

Financing Innovation

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This Note is a summary of a new study by the author (Yoo forthcoming).

How to Build an Efficient Exchange for Small Firms

More than 24 countries operate separate boards and exchanges aimed at small and medium-size enterprises (SMEs). Equity markets play a critical role in fostering economic productivity by financing innovation. But only a few SME exchanges function properly, providing coveted fresh capital and liquidity. What steps are key to building an efficient exchange to provide risk capital for SMEs? Creating an SME-friendly market architecture supported by effective institutions and forging links to policies that foster a new class of investable equities.

To increase access to equity finance for SMEs, a growing number of developing countries are creating specialized equity markets, differentiated from the main exchange. These new initiatives stem from the recognition that a specialized capital market segment—called *new markets*—can provide risk capital for promising entrepreneurs, promoting innovation crucial for sustainable economic growth.

New markets that function well offer a range of benefits: greater access to growth capital for innovative SMEs, new jobs through entrepreneurship, more investment opportunities for domestic portfolio investors and local venture capitalists, new sources of revenue for local stock exchanges, and an expanded mechanism for recycling public funds to promote SMEs. NASDAQ in the United States aside, three new markets—the Alternative Investment Market (AIM) in the

United Kingdom, KOSDAQ in the Republic of Korea, and TSX-Venture Exchange (TSX-V) in Canada—clearly show the benefits of specialized SME exchanges, creating a virtuous cycle from private equity to public listing. Collectively, these three new markets list more than 4,000 firms and attract more than 450 new listings a year. AIM has helped firms raise US\$80 billion since its inception in 1995, and KOSDAQ US\$26 billion since its start in 1996.

But few other new markets have been successful. The experiences of the successful ones, along with the lagging performance of others, raise several questions:

- Why are so few new markets successful, and why do so many others fall short?
- How can new markets improve access to risk capital for innovative SMEs in developing countries?



- How can “light” regulations adapted to SMEs avoid compromising investor confidence in new markets?
- What new policy measures could be adopted other than those for developing main equity exchanges?

Main features of SME exchanges

New markets can be defined as regulated equity markets that focus on SMEs with high growth potential and set lower administration criteria (Grant Thornton International 2006). They therefore exclude the least regulated or unregulated over-the-counter (OTC) markets, which embrace financial contracts and enterprises of all sizes and characteristics. New markets generally cater to young, small, high-risk firms, aiming at the “sweet spot” size in their market. Firms listed on AIM have a median market capitalization of US\$35.4 million and those on KOSDAQ a median of US\$31.5 million—while the median for TSX-V is significantly smaller at US\$7.1 million. In contrast, for NASDAQ the median is US\$215 million.

A survey of new markets in 11 developing and 11 developed economies identified other common features.¹ While AIM, KOSDAQ, and TSX-V take the form of a separate market, others are a separate board within the exchange and operate in parallel with the main board. KOSDAQ operates like a separate market even after its merger with the main market: it is run by a different department and has its own rule-setting procedures.

Most new markets adopt, implicitly or explicitly, a “junior market” strategy in which listed firms graduate to the main market. KOSDAQ (like NASDAQ), however, started as a competing market and still holds a competitive position by retaining large venture-backed firms.

Nearly all new markets adopt looser listing and maintenance requirements than the main market, typically allowing more relaxed criteria on operating history, minimum number of shareholders, past financial performance, and number of free-float shares. Recently AIM even relinquished its regulated market status in the European Union so that its listed firms no longer need to adhere to strict EU standards for listing and disclosure. Brazil’s Novo Mercado is

an exception: it sets higher standards for listed firms than the main market, emphasizing gaining investor trust over relaxing constraints.

Most new markets execute transactions through order-driven systems. AlterNext (which replaced Nouveau Marché in France) operates a quote-driven system. And AIM is largely a quote-driven market where liquidity is supplemented by market makers. Spain’s Nuevo Mercado adopted a hybrid format, retaining specialists for certain shares and an open-outcry system.

Finally, most new markets charge lower listing fees than the main market.

Performance of SME exchanges

An assessment of the performance of the 22 new markets shows that Korea’s KOSDAQ outperforms others in most dimensions measured, while the United Kingdom’s AIM and Canada’s TSX-V generally do better than average. Two new markets in Japan, Hercules and Mothers, and GEM in Hong Kong, China, do notably well in attracting innovative firms.

Size

All the new markets are significantly smaller in size than the main market. Indeed, for most, total market capitalization and turnover value are less than 3 percent of the main market’s. An exception is KOSDAQ, with 36 percent of the trading value, but only 6 percent of the market capitalization, of the main market. Generally, the market capitalizations of new and main markets are positively correlated.

Access

Access to new markets can be measured by the amount of equity offerings and number of listed firms. KOSDAQ and AIM show vibrant new equity financing activity. But for most new markets the capital raised (through primary and secondary equity offerings) is less than 1 percent of gross fixed capital formation; in contrast, the average for main markets is more than 6 percent. Financing on new markets should be measured not only quantitatively but also qualitatively, however, since funds raised through equity offerings are closely linked to higher innovation and productivity in the economy and depend on

characteristics of listed firms (Carlin and Mayer 2000).

Size of financing and number of listings clearly differ as a sign of market success. TSX-V ranks low on the size measure but attracts many firms.

Liquidity

New markets, because they deal with small-capitalization firms, naturally do not have the same market liquidity and depth as main markets. Still, the turnover ratio (trading value to market capitalization) of the most liquid new markets exceeds 100 percent. KOSDAQ, where retail investors account for more than 90 percent of trades and 50 percent of ownership, has the highest turnover ratio at 690 percent. AIM tends to have lower liquidity because of its institutional investors' market and use of specialized market makers. New markets commonly concentrate on selected liquid shares while providing a liquidity-enhancing mechanism such as a market maker for illiquid shares.

Market dynamics

One main characteristic of successful new markets is a high entry and exit rate, reflecting their focus on high-growth SMEs. For NASDAQ the listing ratio (new listings to total listings) averages 2.0 percent, and the delisting ratio 10.8 percent. Similarly high listing and delisting ratios characterize AIM (9.3 percent, 4.0 percent), KOSDAQ (6.0 percent, 2.4 percent), and TSX-V (2.8 percent, 6.4 percent). In contrast, the new markets in Japan, Italy, and Greece are anemic. And China's SME board, which applies the same listing requirements as the main board in the Shenzhen Stock Exchange, has delisted no firms since inception.

Innovation

How well new markets do in supporting innovation—or their “innovativeness”—can be measured by industrial characteristics of their listed firms. Japan's two new markets, Hercules and Mothers, rank highest on three innovation criteria, followed by KOSDAQ and Hong Kong, China's GEM (table 1). Though AIM has fewer firms in highly innovative sectors, it still scores solidly. TSX-V shows strength largely in intensity of research and development (R&D).

Best practices in developing SME exchanges

Analysis of the leading new markets—AIM, KOSDAQ, and TSX-V—identified several common factors in their strong performance.

Lower costs for listed firms

Firms are invariably wary of the costs of going (and remaining) public. These costs, both direct and indirect, range from listing fees to insurance for independent directors. Since most are fixed, the costs are more burdensome for small firms. Successful new markets lower costs for firms by establishing flexible entry requirements, instituting light corporate governance rules, and reducing financial fees for listing and maintenance.

Assurance of market integrity

To avoid lax regulations dampening investor interest, successful new markets adopt several operational practices: adding institutional arrangements for mentoring (such as AIM's use of nominated advisers, Nomads, to ensure ongoing support to firms), requiring lockup periods for major shareholders around equity offerings, and imposing strict delisting rules. Timely delisting of unqualified firms helps preserve investor confidence by maintaining the market's profile as a high-risk, high-return market, upholding high market integrity, and

Table Share of listed firms in highly innovative industries, selected new markets, 2005 (percent)

New market	Industries with high capital intensity	Industries with high R&D intensity	Industries with high operating risk
Hercules (Osaka, Japan)	86	97	95
Mothers (Tokyo, Japan)	82	96	95
KOSDAQ (Republic of Korea)	17	78	80
GEM (Hong Kong, China)	35	69	69
AIM (United Kingdom)	51	56	55
TSX-V (Canada)	24	52	50
MESDAQ (Malaysia)	18	36	36
Medium & Small Capitalization			
Category (Greece)	17	28	31
Irish Enterprise Exchange (Ireland)	58	25	25
New Zealand Alternative Market	22	22	22

Note: Methodology adapted from Binh, Park, and Shin (2006). The innovative industries (all in manufacturing) are identified using data on NASDAQ firms and on the basis of three criteria: capital intensity (ratio of total assets to sales), R&D intensity (ratio of average R&D expense to average sales revenue), and operating risk (standard deviation of the operating cash flow [EBITDA] margin). Source: Exchange Web sites; author's calculations.

establishing management discipline in listed firms.

Support services for issuers

In several countries the new market and the government provide services aimed at nurturing young enterprises that are or will be listed on the market—such as promoting institutional investment, boosting the visibility of listed firms, and raising public awareness of alternative investments. TSX-V helps SMEs go public through a “capital pool company.” This alternative program for early-stage equity financing fills a capital gap—an investment amount too large for angel investors but too small for institutional investors. The initiative has led to more than 1,350 listings on TSX-V in its 20-year history.

Policies linked to market development

To ensure a stable flow of new equities into a new market, governments can link policies for promoting innovation and entrepreneurship with the market’s development. Ways to do this include introducing a flexible stock option and mezzanine finance system, promoting the venture capital industry and skills, developing tax incentives for listing on and investing in the new market, and promoting networking among angel investors.

Korea’s venture promotion policy has produced notable results: In 2005 venture capital investments topped 0.25 percent of GDP, higher than the OECD average, and the number of venture-backed companies surpassed 10,000. The firms accounted for 5 percent of the country’s exports and 3 percent of its employment.

Conclusion

A successful new market can form the core of a system enabling varied small companies to grow and varied investors to stake their capital. Such a market can not only benefit selected SMEs by allowing them access to public equity but also help nurture a larger population of new entrepreneurs by creating a more vibrant environment for equity financing. To overcome the challenges inherent in creating a new market in a developing country requires attention to three policy areas:

- Running the new market as a business by operating it as an independent entity either inside or outside the current exchange—while also providing an incentive structure to promote the new market and ensure its commercial viability.
- Supporting competition in the local venture capital industry and introducing foreign venture capitalists to alleviate the typical shortage of local skilled experts.
- Enhancing transparency and coordination in supportive public programs, such as programs to match private venture capital with public funding.

Merely creating a new board within the exchange does not ensure a vibrant exchange for SMEs. The government, the exchange, and other players (such as investment banks and venture capitalists) need to make a concerted effort to build a new market architecture supported by effective institutions and industrial policies.

Note

1. New markets for the study were selected from those listed in the Small and Medium Enterprises Markets section of the World Federation of Exchanges Web site (<http://www.world-exchanges.org/WFE/home.asp?menu=382>).

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