

Information Sheet

GLOBAL ENTREPRENEURSHIP MONITOR (GEM) 2003 – BENCHMARKING OF ENTREPRENEURIAL DEVELOPMENT IN SINGAPORE

Background

Global Entrepreneurship Monitor (GEM) is an international comparative research project that seeks to benchmark the level of entrepreneurial activities across countries, and to understand the relationship of entrepreneurship to economic dynamism and the key national environmental factors affecting entrepreneurship. GEM was initiated in 1999 with funding support from the Kaufman Foundation and coordinated by Babson College and London Business School.

Singapore has participated in the Global Entrepreneurship Monitor (GEM) Study since 2000. The NUS Entrepreneurship Centre at the National University of Singapore was invited to carry out the Singapore country study for GEM since 2000. While the summary on comparative findings on all 31 countries covered in the GEM 2003 study has been reported in the GEM 2003 Executive Report (Reynolds et. al. 2004), this report presents the more detailed findings on GEM Singapore 2003, using data from both the GEM surveys as well as other data compiled by the Singapore country research team at the NUS Entrepreneurship Centre.

Key GEM Singapore 2003 Findings

The level of entrepreneurial propensity in Singapore for year 2003, as measured by the Total Entrepreneurial Activity (TEA) rate, has declined to 5.0% compared to 5.9% in 2002. As the propensity rate for 2003 was estimated from a survey conducted in June 2003, shortly after the occurrence of the SARS crisis, this timing may have contributed to the fall compared to 2002.

The change in aggregate entrepreneurial propensity between 2002 and 2003 is found to vary according to different constituent components, and can be attributed to a fall in the nascent start-up prevalence rate from 4% in 2002 to 3% in 2003, with “young” business rate staying more or less constant at 2%. There was also a fall in “opportunity” entrepreneurship rate from 4.9% in 2002 to 3.9% in 2003, while “necessity” entrepreneurship rate stayed constant. In terms of gender, there was a fall in prevalence of entrepreneurship rate from 9.3% in 2002 to 6.5% in 2003, whereas the entrepreneurial propensity of female actually went up from 2.7% in 2002 to 3.5% in 2003. Last but not least, while the entrepreneurial propensity among the less educated fell from more than 6% in 2002 to less than 3% in 2003, in contrast, entrepreneurial propensity among the tertiary educated actually increased from 4.1% to nearly 8%.

New GEM Indicators

We have introduced a number of **new GEM indicators in 2003** to further expand our ability to benchmark the pattern of entrepreneurial activities in Singapore and globally.

- Firstly, we introduced a **new indicator of “high growth potential” entrepreneurship**, which is defined as new start-ups that indicated they intend to employ at least 20 people. Singapore fared better on this indicator, with a rate of 0.8%, virtually the same as the average for all 31 GEM countries (0.9%).
- Secondly, we introduced a **new Firm Entrepreneurial Activity (FEA) index**, which measures the extent to which new firms are providing new products and services. Singapore’s FEA index is 2.4 vs. a global average of 2.0.
- Thirdly, we developed a **new estimate of the contribution of new businesses to employment creation**, and estimated that Singapore’s new businesses contribute slightly over 3% to the total national employment. While this estimate is significantly below the average of all 31 GEM countries, it may be due to the fact that Singapore relies to a much greater degree on large MNCs for job creation than most other countries.
- Fourth, we introduced a **measure of entrepreneurial intention rate**, which is defined as the proportion of adult population that has not engaged in any start-ups or new businesses yet but expect to start a new business in the next 3 years. The intention rate for Singapore in 2003 was found to be 11.2%.
- Lastly, we also began to monitor the **exit rate of businesses**, defined as the proportion of adult population that has in the past 12 months discontinued any form of self-employment. The rate for Singapore in 2003 was found to be 1.5%.

Overall, the new GEM indicators introduced in 2003 provided a more complete picture of the entrepreneurial dynamics in Singapore, and together with other existing indicators, they suggest that Singapore generally fared better in terms of propensity of start-up formation that have higher employment growth potential and orientation towards innovative products and services.

Compared to the other 30 GEM nations, Singapore's environment for entrepreneurship was rated above average on all nine dimensions identified in the GEM research framework by a panel of 33 informants comprising actual entrepreneurs, venture investors and professionals, and relevant government policy makers. In particular, Singapore was most highly rated in terms of "access to physical infrastructure (4.35)", "low regulation and taxation burden (3.73)" and "business service effectiveness" (3.51). The dimensions where Singapore received relatively low ratings were "effectiveness of primary/secondary school (entrepreneurship) education" (2.58), "R&D transfer effectiveness" (2.67), "cultural values" (2.70) and "market access" (2.89). Overall, the rating of Singapore's environment for entrepreneurship in 2003 appears to have slipped or stayed more or less constant on most dimensions compared to 2002, although a number of measures registered improvement, in particular, the availability of courses on entrepreneurship in colleges and universities, and IPO market as an important source of equity for new and growing firms.

The low rating of Singapore in terms of "cultural values" in particular is borne out by the GEM survey, which shows that the proportion of Singaporeans who personally knows of an entrepreneur (29.5%) or who indicated fear of failure is not a deterrent (64.1%) are both below the mean for all 31 GEM countries. Singapore also scored below average in terms of two key measures that are found to have significant impact on entrepreneurial propensity globally: the proportion of adults who perceives himself/ herself to have the skills to start a business (33.2%), and the proportion who perceives good start-up opportunities in the next 6 months (19.9%).

Globally and in Singapore, informal capital (angel investment) represents a much greater part of funding of new businesses than formal venture capital. For Singapore, the ratio of informal investment to formal capital funding as a percentage of GDP is 7.7 times that of VC in 2002. The ratio of VC investment to GDP in Singapore declined in 2002 vs. 2001, and while the estimate for 2003 is not available, it is unlikely to have increased. It is thus not surprising that our GEM survey found the angel investment rate in Singapore to have declined in 2003 to 1.6%, down from 3.6% in 2002. Moreover, the proportion of informal capital coming from family and relatives has also increased. These trends, together with a decline in average rating of Singapore's financial support for new and growing firms by the panel of informants, suggest that the environment for raising capital for start-up has been quite difficult in 2003.

In summary, new business start-up propensity in Singapore appears to have dropped a little bit in 2003 compared to 2002, in spite of the growing emphasis of public policy towards encouraging entrepreneurship. This could be attributed to the adverse impact of SARS, the broader slowdown in economic growth in 2003, apparent difficulties in access to finance, and the fact that many public policy measures are likely to have long gestation period to take effect.

Policy Implications for Singapore

Based on statistical analysis across all GEM countries, we now know that the strongest individual determinant factors that influence entrepreneurial propensity are perception of self-efficacy, personal knowledge of entrepreneurs, perception of business opportunities, and fear of failure, in that order. As for external environmental factors, the availability of informal capital and market entry barriers have been found to be most significant in influencing "opportunity-based" start-ups. As Singapore scored below average on all these six factors, public policy should focus attention on how to improve on each of these areas.

The GEM project presents strong empirical evidence that not all forms of entrepreneurial start-ups contribute to economic growth. While it has already been known for some time that high growth firms ("gazelles") have been a major contributor to US' high economic growth, new evidence from a cross-country analysis of the determinant of growth among 37 GEM countries shows that two factors -- "high growth potential" start-up rate and innovation intensity -- correlate significantly to economic growth, while necessity start-up rate actually correlates negatively with economic growth.

We also know from GEM that, globally, high growth potential start-ups come more from the tertiary educated, while necessity entrepreneurship come primarily from the less educated. The clear policy implication for Singapore is therefore that, while we should encourage entrepreneurship in general, we need to pay greater attention to the promotion of innovation-driven high growth potential start-ups, including in particular, the entrepreneurial propensity of our tertiary educated talents.

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ABOUT NUS ENTREPRENEURSHIP CENTRE

In line with the strategic vision of National University of Singapore (NUS) to become a global knowledge enterprise, the NUS Entrepreneurship Centre has been established with the mission to nurture the spirit of entrepreneurship and innovation among the NUS community through education and outreach activities, and to advance knowledge of technology venturing practice through research. A university level centre and a unit of NUS Enterprise, the centre integrates its three main functions -- entrepreneurship education, research and outreach -- in a synergistic manner to inject an entrepreneurial dimension to NUS education, to mentor technology spin-offs by NUS professors, researchers and students, and to provide entrepreneurial thought leadership to the venture community of Singapore and beyond.

More information on the centre's activities can be found at: <http://www.nus.edu.sg/nec>

ABOUT NUS ENTERPRISE

In support of the University's drive towards being a leading entrepreneurial university, the NUS Enterprise Cluster was set up to inject an enterprise dimension to NUS teaching and research involving NUS students, staff and alumni. NUS Enterprise is also the University's Free Enterprise Zone where innovation and creativity are freed from traditional rules, allowing greater flexibility and faster response.

NUS Enterprise aims to provide entrepreneurship education and nurture talents with a global mindset; identify, protect and commercialize intellectual property; nurture NUS spin-offs and start-ups; foster industrial collaboration; and facilitate the dissemination of NUS knowledge to the external community. The units of the NUS Enterprise Cluster are the NUS Overseas Colleges, NUS Entrepreneurship Centre, NUS Industry & Technology Relations Office, NUS Venture Support, NUS Consulting, NUS Extension and NUS Publishing.

For more information about NUS Enterprise, please visit: <http://www.enterprise.nus.edu.sg>