

The Pricing of Technology Stocks: A Global perspective on Australian Stocks

By George Foster (Graduate School of Business Stanford University), Ron Kasznik (Graduate School of Business Stanford University) and Baljit Sidhu (Australian Graduate School of Business)

March 2002

SECTION 1: EXECUTIVE SUMMARY

AUSTRALIAN TECHNOLOGY STOCKS PRICED IN A GLOBAL CAPITAL MARKET REGIME

Australian technology stocks are priced as part of a global technology market is the major finding of a joint Australian Graduate School of Management/Stanford University research study. The research examined the pricing of computer/technology stocks and telecommunications stocks listed on the Australian, Israeli, U.K., and U.S.A. capital markets over the January 1995 to December 2000 period. Two key market multiples were examined - the market capitalization to revenue ratio and the market capitalization to shareholder's equity book value ratio.

Company specific variables - such as profitability, leverage, firm size, and growth - are the major factors explaining why technology stocks in different markets differ in their market multiples. Some observers have maintained that country-specific rather than company-specific attributes are pivotal to high-tech stock valuation. These observers argue that the Australian capital market operates with a different pricing regime than exchanges such as NASDAQ, the New York Stock Exchange, and London Stock Exchange.

The AGSM/Stanford research team finds that company specific fundamental factors (such as profitability and firm size) are more important than the country-specific factor of the stock exchange trading geography. A shifting of stock trading location from Australia to an overseas market such as NASDAQ, in and of itself, is unlikely to provide a more favorable market multiple to an Australian-based stock.

This finding is consistent with the major technology capital markets focusing on "business fundamentals" rather than headquarters location or primary trading location in their equity pricing policies.

Firm size is a key variable capital markets incorporate into their equity pricing model. Smaller firms have higher market capitalization ratios, after controlling for other variables, for each of the four capital markets examined. This finding is consistent with capital markets recognizing the higher "growth option" with smaller companies – compound growth rates of (say) 50% p.a. over multiple years are more possible for smaller firms than for larger firms. Larger firms run into barriers due to the size of the total market (and even the total economy). While small firms may face many challenges in their product and factor markets, capital markets in each country examined recognize their special upside in terms of value creation.

Profitability problems are a feature of many high-tech companies around globe. The front-end investment nature of key high-tech areas (such as software) coupled with the extreme pressure for rapid growth (in part from venture-capitalists), creates sizeable challenges for many early-stage high tech firms. Selected percentages of high-tech firms with negative net income in the 1990-2000 period range as follows:

High-Tech Sector

	<u>1994</u>	<u>1997</u>	<u>2000</u>
Australia	62.3%	76.5%	68.1%
U.S.A.	39.5%	51.1%	62.8%

These percentages are typically higher than many other sectors of the economy.

The comparable percentages for all non-tech firms are:

Non-High Tech Sector

	<u>1994</u>	<u>1997</u>	<u>2000</u>
Australia	37.9%	40.9%	40.3%
U.S.A.	32.1%	35.7%	41.0%

These results are consistent with the high-tech sector being “high risk” in a relative sense.

A predominance of negative net income firms means high-tech firms have less access to retained earnings as a source of finance for growth than do many other companies. The metrics security analysts use for high-tech firms need to recognize profitability issues. Price-earnings multiples for companies reporting negative net income are not interpretable. Variables such as the market to revenue ratio and % revenue growth are applicable to a broader set of high-tech companies in their early years than are price to earnings multiples.

AUSTRALIAN HIGH-TECH SECTOR

There is a premium to being a large-scale player in many areas of the high-tech sector. One reason is economics of scale - - for instance, a large customer base enables a software company to lower unit software development costs by spreading the upfront development costs over a larger number of customers.

Another source of premium to scale is network externalities - for instance, an online auction company such as eBay with many sellers in turn attracts many buyers.

A virtuous circle of growth is created for one company while companies with fewer buyers and fewer sellers have their growth impeded. The Australian high-tech sector struggles with scale on multiple dimensions. In absolute dollar terms, the total Australian market is small on the global stage. The relative importance of the high-tech sector on the Australian capital market is also sizeably below that of the U.S. market. Moreover, it has fewer players of global stature. The percentage of total ASX capitalization in Telecommunications (ASX Codes 181-184) and Computer/Technology (ASX Codes 226, 228) in recent years (post the listing of Telecom NZ, Telstra, and Cable and Wireless Optus) is:

<u>1998</u>	<u>1999</u>	<u>2000</u>
10.7%	16.3%	10.2%

The comparable percentages for the U.S. high-tech sector as a percentage of total market capitalization are:

<u>1998</u>	<u>1999</u>	<u>2000</u>
34.8%	47.8%	40.9%

The U.S. capital market has major players in many high-tech sectors. However, the largest player is no more than 8% of the total high-tech market capitalization and the two largest at any time no more than 12%. In contrast, the Australian market is dominated by a small number of companies, predominantly Telecommunications - Telstra and Cable & Wireless/Optus range between 55% to 70% of ASX high tech market capitalization in the 1998-2000 period.

LESSONS FROM COMPANIES ACHIEVING RAPID GLOBAL FOOTPRINTS

Australian early stage companies have few Australian-based partners who themselves have a global footprint. The playing field facing an early-stage Australian company seeking global expansion is decidedly uphill. The challenge of the Australian high-tech sector is positioning companies in an industry where global forces are especially potent and where scale of the enterprise is frequently pivotal.

Success stories of high-tech companies that reach scale at a global level indicate several factors. One factor is focus. Checkpoint Software, the Israeli founded security company (with firewall and virtual private network products) has achieved impressive growth in revenues (and profitability). One key attribute is its high focus on security products rather than expanding to a brand range of products (such as authentication, anti-virus, digital rights management, and so on). Companies going global outside the high-tech sector that start from a relatively small economy base also often exhibit a focused product strategy. Cemex, the Mexican cement company, has laser-beamed on rolling out a narrow product offering to multiple countries.

Resmed, the Australian sleep disorder product company, has built global growth on expanding market share/entering new markets for its focused product range.

Competing in a global market requires sizeable resources. Early stage companies rarely have an abundance of capital and human resources. The high likelihood of retained earnings not being a large source of likely capital adds to the resource constraints. Extensive use of partnerships and alliances is a major source of leverage to a company seeking rapid global growth. Checkpoint Software has levered partners in multiple ways. It uses an indirect sales model in which systems integrators and other resellers work closely with Checkpoint's own sales team. It has also worked effectively with other companies to create an OPSEC platform of related products that provides a broader offering than any one company. Resmed has first used third-party distributors in multiple markets in its global rollout strategy. These distributors leverage the internal resources of Resmed and enable high recognition of localization issues at an early stage.

Companies going global via acquisition based strategies face the challenge of doing acquisitions when companies are "in play" rather than when they fit into an otherwise optimal global rollout. Moreover, pre-empting competitor initiatives can motivate a front ending of an acquisition plan for different markets.

Computershare has used acquisitions as a key element of their global strategy. Over a short time period it has achieved a sizeable global footprint. This aggressive strategy has added to the pressures on management bandwidth. It has also increased the likelihood of earnings surprises.

RESEARCH TEAM

The research team comprised George Foster, Ron Kasznik, and Baljit Sidhu. George Foster, the Wattis Professor of Management at the Graduate School of Business, Stanford University, has two degrees from University of Sydney and a Ph.D. from Stanford University. He is the author or co-author of 7 books and multiple articles. He teaches courses on startup globalization strategies, managing to IPO, and sports business management. Foster is active in the Silicon Valley business community and travels frequently between Australia and the U.S. He is an advisor to early stage companies.

Ron Kasznik is Associate Professor of Accounting at the Graduate School of Business, Stanford University. A prolific publisher, his interests include corporate disclosure decisions, informativeness of financial statements, and intangible assets and the valuation of equity securities. He teaches courses on financial reporting and on the valuation of equity securities. Active in the American Accounting Association, Kasznik holds a bachelor degree from Hebrew University and a masters and Ph.D. degree from University of California at Berkeley.

Baljit Sidhu is Senior Lecturer at the Australian Graduate School of Management in Sydney. Her first two degrees are from The University of Otago and she holds a Ph.D. degree from The University of Sydney. Her publications and research interests include the valuation relevance of corporate disclosure, corporate accounting policy choice and investor communications. Sidhu teaches courses in corporate financial reporting and financial statement analysis.