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Innovation financing policies for entrepreneurial development — Cases of Singapore and Taiwan as newly industrializing economies in Asia

Jarunee Wonglimpiyarat *

College of Innovation, Thammasat University, Anekprasong 3 Bldg., Prachan Rd., Bangkok 10200, Thailand

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ABSTRACT

This paper is concerned with the innovation financing policies for entrepreneurial development of Singapore and Taiwan, the first tier countries/newly industrializing economies (NIEs) in Asia. In particular, the study focuses on the venture capital and capital market funding policies. The study has shown that the government intervention model is successful in Singapore and Taiwan as a result of having clear cut agencies responsible for carrying out policy implementation. Both countries also have stock markets for high-tech industries with flexible market-entry regulations to support technology development. The study offers empirical reasons on effective innovation financing policies to support the national economic development.

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1. Introduction

Innovation financing policies play an increasing role in contributing to the entrepreneurial, venture and economic development of the nation. This paper is concerned with the innovation financing policies to support entrepreneurial development in Singapore and Taiwan. Given that few studies have examined the policies that are essential for creating an enabling environment for innovation in the Asian countries, it would therefore be useful to focus on the innovation policies of Singapore and Taiwan, the first tier countries/newly industrializing economies (NIEs) in Asia. Singapore and Taiwan are selected as country cases because both countries have been very successful in developing their technological capabilities whereby the government plays an important role in guiding science and technology (S&T) capability development as part of the national economic development strategy.

The paper is organized as follows. Section 2 reviews the theoretical framework on venture capital financing, capital market financing and policies to support entrepreneurial and economic development. Section 3 describes the research design and methods. Section 4 analyzes the policies to strengthen the innovation capacities of Singapore and Taiwan. Section 5 concludes the paper by drawing lessons and proposing recommendations to improve policy efficiency and effectiveness. Avenue for further research is also recommended.

2. Theoretical framework

2.1. Venture capital financing for entrepreneurial development

Venture capital (VC) is one form of equity financing (financing companies through equity participation) used to fund high-risk promising operating companies, often high-technology firms with high growth and exit potential (Bygrave & Timmons, 1992;

* Tel.: +66 2 623 5055 8; fax: +66 2 623 5060.
E-mail address: jaruneew@tu.ac.th.

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Table 1
Target returns by investment stages.

Investee development phase	Expected return (internal rate of return % p.a.)
Early stage (seed/start-up)	IRR > 50
Expansion and growth	40 > IRR > 35
Maturity stage (bridge, management buyout)	IRR > 30

Source: Bygrave et al. (1999).

European Private Equity & Venture Capital Association, 2005; Gompers & Lerner, 2001). VC plays a leading role in the early stages of innovation development to help start-up firms overcome the problems of getting access to finance (Denis, 2004; Wonglimpiyarat, 2009). VC is regarded as investments in early stage businesses to seek high returns (expected return of no less than 30%) (Bygrave, Hay, & Peeters, 1999; European Private Equity & Venture Capital Association, 2005). The target-returns by investment stages are shown in Table 1. Given the high-risk nature of venture investments, venture capitalists generally require dividend and growth in the value of shares for the firms. Venture capitalists do not wish to control over a firm's shares forever but will tend to divest within a specific time frame (exit within a 3–5 year period). They may exit their investments when the firms go public (being listed on a stock exchange) (Jain, Jayaraman, & Kini, 2008; Wonglimpiyarat, 2007).

Most VC funds follow the structure shown in Fig. 1. Venture capitalists raise capital from a number of investors and in turn invest in high potential companies through a fund most likely structured as a limited partnership (Bygrave et al., 1999). A venture capital firm in structuring a fund aims to limit the liability of investors to the amount of their investment and avoid a double charge of taxation (once when returns on investments are realized by the fund and a second time when the investors receive the proceeds of their investment from the fund). VC markets are influenced by many factors including a country's legal and institutional structure, size and liquidity of the stock market, investor sophistication and ability to supply VC financing to entrepreneurial firms (Cumming, Fleming, & Suchard, 2005).

The concept of modern VC is defined by Megginson (2002) as a professionally managed pool of money raised for the purpose of making equity investments in growing private companies with a well defined exit strategy. VC markets are of particular interest to policy makers since this type of investment is used to fund high-tech companies with the potential to grow rapidly, thereby create a positive impact on economic development. The venture capitalist seeks to invest in companies that can eventually go public (through the stage of initial public offering or IPO) (Gompers & Lerner, 1999). Given that the whole investment process from start-ups to the ultimate IPO needs technology and financial support, it is argued that the government

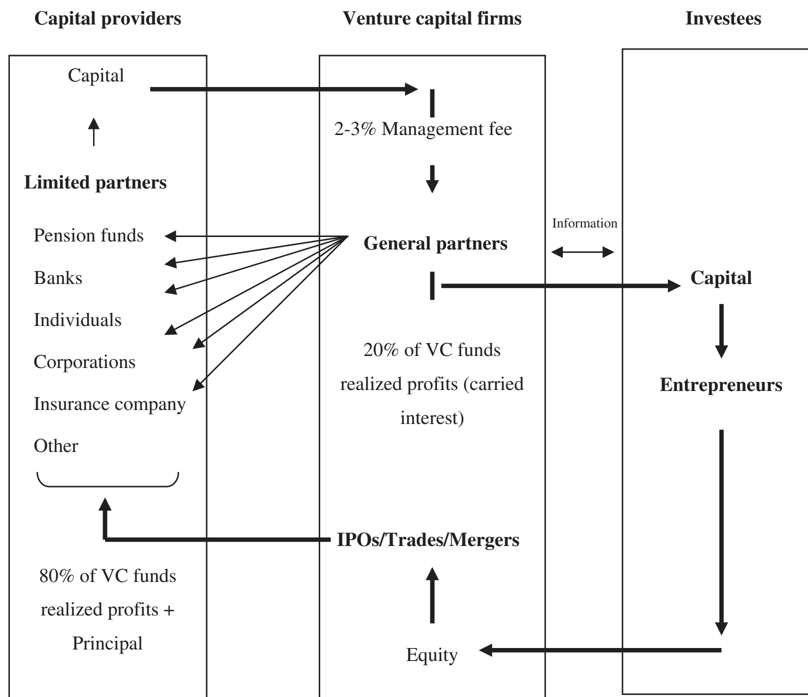

Fig. 1. The structure of venture capital fund.
Source: Bygrave et al., 1999.

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