Financial Policies for Innovation Development in Vietnam

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Received on 18 January 2021. Accepted on 30 January 2021.

Abstract: The article aims to assess the current state of the financial policies for small- and medium-sized enterprises (SMEs) of innovation in Vietnam and thereby proposes policy recommendations to promote investment in innovation. The authors used mainly qualitative methods and reviewed secondary documents to systematically evaluate the current major groups of financial support policies for innovation. The findings show that the existing framework has not been designed for the specific characteristics of businesses of innovation, especially regarding their high risk and little collateral natures. This has caused inconsistency and inefficiencies in the policy system, which is supposed to create strong motivations for activities of innovation in Vietnam, during the past periods. Therefore, it is necessary to supplement, amend, and complete the legal system for innovation, especially to formulate and promulgate a separate Law for Venture Capital. In addition, stipulations on the state's investment in innovation need to be further made in accordance with the principles of not focusing on profitability, of consistency, expansion and inclusiveness.

Keywords: Innovation, financial policies, venture capital.

Subject classification: Economics

1. Introduction

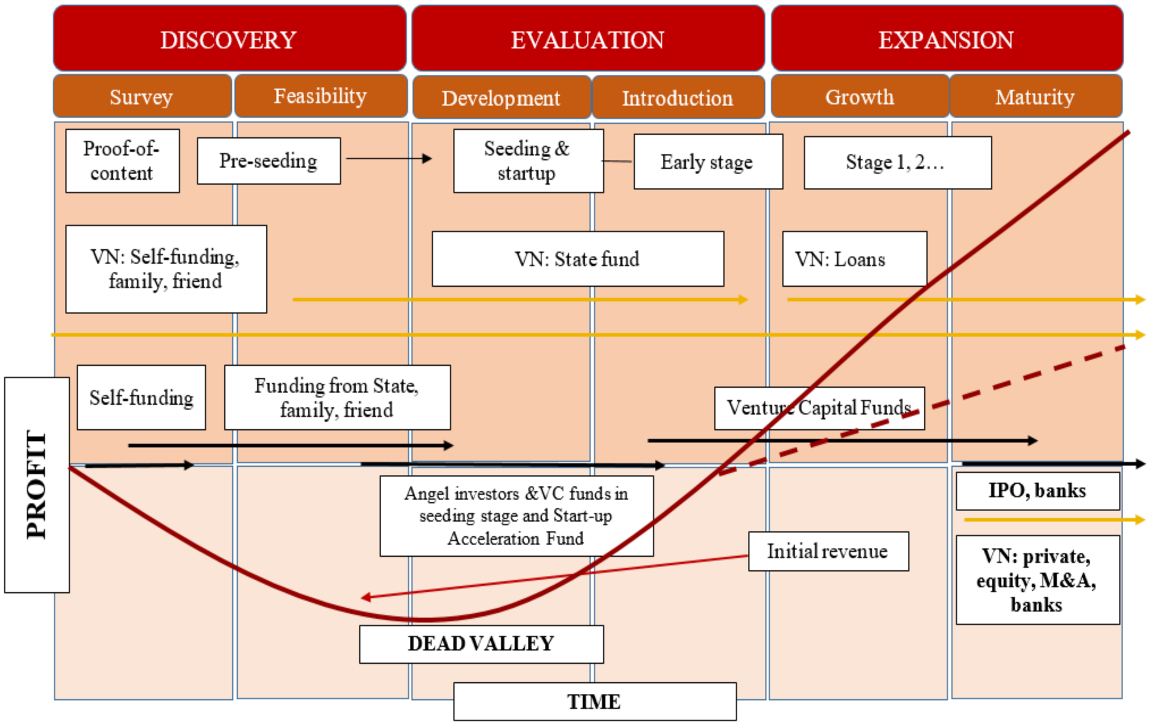
Innovative businesses have different characteristics from other traditional ones and are usually exposed to especially high risk of failure. Therefore, these companies face many difficulties in capital mobilisation, including investment and loans. Thus, it is essential to design financial policies in line with the specific characteristics of innovative businesses, so that the government can effectively support the creation and development of an innovation-based economy. To have a basis for proposing recommendations to complete the financial policies for innovation in Vietnam, this article will focus on three main contents. The first is to systematise the financial capital needed for each development stage of an innovative business. Next is to assess the current financial policies to support innovation in Vietnam. Finally, some recommendations for policy adjustments will be proposed.

2. Financial resources for all development stages of innovative businesses

According to the Vietnam-Finland Innovation Partnership Program Phase 2 (IPP2, 2018, p.17), an innovative business usually has three basic development stages, including (1) the discovery stage, (2) the evaluation stage, and (3) the expansion stage (Figure 1). Popular financial instruments for innovations are summarised in Table 1.

In the discovery stage, also known as the proof of concept round, capital mainly comes from the founding members of the business, their families, and friends, along with government funding. Private investments rarely get involved in this stage unless the feasibility of the product of the enterprise is highly certain. Government funding granted to innovative enterprises at the proof of concept or pre-seeding stage remains usually non-refundable.

Figure 1: Development and Financial Support for Innovative Enterprises



Notes: VC: Venture Capital funds, VN: Vietnam.

Source: IPP2 (2018), "Financial Mechanism to Support Startups".

Table 1: Financial Instruments for Innovation in the World and Vietnam

		TYPES OF FUNDING				
		Non-refundable funding	Loans	Guarantee	Equity	Procurement
SOURCES OF FUNDING	Government	• R&D funding[1] • Proof of concept funding[2]	Government concessional loans[1]	Credit guarantee funds of the Government[1]	• Venture Capital funds of the Government[3] • Government Investment Funds[4]	Public procurement[4]
	Personal	X	Peer-to-peer lending[2]	X	• Angel Investments[1] • Start-up Accelerator Funds[1] • Capital mobilisation from community[4] • Stock exchanges for innovation[4]	Capital mobilisation in the form of gratitude gifts[2]
	Enterprise	X	Peer-to-peer lending[4]	X	• Venture Capital Funds of Enterprises[2] • Start-up Accelerator Funds of Enterprises[1]	• Procurement of enterprises[2] • Sales Alliance[2] • Factoring[2]
	Banks & other credit institutions	X	• Bank loans[2] • Peer-to-peer lending[4]	Bank Guarantee & Letter of Credit[2]	X	• Factoring[2] • Being a customer of innovative enterprises[2]
	Investment funds	X	X	X	• Venture Capital Funds[1] • Private Equity Investment Funds[3]	X

Notes: [1] Existing and legalised for a while in Vietnam
[2] Existing but limited and not legalised in Vietnam
[3] Newly legalised in Vietnam
[4] Not existing in Vietnam yet
X: There is no relationship between sources and types of funding in the world and Vietnam

Source: IPP2 (2018), "Financial Mechanism to Support Startups", p.44.

In the evaluation stage, enterprises are often unable to raise capital from banks, private equity funds, and stock exchanges. Therefore, funding from the government, founding members and their families and friends are still possibly the main sources of capital. However, there may be additional funding from angel investors, start-up accelerator funds, and venture capital funds. Besides non-refundable funding, the government can also invest in private venture capital funds either through funds investing in venture capital funds, or providing "counterpart capital", or joining in investment as a limited liability partner.

In the expansion stage, the growth round of innovative firms is often financed by venture capital funds, while the mature round is financially supported through an IPO (Initial Public Offering) or M&A (mergers and acquisitions). Though venture capital funds still play an important role, innovative enterprises can also access other capital sources, including bank loans and concessional capital from the government; peer-to-peer lending; credit guarantees; private investment funds; investment and procurement of large enterprises; public stock markets for innovation; sales based on fundraising; and public procurement. However, these financial instruments are only appropriate to innovative enterprises with sustainable business models and a certain quality of products/services.

3. Current situation of financially supporting policies for innovation in Vietnam

3.1. General approach of the government on financially supporting policies for innovation in Vietnam

First, support programmes are separate according to each sector and locality. The government's support programmes in general and financial support for innovative businesses are legalised in the Law on Small and Medium Enterprises Support of 2017 and the relevant decrees with the national scope of application. Formally, the government's approach is holistic. However, regarding the principles of supporting small- and medium-sized enterprises (SMEs) (The Government, 2018c, Clause 1, Article 4 and Article 3) and innovation investment (The Government, 2018b, Clause 4, Article 20), innovative SMEs will be supported individually, according to each locality's scheme and each assigned entity in each period (IPP2, 2018, p.33).

This approach creates a flexible mechanism for each sector and locality to have its own appropriate policies and schemes to support innovation. However, the government is not able to be proactive in applying support measures, and to control the implementation as well as the effectiveness of the measures. Implementation depends on the assigned units. Additionally, due to the absence of fixed requirement in terms of time and manner, the implementation of these supports can be slow (VCCI, 2017, p.37).

Second, the conditions for enjoying financial support are common to all innovative businesses (The National Assembly Vietnam, 2017, Article 17; The Government, 2018b, Clause 1, Article 22). As such, an innovative business that meets all requirements will be entitled to all support measures, while an unqualified one will not be able to access any kind of support.

This approach is not effective because, from the perspective of state resources, the beneficiaries will only be a small group due to limited public sources. There is the support that does not require too many resources - such as information, procedures, and training support - while other kinds of support need large resources, such as credits and investments. Therefore, if applying the same set of criteria to all innovative businesses, the scope of support will be very limited. From the perspective of innovative enterprises, general criteria will lead to (i) wasted resources; support for the wrong people and demands; and (ii) inequality among innovative enterprises, especially if the supportive measures are given under individual projects because a qualified innovative enterprise will access many kinds of support from multiple projects simultaneously, while others will not access any of the support measures (IPP2, 2018, p.42).

3.2. Current state of specific financial support for innovation in Vietnam

Decision No.844/QD-TTg dated May 18, 2016, on the programme entitled "Supporting the national innovation ecosystem to 2025" (Programme 844) is the first and most inclusive legal document about the support policy system and financial support for innovation in Vietnam.

Clause 2, Article 3, Law No.04/2017/QH14 dated June 12, 2017, on the support for SMEs provided the definition of innovative SMEs, and then four relevant decrees were issued to legalise the financial support for innovation (The Government, 2018c; The Government, 2018b; The Government 2018a; The Government, 2019). Unlike Programme 844, most of these documents are not specific to innovative SMEs, but rather generally designed to support SMEs and innovative SMEs are just a part of SMEs.

Table 1 shows that the number of legalised financial support for innovative SMEs in Vietnam is limited. The review of the current legal system governing these instruments is from the perspective of funding sources.

3.2.1. Funding from the government

a) Non-refundable funding and concessional loans

These sources are mainly for enterprises operating in the technology sector and less for innovative businesses and the entire SME ecosystem in general. If so, they will be mostly granted to activities and projects of research and development (R&D). The current legal framework only allows non-refundable funding to be granted to R&D, such as the National Foundation for Science and Technology Development (NAFOSTED) and the National Technological Innovation Fund (NATIF). The NATIF can directly provide non-refundable funding to appropriate innovative businesses to cover parts or all the costs of a certain project (Prime Minister, 2013, Section 1, Article 12). Additionally, the government also organises annual events such as the Youth Start-up Programme 2016-2021, the National Innovative Enterpreneurship Day (TechFest)... (Le Thi Minh Ngoc, 2020).

Other programmes have supported other activities of innovative SMEs aside from R&D. Program 844 (Prime Minister, 2016, Section 3, Article 1) has sponsored technology incubators and start-up acceleration programmes, among others, to enhance capacity, organisation, training, and consultation activities for innovative SMEs. However, the programme has been unable to directly grant funding to innovative SMEs. The SpeedUp programme can support innovative SMEs regarding R&D, product development, commercialisation, marketing training, and hiring experts. However, regarding investment mechanisms, this programme cannot provide funding directly, but only indirectly via technology incubators and start-up accelerator funds.

The government's other preferential loans for SMEs, including innovative SMEs, are legalised under Decision No.601/QD-TTg dated April 17, 2013. Accordingly, these preferential loan programmes are only implemented through the trust of a third party, such as commercial banks. Recently, this Decision has been replaced by Decree No.39/2019/ND-CP dated May 10, 2019, allowing funds, in addition to indirect lending, to directly lend to SMEs.

Limitations:

- With regard to policies, potential subjects' access to concessional loans has not been designed in accordance with innovation. Specifically, these regulations are general conditions for SMEs and do not consider the characteristics of innovative SMEs, such as the short duration from the establishment to loan-making and difficulties to rate credit stability (Ly Phuong Duyen and Do Van Hai, 2019). The conditions for innovative SMEs to receive loans are only appropriate to ones in the expansion stage with products of stable quality (The Government, 2019, Point b, Clause 1, Article 16). Additionally, limiting the funded sectors is inconsistent with the principle of innovation[4].

- With regard to innovative SMEs, to access preferential interest rates, they have to meet the borrowing standards of the respective fund as well as those of commercial banks as the fund requires bank partners to bear the risk (The Government, 2019, Clause 3, Article 22). Traditional lending mechanisms of banks require an innovative SME to have a stable physical asset or cash flow when borrowing money. Therefore, innovative SMEs often have to borrow unsecured loans with high-interest rates and low loan limits, or even are unable to access loans.

- Commercial banks entrusted for loans have restricted capacity in evaluating innovative SMEs and innovation projects, as well as face an information asymmetry. Additionally, strict general standards of credit risk management of banks also make it difficult or outright impossible for innovative SMEs to access loans.

b) Credit guarantee fund of the government

Credit guarantee policies for SMEs (including innovative SMEs) are regulated in Decree No.34/2018/ND-CP dated March 8, 2018, on the establishment, organisation, and operation of the Credit Guarantee Fund for SMEs. Accordingly, the fund is established by each province's People's Committee in the form of a one-member limited liability company whose capital is fully held by the state (The Government, 2018a, Clause 1, Article 2). By September 2017, 28 funds were established with more than 2,000 SMEs being guaranteed at credit institutions. However, less than half of these enterprises could access loans from commercial banks (IPP2, 2018, p.83).

Limitations:

- With regard to policies, the Credit Guarantee Fund covers all SMEs but does not consider specific characteristics of innovative SMEs. Therefore, fundamentally, innovative SMEs are unlikely to benefit much from this regulation. Enterprises given priority to consider credit guarantees have to be in line with the socio-economic development orientations of each locality in each period (The Government, 2018a, Clause 2, Article 15). Therefore, the scope and field of the fund are limited and rigid. Limiting the conditions for innovative SMEs to obtain credit guarantees in terms of industries and/or geographic administrative areas contrasts with the nature of innovation (VCCI, 2017, p.35). Next, the conditions for innovative SMEs to be granted with credit guarantees are not reasonable (The Government, 2018a, Articles 16 and 25). Most innovative SMEs are new to their business and have no physical collateral. They only use innovative business ideas as collateral which is difficult to determine the value thereof (Dao Le Kieu Oanh and Nguyen Thi Ngoc Duyen, 2019; Ly Phuong Duyen and Do Van Hai, 2019).

- With regard to the fund, only a few funds like that have been operating effectively (e.g. in Vinh Phuc Province and the cities of Ho Chi Minh and Can Tho). Others have been operating uneasily due to inadequate policy mechanisms as well as a lack of resources (Le Thiet Linh, 2019). Others do not meet the requirements in terms of capital, while their capital reserves are still low to cover unexpected risks. The coordination between the fund, credit institutions, and innovative SMEs in the process of document assessment, guarantee issuance, disbursement, and control of loan use purposes is limited. A part of the personnel at these funds has limited expertise and experience, especially in loan appraisal and evaluation. Tending to avoid risks, these funds often do not want to provide loans to innovative SMEs. Together with the funds' lack of commitment to repay the full guarantee when bad debts are incurred, private banks have few incentives to participate in this model (IPP2, 2018, p.45; Le Thi Minh Ngoc, 2020).

c) Government Venture Capital Fund

The Government Venture Capital Fund to invest in high technology has been regulated in the Law on High Technologies 2008 (The National Assembly Vietnam, 2008, Article 25). In the Law on Support for SMEs 2017, this financial instrument is also regulated, allowing local state financial institutions to invest in innovative SMEs by selecting and investing together with private innovation investment funds (The National Assembly, 2017, Clause 4, Article 18). However, the degree of investment in innovative SMEs using the state budget will be determined according to each local innovation project (which depends on budget conditions of the locality) (The Government, 2018b, Chapter 3).

<u>Limitations:</u>

- Due to strict requirements of using state capital to invest in private companies (The National Assembly Vietnam, 2014, Clause 6, Article 48 and Article 63), building up plans to jointly invest with private innovation investment funds for projects, in which the investment must be efficient in the use of capital, faces various difficulties. This contradicts the risky nature of creative innovation, thereby reducing the investment desire of the state capital managers in investing the state's funds in innovative SMEs.

- The Law on Support for SMEs of 2017 allows local authorities to choose and join private organisations to invest in innovative SMEs. However, the investment must be divested within five years (The National Assembly Vietnam, 2017, Point c, Clause 4, Article 18). This requirement is incompatible with typical investment practice where a venture capital cycle can last for ten years. If there is no divestment during that time, the investment will be cancelled, and the private investor will not receive another incentive for the expected increased returns in the future. Therefore, many private funds might not join this programme (IPP2, 2018, p.91).

3.2.2. Personal funding

a) Angel investors

- The number of angel investors has increased significantly in recent years. Many investors residing abroad actively invest in innovation in Vietnam such as Nhan Nguyen - an engineer from Google, and Do Hoai Nam, a successful founder of many Silicon Valley innovation businesses. However, angel investors are still not legally recognised in Vietnam. Therefore, there is no basis to discriminate tax policy for people investing in innovative SMEs when transferring capital. Investment in innovation is considered to be highly risky, while tax policies do not allow investors to offset losses from some innovation projects against profits from others. This reduces the investment desire of domestic and foreign angel investors (Ly Phuong Duyen and Do Van Hai, 2019). Additionally, personal income tax regulations for people investing in innovation have not received any distinct incentives[5] (Vu Dung, 2019).

- With regard to investment markets, the limitation comes from information asymmetry between investors and innovative SMEs. During meetings with innovative SMEs, investors often have very little information about these businesses, their market prospects, products, the founders’ capabilities, and related issues. Therefore, investment is often limited due to a lack of information leading to unforeseen risks. For innovative SMEs, they are also difficult to access funding information from crowdfunding, angel investors, venture capital funds or banks (Do Thi Nhan Thien, 2019).

b) Start-up acceleration funds / peer-to-peer loan / community funding

Several start-up acceleration funds have been established, although being still new in Vietnam. These funds not only provide financial support, but also advice, assistance, and primer funding, as well as office spaces and consulting services. Some of the popular names are Hub.IT, SaigonHub, and Clickspace. By the end of 2019, about 40 peer-to-peer lenders had been operating in Vietnam, of which ten were from China and some from Indonesia and Singapore (Vietnam Banks Association, 2019). A typical example of peer-to-peer lending in Vietnam is Tima, established in 2015 (The Youth Online, 2017). Up to 2018, crowdfunding in Vietnam had existed in just two forms: donations and rewards, while equity contribution and loans contribution had not yet been performed.

Crowdfunding is still restricted due to the lack of regulations and sufficient trust from the investment community (Do Thi Nhan Thien, 2019).

Limitations:

Capital mobilisation in the form of gratitude gifts or sales is only effective when innovative SMEs have brought their product and service quality to a reasonable level. In Vietnam, the scale of these investment channels is still very limited and has many potential risks because they have not been legalised and encouraged and protected by the government. However, it is possible to consider developing legal guidelines on peer-to-peer lending due to the potential to attract large funding.

3.2.3. For enterprises' funding

a) Start-up Accelerator Fund and Venture Capital Fund of enterprises

Large enterprises can invest in innovative SMEs through an early-stage business promotion programme. At a later stage, a large enterprise can acquire innovative SMEs in line with its strategy and operation. However, the number of start-up accelerator funds and business incubators to finance innovative SMEs at the seed stage is relatively small. Some examples include the Vietnam Start-up Accelerator Fund (VIISA) of the FPT Corporation and the BIDV Securities Company (IPP2, 2018, p.46). Additionally, large enterprises can finance innovative SMEs via their venture capital funds. Between 2016 and 2017, many enterprises' venture capital funds have been established and operated such as Seedcom, FPT Venture (FPT, 2015).

Limitations:

- With regard to policies, enterprises' venture capital funds are not currently recognised and encouraged by the government (IPP2, 2018, p.46). Instead, this model is usually registered as an ordinary investment enterprise. Although not encountering any legal barriers, this model receives no support either. And, if an enterprise establishes science and technology development funds to invest in innovation (The Government, 2018b, Clause 2, Article 3), including investment and establishment of its own innovative SMEs, the tax exemption for the enterprise venture capital funds will not exceed 10% of its annual profit (IPP2, 2018, p.99).

The tax policy has no differentiation in the direction of giving higher incentives to innovative SMEs. Specifically, the corporate income tax rate for innovative SMEs is still 20%, the same as the rate for other businesses. The preferential 10% tax rate or corporate income tax exemption for income from activities in certain sectors are the same as for the newly-established enterprises from new investment projects[6] (Ly Phuong Duyen and Do Van Hai, 2019). This limits the investment desires of large enterprises to set up innovative SMEs.

- For innovative SMEs, large enterprises' venture capital funds are willing to invest in domestic innovative SMEs. However, in reality, this source of funding faces many limitations due to the low prestige and trustworthiness of domestic innovative SMEs (Le Thi Minh Ngoc, 2020).

b) Procurement of enterprises/sales alliances/peer-to-peer lending/factoring

Large enterprises can also finance innovative SMEs by becoming their customers or co-investing with them in sales alliances. However, there are currently only a few large enterprises applying these methods such as the FPT, Viettel, CMC, and recently Vingroup and Start-up Viet Partner. Enterprises can purchase invoices of innovative SMEs through factoring and peer-to-peer lending services. However, the services still have many limitations due to the lack of a required legal framework and thus they are not entitled to preferential incentives (IPP2, 2018, p.46).

3.2.4. Funding sources from banks and other credit institutions

a) Loans

Generally, enterprises can get loans from various financial institutions, including People's Credit Funds, microfinance institutions, and commercial banks. Additionally, they can also access loans from government-sponsored credit institutions such as the Bank for Social Policies, Investment and Development Fund, and SME Development Fund[7].

The Law on Support for SME 2017 introduces measures to encourage credit institutions to lend SMEs, including innovative SMEs, based on corporate credit ratings[8]. Simultaneously, Decision No.1276/QD-TTg dated September 5, 2016, is to improve the access to banking services in the economy, including SMEs. The banking industry has also given many solutions to overcome the difficulties of SMEs in accessing credits. Specifically, the State Bank of Vietnam issued Circular No.45/2018/TT-NHNN dated December 28, 2018, guiding credit institutions to provide loans with guarantees of the Credit Guarantee Fund, creating favourable conditions for SMEs to access loans. It also organises programmes linking banking and businesses in many localities.

<u>Limitations:</u>

- With regard to policies, there are no specific policies to regulate credit institutions' lending activities to innovative SMEs. Since innovative SMEs are defined as a type of SME, lending activities are governed by the existing general policies. Therefore, regulations on credit rating (The National Assembly Vietnam, 2017, Clause 1, Article 8) make it difficult for innovative SMEs to meet the conditions (Ly Phuong Duyen and Do Van Hai, 2019). Additionally, a lending bank itself has to be directly exposed to the full risk of concessional loans for SMEs[9].

- Many founders of innovative SMEs have not focused on the practicality of their business models, paying too much attention to the idea itself, despite the fact that the idea can be very good, but the feasibility is absent. They also face the lack of information to access the government's support. Besides this, due to insufficient preparation in capital mobilisation, innovative SMEs have not attracted much attention from investors and cannot present the potential values of projects in the future. The lack of physical assets and complete accounting systems result in the fact that innovative SMEs often borrow unsecured loans with very high unsecured interest rates and short loan terms (IPP2, 2018, p.79).

- Meanwhile, banks have not enough capacity to appraise innovative SMEs' projects (IPP2, 2018, p.47). Besides this, commercial banks have not changed their mindset and policies in lending to SMEs due to the high levels of risks (Le Thiet Linh, 2019). To meet the increasingly high governance standards in accordance with international practices and current legal regulations, banks have to apply the same set of evaluation criteria and risk rating criteria to all enterprises, not considering the specific characteristics of innovative SMEs (Dao Le Kieu Oanh and Nguyen Thi Ngoc Duyen, 2019).

b) Factoring

Currently, eight units are providing this service in Vietnam. However, the current bill factoring is not fully regulated, and current regulations still require the transactions to use pre-printed forms with full signatures of each party. Therefore, the volume of factoring transactions in Vietnam is still very low, compared to other countries in the region (IPP2, 2018, p.47).

c) Bank guarantees and letters of credit

Export credit insurance is provided by insurance companies and the Government's export credit agencies. This service is provided to all businesses involved in exporting, including innovative SMEs. Besides that, there is also a purchase guarantee. The application of this financial tool is still limited, especially as most commercial banks do not accept the risks of innovative SMEs.

3.2.5. Funding from investment funds

By 2017, there had been about 40 venture capital funds in Vietnam, most of which were, however, foreign-owned and not registered in the country. Only a few of these funds have representative offices in Vietnam such as CyberAgent Ventures, DFJ-VinaCapital, and 500Startups. Those without offices in Vietnam review, select, and invest in projects from overseas funds. Additionally, there are private equity funds that invest in innovative SMEs that have grown up in the expansion stage such as Mekong Capital, Dragon Capital, and VinaCapital (IPP2, 2018, p.21).

Private innovation investment funds have just been legalised and are still in the early stages of development. The 2017 Law on Support for SMEs (The National Assembly Vietnam, 2017, Clause 2, Article 18), for the first time, recognises the legitimacy of private innovation investment funds. Then, the decree detailing investments for innovative SMEs provides relatively streamlining procedures for the establishment of a private innovation investment fund (The Government, 2018b, Chapter 2).

Limitations:

- With regard to policies, apart from the restrictions on encouraging individual investors or large enterprises to invest in innovation SMEs (as indicated in Sections 2.3.2 and 2.3.3), the limitations are a lack of clarity and an incomplete and not easily accessible set of regulations, which all present barriers to the development of the venture capital funds in Vietnam[10].

- For innovative SMEs, access to these funds is thus still limited. The main reason comes from the fact that innovative projects are still fragmented and small, while innovative SMEs still do not ensure project quality and do not have a specific business model[11]. Therefore, these projects often fail to pass the appraisal rounds of these funds and fail to build trust among investors (Do Thi Nhan Thien, 2019).

- Investors, that include both enterprises and individuals, are still not interested in investing in private innovative investment funds. The funds that are already operating in Vietnam often encounters difficulties in calling for domestic investment. The main reason is that large enterprises want to establish and self-manage their venture capital funds (such as FPT Venture and CMC Innovation), while individuals think that investing in newly formed innovation SMEs is too risky and therefore prefer traditional investment channels (Thach Le Anh, 2019). Additionally, investors which are enterprises and/or individuals who are willing to invest in innovation have not received appropriate incentives from the government.

4. Proposed solutions to promote financial resources for innovation in Vietnam in the 2021-2030 period

4.1. Changing the approach to financial support for innovation

First, it is necessary to design and develop a Law on Venture Capital for Innovation in Vietnam. The reason comes from the distinctive characteristics of the innovative SMEs which are highly risky[12]. Therefore, if the traditional approaches in policies on enterprises are applied to innovative SMEs, the existing shortcomings will not be solved. Exemptions or reductions of these rules may not secure equality between them and other market participants. Additionally, the promulgation of such a law on venture capital will be an important basis for the development of synchronous solutions to attract domestic and foreign investment flows for innovation in Vietnam.

Second, financial solutions supporting the innovation need to be built and managed consistently on the national level, instead of under each scheme. Specifically, the financial measures and the indicators to evaluate the effectiveness of these supports should come from the government and are applied in the whole country. Furthermore, it is unreasonable to limit financial support through innovation support schemes by industries or geographic administrative areas. Ministries, agencies and localities may have their own measures to promote innovation. However, these measures should only complement, not substitute, the unified supports of the government.

Finally, different criteria for each group of financial solutions for each kind of innovative SMEs are required. For solutions that do not require large resources, but many innovative SMEs demand, the conditions of enjoyment should be simple to broadly support and promote the innovation community. For solutions that would require large resources, there should be more criteria to be applied, so that one can select among a narrower and more suitable spectrum of potential beneficiaries. This will increase the inclusiveness of financial support to the domestic community of enterprises of innovation.

4.2. Solutions to improve existing financial support policies

4.2.1. Funding from the Government

a) Non-refundable funding

The government must be the most important factor in financing innovative SMEs, especially in the early stages. This is a task that cannot be performed by any other entity outside the state. The government must be the leader in the innovation market, who sets the fundamental conditions for funds and private investors to enter long-term developments[13]. In Vietnam, there is a shortage of investors in the seeding stage, while almost all innovative SMEs are in this stage (Thach Le Anh, 2019, p.13).

Therefore, it is necessary to consider building a special financing programme for innovative SMEs in the early stage (discovery and/or appraisal). The government may, through a national financial group, lend to these innovative SMEs without collateral or guarantee. Because of the high-risk nature, the funding of this programme should be considered an expenditure, not an investment by the government (Ly Phuong Duyen and Do Van Hai, 2019). In other words, the government should not put much emphasis on the return of its investment capital for innovation.

b) Concessional loans and the government's Credit Guarantee Fund

- The government needs to pay more attention to the specific conditions of innovative SMEs. The procedures and criteria applicable to innovative SMEs need to be clearer and more open for both the state and the entrusted parties to lend. It should not place a heavy emphasis on collateral but assess the experience of the business and the personal credit rating of the business founder for lending. The solution to convert debt into grants can also be considered (IPP2, 2018, p.56).

- Additionally, the risk-sharing mechanism between the loan trustees and the state through the credit guarantee programme should also be strengthened. Some of the following issues should be considered:

+ Considering the criteria for the innovative SMEs to be guaranteed based on the creditworthiness of the individual owners, innovative ideas, instead of physical collateral. Besides this, these criteria can also be reduced if there are patents and inventions registered (Vu Van Ninh and Pham Thi Thanh Hoa, 2018);

+ The current small scale and fragmentation of the Credit Guarantee Fund in which each province establishes its fund and supports local innovative SMEs will not bring about significant effects. Therefore, only one national Guarantee Fund should be established. Then, all contributions are committed centrally to this fund;

+ The capacity of the staff of the Credit Guarantee Fund needs to be improved, especially in risk assessment. The fund's staff should be equipped with good knowledge of risk management and effective assessment tools to evaluate innovative SMEs;

+ The government should establish a network for digital information sharing that is synchronised and connected with different stakeholders (including but not limited to, the Credit Guarantee Fund, banks, and innovative SMEs), to enhance coordination between the parties to follow up on the process of appraisal, evaluation, and issuance of credit guarantees. All information on the ranking status of innovative SMEs should be guaranteed to be transparent and up to date;

+ It should not depend entirely on financial support from the state, but also needs to attract investment from private and international investors to the fund. Additionally, the fund's risk-sharing and commitment mechanism for bank loans to innovative SMEs also need to be improved and strengthened.

c) Government venture capital fund

The experience of the Republic of Korea (South Korea) shows that such a fund is ineffective in consulting and generating added value to innovative enterprises. The reason is that the motivation of state fund managers is lower than that of private investment funds, and they are often afraid of high-risk projects. The second reason is the limited capacity to appraise innovative SMEs and projects (Thach Le Anh, 2019, p.11). As a result, the South Korean Government has diverted investments in specialised private investment funds and leaves them accountable for managing to fund effectively. The government of Vietnam also needs to consider legalising this model (detailed in Section 4.3.1).

4.2.2. Personal funding

a) Angel investors

- The first thing to do is to legalise the concept of angel investors to identify policy objects to form management mechanisms as well as preferential policies and to encourage angel investment (IPP2, 2018, p.95).

Also, liquidity promotion mechanisms for angel investors are to be completed. Angel investors invest in various projects of innovation at the same time, and often have their investments returned after five to ten years. Therefore, it is necessary to simplify the procedures in transferring capital contributions, transferring shares, and promoting innovative SMEs to participate more in M&A, thereby creating liquidity for angel investors (Tran Van Binh et al., 2019).

It is necessary to consider developing a policy, according to which the state and angel investors jointly invest in projects of innovation (Tran Van Binh et al., 2019). State capital will act as primer capital to attract investment resources in the society.

- It is also needed to consider establishing the Vietnam Association of Angel Investors to connect and gather information flows related to venture capital activities. Additionally, the government can finalise policies to manage, support training and/or fund the maintenance of these networks. An incentive mechanism should be created to establish a network of angel investors according to each industry group, helping individual investors link professional resources, and simultaneously help them share risks when an innovative project fails (Tran Van Binh et al., 2019). Furthermore, it is necessary to connect angel investor networks in Vietnam with regional networks to share expertise as well as information about the innovation business (angel investors often invest in areas which they best understand and that they are geographically the closest to) (IPP2, 2018, p.95).

b) Start-up acceleration fund

To enhance investment from individual and/or large corporate investors for start-up accelerator funds (i.e. incubators), the following solutions can be considered:

+ Exemption from import tax on goods which are not yet produced domestically, including machinery, equipment, spare parts, materials, and means of transport;

technologies that have not been created yet in the country; documents, books, newspapers, scientific journals, and electronic sources of information on science and technology.

+ Reducing personal income tax for professionals working in these incubators as for those working in economic zones.

+ For other innovation-supporting organisations, there should also be more specific provisions such as tax exemption for income received from innovation support for universities, research institutes, legal consulting subjects, business support, infrastructure building, as well as for setting up common working areas for start-ups, advertising activities, and media.

4.2.3. Corporate funding

a) Start-up accelerator funds and venture capital funds of enterprises

- With regard to policies, although the Law on Technology Transfer (2017) allows for the use of capital for scientific and technological activities of enterprises to invest in innovative SMEs (incl. tax exemption and reduction), it is necessary to issue more guidance, information, and training to large enterprises to attract their interest and desire to participate.

It is to consider validating enterprises' venture capital funds to identify policy objects to issue management policies as well as incentives, in which these policies must be ensured to be different from the current preferential policies. For example, it is necessary to add more attractive tax incentives for investments in innovative SMEs from large enterprises.

It is to allow innovative SMEs to apply simpler regulations on tax administrative procedures and accounting systems in accordance with the Law on Tax and Accounting. Tax registration is done via the internet and innovative SMEs, who in the first five years do not have any revenue, can declare their value-added tax (VAT) every six months or once a year (Ly Phuong Duyen and Do Van Hai, 2019).

The government may consider preferential credit policies for enterprises with venture capital investments. The development of credit channels to support venture capital investments of enterprises will increase the supply of venture capital in the market. When implementing these policies, banks, investment support funds, science-technology support funds, among others, will lend enterprises with preferential interest rates and flexible loan guarantee mechanism to invest in their innovation activities.

- In addition, it is necessary to consider training and raising awareness of technical issues in investing in innovative SMEs and the government should treat innovative SMEs equally, avoiding cases where large enterprises crowd out innovative SMEs and create an unhealthy ecosystem (IPP2, 2018, p.58).

b) Corporate procurement/ sales alliances/ peer-to-peer lending/ factoring

Procurement of large enterprises/ corporations is also an effective way to develop money sources for innovative SMEs as they can provide innovative SMEs with the necessary financial resources as well as establish customer systems or channels. The government can promote this trend by supplementing and completing tax incentives for this type of cooperation and/or providing a venue to connect large enterprises with relevant innovative SMEs (through events such as TechFest, TechDemo, Techmart, and other online platforms, in which innovative SMEs participate in solving business challenges).

4.2.4. Funding from banks and other credit institutions

- With regard to policies, currently, there are no specific regulations on lending from banks and credit institutions to innovative SMEs. The current regulations are all general and applicable to all types of traditional businesses. Therefore, they do not consider the characteristics of innovation, and supplementation and refinement of these policies are necessary.

It is necessary to pay attention to criteria for innovative SMEs to borrow capital. These criteria can be referred to as the stage of development. Specifically, in the early stages, it should be based on a personal credit rating/credibility rating, instead of a business credit rating. Individual credit ratings can be obtained through the interbank credit information system, while individual credibility ratings can be obtained through the People's Committee in the area where those, who get involved in the formation of innovative SMEs, are registered to reside. The list of independent credit/credibility rating agencies should be clearly and widely disclosed to banks, local departments, and websites of relevant institutions. In the expansion phase, it is possible to follow the conditions of SMEs. However, it is necessary to include the specificity of innovative businesses (Vu Van Ninh and Pham Thi Thanh Hoa, 2018).

Additionally, it is necessary to supplement, amend, and complete regulations on risk management, and identify bad debts in the banking system for credit for innovation. The nature of innovation is always accompanied by high risks. Therefore, if the current regulations on risk management are continued to be applied, lending to innovation will be continuously difficult.

- With regard to commercial banks, it is necessary to proactively upgrade the system, build a digital financial platform, use automatic system processing, and improve the accessibility and financial services supply to most SMEs. Applying big data technology in banking operations can help capture information about business operations, product usage trends, and assess the reputation of customers' credit relationships (Le Thiet Linh, 2019).

Moreover, loan products suitable for innovative SMEs should be designed according to each industry group and/or each stage of development. Banks can tailor credit product packages for innovative SMEs, which reduce the conditions for corporate credit ratings but rely more on the feasibility of business plans and the personal credibility of the business founders (Ly Phuong Duyen and Do Van Hai, 2019). Additionally, banks also need to strengthen links with innovative SMEs to increase lending capacity, manage capital usage, and have the loans well repaid (Dao Le Kieu Oanh and Nguyen Thi Ngoc Duyen, 2019).

It is required to simplify lending processes, information requirements, and provide detailed advice and instructions for innovative SMEs to easily access. It is also to organise forums/seminars to connect enterprises and banks to provide information and advice on loan products and procedures.

- With regard to innovative SMEs, it is necessary to proactively improve financial capacity, operational capacity, governance quality, risk management, and financial management to meet the conditions for borrowing from banks (Le Thiet Linh, 2019). They should enhance the application of technology in accounting, electronic tax declaration, and customs, as well as banking transactions to reduce transaction costs; connect and share financial information with credit institutions to gradually make financial information transparent and create confidence in the market. They also need to participate in business associations to access information about policies and support programmes for innovative SMEs of the government as well as credit organisations.

4.2.5. Funding from investment funds

- With regard to policies, the government should create a favourable investment environment to encourage stakeholders to participate in venture capital in the direction of (i) Strengthening the protection of investors' assets and interests; (ii) Ensuring the clarity and consistency to minimise risks caused by overlapping regulations; (iii) Being in accordance with the international legal system to create opportunities for domestic investors to quickly integrate into the global business environment, while foreign investors can have confidence in the investment environment in Vietnam; (iv) Creating a level playing field in the investment environment for all actors in the economy; amending the Law on Investment to create favourable conditions for foreign investors to establish, contribute capital, purchase shares, or purchase capital contributions of an innovation investment fund in Vietnam; providing tax incentives for venture capital investments under the principle that all policies shall take into consideration the specificity of investments in innovation, showing different incentives as compared to other traditional investments; (v) Enhancing the transparency of the domestic venture capital market, providing more quality information and data to investors, especially foreign investors.

- With regard to domestic innovative SMEs, they must evolve themselves being proactive and willing to learn to complete and improve the quality of innovative ideas and projects. They also must promote technology application and improve the quality of human resources. Additionally, it is necessary to actively participate in forums and seminars to increase opportunities to meet and connect with potential investors and investment funds.

4.3. Other potential financial instruments

State investment funds, equity-based crowdfunding, and the stock exchange for innovation should be prioritised for development. The reason is that these three models are highly suitable for innovative SMEs at the stage of discovery and/or appraisal, while the remaining models will be suitable for others in the expansion stage[14].

4.3.1 State investment funds' investments in venture capital funds

According to the current regulations on the government's investment in private enterprises, a state investment fund cannot invest in other funds.

In countries with rapidly increased innovation economies, such as the US, UK, and Singapore, the governments play a very important role in investing in innovation. However, they do not manage their investments in a direct manner, but do it via private domestic venture funds (Thach Le Anh, 2019, p.10). These funds are investing in venture capital funds and counterpart funds to help the government take advantage of the expertise of the private sector to select, support, and monitor the operation of innovative SMEs - an area in which the government could not adequately implement these activities. However, the key factor determining the success of this model is that the government shares the risk with private investors but receives a smaller return than other partners when divesting[15].

4.3.2. Crowdfunding

In Vietnam, crowdfunding can attract investment from overseas Vietnamese people who are willing to contribute to the domestic society. Therefore, the government should consider legalising this activity. However, because the venture capital market in Vietnam is complicated enough, in the early stage, the government can apply pilot models in a certain region and/or only allow a few specific investors to participate. Additionally, the legalisation of the concept of public companies also needs to be revised, so that innovative SMEs can easily be listed on crowdfunding platforms (IPP2, 2018, p.62).

4.3.3. Stock exchange for innovation

If innovative SMEs offer securities on the same stock exchange as other enterprises, they might affect the safety of the market, and thus equality might not be secured for other market members, as most of them have low capital and high risks. Therefore, a separate exchange for enterprises of innovation is necessary (Investment Online, 2019). This would bring benefits to Vietnam's growing economy. The market would provide innovative SMEs opportunities to access capital sources with lower standards, create convenience for buyers and sellers to meet, as well as create the possibility of divestments, especially for small angel investors. However, it should be noted that this model may not be suitable for Vietnam at present. Due to the low level of sophistication of investors, when an innovative SME is listed, they might find it difficult to give an accurate and accepted valuation. The number of innovative SMEs eligible for receiving investment may not be large enough for the market to operate dynamically. Building an equity-based crowdfunding market and a dynamic venture capital market before a mass equity market for innovation is a more suitable solution. At that time, more information about enterprises and pricing will be given publicly, and popular investors are also familiar with investing in innovation (IPP2, 2018, p.63).

5. Conclusion

The viewpoint demonstrated in the draft report on the implementation of the ten-year Socio-economic Development Plan for the Period 2011-2020 at the 13th National Congress of the Communist Party of Vietnam, which was held in early 2021, is that the Party and State of Vietnam consider science and technology, innovation, and digital transformation to be the important foundation and motivation for rapid and sustainable economic development. Therefore, appropriate financial support policies for Vietnam's innovative SMEs are essential. However, the study shows that the current approach to financial support for innovative SMEs is inadequate. Therefore, to promote the development of innovative SMEs, in addition to building new tools and completing existing ones to mobilise non-state and foreign funding, the government's funding for innovation also needs to play a more powerful role. Accordingly, the further improvement of the state fund should be emphasised on the following principles: non-profitability, consistency, expansion and inclusiveness. As regards non-profitability, the state's investment in innovation should be considered expenditures. "Consistency" implies that local credit guarantee funds should be unified at the central level because most of them are currently inefficient due to the lack of capital and capacity. "Expansion" means that investment in innovation should be neither confined within the administrative area/jurisdiction of each province nor according to each scheme of industries. As long as the project of innovation has potential and meets the practical needs, it has to be considered for investment. In terms of "inclusiveness", it is necessary to develop specific sets of evaluation criteria for each group of enterprises of innovation. Application of the same set of criteria on all enterprises will result in to financial support provided to the wrong businesses with the wrong purposes and in a limited scope.

Notes

[1, 2, 3] Language editor: Etienne Mahler.

[4] The principles emphasize that innovation coming from all fields, all times and are not limited by administrative space.

[5] Clause 3, Article 18, Law No. 04/2017/QH14 dated 12/6/2017 on support for SMEs stipulates that "people investing in innovative SMEs are exempted from or reduced to definite corporate income tax on revenue from investments in innovative SME in accordance with the law on corporate income tax".

[6] Regulated in the Law on Corporate Income Tax applicable to existing types of businesses under the Enterprise Law 2014

[7] The National Technology Innovation Fund (NATIF) also has a preferential lending mechanism, as defined in Clause 2, Article 12, Decision No.1051-QD/TTg dated 3 April 2013. However, it has been not implemented until 2018 (IPP2, 2018, p.78)

[8] Clause 1, Article 8, Law No.04/2017/QH14 dated 12 June 2017 on support for SMEs stipulates "to encourage credit institutions to provide loans to SMEs based on corporate credit rating and other appropriate measures; encourage the establishment of an independent advisory organisation to rate the credit of small and medium-sized enterprises".

[9] Specifically, Clause 3, Article 22, Law No.39/2019/ND-CP dated May 10, 2019 on the organisation and operation of the SME Development Fund, stipulates "The Bank does its own appraisal and decision for loans to qualified SMEs and take responsibility for risk in lending decisions".

[10] According to Mr. Nguyen Bao Hoang, Managing Director of IDG Ventures Vietnam, "Silicon Valley has the entire system of capital, management, talent people, legal services. In Vietnam, you have to find everything yourself" (Thanh nien, 2015).

[11] According to Mr. Vo Viet Anh, Founder of Dropdeck - a platform that connects startups with

investors, "Overseas, high-quality startups are too many for investors to choose. In Vietnam, the difficult thing is to find a good quality innovation project". Therefore, the performance of the innovative SMEs is decisive and affects the development of this fundraising model (ITP, 2017).

[12] 32% of SMEs will fail in the first three years, while the figure for innovative SMEs is 92% (Do Thi Nhan Thien, 2019).

[13] As a percentage of GDP, Israel spends most of its budget on R&D in the world at about 4.5%, higher than the average of 2.2% of the Organisation for Economic Cooperation and Development (OECD) and other countries with the same level of GDP globally. The budget is mainly used by the Government to share financial risks with startups, thereby nurturing a technology platform as well as startup incubators. In 2008, the amount of venture capital poured into Israel reached nearly $2 billion, equal to the same capital flowing into the UK (with the population of 61 million) or into Germany and France combined (with more than 145 million people). Israel is also a country outside the United States with the most companies listed on the NASDAQ stock exchange and is the birthplace of well-known innovative companies such as Teva and Check Point (Thach Le Anh, 2019, p.11).

[14] Currently, there is a major shortage of investors in the seeding stage, while almost all innovative SMEs in Vietnam are located in this stage (Thach Le Anh, 2019, p.13)

[15] In Singapore, the Startup SG Equity Program will jointly invest with the private sector, at a rate of 70:30 with the state capital accounting for 70%, but when the divestment is successful, they just get only 30% of the profit (Tu Minh Hieu, 2018).

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