Paper for Rencontres conference, 20-23 September 2004, Appenzell, Switzerland.

The "One in Twenty" Rule: Some Thoughts On The Fundamental Distribution Of Firms

Professor Michael Schaper, PhD.
Chair in Small Business and Entrepreneurship
Graduate School of Business, The University of Newcastle
University Drive, Callaghan NSW 2308 Australia
Phone: +61 2 4921 2099 Fax: 61 2 4921 7398
Email: Michael.Schaper@newcastle.edu.au

Introduction

As a discipline, small business studies has sought to understand the small and medium-sized sector from a number of perspectives. One approach has been to examine the nature of small firms – their characteristics, their operating procedures and foibles, and related issues - whilst another has been to study the owner-managers of these enterprises – who they are, how they manage, what variations exist between them, and so forth. Despite over forty years of intensive study, however, researchers have been unable to uncover very few "laws" or principles which seem to govern the overall way in which these businesses operate. For every generalisation, there are numerous exceptions; indeed, it is often argued that the small firm sector is perhaps more remarkable for its heterogeneity than for any common characteristics that its members share.

Similarly, the relationship of small (and, sometimes, medium-sized) firms to larger ones is rarely examined, except to show how the two groups differ from each other. Thus it is often possible to find studies which compare the performance of SMEs to large corporations, and to attempt to show how they contrast with one another. Whilst useful in helping to justify why SMEs should be studied separately, it does not fully explain the relationship between the two sectors. It is not enough to simply compare and contrast: we also need to understand how the two sectors relate to each other. Like dancers, each affects the other, in ways that are surprisingly more predictable and universal than we have previously recognised.

An examination of the distribution of firms in several nations from around the world reveals a number of common trends. These patterns appear to be relatively durable and universal, and suggest that there may in fact be a number of fundamental characteristics (or laws) which govern the distribution of firms in most economies. These are:

- *Firstly, SMEs appear to account for no less than 95%, or nineteen out of every twenty firms in existence. In other words, large firms rarely exceed a "1 in 20" distribution rule.*

- *Secondly, micro-firms predominate over all other firms, giving rise to a pyramid-type structure in which large firms are the numerically smallest cohort in each economy.*

- *Finally, although there may be some minor variations in figures from one time period to another, the above two patterns appear to be relatively fixed and enduring.*

In other words, there are some comparatively fundamental patterns of behaviour amongst the business population, wherein the pattern and distribution of firms based on their size appears to be fixed. These relationships have been frequently overlooked in the existing small business research literature, but can serve a valuable role in developing "rules of thumb" or principles that govern the normal distribution of firms in many national economies, such as those found amongst OECD and APEC member states. In this paper, these principles are examined in detail.

Observation One: The "1 in 20" Rule

In most countries, it is generally accepted that the number of SMEs typically outweighs the number of larger firms in most economies. The vast majority of all enterprises are small or medium-sized in their scale, and relatively fewer are defined as "large" (however these terms are set by various data collection bodies and researchers).

For example, as Table One shows, in Europe-19 (that is, the original 15 European Union member countries prior to May 2004, along with Iceland, Liechtenstein, Norway & Switzerland), small firms represent more than 99% of all private sector businesses. In Australia, they account for 96%, whilst a similar proportion can be found in neighbouring New Zealand, where they constitute almost 97%.

Table One: Distribution Of Firms By Size In Selected Nations And Geographic Regions

	Number of firms (proportion of all firms)			
	Europe-19, 2000	Australia, 2002	New Zealand, 2002	UK, 2002
Micro-businesses	19,040,000 (93.11%)	952,200 (81.80%)		2,600,000 (68.42%)
Small business	1,200,000 (5.87%)	169,800 (14.59%)	242,078 (86.05%)	1,170,000 (30.79%)
Medium enterprises	170,000 (0.83%)	39,300 (3.38%)	30,297 (10.77%)	27,000 (0.71%)
Large firms	40,000 (0.19%)	2,800 (0.24%)	8,963 (3.19%)	7,000 (0.18%)
Total	20,450,000	1,164,100 (100%)	281,338 (100%)	3,804,000 (100%)

Sources: European Commission (2002, p.11), Ministry of Economic Development, New Zealand (2003, p.5), Australian Bureau of Statistics (2002, p.27), United Kingdom Department of Trade and Industry (2003). Figures may not add up due to rounding. For New Zealand, "small business" category includes micro-firms.

In the world's largest economy, the United States, microfirms represent approximately 50% of all enterprises, small firms 38%, medium-sized entities 8%, and large businesses only 4% (OECD 2000).

Nor is this trend confined to only a few countries. Other nations also report similar trends. Table Two contains data drawn from a wide variety of Asia-Pacific nations, and shows a comparable pattern of distribution.

Table Two: Proportion of SMEs in Selected APEC Member Economies

Economy	*SMEs (%)*
Brunei Darussalam	98.0 (1997)
Canada	98.0 (1996)
People's Republic of China	99.0 (1993)
Hong Kong, China	98.2 (1995)
Indonesia	98.0 (1996)
Japan	98.8 (1996)
Republic of Korea	99.0 (1993)
Malaysia	84.0 (1997)
Mexico	98.7 (1994)
Philippines	99.5 (1988)
Russia	85.6 (1993)
Singapore	91.5 (1995)
Taiwan (Chinese Taipei)	97.8 (1997)
Thailand	95.8 (1997)
U S A	96.0 (1993)

Source: APEC SME Working Group (2000)

Intriguingly, this occurs despite the fact that every country has its own definition of what constitutes a micro, small, medium and large-sized firms. Some nations have fewer definitional categories (such as New Zealand, which includes micro firms within the broader rubric of small business), whilst others have more categories (which may separate non-employing firms – the self-employed – into yet another category).

Generally speaking, however, this distribution is in fact highly predictable. In almost all countries, large firms represent no more than 5% of all private sector firms – only 1 in every 20 business organisations (see Table One). Small and medium-sized firms account for at least 95% of private commercial entities; indeed, the figure for SMEs in many countries is actually closer to 99%. However, as a rough or approximate guide, the "1 in 20" rule appears to be a fairly constant minimum figure.

Of course, not all nations conform strictly to the "1 in 20" rule. The results recorded for Russia, for example, are substantially below this figure, as are those for Malaysia and Singapore. However, the Russian data is over ten years old, and was collected at the time of transition from a command to an open market economy; Malaysian figures are only published for one industrial sector (manufacturing), not the whole economy; and Singapore's status is unusual due to its small population base and economic role as a home base for multi-national corporations in Asia.

Observation Two: The Pyramid (Inverse Relationship) Effect

The proportionate split between large firms and SMEs in not the only distribution which occurs in a predictable manner. The relationship between each category of firm (micro, small, medium and large) also follows a fairly similar pattern.

The most common enterprises in any economy are the micro-enterprises: those organisations which employ few, if any, staff, and which are frequently made up of the self-employed. They have limited resources, a very narrow product and service range, and little marketplace power. The next largest group are the small firms, typically consisting of a number of employees plus the owner-manager(s). These are followed by medium-sized enterprises, which tend to not only have larger numbers of staff, but also to display more of the characteristics of large corporations: they are more organised, have a larger market share, use a greater formal division of labour and accountability, and use more formal management techniques. Finally, at the apex of the pyramid are the large entities, few in number, but each of them behemoths in their own way: employers of vast numbers of staff, possessing substantial market share and presence, spread over a wide geographical area and offering a wide product or service range.

This structure gives rise to a hierarchy, or pyramid-shaped distribution of firms, in which the size of firms is in inverse relationship to their number: that is, the most common firms are the smallest. The larger the individual firm, the fewer the number of them there are. Tables One and Two both demonstrate this trend. In each case, micro-enterprises are clearly predominant by their sheer volume of numbers. (In fact, because some national statistics actually exclude the self-employed, the real number of micro-enterprises is, if anything, likely to be more than those reported). They are followed in every case by small-size firms, then by medium-sized enterprises, and finally large corporations.

In some respects, this distribution echoes that found in nature, where there is a well recognised food chain and distribution of species. Micro-sized organisms, such as bacteria, are most numerous, followed by small creatures such as insects. Medium-sized animals such as most mammals are much more limited in number, whilst the quantum of very large creatures (macrofauna such as whales and elephants) are far fewer in number. But whilst it is often easy to take observe the macrofauna and other mammals, much of the real ecological activity takes place at the micro- and small-scale level.

Observation Three: Enduring Nature Of These Phenomena

The above two observations are not simply artefacts of current statistical data collection. As a perusal of past research also shows, these trends have appeared consistently over time. They are relatively enduring characteristics that appear to sustain themselves whatever the time period or economic circumstances.

As Table Three shows, the case of Australia is illustrative. Over the last twenty years, the proportions of firms in each size category has remained more or less constant, even though the overall number of private sector firms has doubled.

Table Three: Composition of Private Sector Firms in Australia, By Size

	Number of firms (proportion of all firms)			
	2002	1998-99	1995-96	1983-84
Micro-businesses (0-4 employees; includes self-employed persons)	952,200 (81.80%)	791,400 (79.9%)	748,400 (80.16%)	455,400 (78.67%)
Small business (5-19 employees)	169,800 (14.59%)	159,800 (16.14%)	147,900 (15.84%)	99,200 (17.13%)
Medium enterprises (20-199 employees)	39,300 (3.38%)	36,100 (3.65%)	34,600 (3.7%)	22,500 (3.9%)
Large firms (200 or more employees)	2,800 (0.24%)	2,700 (0.27%)	2,700 (0.29%)	1,800 (0.31%)
Total	1,164,100 (100%)	990,000 (100%)	933,600 (100%)	578,900 (100%)

Sources: Australian Bureau of Statistics (2002, p.27; 2000, pp.27-29). Figures exclude agricultural enterprises; totals may not add up due to rounding

The Australian trend actually extends over a far greater time period than that shown above. In 1969, for example, small and micro-sized firms represented 95.3% of all Australian enterprises (the two size categories were noted reported separately at that time) – a figure scarcely changed from the 96.4% reported in 2002 (Australian Bureau of Statistics 2002; 1974).

This finding has considerable significance for many of the current debates about economic policy and government strategies for the SME sector. For example, it has often been argued that much of the micro-economic reforms put up by government has the effect of damaging the small business sector, by making them more vulnerable to increased competition, globalisation and free market forces. According to this line of thinking, small firms will often whither when faced with increased competition, such as that posed by large multi-national competitors who are usually seen as the winner in economic deregulation. Yet in Australia, for example, the proportion of small and micro-sized firms barely moved (and, in fact, actually increased) between 1983 (when they accounted for 95.8% of all private sector firms) and 2001 (when they represented 96.4%). This represents a time period when the currency was floated, the labour market deregulated, trade barriers removed and a “level playing field” of national competition policy was adopted.

It can also have ramifications for the whole notion of government assistance for small business. If the proportion of small firms in any economy is similar and enduring, some critics might question whether there really is any beneficial role in government spending large amounts of public funds on providing advisory services, business support and information. These moneys, it could be argued, will not substantially change the number of firms in existence, and so may be construed as a waste of resources. (Although there is an alternate argument that without such assistance, the quality and quantity of firms may actually have declined.)

Further Issues

One limitation in a comparative study of small business structures in different nations is the quality of data available to researchers. Every country has its own definition of a small business, micro-enterprise, large and medium-sized firm. Not only are these frequently quite different, they are often also based on different criteria. Some countries use only the number of employees as their yardstick; others use financial measures, such as turnover or value of assets; whilst others again use a combination of the two. Some exclude the self-employed; others do not. Some countries exclude agricultural firms from their reported data, but others include it. Some report the results on a regular basis; others do so only haphazardly. At present, understanding phenomena such as the distribution pattern of SMEs is hampered by this statistical "tower of Babel".

This is a pressing issue that needs to be addressed in small business studies: the development of a common definition. If we are to be able to meaningfully compare and understand the small business sector internationally, then a common system of measuring and defining firms must be adopted (Atkinson 2004). Without this, any such studies (and the results arising from them) will be heavily qualified, and can only examine this phenomena in the most basic of ways. At present, the adoption of a common universal definition seems a long way off, but it need not be. After all, if most countries can agree to uniform standards in other areas (such as adopting a metric system to govern the international use of weights and measures), surely we can do the same for small business statistics.

Conclusion

Although only a limited number of national data sources has been used in this paper, it is suggested that there are a number of phenomena about the small business sector that is relatively generalisable to numerous economies around the world. Understanding these relationships better will enable us to develop more effective policies for the sector, and to work out the comparative distribution dynamics that appear to inherently exist between different firm sectors.

Much more work remains to be done in this field, and it is possible that, upon closer scrutiny, over-arching laws or principles about SME distribution patterns will remain elusive. On the other hand, we may well find that such relationships are surprisingly more predictable than we have realised. It is an area well worth studying in more detail.

References

Atkinson, P.E. (2004) “Strengths and Weaknesses of SME Statistics Systems: The Users' Perspective” OECD presentation of identified key issues, Special Workshop on "SME Statistics: Towards a More Systematic Statistical Measurement of SME Behaviour", 2nd OECD Conference of Ministers responsible for SMEs, Istanbul, 3-5 June 2004. [online] http://www.oecd.org/document/11/0,2340,en_2649_34197_32120715_1_1_1_1,00.html (accessed 19 July 2004)

Asia-Pacific Economic Co-operation Forum (APEC) SME Working Group (2000), *APEC SME Guidebook*, p.3 [online] http://www.apecsec.org.sg/download/sme/SMEGuide2000.exe (accessed 28 June 2002).

Australian Bureau of Statistics (2002), *Small Business in Australia 2001*, Canberra: Australian Bureau of Statistics.

Australian Bureau of Statistics (2000), *Small Business in Australia 1999*, Canberra: Australian Bureau of Statistics.

Australian Bureau of Statistics (1974), *Enterprise Statistics: Details By Industry Class, Australia 1968-69*, Canberra: Australian Bureau of Statistics.

European Commission (2002), *SMEs in Europe, Including A First Glance At EU Candidate Countries*, Observatory of European SMEs, No.2, Luxembourg: Office for Official Publications of the European Communities.

Ministry of Economic Development, New Zealand (2003) *SMEs in New Zealand: Structure and Dynamics*, Wellington: Ministry of Economic Development.

Organisation for Economic Co-operation & Development (OECD) (2000) *Small and Medium-Sized Enterprises: Local Strength, Global Reach*, Policy Brief, June, Paris: OECD.

United Kingdom Department of Trade and Industry (2003) *Statistical Press Release: Small and Medium-Sized Enterprise Statistics for the UK 2002,* 28 August, Sheffield: Department of Trade and Industry.