if a strategic response is required to external challenges, joint action by local enterprises may not be adequate. This implies a role for public agencies as catalysts or mediators. The role of government agencies is discussed in section 3.4 below.

The Marshallian framework outlined above yields insights about the kinds of benefits in the form of specialisation of labour, economies of scale and access to markets that firms derive from cooperative networking, and tends to apply mainly to geographically concentrated, horizontal firm clusters. More recent authors have investigated both the sources of networks' advantages to their members, and the underlying structural requirements the benefits to occur. On the former, Fritsch (2001) distinguishes between the benefits accruing to horizontal links and those accruing to vertical ones. In addition, some benefits accrue to both horizontal and vertical networks. Fritsch (2001) argues, however, that the principal benefit of networks as typically described in the literature is that they allow firms to realize a relatively high degree of division of labour and that, moreover, it is in vertical relationships that these benefits tend to occur. He suggests that such networks are characterised by redundant vertical relationships, where redundancy in

⁸ *Ibid.*

a business relationship means that “there is a tendency for customers to have more than one supplier of certain goods and that suppliers are not dependent on only one customer.” Fritsch’s (2001) conclusion that vertical relationships offer cooperating firms greater potential benefits is at odds with much of the literature where the traditional focus has been on horizontal relationships, and suggests that this aspect of cooperative linkages may warrant closer study.

Nooteboom (1999), employing what he calls a “constructivist” approach, has proposed another dimension to the conceptual framework. He argues that firms, like people, have different knowledge based on their experiences. He suggests that, as a result, the primary function of the firm may be cognitive in nature, and that the firm acts as a focusing device which achieves its objectives by directing and aligning the perception and understanding of the people connected with it. This implies that, by focusing on a particular perception of its environment the firm “runs the risk of missing out on perception of opportunities and threats from other directions”, and that there are benefits to having access to wider or alternative perceptions other than its own. Networks therefore serve an important function by providing complementary, external sources of cognition. However, as Nooteboom (1999: 795) argues:

Such outside sources of complementary cognition require a certain ‘cognitive distance’ which is sufficiently small to allow for understanding but sufficiently large to yield non-redundant, novel knowledge. For the external source to maintain novelty it is crucial to maintain distance. Acquisition or merger may eliminate distance and thereby novelty.

Nooteboom’s (1999) analysis thus at least partly addresses the first of the deficiencies of the Marshallian framework identified by Schmitz and Nadvi (1999), that is, the role and importance of external linkages. Indeed, its principal implications would appear to be in conflict with those of the Marshallian framework. Where the transactions-cost approach of the latter would prescribe greater integration of activities within larger firms in the face of greater uncertainty (e.g., from increased complexity and variability of both technology and markets), Nooteboom’s analysis suggests that under these conditions there is a greater need for external partners to provide complementary cognition (Nooteboom, 1999).

3.3 Networks and Innovation

Networks also have a role to play in helping firms participate more effectively in innovation-related activities. As DeBresson and Amesse (1991: 364) argue:

If innovation consists of new technical combinations, networks provide the flexibility with which to exploit opportunities for the recombination of various components... If the firm is considered as a (temporary) combination of resources the innovative enterprise is a new combination but not the only possible form which it can take. Inter-firm networks can also provide a means of recombination, one that has distinct

advantage over individual firms... These possible combinations are explored through the process of “hyper-interaction” within the network, while finding the complementary assets outside the firm necessary to make the innovation viable.

From a different perspective, Lundvall (1988) argues that small firms lacking an in-house research and development capability can develop information networks to enhance their knowledge absorption capacity. This occurs by learning from both customers and suppliers, interacting with other firms and taking advantage of knowledge spillovers from other firms and industries. Connection with the ultimate users of innovation is also of importance. As Freeman (1991) notes, successful innovations tend to be characterised by “determined attempts to develop an understanding of the special needs and circumstances of potential future users of the new process or product. Failures were characterised by neglect or ignorance of these needs.” Not surprisingly, firms with highly qualified management personnel are better able to assess their own deficiencies as regards knowledge and technical skills, and to link up with other firms or organisations that are able to help them overcome those deficiencies.

While firms of all sizes participate in networks, it is arguable that the benefits from such participation are potentially greater, relatively speaking, for smaller firms, which tend to experience to a greater degree than large firms problems of access to information and to potential markets. Vernon (1979) argued that small firm networks tend to be less global and more locally based in nature, with more limited sources of information – for example, in the form of personal exchanges, collective learning, cooperation, and perhaps information from locally-based large firms or multinationals in the same industry.

The literature would appear to support the view that being part of a network lowers the cost of information to firms and allows them to avoid subsequent problems of exclusion and entry barriers (DeBresson and Amesse, 1991). For firms with formal research and development departments, networks can encourage cooperation with other firms and universities and other public research institutions. Even for firms that do not formally engage in research and development, participating in information networks and the development of skills are critical in fostering and maintaining the ability to engage in innovative activities, and not necessarily of an exclusively technological nature.

In addition, the relationships involved are not necessarily directly oriented towards innovation. UK data indicate that, in general, innovative SMEs have dense external networks involving other firms (mainly SMEs) in a range of technical, marketing and manufacturing relationships and involving infrastructural institutions such as universities and private sector research institutes (Rothwell, 1991).⁹ The flexibility of such relationships goes some way towards explaining why some firms opt for a network structure rather than internalisation.

⁹ These results tend to be supported by other studies as well: see, e.g., Basri (2000).

3.4 Policy and the role of government agencies

The foregoing discussion suggests that much remains to be done in furthering our understanding of the properties of networks, the ways in which they add value to their members, and how their formation can be stimulated and encouraged. The European experience has been that where firms cluster they find it easier, because of the external economies that arise, to overcome obstacles in access to inputs and to product markets. However, as Schmitz and Nadvi (1999: 1509) warn, “successful clusters cannot be created from scratch. There needs to be a critical mass of enterprises and skills (however rudimentary) that outside assistance can ‘hook into’.” A prior step to formulating any policy measure in this regard would therefore be to identify whether any such critical mass, or potential for such, exists. Schmitz and Nadvi (1999) point, for example, to the importance of trade networks for incipient clusters.

Humphrey and Schmitz (1996) argue that effective interventions need to follow what they call the “Triple C approach”. First, they need to be *customer oriented*, to allow firms to learn about, and from, the needs of their customers. This supports research indicating that many effective networks have a strong buyer orientation. Further, by implication the focus will likely be on external linkages as well, since many buyers will not be local. As Berry (1997) argued, “[g]ains from interfirm cooperation tend to be greater and that cooperation easier to achieve when the cooperating firms sell their product(s) outside the region and/or outside the country.”

Second, support is more effectively directed *collectively*, that is, at groups of firms rather than at the level of individual firms. This not only has lower transaction costs but also encourages cooperation and mutual learning (Schmitz and Nadvi, 1999). Third, they need to be *cumulative* in the sense that they are able to generate the capacity of firms in the network to continuously upgrade and improve, thus obviating the need for further public support. This highlights the intention of many policies of the catalytic function of government support programs. A number of writers (e.g., Schmitz and Nadvi, 1999; Nooteboom, 1999) have pointed to the possible role of government agencies as catalysts or facilitators of networks, or as mediators within networks. Berry (1997) argues that, although private intermediaries tend to be more effective than public ones, government agencies can nonetheless contribute by organising trade fairs. Buyers, both private- and public-sector ones, can also:

... jump-start dormant clusters as some producers receive new orders, others try harder, a sense of rivalry among producers can come from the transparency of the process, innovations get copied and so on. (Berry, 1997)

In this context, Berry (1997) points to Korea’s policy of mandating and nurturing increased vertical linkages, which had spectacular results in vastly expanding the role of SMEs in the Korean economy in the period since the mid-1970s. The extent to which the Korean example serves as an appropriate model for other countries is an interesting question.

Finally, the fundamental importance of the creation of a stable macroeconomic environment and legal regime, and the provision of a trained and educated labour force through appropriate educational and training facilities and policies, should be understood as a given (Berry, 1997; Mani, 2002).

3.5 Summary

From a policy perspective, a number of conclusions may be drawn. First, policies should seek to encourage the establishment of these links and networks. While it is not clear what role policy plays in the process of encouraging the formation of firm networks, some decentralization of policy to regional and local government seems warranted in the case of geographical clusters and industrial districts (Humphrey and Schmitz, 1995). Levitsky (1996) suggests that planned forms of location and relocation of SMEs may be more successful if they are based on existing clusters or industrial districts. Also, Humphrey and Schmitz (1995) report that successful interventions in both developed and developing countries have tended to be joint public/private sector initiatives often focused on specific sectors.

Second, if public assistance to SMEs is deemed justified, delivery of this assistance to a network is more cost effective than assistance to individual enterprises, as transaction costs are lower.

Third, given the disadvantages that smaller firms tend to suffer in terms of access to better qualified personnel, policy emphasis can usefully be placed on upgrading the skills of small firms. This has the additional benefit that better trained and qualified persons are better able to assess the technical and knowledge gaps of their own firms and hence better able to appreciate the advantages of establishing links with other firms and institutions that complement and augment the capabilities of their own firms. In addition, community training and education programs should fit the needs of SMEs, with technical schools, appropriate technical institutes and other training centres located, as far as possible, in the vicinity of clusters and industrial districts (Levitsky, 1996).

As Berry (1997) observes, the key questions for policymakers are: what is the optimal role of the public sector, and how does the role vary according to the setting? Much work remains to be done in arriving at the answers, but this fact should not be taken as a prescription for inaction given that the weight of the evidence strongly indicates the benefits that accrue from cooperative firm networks.

4. CONCLUSIONS

In this paper, we reviewed the policy arguments in favour of assisting SMEs in various areas of their operations. Our review suggests that many of the arguments put forward for subsidising SME activities (as distinct from some activities of firms regardless of size) are not economically justified. Nonetheless, it is widely acknowledged that SMEs suffer

from disadvantage relative to large firms, principally in the areas of access to information and technology.

Our examination of the possibilities offered by networks in helping SMEs deal with the disadvantages they experience indicates that there are benefits that firms can derive from participating in networks. Further, because networks can assist firms overcome some of their inherent disadvantages, they can become less reliant on public assistance and more able to compete on an equal footing with larger firms once the initial impetus is provided for the formation of cooperative networks that can enable firms to compete more effectively.

References

- American Bar Association (2002), "The Economics of Innovation: A Survey", Section of Antitrust Law, American Bar Association, July.
- Andersson, Thomas (2000), "Policy Design, Implementation and Evaluation – Rationale, Efficiency and Systemic Concerns", delivered to the SME Forum on "Public Policies for SMEs in Europe", Lisbon, 13-14 April.
- Audretsch, D.B., W.J. Baumol and A.E. Burke (2001), "Competition Policy in Dynamic Markets", *International Journal of Industrial Organization*, Vol. 19, 613-634.
- Basri, E. (2000), "Inter-Firm Technological Collaboration in Australia in an International Context: Implications for Innovation Performance and Public Policy", Working Paper 2000-01, AEGIS, University of Western Sydney.
- Belli, Pedro (1997), "The Comparative Advantage of Government: A Review", Working Paper No. 1834, The World Bank.
- Berry, Albert (1997), "SME Competitiveness: The Power of Networking and Subcontracting", Inter-American Development Bank, Washington, DC, January.
- Bickerdyke, Ian and Ralph Lattimore (1997), "Reducing the Regulatory Burden: Does Firm Size Matter?" Industry Commission Staff Research Paper, Canberra, December.
- Clarke, Julian L. and Simon Evenett (2003), "A Multilateral Framework for Competition Policy?" Chapter II in State Secretariat of Economic Affairs Switzerland and Simon J. Evenett (eds.), *The Singapore Issues and the World Trading System: The Road to Cancun and Beyond*, World Trade Institute.
- Cohen, Wesley M. and Daniel A. Levinthal (1989), "Innovation and Learning: The Two Faces of R&D", *The Economic Journal*, Vol. 99, September, 569-596.

- DeBresson, C. and F. Amesse (1991), "Networks of Innovators: A Review and Introduction to this Issue", *Research Policy*, Vol. 20, 363-379.
- De Koning, A.C.P., J.A.H. Snijders, and J.G. Vianen (1992), "SME Policy in the European Community", paper presented at Gateways to Growth – Opportunities for Smaller Firms in the EC, cited in Storey (1994).
- Freeman, C. (1991), "Networks of Innovators: A Synthesis of Research Issues", *Research Policy*, Vol. 20, 499-514.
- Fritsch, Michael (2001), "Innovation by Networking: An Economic Perspective", in K. Koschatsky, M. Kulicke and A. Zenker (eds.), *Innovation Networks: Concepts and Challenges in the European Perspective*, Physica-Verlag Heidelberg, 25-33.
- Gans, Joshua S. and John Quiggin (2003), "A Technological and Organisational Explanation for the Size Distribution of Firms", *Small Business Economics*, Vol. 21, 243-256.
- Geroski, P.A. (1990), "Innovation, Technological Opportunity and Market Structure", *Oxford Economic Papers*, Vol. 52, 586-602.
- Hall, Chris (2002), *Profile of SMEs and SME Issues in APEC 1990-2000*, APEC Small and Medium Enterprises Working Group, Singapore: World Scientific Publishing.
- Hallberg, Kristin (2000), "A Market-Oriented Strategy for Small and Medium-Scale Enterprises", Discussion Paper No. 40, International Finance Corporation, The World Bank.
- Harvie, Charles (2003), "Regional SMEs and Competition in the Wake of the Financial and Economic Crisis", in Tran Van Hoa and Charles Harvie (eds.), *New Asian Regionalism: Responses to Globalization and Crises*, Palgrave Macmillan, 96-124.
- Hawtrey, K.M. (1997), "Finance for Australian SMEs: Policy Issues", *Economic Papers*, Vol. 16 No. 2, June, 39-50.
- Humphrey, John (1995), "Industrial Reorganization in Developing Countries: From Models to Trajectories", *World Development*, Vol. 23 No. 1, 149-162.
- Humphrey, John and Hubert Schmitz (1995), "Principles for Promoting Clusters and Networks of SMEs", paper commissioned by the Small and Medium Industries Branch, United Nations Industrial Development Organization, October.
- Humphrey, John and Hubert Schmitz (1996), "The Triple C Approach to Local Industrial Policy", *World Development*, Vol. 24 No. 12, 1859-1877.

- Industry Canada (1995), "Competition Policy as a Dimension of Economic Policy: A Comparative Perspective", Occasional Paper No. 7, May.
- Lattimore, R., A. Madge, B. Martin and J. Mills (1998), "Design Principles for Small Business Programs and Regulations", Staff Research Paper, Productivity Commission, Australia, August.
- Levitsky, Jacob (1996), "Support Systems for SMEs in Developing Countries: A Review", Paper commissioned by the Small and Medium Industries Branch, United Nations Industrial Development Organization, March.
- Liedholm, Carl and Donald C. Mead (1999), *Small Enterprises and Economic Development*, London and New York: Routledge.
- Lundvall, B.A. (1988), "Innovation as an Interactive Process: From User-Producer Interaction to the National System of Innovation", in G. Dosi, C. Freeman, R. Nelson, G. Silverberg & L. Soete (eds.), *Technical Change and Economic Theory*, London: Pinter, 349-369.
- Mani, S. (2002), *Government, Innovation and Technology Policy: An International Comparative Analysis*, Cheltenham: Edward Elgar.
- Nooteboom, Bart (1999), "Innovation and Inter-firm Linkages: New Implications for Policy", *Research Policy*, Vol. 28, 793-805.
- OECD (2000), "Small and Medium-Sized Enterprises: Local Strength, Global Reach", *OECD Observer*, June, 1-7.
- Parker, Rachel (2000), "Small is Not Necessarily Beautiful: An Evaluation of Policies in Support of SMEs", *Australian Journal of Political Science*, Vol. 35(2), 239-253.
- Pacific Economic Cooperation Council (PECC) (2003), "Financing Small and Medium Enterprises: Challenges and Options", Summary Report of the discussion at the Second Annual Conference of the PECC Finance Forum, Hua Tin, Thailand, July.
- Rabellotti, Roberta (1995), "Is There an 'Industrial District Model'? Footwear Districts in Italy and Mexico Compared", *World Development*, Vol. 23 No. 1, 29-41.
- Revesz, John and Ralph Lattimore (1997), "Small Business Employment", Industry Commission Staff Research Paper, Industry Commission, Canberra, August.
- Rothwell, R. (1991), "External Networking and Innovation in Small and Medium-Sized Manufacturing Firms in Europe", *Technovation*, Vol. 11 No. 2, 93-112.
- Scherer, Frederic M. (1970), *Industrial Market Structure and Economic Performance*, Chicago: Rand McNally.

- Schmitz, Hubert and Khalid Nadvi (1999), "Clustering and Industrialization: Introduction", *World Development*, Vol. 27 No. 9, 1503-1514.
- Shrieves, R.E. (1978), "Market Structure and Innovation: A New Perspective", *Journal of Industrial Economics*, Vol. 26, 329-347.
- Storey, D.J. (1982), *Entrepreneurship and the New Firm*, London and Canberra: Croom Helm.
- Storey, D.J. (1994), *Understanding the Small Business Sector*, London: Routledge.
- Symeonidis, George (2000), "Price Competition and Market Structure: The Impact of Cartel Policy on Concentration in the UK", *Journal of Industrial Economics*, Vol. 48 No. 1, March, 1-26.
- Van Cayseele, Patrick and Roger Van den Bergh (2000), "Antitrust Law", in Boudewijn Bouckaert and Gerrit De Geest (eds.), *Encyclopedia of Law and Economics, Volume III. The Regulation of Contracts*, Cheltenham, UK: Edward Elgar, 467-497.
- Vernon, R. (1979), "The Product Cycle Hypothesis in a New International Environment", *Oxford Bulletin of Economics and Statistics*, Vol. 41 No. 4, 255-267.