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# Improving MSMEs' access to start-up financing in ASEAN countries

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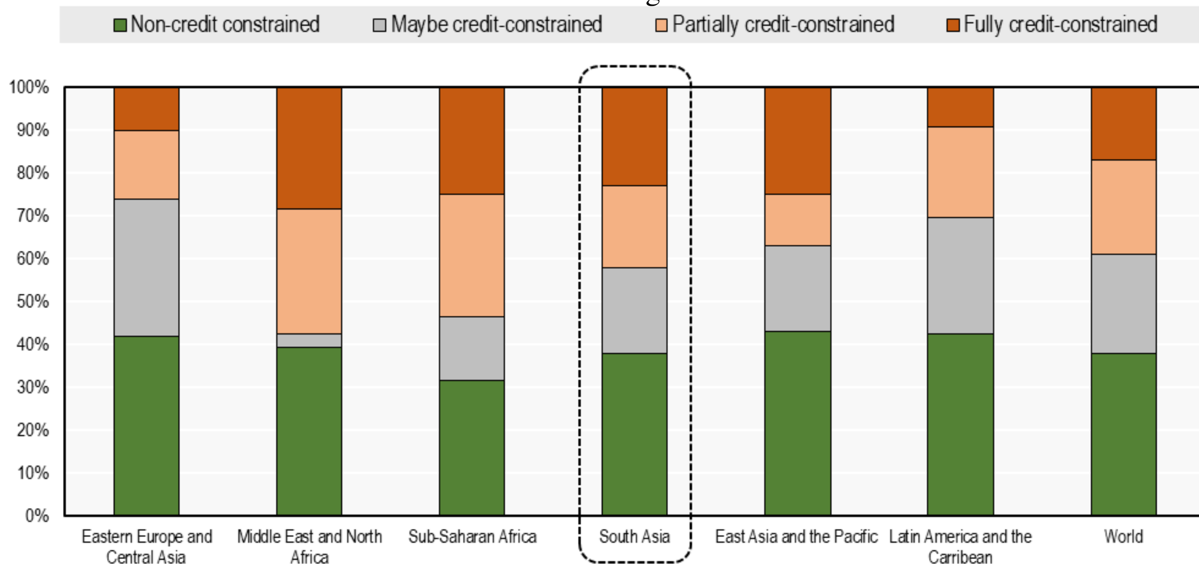
## Introduction

Micro-, small and medium-sized enterprises (hereafter referred to "MSMEs" or "SMEs") constitute the backbone of economic activity in the member countries of the Association of Southeast Asian Nations (hereafter "ASEAN"). However, MSMEs are confronted with stringent funding constraints in traditional lending and capital markets, in particular at the early stages of their activity. According to a survey cited by Tan, Tok and Thitipat (2021), 42% of SMEs in South Asia were either fully or partially credit-constrained, compared to the global average of 38% (Figure 1). Furthermore, these difficulties have been compounded during the COVID-19 pandemic, amid rising risk aversion in both the banking sector and capital markets. The tightening of monetary policy in the United States and other advanced economies has also contributed to a tightening of financial conditions in emerging economies, in particular starting from the second quarter of 2022.

Figure 1. **Credit-constrained SMEs by geographical area, 2021**

Percentage

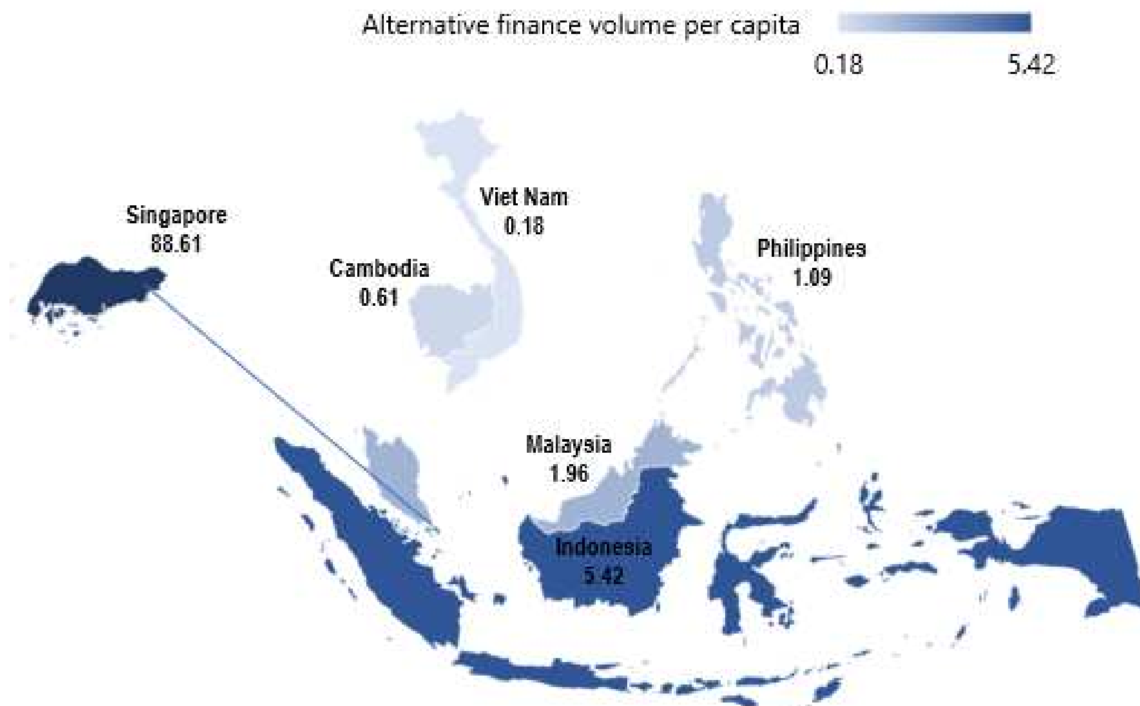



*Source:* Adapted from Tan, Tok and Thitipat (2021), "Financing Singapore's SMEs and the crowdfunding industry in Singapore", https://ink.library.smu.edu.sg/soe_research/2511.

In this challenging macroeconomic context, alternative financing sources could provide significant opportunities for MSMEs in the region to obtain funding necessary at the start-up stage or to undertake innovative investment projects that would otherwise be difficult to finance through bank loans and other traditional financing sources. According to the pecking-order theory postulated by Myers, firms prefer to finance their investments first with internal funds, second with debt and third with external equity (Myers, 1984). However, a significant number of MSMEs with a strong potential for development require external finance in order to grow. Where external finance is required, several empirical studies have concluded that start-ups prefer equity rather than debt (Venancio and Jorge, 2021; Hogan, Hutson and Drnevich, 2017; Paul, Whittam and Wyper, 2007). The alternative finance market could play an important role in providing MSMEs with external funds in the form of equity.

The alternative finance market has developed rapidly over the past decade via a range of innovative tools based on artificial intelligence technology and online platforms. In 2017, the alternative finance[i] activity in Emerging Asia[ii] amounted to no more than USD 360 billion (Ziegler et al., 2018). However, more than 90% of this volume was related to the Chinese market. More recent data on alternative finance funding per capita reveal large disparities among ASEAN countries. Singapore is doing well on a per capita basis, while Viet Nam lies at the other extreme (Figure 2). These figures point to a vast untapped potential for alternative finance in most ASEAN economies.

Figure 2. **Alternative finance[iii] volumes per capita in selected ASEAN economies, 2020**




*Note:* Figures are unavailable for Brunei Darussalam, Lao People's Democratic Republic, Myanmar and Thailand.
*Source:* Author's elaboration based on Yasar (2021), "The new investment landscape: Equity crowdfunding", https://doi.org/10.1016/j.cbrev.2021.01.001.

There is a plethora of alternative finance sources. This paper focuses in particular on funding sources at the early stage of start-up financing, when MSMEs face the most significant challenges. The options considered in the paper are business angel investment, crowdfunding, venture capital, MSME stock markets, and loans and guarantees. These alternative financing options are recognised in the academic literature as some of the most promising venues for financing MSMEs, democratising both the demand- and supply-side of investments, as well as for contributing to economic growth. They are gaining increasing attention from entrepreneurs, policymakers and practitioners alike.

This paper contributes to increasing understanding of and awareness on these alternative sources of finance and how they could develop in ASEAN. For each alternative source of finance reviewed, the paper provides a description of it; lists some of the advantages and disadvantages associated with the respective financing source; identifies barriers to the further development of that market segment in the ASEAN region; and finally looks at how public policies could contribute to the development of these markets, zooming in on existing policy initiatives from both ASEAN and non-ASEAN countries as examples of good practice. Where data are available, the paper also reviews the current state of market development in ASEAN for each type of financing source considered. The first section discusses business angel investment. In the second section, the functioning of the crowdfunding market is reviewed, followed by venture capital investment in the third section. The fourth and fifth sections deal with MSME stock markets and loans and guarantees, respectively. The final section concludes the paper.

## Business angel investment

### *State of play and challenges*

Micro, small and medium-sized enterprises (hereafter "MSMEs") face issues accessing finance, particularly at their early stages. Although there is a broad range of financial instruments adapted to the different steps of the companies' development, there are only a few to address the so-called "death valley", i.e. the phase representing the highest level of risk during early companies' life cycle (Lefebvre, Certhoux and Radu-Lefebvre, 2022; Cox, Lortie and Stewart, 2017).

In this context, especially for the growth-oriented MSMEs and start-ups, business angels play a very important role. A business angel is a private individual, very often of high net worth, and always with

business experience, expertise and an influential network, who directly invests part of his or her personal assets in new and growing unlisted businesses. A business angel can invest individually or in syndicates where typically one angel in the syndicate takes a lead role. Besides capital, business angels provide business-management experience, skills and contacts for the entrepreneur (Hellmann, Schure and Vo, 2021; Block et al., 2019; Cipollone and Giordani, 2019; De Clercq, Meuleman and Wright, 2012).

Business angels are increasingly important in providing risk capital as well as contributing to economic growth and technological advance. Moreover, the supply of start-up and early-stage equity finance has become more dependent on business angels. Venture capital funds are not able to accommodate a large number of small deals and suffered during these past years because of inadequate capital. They reduced their funding in risky MSMEs and moved on to later and larger scale investments with higher returns. The traditional source of start-up and early-stage financing – bank lending – is limited due to risk level and handling costs and has greatly decreased since the 2008 financial crisis (Demirguc-Kunt, Martinez Peria and Tressel, 2020; Chen, Hanson and Stein, 2017; Casey and O'Toole, 2014).

Business angels provide both financing and managerial experience, which increase the likelihood of start-up enterprises surviving and growing. As a result, fostering business angel investment in start-ups can have a significant leverage effect for governments and economies. Increasing awareness about business angel activities and/or about available policies and programmes in some countries or regions can positively impact industry, MSME financing, digital entrepreneurship and regional development (Zhou, Zhang and Sha, 2021; Harrison, Bock and Gregson, 2020; Cavallo et al., 2019).

Data show that business angel investment in ASEAN is currently limited outside the core markets of Singapore and Malaysia. As regards the number of angel investment deals concluded in 2020, Singapore accounted for around 65% of total deals in the regional sample, followed by Malaysia with a share of 15%. From the perspective of minimum funding amounts by business angels, it can be concluded that in 2020 Thailand and Viet Nam have funded relatively larger deals compared to their peers, each at around USD 20 000 per deal. At the other end of the spectrum, Indonesia and the Philippines have funded relatively smaller deals, which on average stood below USD 5 000 per deal (World Bank). On the other hand, business angel investment is virtually non-existent in Brunei Darussalam and the CLM countries – Cambodia, Lao People's Democratic Republic (hereafter "Lao PDR") and Myanmar.

There are several reasons why business angel investment in most ASEAN countries is currently very low. One of these reasons is the presence of still weak formal institutional regimes, even in countries that perform relatively well in the region in terms of business angel investment. In a recent study of the business angel market in Malaysia, for instance, Harrison et al. (2017) report that business angel investors in this country were concerned about a potential middle-income trap whereby economic growth and new venture formation stalls due to persistent institutional voids. Moreover, the 19 business angel investors included in the sample constructed for the purpose of this study found it challenging to invest in and monitor new ventures in what was considered to be a "highly uncertain and competitive environment where there is high political uncertainty, weak legal and financial support for investors and SMEs". The study also reports that business angels in Malaysia have resorted to some workarounds in order to overcome these institutional challenges. For instance, they developed informal institutions by co-investing and networking with family members and government officials and conducted careful due diligence prior to the investment.

*Policy options to support the development of business-angel investment in ASEAN*

Considering the benefits associated with investment by business angels discussed in the previous paragraphs, policymakers in ASEAN need to create the right conditions to provide with an environment conducive to private investors. Besides creating a tax break scheme for investors investing in start-ups, allowing them to deduct their taxes immediately during the investment process, the important policy priority is the creation of co-investment funds. Developing the right incentives, the right mechanisms and the right capabilities of both investors and entrepreneurs is a key issue. This will attract the private sector and provide the incentive for private investors to invest in start-ups. Support from government to business angel networks is also an essential element (Chiappini et al., 2022).

On the supply-side, various policies could be implemented to bring in more investors, including: removing tax system obstacles; providing tax incentives; supporting the creation of co-investment funds; organising investor-readiness training sessions; carrying out media campaigns (World Bank, 2022; Bonnet et al., 2021; Antretter et al., 2020; Cusolito, Dautovic and McKenzie, 2020; Edwards and Todtenhaupt, 2020; Howell and Mezzanotti, 2019; Harrison, 2018; Gregson, Bock and Harrison, 2017).

In particular, the launch of co-investment funds with business angels has proven to be an efficient way to attract "new money" in many countries, as well as expertise from the market, helping to fund thousands of innovative companies. Co-investment schemes with business angels represent an added value for public authorities in comparison to grants because their leverage effect is higher. Co-investment schemes also represent an added value for angels, because they lower the risk and allow more investments to be made. They therefore represent a win-win situation for business angels, managing public authorities and the companies benefiting from these investments (Bonnet et al., 2021; Antretter et al., 2020; Bonini et al., 2018).

Two scenarios typically result from the creation of business angel co-investment funds: (i) Public-private co-investment funds help build early-stage investment communities and thus create a virtuous circle. Public and private entities no longer invest alone. The investment risk is diluted from both sides, as well as contributing to the perceived "political" risks. (ii) By combining multiple parties into common funding vehicles, more money is gathered for the ecosystem and more investments can be made. Costs are also decreased as mentoring, networking and knowledge of business angels are immediately shared with more people. Management fees are also lower compared with venture capital funds.

On the demand-side, the investor base could be broadened in several manners: enhancing investment readiness (including regional training and support); improving financial literacy at schools; developing an entrepreneurial mind-set (including links with local businesses); and establishing incubators and other facilitators to educate and prepare entrepreneurs (van Rijnsoever, 2020).

Some countries in ASEAN have already taken steps to support business angel investment, in particular Malaysia and Singapore (Table 1). An example is the Angel Investors Tax Deduction Scheme (hereafter "AITD Scheme"), implemented in Singapore. The AITD Scheme is a tax incentive scheme aimed at encouraging individuals to invest in start-up companies in order to help the latter grow through their management expertise and business networks. The AITD Scheme was available between 1 March 2010 and 31 March 2020. In order to qualify for a tax deduction, an approved angel investor must meet the following two criteria: (i) invest at least SGD 100 000 (Singaporean dollar) of qualifying investment in a qualifying start-up company within 12 months from the date of his/her first investment in that company; and (ii) hold such investment for a continuous period of two years from the date of last qualifying investment (IRAS, 2022).

Table 1. **Examples of government initiatives to promote business angel investment in selected ASEAN and non-ASEAN countries**

| | **Policy initiative(s)** |
|---|---|
| **ASEAN countries** | |
| Malaysia | Tax incentives |
| Singapore | Tax incentives |
| **Non-ASEAN countries** | |
| Belgium | Tax incentives; grants to business angel networks; guarantee scheme for business angel investment |
| France | Tax incentives; grants to business angel networks; training programmes for network managers; development of a network Charter and Code of Conduct; public-private accelerators and incubators to develop and promote ideas and projects with a viable business model |
| Germany | Tax incentives; grants to business angel networks; public co-investment funds |
| Netherlands | Tax incentives; financial support for information meetings for entrepreneurs and novice business angels; seed facility for investors; public co-investment funds |
| Portugal | Tax incentives; public-private accelerators and incubators to develop and promote ideas and projects with a viable business model |
| United Kingdom | Tax incentives; public co-investment funds |

*Note*: Information as of 25 July 2022. The list of policy options is not exhaustive. Countries have been selected by the author based on information availability.
*Source:* Author's elaboration based on World Bank (2022) and various national sources.

A similar tax incentive scheme has been implemented in Malaysia, the second-largest market in ASEAN in terms of angel investment deals concluded in 2020. The Angel Tax Incentive Scheme (hereafter the "ATI Scheme") is designed to bridge the early-stage investment gap by encouraging qualified individual investors to invest in early-stage technology start-ups in Malaysia (MASTIC, 2022). Although a welcome initiative, the ATI Scheme has not had as much take-up as originally envisaged for several reasons, which could constitute lessons to learn for other countries in ASEAN seeking to implement similar tax incentive schemes. More specifically, in the case of the ATI Scheme privacy issues were a major deterrent from an investor's perspective, as angel investors who claimed the tax exemption had to disclose their investment activities. Other reasons behind the low adherence to the ATI Scheme include the requirement for the investments to be held for a minimum period of two years before the tax incentive could be claimed, as well as the administrative requirements that constrained the rapid take-up of the initiative, with eligible target companies needing to be approved by Malaysia's Ministry of Finance. In addition, the ATI Scheme was targeted at technology-based companies, thus excluding brick-and-mortar firms from the pool of eligible investee firms (World Bank, 2022).

Outside ASEAN, several examples could be cited from countries with strong and diverse markets for business angel investors and for which such information is available. This information is summarised in Table 1. In addition to providing tax incentives to promote business angel investment, policymakers in several European countries have expanded their policy mix with various types of other initiatives, such as: financial support to business angel networks (Belgium, France and Germany); guarantee schemes for business angel investment (Belgium); seed facilities for investors (the Netherlands); public co-investment funds (Germany, the Netherlands and the United Kingdom); training programmes for business-angel network managers (France); public-private accelerators and incubators to develop and promote ideas and projects with a viable business model (France and Portugal); or the development of a code of conduct and charter to streamline the functioning of business angel networks (France).

## Crowdfunding

*State of play and challenges*

Crowdfunding is a way of raising money to finance projects and businesses. It enables fundraisers to collect money from a large number of people via online platforms. Crowdfunding is most often used by start-up companies or growing businesses as a way of accessing alternative funds. Crowdfunding platforms are web sites that enable interaction between fundraisers and the crowd. Financial pledges can be made and collected through the crowdfunding platform. Fundraisers are usually charged a fee by crowdfunding platforms if the fundraising campaign has been successful. In return, crowdfunding platforms are expected to provide a secure and easy-to-use service.

There are different types of crowdfunding, including peer-to-peer lending (also referred to as lending crowdfunding), equity crowdfunding, rewards-based crowdfunding, donation-based crowdfunding, and profit-sharing/revenue-sharing.

Peer-to-peer lending is a direct alternative to a bank loan with the difference that, instead of borrowing from a single source, companies can borrow directly from tens, sometimes hundreds, of individuals who are ready to lend. Crowdlenders often bid for loans by offering an interest rate at which they would lend. Borrowers then accept loan offers at the lowest interest rate. Internet-based platforms are used to match lenders with borrowers. Due diligence is carried out for each loan request, as crowdfunding platforms have a duty to protect both businesses and investor interests. Platforms normally require financial accounts and a trading track-record. Peer-to-peer lending thus complements traditional credit markets by catering to the unserved businesses (Liu et al., 2020), largely augmenting MSMEs' working capital and growth needs (Santoso, Trinugroho and Risfandy, 2020; Gao et al., 2018).

Equity-based crowdfunding consists of selling a stake in a business to a number of investors in return for investment. The existence of equity funding is well established, with private equity, venture capital

and angel investing long playing a role in developing companies. The main difference between equity crowdfunding and these traditional models, rather than establishing a one-to-one relationship, it is offered to a wide range of potential investors, some of whom may also be current or future customers. Equity crowdfunding does this by matching companies with would-be angels via an Internet-based platform. A successful equity crowdfunding campaign tends to facilitate the attraction of venture capital funding (Buttice, Di Pietro and Tenca, 2020).

Rewards-based crowdfunding is where individuals donate to a project or business with the expectation of receiving a non-financial reward in return, such as goods or services at a later stage. A common example is a project or business offering a unique service (rewards) or a new product (pre-selling) in return for investment. This form of crowdfunding allows companies to launch with orders already on the books and cash-flow secured (a major issue for new business) and gathers an audience before a product launch. Empirical research suggests that ventures initially funded through reward-based crowdfunding can be even more likely than those initially backed by venture capitalists in attracting follow-up funds from venture capitalists (Roma, Vasi and Kolympiris, 2021).

Another type of crowdfunding is donation-based crowdfunding, whereby individuals donate small amounts to meet the larger funding aim of a specific charitable project while receiving no financial or material return. Donation-based crowdfunding has simplified the process of fundraising for social purposes by integrating information collection, donation transaction and interactive communication into one standardised process (Cason and Zubrickas, 2019; Belleflamme, Lambert and Schwienbacher, 2013). It has therefore been claimed that donation-based crowdfunding has redefined the way charitable giving is performed, as it fuses traditional charitable giving and technology-enabled crowdfunding (Gleasure and Feller, 2016; Gerber and Hui, 2013). Moreover, donation-based crowdfunding also presents several advantages from a fundraiser perspective, such as greater efficiencies in terms of geographical reach, reduced transaction and coordination costs, as well as richer and more frequent interactions with prospective donors (Zhao and Shneor, 2020).

Finally, in the case of profit-sharing/revenue-sharing crowdfunding, businesses can share future profits or revenues with the crowd in return for funding now. For firms seeking to raise capital, profit-sharing/revenue-sharing crowdfunding has the advantage that it yields lower effective interest rates, on average, compared to bank loans. In addition, this type of crowdfunding offers a less costly and faster way to raise capital than equity-based crowdfunding. Furthermore, in a profit-sharing/revenue-sharing crowdfunding arrangement the monthly payments are adjustable, which reduces the pressure of meeting a fixed payment during downturns. This in turn lowers the risk of bankruptcy for smaller and more vulnerable firms (Fatehi and Wagner, 2019; Wagner, 2018).

Presently, Indonesia and Singapore are the largest players in the crowdfunding market in ASEAN. According to figures for 2017, Indonesia and Singapore were among the 30 largest crowdfunding markets at the global level, with a market share of 0.48% and 0.16%, respectively (Schmidt, 2020). Elsewhere in the region, crowdfunding is not a popular financing method in Cambodia, Lao PDR and Myanmar, with a very limited number of dedicated platforms operating in each of these countries if any (CCAF, ADBI and FinTechSpace, 2019).

*Policy options to support the development of crowdfunding in ASEAN*

Strong regulatory frameworks are essential for the development of crowdfunding markets, as crowdfunding investments present a high risk of capital loss to investors, are highly illiquid and may constitute a target for fraudulent operations. Table 2 below provides an overview of the regulatory landscape related to crowdfunding activities in ASEAN countries. While several countries in the region have implemented bespoke regulation for crowdfunding in recent years, Cambodia, Lao PDR, Myanmar and Viet Nam have no specific regulations for crowdfunding. In addition, countries such as Indonesia, Malaysia and Thailand have differentiated between equity-based and debt-based crowdfunding, enacting bespoke regulation for each of these crowdfunding models. By contrast, there are still no specific regulations for debt-based crowdfunding in certain jurisdictions such as the Philippines and Singapore. In these two countries, entities carrying out activities related to debt crowdfunding fall within the scope of existing regulations, such as securities laws and anti-money laundering requirements.

Table 2. **Overview of the crowdfunding regulatory landscape in ASEAN countries**

| **Country** | **Bespoke regulatory frameworks for crowdfunding** | | **Date when the first bespoke crowdfunding regulation was implemented** |
|---|---|---|---|
| | **Equity-based** | **Debt-based** | |
| Brunei Darussalam | ● | | 2017 |
| Cambodia | | | |
| Indonesia | ● | ● | December 2018 |
| Lao PDR | | | |
| Malaysia | ● | ● | August 2014 |
| Myanmar | | | |
| Philippines | ● | | July 2019 |
| Singapore | ● | | N/A |
| Thailand | ● | ● | May 2015 |
| Viet Nam | | | |

*Note:* Information as of 25 August 2022. 'N/A' means the information is not available.
*Source:* Author's elaboration based on various national sources.

The examples of Malaysia and Thailand with implementing crowdfunding-specific regulation will be discussed below, as these two countries were early adopters in ASEAN. Malaysia was the first country in ASEAN to enact regulations with the specific goal of facilitating the development of equity-based crowdfunding. In a nutshell, the regime applicable to equity-based crowdfunding in Malaysia is comprised of the general regime for equity investments plus regulations that are specific to equity-based crowdfunding. The proposed regulatory framework for equity-based crowdfunding was set out by the Securities Commission Malaysia through a consultation paper published back in August 2014. The consultation paper emphasised the potential for crowdfunding to facilitate innovation, productivity and growth by encouraging the creative potential of MSMEs. The Securities Commission Malaysia consultation paper also emphasised the potential for increased competition among suppliers of capital, which could lower the cost of capital for all issuers (Securities Commission Malaysia, 2014). In April 2016, the Securities Commission Malaysia added peer-to-peer lending regulation to its alternative finance regulatory framework (Securities Commission Malaysia, 2016).

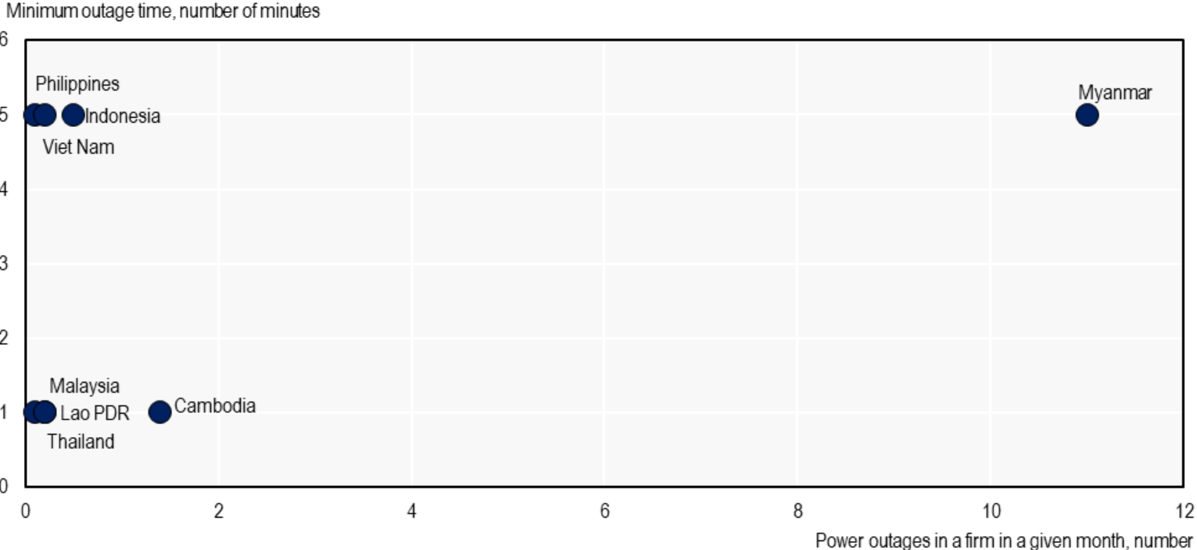
Thailand has also enacted crowdfunding-specific regulation earlier than most of its peers in ASEAN. Thai policymakers have sought to overcome the lack of a capital market for promoting business start-ups and innovators through the establishment of a regulatory regime that caters specifically to equity-based crowdfunding. The corresponding regulatory framework has been set out by the Capital Markets Supervisory Board, in two regulations that have been in force since May 2015. These regulations have been subsequently amended in order to allow a broader pool of investors to participate in the market for equity-based crowdfunding and be more in line with other regulations, such as definition of private equity trust and venture capital, as well as some rules regarding trading in the secondary market. In May 2019, the Securities and Exchange Commission of Thailand has issued regulations on debt-based crowdfunding through funding portals in order to further increase MSMEs' access to alternative fundraising models (Securities and Exchange Commission of Thailand, 2019).

Countries with less advanced regulatory frameworks could benchmark against other ASEAN and non-ASEAN jurisdictions. Benchmarking can be a useful source of knowledge owing to the scarcity of market and supervisory data in markets where activities are less developed, such as crowdfunding. Indeed, regulatory benchmarking is used by more than 90% of regulators when reviewing alternative finance regulation and lessons learned from other jurisdictions have prompted changes in regulation more frequently than any other trigger. Among ASEAN countries, Malaysia and Singapore are recognised among the top jurisdictions for benchmarking regulations for alternative finance at a global level. Outside of ASEAN, the United Kingdom is the most frequently benchmarked-against market globally, followed by the United States of America, Spain and France. On the other hand, benchmarking can be limited by incompatible legal systems or language barriers (World Bank and CCAF, 2019).

Besides strong regulatory frameworks, other types of policies can foster the development of crowdfunding markets. Empirical research has concluded that the level of economic and financial development, as well as the rule of law and control of corruption tend to be significant drivers of

crowdfunding-market development (Tan, Tok and Thitipat, 2021; Rau, 2017). Additionally, crowdfunding activities require solid infrastructure such as stable power supply and reliable Internet connection (Ojo and Elgadi, 2020; Rau, 2017). However, not all countries in ASEAN have adequate power and Internet infrastructure. For instance, access to electricity is still very low in Myanmar, with an electrification rate at 43% (IEA, 2019). But even where connections are available, the quality of power-related services is inadequate. Power outages in a typical month tend to be more numerous in Myanmar, with 11 outages on average, compared to just 0.1 in Malaysia and the Philippines. When a power outage does occur, it tends to be lengthier in Indonesia, Myanmar, the Philippines and Viet Nam, with a minimum outage length of five minutes each (Figure 3). Policymakers in these countries therefore need to address the remaining challenges for the crowdfunding market to thrive.

Figure 3. **Power outages in selected ASEAN economies, most recent year available**




*Note:* Data are unavailable for Brunei Darussalam and Singapore.
*Source:* Author's elaboration based on World Bank (n.d. a), *World Development Indicators*, https://databank.worldbank.org/reports.aspx?source=2&series=IC.ELC.OUTG&country=# (Accessed on 29 August 2022) and World Bank (n.d. b), *Doing Business*, https://govdata360.worldbank.org/indicators/had0c9391?country=BRA&indicator=42572&viz=line_chart&years=2014,2019 (Accessed on 29 August 2022).

## Venture capital

*State of play and challenges*

Innovative and growth-oriented small businesses need to acquire capital (i.e. equity investment) from external sources because they do not have their own or cannot access loans. Firms typically use venture capital to expand, break into new markets and grow faster. Investors provide start-up finance in exchange for an equity share in the investee firm. In a typical venture-capital arrangement, the transaction consists of an upfront payment combined with profit participation. Unlike business angel investors – who usually invest their own funds – venture capitalists' funds are usually pooled by investment firms.

Although only relevant to a smaller group, venture capital is essential for the growth of innovative firms (Rossi et al., 2022; Pradhan et al., 2018; Pierrakis and Saridakis, 2017). In addition, venture capital finance has a major advantage over bank finance to the extent that venture capitalists tend to more intensively monitor investment projects and they also provide expertise (Kaplan and Stromberg, 2003). It can therefore be argued that, as opposed to banks, venture capitalists have the possibility to take on riskier projects, and of to further enhance the value of the project they invest in (Manigart and Sapienza, 2017; Winton and Yerramilli, 2008). Furthermore, in financing a portfolio of companies, venture capital funds are able to diversify risk and it could be argued that, to a certain extent, they can fully ensure the entrepreneur (Keuschnigg and Nielsen, 2003).

Venture capital funds raise a large part of their funding from institutional investors and they typically invest large amounts into firms with potential for rapid growth. However, many investors are reluctant to invest in start-ups and innovative firms because of high risks and transaction costs. They may also believe that the expected returns may not be worth the risk. Risk diversification through venture capital is also limited by the extent of moral hazard in the relationship between the venture capitalist and the entrepreneur. While entrepreneurial effort is critical for the venture to have a positive chance of survival, an incentive problem typically results as this effort is non-observable and non-verifiable by an outside investor (Keuschnigg and Nielsen, 2003).

The market for venture capital investment is at different levels of development in ASEAN countries. While venture capital funds have been active for many years in Indonesia, Malaysia, Singapore and Thailand, venture capital investment remains limited elsewhere in the region. In Viet Nam, for instance, the supply of institutional capital for private equity remains limited, while only a small part of this capital is available for domestic venture capital. This can be attributed to both domestic and external factors. On the domestic front, Vietnamese have a preference for credit-based MSME financing solutions to the detriment of equity-based solutions. As regards the external factors, Viet Nam's official development assistance providers typically provide expertise on loans and not on equity investments. The only donors having recommended venture capital and equity investments have gone "around the state" rather than through it by working directly with the private sector (Klingler-Vidra, 2014).

*Policy options to support the development of venture capital investment in ASEAN*

Pro-active government policies and regulations are crucial elements in promoting the development of the venture capital industry, in particular in ASEAN countries with currently underdeveloped markets for venture capital. In Indonesia, Malaysia, Singapore and Thailand, venture capital markets have been supported by a structured environment for private firms, strong legal and regulatory frameworks for non-bank financial institutions, as well as by established stock markets.

Table 3 below provides some examples of tax and non-tax government policies aimed at promoting the development of venture capital in ASEAN and non-ASEAN countries. In addition to a strong legal and regulatory environment for non-bank financial institutions, which is a constant for the countries listed in Table 3, another factor that is often associated with a flourishing venture capital market is favourable taxation for equity investments. In Singapore, for example, Ermisch and Huff (1999) noted that various tax incentives corroborated with sustained infrastructure development provided a major impetus for the growth of venture capital in the island-state. Tax incentives are also available to domestic venture capital firms in Indonesia. In Malaysia, tax incentives are available for venture capital firms, with exemptions for capital gains and dividends arising from investee firms in certain circumstances. Finally, while there are no special tax incentives available for venture capital firms in Thailand, certain sectors in which they invest attract some incentives.

Table 3. **Examples of government initiatives to promote venture capital investment in selected ASEAN and non-ASEAN countries**

| | **Policy initiative(s)** |
|---|---|
| **ASEAN countries** | |
| Indonesia | Tax incentives |
| Malaysia | Tax incentives |
| Singapore | Tax incentives; sustained infrastructure development |
| Thailand | Tax incentives for certain sectors in which venture capital funds invest |
| **Non-ASEAN countries** | |
| France | Tax incentives; public investment in the venture capital market through national promotional institutions |
| Germany | Tax incentives; public investment in the venture capital market through national promotional institutions |
| Sweden | Tax incentives; liberalisation of investment guidelines by pension funds |
| United Kingdom | Tax incentives; public investment in the venture capital market through national promotional institutions |
| United States of America | Liberalisation of investment guidelines by pension funds |

*Note*: Information as of 23 August 2022. The list of policy options is not exhaustive. Country selection reflects information

availability at the reference date.
*Source:* Author's elaboration based on various academic papers and national sources.

Tax incentives are also available in the three largest European venture capital markets, namely France, Germany and the United Kingdom (Table 4). The most significant forms of tax incentives in these countries are in the form of tax reliefs on exit gains, such as those implemented in France and the United Kingdom). Another form of tax reliefs are those granted on initial investments, for instance in the form of a tax credit or grant, as it is the case in Germany. Finally, tax reliefs applicable to losses, whereby losses are allowed to be deducted from future taxable income, are also very important for start-up firms since they typically only become profitable after a number of years. This type of tax relief has been provided in Germany, for example. On the other hand, a potential problem arises when such tax incentive schemes lead to a relocation of investments or businesses that would not have taken place in the absence of such schemes (Stander, 2017).

Table 4. **Examples of tax incentive schemes to promote venture capital investment in selected non-ASEAN countries**

| Country | Description of tax incentive scheme |
|---|---|
| France | **Entrepreneur-investor account:** The scheme enables individual investors to reinvest profits from an exit into a new start-up or venture capital fund without being taxed immediately (deferred taxation). |
| Germany | **Venture capital grant (INVEST):** The scheme grants private investors an upfront relief in the form of 20% of the investment in start-up shares. The scheme also provides relief on exit gains from 2017 onwards. |
| | **Losses carried forward:** Start-ups are able to carry forward losses indefinitely, as compared to the situation before 2016 when any change of more than 25% to the firm's ownership resulted in losses no longer being usable. |
| United Kingdom | **Entrepreneur's relief:** Individual shareholders (i.e. directors, partners and employees who own at least a 5% stake in the firm) of a firm can benefit from a reduce capital gains tax of 10% when selling their business up to an amount of GBP 10 million (British pounds). |

*Note:* Information as of 23 August 2022.
*Source:* Adapted from Stander (2017).

Several other non-tax policies addressed at venture capital activity have been implemented including, among others (Table 3), the liberalisation of investment guidelines by pension funds and public investments in the venture-capital market. For instance, the liberalisation of investment guidelines by pension funds in Sweden and the United States of America has led to a significant mobilisation of funds to the venture capital industry. Institutional investors with a long-term investment horizon, such as insurance corporations and pension funds, are particularly suitable to support the economy with equity investments since they do not need to divest during times of market turmoil and can therefore act as a counter-cyclical stabiliser to the market for venture capital (Han, Park and Stanko, 2018).

In several countries in Europe, the government is the most significant investor in the venture capital market. National promotional institutions play an important role in countries such as France, Germany and the United Kingdom (Table 3). Examples from these countries include the Banque Publique d'Investissement (Bpifrance) in France, the Kreditanstalt fur Wiederaufbau (KfW) in Germany and, respectively, the British Business Bank (BBB) in the United Kingdom. These national promotional institutions typically deploy a broad range of equity instruments through which they try to remediate some of the shortcomings of the venture capital market.

### MSME stock markets

*State of play and challenges*

Listing on a stock exchange can provide MSMEs with a significant source of funding, particularly for high-growth firms in the technological and other innovative sectors where capital and visibility are needed at earlier stages. There are many benefits to listing on a stock exchange. The benefits extend beyond initial access to capital through an initial public offering (hereafter "IPO") to repeat issuances in the longer-term. Besides access to capital, listed MSMEs also enjoy a more diversified pool of investors. The investor base of a listed firm is extended and includes a broad pool of retail and

institutional investors, which means that risk also tends to be distributed more efficiently. Intangible benefits such as increased creditworthiness, transparency, visibility and credibility represent additional advantages associated with a stock-exchange listing. Additionally, MSME owners enjoy the dual benefit of realising their capital gains, while managing their cost of capital and enhancing the capital structure of their firm (Nassr and Wehinger, 2016).

Despite the benefits of being listed on a stock exchange, exchanges in ASEAN countries are currently struggling to attract new MSME issuers. This can be explained by the presence of several impediments to the wider use of public equity markets by MSMEs. First and foremost, admission costs and listing requirements in the main stock exchanges are very often prohibitive for MSMEs and disproportionately high relative to the size of their offerings. Besides fees, listing entails meeting several market requirements that translate into additional costs stemming from underwriting, advisory, accountancy, overhead, legal and ongoing listing fees. A "one-size-fits-all" regulatory approach and stock market structures on the main stock markets are therefore not appropriate to small and large firms to the same extent (Nassr and Wehinger, 2016).

Limited liquidity also hinders the development of public markets for MSME listing. Although technological innovations such as Internet-based trading have increased liquidity overall, the benefits do not seem to be equally spread among firms. MSME shares tend to be very illiquid and thus have the highest liquidity risk, which both raise their cost of capital substantially (Acharya and Pedersen, 2005; Pastor and Stambaugh, 2003; Amihud and Mendelson, 1986). This hampers investors' ability to realise their investment through normal exit. If liquidity is insufficient, investors tend to shift their assets away from MSMEs into more liquid stocks, in a so-called "flight-to-quality" (Apergis, Artikis and Kyriazis, 2015). Furthermore, there are spillovers in liquidity, volatility and returns across small- and large-capitalisation stocks. As shown by Chordia, Sarkar and Subrahmanyam (2005), the returns of large stocks lead those of small stocks due to the fact that market-wide information is first traded in the large-capitalisation segment, causing spreads there to widen, and subsequently incorporated into the prices of small-capitalisation stocks with a lag.

The lack of financial literacy on the side of MSMEs may also limit the development of MSME stock markets. Financial literacy has been shown to promote active participation of firms in the formal financial markets (Van Rooij, Lusardi and Alessie, 2011; Guiso and Jappelli, 2005). More specifically, it has been demonstrated that managers in firms with considerable financial literacy tend to be more active in optimally choosing their financing sources by assessing the costs, benefits and risks associated with each type of funding source (Agyapong and Attram, 2019; Hussain, Salia and Karim, 2018). The specialised literature also stated that a major hindrance to the growth of SMEs in developing countries is the lack of managers' knowledge, skills and awareness on the available financing sources (Susan, 2020; Agyei and Nsiah, 2018; Bongomin et al., 2017).

*Policy options to support the development of MSME growth stock markets in ASEAN*

Countries in ASEAN have a large scope to increase the size, depth and relevance of their equity markets, in particular for MSMEs. In order to overcome the significant admission costs and listing requirements in the main stock exchanges, policymakers in some jurisdictions have established equity markets targeting smaller issuances. SME growth markets typically offer more flexible listing criteria, lower admission costs compared to the main market, as well as lighter disclosure requirements. Several examples of specialised SME listing platforms are provided in Table 4 below. An example from ASEAN is the Market for Alternative Investment (hereafter "MAI") in Thailand. The MAI was established under the Securities Exchange of Thailand Act and commenced operations in June 1999. The purpose of the MAI is to create new fund-raising opportunities for innovative MSMEs with high growth potential and provide a broader range of investment alternatives (Stock Exchange of Thailand, n.d.).

The "SME growth markets" established in the European Union could serve as a benchmark for similar initiatives in ASEAN. More specifically, the European Commission proposed in May 2018 to implement more proportionate rules to support the listing of small and medium-sized enterprises, while safeguarding investor protection and market integrity. The initiative on the "SME growth markets" was subsequently launched with the aim to reduce the administrative burden and the high compliance costs

faced by SME growth market issuers while ensuring a high degree of market integrity and investor protection. Another purpose of the initiative is to foster the liquidity of publicly listed SME shares to make these markets more attractive for investors, issuers and intermediaries. Finally, the initiative seeking to establish SME growth markets aims to facilitate the registration of multilateral trading facilities as SME growth markets (European Commission, 2019). Policymakers in ASEAN countries could assess the feasibility of establishing a market for smaller listings.

Table 4. **Examples of specialised SME listing platforms in selected ASEAN and non-ASEAN countries**

| | **SME listing platform** | **Purpose of the SME listing platform** |
|---|---|---|
| **ASEAN countries** | | |
| Thailand | Market for Alternative Investment (MAI) | Create new fund-raising opportunities for innovative MSMEs with high growth potential and provide a greater range of investment alternatives. |
| **Non-ASEAN countries** | | |
| Belgium / France / Portugal | Euronext Access | Provide start-ups and SMEs with the advantages of being listed on a stock exchange, without the need to meet the admission criteria on the main market. |
| Brazil | Bovespa Mais | Encourage the growth of SMEs via the capital market. |
| China | ChiNext | Promote the allocation of social funds to innovative businesses and emerging industries. |
| Germany | Scale | Facilitate access to capital for SMEs, enhance the reputation of multilateral trading venues and the attractiveness of capital-market financing. |
| India | Emerge | Provide capital raising opportunities to credible and fast growing businesses with good governance standards. |
| Korea | KONEX | Provide SMEs and venture capitalists with the opportunity to raise funds or collect investments. |
| Poland | NewConnect | Provide equity capital to young and dynamic Polish SMEs, especially in the high-tech sector. |
| South Africa | AltX | Provide good quality growth SMEs a springboard onto the main market with a clear growth path and access to capital. |
| Spain | BME Growth | Provide listed firms with visibility and credibility, making it easier for SMEs to access the capital they need to finance, develop and expand their business model and move to the main stock market when they reached a certain size. |
| United Kingdom | Alternative Investment Market | Provide SMEs from a wide range of countries and sectors with access to a diverse set of investors and a supportive advisory community, who understand the needs of entrepreneurial businesses. |

*Note:* Information as of 1 September 2022.
*Source:* Author's elaboration based on various national sources.

As regards the low liquidity prevalent in MSME growth markets, policymakers in ASEAN should consider various policies to enhance liquidity. For instance, increased standardisation could potentially alleviate this problem. Another approach is to encourage participation by intermediaries such as market-makers. For instance, Bovespa Mais (Brazil) and NewConnect (Poland) have offered subsidies to market-makers to participate in smaller, less liquid stocks, for instance in the form of reduced trading fees (Harwood and Konidaris, 2015). Increasing tick sizes is another example of policy in favour of liquidity. Higher tick sizes could also provide incentives to market-makers to trade MSME shares, which in turn could improve liquidity in this market segment. Another policy option is to encourage research on listed SMEs, as very little research analyst coverage is available for this market segment. This also reduces liquidity. Some SME exchanges took steps to encourage specialised research, including temporarily paying for research. The AltX exchange (South Africa), for example, pays for two or three reports per year, while India's Emerge exchange collaborates with a third-party research organisation that provides research on companies listed on its platform (Harwood and Konidaris, 2015).

There is also a role for policymakers in ASEAN to raise financial literacy by promoting financial

education for MSMEs. Exchanges should be encouraged to provide special training programmes to educate SME managers on the benefits of being listed. Pre-listing trainings could cover matters related to corporate governance, information disclosure and capacity building. Post-listing trainings could extend to managing investor relations, exchange compliance and ongoing investor's coverage and visibility. Some exchanges have already provided such trainings. For example, the AltX exchange (South Africa) offers mandatory induction courses for directors, combining education and training to executives of listed companies, investor relations and public relations executives. The topics covered by the training programme include listing requirements, strategies for targeting investors, management of investor relations, and financial media management (Harwood and Konidaris, 2015).

**Loans and guarantees**

*State of play and challenges*

The development of equity finance should not be considered as being to the detriment of banks, but rather as a complement. As heavy reliance on market-based finance may turn out to be problematic for MSMEs given their size and characteristics, most businesses in ASEAN will arguably continue to rely on bank loans for external financing. Borrowing can be difficult for MSMEs, however, particularly if they lack collateral or have a short record of accomplishment of credit history. Indeed, banks may be reluctant to extend long-term unsecured loans to MSMEs due to tighter regulation and higher capital requirements (Cortes et al., 2020; Acharya, Berger and Roman, 2018). Moreover, even MSMEs that have available collateral may avoid pledging their assets, as unpledged collateral can serve various other purposes, such as being used for insurance (Rampini and Viswanathan, 2013). A firm may also prefer to use unpledged collateral in order to strengthen its internal funds and its capacity to issue low-risk debt, jointly referred to as "financial slack" (Triantis, 2000).

To help small businesses obtain loans from banks, guarantees provided by public, private or mutual guarantee institutions can help compensate for lacking collateral or creditworthiness by reducing banks' risks. The firms that are eligible to benefit from the loan guarantees can use these to strengthen their cash buffers and continue servicing their liabilities over a longer horizon, even with limited cash flows. The guarantee schemes therefore have the potential to limit the amount of losses incurred by banks on corporate loans by partially transferring the credit risk to governments.

Many countries in ASEAN have implemented loan guarantee schemes as part of their support packages to mitigate the economic impact of the COVID-19 pandemic (Table 5). The features of these schemes vary across countries according to a number of parameters, such as the overall size of the guarantee scheme, the pricing of the guarantees, the share of the loan that is guaranteed, the eligibility criteria for firms to qualify for the guarantee, and the maximum amount per individual borrower. There are, however, some similarities among schemes. Loan guarantees are usually short-term (i.e. one year), but can increase to up to ten years in Malaysia. Loss absorption is typically limited to a maximum of 60%-80% of the loan principal.

Table 5. **Examples of loan guarantee schemes targeting MSMEs implemented in ASEAN countries in response to the COVID-19 shock**

| Country | Features of the loan guarantee scheme |
|---|---|
| Cambodia | In March 2021, the Business Recovery Guarantee Scheme was launched to help MSMEs and large firms stay afloat and enhance economic recovery from the COVID-19 pandemic. The scheme is worth USD 200 million and acts as collateral for 70%-80% of the loan amount borrowed by businesses from participating financial institutions. In September 2021, the Credit Guarantee Corporation of Cambodia announced the launch of the Co-Financing Guarantee Scheme, whose specific purpose is to improve access to finance for MSMEs. This scheme will act as collateral or security for 70%-80% of the loan amount. |
| Indonesia | In July 2020, a loan guarantee scheme worth 100 trillion Indonesian rupiah (IDR) was implemented to help firms that operate in priority sectors, such as tourism, automotive, textiles and garments, and electronics, and that employ at least 300 staff manage their cash flows during the COVID-19 pandemic. The programme offers guarantees for up to 80% of working capital loans totalling between IDR 10 billion and IDR 1 trillion, and for a period of up to one year. In April 2021, the eligibility rules were eased, whereby firms that employ a minimum of 100 staff, |

| | |
|---|---|
| | or 50 employees in some sectors, can also benefit from guarantees. The relaxation also allowed guarantees for loans of up to three years, and it reduced the minimum loan size to IDR 5 billion. |
| Malaysia | A fund worth MYR 50 billion (Malaysian ringgit) was launched for working capital loan guarantees for all businesses affected by the COVID-19 shock. The scheme covers up to 80% of the loan amount for financing working capital requirements. The minimum guaranteed loan size is MYR 20 million per company. In January 2021, the scheme was enhanced. The maximum financing amount increased to MYR 1 billion, while the scope of financing expanded to cover working capital with a guarantee period of up to 10 years. In January 2022, Bank Negara Malaysia announced two new facilities for MSMEs totalling MYR 1.5 billion. These facilities will provide guarantees on loans to help MSMEs to recover and grow post-pandemic, while also supporting recipient firms in adopting sustainable practices for business resilience. |
| Philippines | A credit guarantee scheme worth PHP 120 billion (Philippine peso) for small businesses affected by the economic fallout from the pandemic was launched. In September 2020, a capital injection of PHP 5 billion was given to the Philippine Guarantee Corporation (PhilGuarantee), allowing it to support loan guarantees of PHP 100 billion (around 0.6% of 2020 GDP). In February 2021, it was announced that PhilGuarantee had broadened its scope to include support for micro, small and medium enterprises in manufacturing, housing, agriculture, and other key sectors of the economy, in order to help businesses stay afloat. |
| Thailand | In March 2021, a series of financial rehabilitation measures were launched to support businesses in their recovery from the COVID-19 pandemic. They included soft loans for SMEs, for a total amount of 500 billion Thai baht (THB). The soft loan scheme was complemented by a credit guarantee scheme through the Thai Credit Guarantee Corporation (TCG). Under this scheme, the government covers the first six months of interest payments and guarantees up to 60%-70% of the loans from the financing pool of THB 500 billion. In September 2021, the TCG expanded its guarantees for the Bank of Thailand's soft loan scheme by an additional THB 100 billion. The TCG charges MSMEs a guarantee fee of 1% of the guaranteed loan value for the first four years, which is below the normal rate of 1.75% per annum. |

*Note:* Data are as of 19 July 2022.
*Source*: Author's elaboration based on OECD (2022); Asian Development Bank *COVID-19 Policy Database* (ADB, n.d.); and various national sources.

*Policy options to develop loan and guarantee programmes in ASEAN*

Beyond the support provided to firms during the COVID-19 crisis (Table 5), policymakers in ASEAN could build on the experience of the European Union, which has initiated several initiatives to develop loan and guarantee programmes targeted at MSMEs. For instance, the programme for the Competitiveness of Enterprises and Small and Medium-sized enterprises (hereafter "COSME") improves small businesses' access to loans through the Loan Guarantee Facility. COSME is improving access to finance for small and medium-sized enterprises (hereafter "SMEs") through two financial instruments that have been available since August 2014. COSME has a budget of over EUR 1.4 billion to fund these financial instruments that facilitate access to loans and equity finance for SMEs where market gaps have been identified. Thanks to this budget, it will be possible to mobilise up to EUR 35 billion in financing from financial intermediaries via leverage effects (European Commission, n.d.).

COSME comprises two sub-initiatives, namely the Loan Guarantee Facility (hereafter "LGF") and the Equity Facility for Growth (hereafter "EFG"). Part of the COSME budget will fund guarantees and counter-guarantees for financial intermediaries (e.g. guarantee organisations, banks, leasing companies) to help them provide more loan and lease finance to SMEs. By sharing the risk, the COSME guarantees will allow financial intermediaries to expand the range of SMEs and types of financial transactions they can support. Another part of the COSME budget is dedicated to investments in risk-capital funds that provide venture capital and mezzanine finance to expansion and growth-stage SMEs, in particular those operating across border (European Commission, n.d.).

However, it is worth noting that the effectiveness of loan guarantee schemes may depend on the financial structure prevalent in each ASEAN country, as well as on the ability of banks to process a potentially elevated number of guarantee applications. For example, the demand for guarantees is likely to be particularly elevated in those countries facing larger economic contractions, where firms rely more on short-term bank loans, where SMEs play a more prominent role and where corporate sector indebtedness is higher. In addition, operational challenges for banks may also hinder the effectiveness of guarantee

programmes. For instance, banks may need to assess the creditworthiness of potentially numerous applicant firms in a challenging economic environment, and where guarantee applications may coincide with a large number of applications for debt moratoria. It is estimated that, if only firms in the most adversely affected sectors take up loans, rather than all eligible firms, the guarantee uptake may be around 60% of its maximum potential amount (ECB, 2020).

**Conclusion**

Lack of access to finance constitutes a major setback to the development of the MSME sector in ASEAN countries. MSMEs are confronted with stringent funding constraints in traditional lending and capital markets, in particular at the early stages of their activity. Demand and supply of capital to MSMEs thus entails more complex issues compared to the larger firms. This paper presents a number of policy actions that have the potential to mitigate the financing challenges faced by MSMEs at the start-up stage by enhancing the potential of alternative funding sources such as business angel investment, crowdfunding, venture capital investment and SME stock markets. Acknowledging that these alternative sources of finance can only act as a complement to bank lending and not as a pure substitute, the paper also discusses the importance of loan guarantee schemes in improving SMEs' access to bank loans.

Various policies could be implemented to bring in more business angel investors, including tax incentives, the creation of co-investment funds, investor-readiness training sessions, or media campaigns. The development of the crowdfunding market requires appropriate regulatory frameworks, strong rule of law and control of corruption and solid infrastructure such as stable power supply and reliable Internet connection. Similarly, venture capital investment in ASEAN could benefit from the implementation of dedicated legal frameworks, tax incentives, as well as from the relaxation of certain investment requirements for institutional investors such as pension funds. In a similar vein, policymakers in ASEAN could consider the establishment of equity markets targeted at SMEs, with lighter admission requirements than public markets. For this type of market to thrive, various policies are needed to reduce the costs associated with the listing, improve liquidity and increase SME managers' level of financial literacy. However, financial markets in ASEAN countries are currently at very different levels of development. Governments in the region therefore need to carefully assess the feasibility of these policy actions, taking into account the characteristics of the domestic financial system and the broader macroeconomic environment.

**References**

Acharya, V. V. and L. H. Pedersen (2005), "Asset pricing with liquidity risk", *Journal of Financial Economics*, Volume 77, Issue 2, August 2005, pp. 375-410, Elsevier, Amsterdam, https://doi.org/10.1016/j.jfineco.2004.06.007.

Acharya, V. V., A. N. Berger and R. A. Roman (2018), "Lending implications of U.S. bank stress tests: Costs or benefits?", *Journal of Financial Intermediation*, Volume 34, April 2018, pp. 58-90, Elsevier, Amsterdam, https://doi.org/10.1016/j.jfi.2018.01.004.

ADB (n.d.), *ADB COVID-19 Policy Database,* Asian Development Bank, Manila, https://covid19policy.adb.org/ (Accessed on 19 July 2022).

Agyapong, D. and A. B. Attram (2019), "Effect of owner-manager's financial literacy on the performance of SMEs in the Cape Coast Metropolis in Ghana", *Journal of Global Entrepreneurship Research*, Volume 9, Issue 67, Springer, Berlin, https://doi.org/10.1186/s40497-019-0191-1.

Agyei, S. K. and C. Nsiah (2018), "Culture, financial literacy, and SME performance in Ghana", *Cogent Economics & Finance*, Volume 6, Issue 1, April 2018, Taylor & Francis Online, London, https://doi.org/10.1080/23322039.2018.1463813.

Amihud, Y. and H. Mendelson (1986), "Asset pricing and the bid-ask spread", *Journal of Financial Economics*, Volume 17, Issue 2, December 1986, pp. 223-249, Elsevier, Amsterdam, https://doi.org/10.1016/0304-405X(86)90065-6.

Antretter, T., C. Siren, D. Grichnik and J. Wincent (2020), "Should business angels diversify their

investment portfolios to achieve higher performance? The role of knowledge access through co-investment networks", *Journal of Business Venturing*, Volume 35, Issue 5, September 2020, 106043, Elsevier, Amsterdam, https://doi.org/10.1016/j.jbusvent.2020.106043.

Apergis, N., P. G. Artikis and D. Kyriazis (2015), "Does stock market liquidity explain real economic activity? New evidence from two large European stock markets", *Journal of International Financial Markets, Institutions and Money,* Volume 38, September 2015, pp. 42-64, Elsevier, Amsterdam, https://doi.org/10.1016/j.intfin.2015.05.002.

Belleflamme, P., T. Lambert and A. Schwienbacher (2013), "Individual crowdfunding practices", *Venture Capital,* Volume 15, Issue 4, May 2013, pp. 313-333, Taylor & Francis Online, London, https://doi.org/10.1080/13691066.2013.785151.

Block, J. H., C. O. Fisch, M. Obschonka and P. G. Sandner (2019), "A personality perspective on business angel syndication", *Journal of Banking & Finance,* Volume 100, March 2019, pp. 306-327, Elsevier, Amsterdam, https://doi.org/10.1016/j.jbankfin.2018.10.006.

Bongomin, G. O. C., J. M. Ntayi, J. C. Munene and C. A. Malinga (2017), "The relationship between access to finance and growth of SMEs in developing economies: Financial literacy as a moderator", *Review of International Business and Strategy*, Volume 27, Issue 4, November 2017, Emerald Publishing, https://www.emerald.com/insight/content/doi/10.1108/RIBS-04-2017-0037/full/html.

Bonini, S., V. Capizzi, M. Valletta and P. Zocchi (2018), "Angel network affiliation and business angels' investment practices", *Journal of Corporate Finance,* Volume 50, June 2018, pp. 592-608, Elsevier, Amsterdam, https://doi.org/10.1016/j.jcorpfin.2017.12.029.

Bonnet, C., V. Capizzi, L. Cohen, A. Petit and P. Wirtz (2021), "What drives the active involvement in business angel groups? The role of angels' decision-making style, investment-specific human capital and motivations", *Journal of Corporate Finance*, 31 March 2021, 101944, Elsevier, Amsterdam, https://doi.org/10.1016/j.jcorpfin.2021.101944.

Buttice, V., F. Di Pietro and F. Tenca (2020), "Is equity crowdfunding always good? Deal structure and the attraction of venture capital investors", *Journal of Corporate Finance*, Volume 65, December 2020, 101773, Elsevier, Amsterdam, https://doi.org/10.1016/j.jcorpfin.2020.101773.

Casey, E. and C. M. O'Toole (2014), "Bank lending constraints, trade credit and alternative financing during the financial crisis: Evidence from European SMEs", *Journal of Corporate Finance,* Volume 27, August 2014, pp. 173-193, Elsevier, Amsterdam, https://doi.org/10.1016/j.jcorpfin.2014.05.001.

Cason, T. N. and R. Zubrickas (2019), "Donation-based crowdfunding with refund bonuses", *European Economic Review*, Volume 119, October 2019, pp. 452-471, Elsevier, Amsterdam, https://doi.org/10.1016/j.euroecorev.2019.08.003.

Cavallo, A., A. Ghezzi, C. Dell'Era and E. Pellizzoni (2019), "Fostering digital entrepreneurship from startup to scaleup: The role of venture capital funds and angel groups", *Technological Forecasting and Social Change*, Volume 145, August 2019, pp. 24-35, Elsevier, Amsterdam, https://doi.org/10.1016/j.techfore.2019.04.022.

CCAF, ADBI and FinTechSpace (2019), *ASEAN FinTech Ecosystem Benchmarking Study,* Cambridge, https://www.jbs.cam.ac.uk/wp-content/uploads/2020/08/2019-ccaf-asean-fintech-ecosystem-benchmarking-study.pdf.

Chen, B. S., S. G. Hanson and J. C. Stein (2017), "The Decline of Big-Bank Lending to Small Business: Dynamic Impacts on Local Credit and Labour Markets", *NBER Working Paper*, No. 23843, September 2017, National Bureau of Economic Research, Cambridge, MA, https://www.nber.org/papers/w23843.

Chiappini, R., B. Montmartin, S. Pommet and S. Demaria (2022), "Can direct innovation subsidies relax SMEs' financial constraints?", *Research Policy,* Volume 51, Issue 5, June 2022, 104493, Elsevier, Amsterdam, https://doi.org/10.1016/j.respol.2022.104493.

Chordia, T., A. Sarkar and A. Subrahmanyam (2005), "The Joint Dynamics of Liquidity, Returns, and Volatility across Small and Large Firms", *Federal Reserve Bank of New York Staff Reports*, No. 207, April 2005, Federal Reserve Bank of New York, New York, NY, https://www.newyorkfed.org/research/staff_reports/sr207.html.

Cipollone, A. and P. E. Giordani (2019), "Entrepreneurs meet financiers: Evidence from the business angel market", *Journal of Business Venturing,* Volume 34, Issue 5, September 2019, 105913, Elsevier, Amsterdam, https://doi.org/10.1016/j.jbusvent.2018.11.003.

Cortes, K. R., Y. Demyanyk, L. Lei, E. Loutskina and P. E. Strahan (2020), "Stress tests and small business lending", *Journal of Financial Economics*, Volume 136, Issue 1, April 2020, pp. 260-279, Elsevier, Amsterdam, https://doi.org/10.1016/j.jfineco.2019.08.008.

Cox, K. C., J. Lortie and S. A. Stewart (2017), "When to pray to the angels for funding: The seasonality of angel investing in new ventures", *Journal of Business Venturing Insights*, Volume 7, June 2017, pp. 68-76, Elsevier, Amsterdam, https://doi.org/10.1016/j.jbvi.2017.03.003.

Cusolito, A. P., E. Dautovic and D. McKenzie (2020), "Can government intervention make firms more investment-ready? A randomized experiment in the Western Balkans", *Working Paper Series*, No.2391, April 2020, European Central Bank, Frankfurt-am-Main, https://www.ecb.europa.eu/pub/pdf/scpwps/ecb.wp2391~052bcf0d3d.en.pdf.

De Clercq, D., M. Meuleman and M. Wright (2012), "A cross-country investigation of micro-angel investment activity: The roles of new business opportunities and institutions", *International Business Review,* Volume 21, Issue 2, April 2012, pp. 117-129, Elsevier, Amsterdam, https://doi.org/10.1016/j.ibusrev.2011.02.001.

Demirguc-Kunt, A., M. S. Martinez Peria and T. Tressel (2020), "The global financial crisis and the capital structure of firms: Was the impact more severe among SMEs and non-listed firms?", *Journal of Corporate Finance,* Volume 60, February 2020, 101514, Elsevier, Amsterdam, https://doi.org/10.1016/j.jcorpfin.2019.101514.

ECB (2020), *Financial Stability Review, May 2020,* European Central Bank, Frankfurt-am-Main, https://www.ecb.europa.eu/pub/financial-stability/fsr/html/ecb.fsr202005~1b75555f66.en.html.

Edwards, A. and M. Todtenhaupt (2020), "Capital gains taxation and funding for start-ups", *Journal of Financial Economics*, Volume 138, Issue 2, November 2020, pp. 549-571, Elsevier, Amsterdam, https://doi.org/10.1016/j.jfineco.2020.06.009.

Ermisch, J. F. and W. G. Huff (1999), "Hypergrowth in an East Asian NIC: Public policy and capital accumulation in Singapore", *World Development,* Volume 27, Issue 1, January 1999, pp. 21-38, Elsevier, Amsterdam, https://doi.org/10.1016/S0305-750X(98)00101-6.

European Commission (2019), Capital Markets Union: Commission welcomes agreement on new rules to further improve access to capital markets for smaller businesses, Press release, 6 March 2019, European Commission, Brussels, https://ec.europa.eu/commission/presscorner/detail/en/IP_19_1568.

European Commission (n.d.), COSME - Europe's programme for small and medium-sized enterprises, European Commission, Brussels, https://ec.europa.eu/growth/smes/cosme_en.

Fatehi, S. and M. R. Wagner (2019), "Crowdfunding via Revenue-Sharing Contracts", *Manufacturing & Service Operations Management*, Volume 21, Issue 4, Fall 2019, pp. 713-948, https://doi.org/10.1287/msom.2018.0729.

Gao, G-X., Z-P. Fan, X. Fang and Y. F. Lim (2018), "Optimal Stackelberg strategies for financing a supply chain through online peer-to-peer lending", *European Journal of Operational Research*, Volume 267, Issue 2, June 2018, pp. 585-597, Elsevier, Amsterdam, https://doi.org/10.1016/j.ejor.2017.12.006.

Gerber, E. M. and J. Hui (2013), "Crowdfunding: Motivations and deterrents for participation", *ACM Transactions on Computer-Human Interaction*, Volume 20, Issue 6, December 2013, pp. 1-32, ACM

Digital Library, New York, NY, https://doi.org/10.1145/2530540.

Gleasure, R. and J. Feller (2016), “Does Heart or Head Rule Donor Behaviors in Charitable Crowdfunding Markets?”, *International Journal of Electronic Commerce*, Volume 20, Issue 4, June 2016, pp. 499-524, Taylor & Francis Online, London, https://doi.org/10.1080/10864415.2016.1171975.

Gregson, G., A. J. Bock and R. T. Harrison (2017), “A review and simulation of business angel investment returns”, *Venture Capital*, Volume 19, Issue 4, 2017, pp. 285-311, Taylor & Francis Online, London, https://doi.org/10.1080/13691066.2017.1332546.

Guiso, L. and T. Jappelli (2005), “Awareness and Stock Market Participation”, *Review of Finance,* Volume 9, Issue 4, pp. 537-567, Oxford Academic, Oxford, https://doi.org/10.1007/s10679-005-5000-8.

Han, T., K. G. Park and D. Stanko (2018), “Are pension funds a stabilising factor in financial markets? Evidence from four countries?”, *IOPS Working Papers on Effective Pensions Supervision*, No. 31, December 2018, International Organisation of Pension Supervisors, Paris, http://www.iopsweb.org/WP-31-Are-pension-funds-a-stablising-factor-in-financial-markets.pdf.

Harrison, R., W. Scheela, P. C. Lai and S. Vivekarajah (2017), “Beyond institutional voids and the middle-income trap: The emerging business angel market in Malaysia”, *Asia Pacific Journal of Management*, Volume 35, pp. 965-991, Springer, Berlin, https://doi.org/10.1007/s10490-017-9535-y.

Harrison, R. (2018), “Crossing the chasm: the role of co-investment funds in strengthening the regional business angel ecosystem”, *Small Enterprise Research*, Volume 25, Issue 1, 2018, pp. 3-22, Taylor & Francis Online, London, https://doi.org/10.1080/13215906.2018.1428910.

Harrison, R. T., A. J. Bock and G. Gregson (2020), “Stairway to heaven? Rethinking angel investment policy and practice”, *Journal of Business Venturing Insights,* Volume 14, November 2020, e00180, Elsevier, Amsterdam, https://doi.org/10.1016/j.jbvi.2020.e00180.

Harwood, A. and T. Konidaris (2015), “SME Exchanges in Emerging Market Economies: A Stocktaking of Development Practices”, *Policy Research Working Paper,* No. 7160, January 2015, World Bank, Washington, DC, https://openknowledge.worldbank.org/bitstream/handle/10986/21381/WPS7160.pdf?sequence=1%26isAllowed=y.

Hellmann, T., P. Schure and D. H. Vo (2021), “Angels and venture capitalists: Substitutes or complements?”, *Journal of Financial Economics,* Volume 141, Issue 2, August 2021, pp. 454-478, Elsevier, Amsterdam, https://doi.org/10.1016/j.jfineco.2021.04.001.

Hogan, T., E. Hutson and P. Drnevich (2017), “Drivers of External Equity Funding in Small High-Tech Ventures”, *Journal of Small Business Management,* Volume 55, Issue 2, pp. 236-253, Taylor & Francis Online, London, https://www.tandfonline.com/doi/full/10.1111/jsbm.12270.

Howell, S. T. and F. Mezzanotti (2019), “Financing Entrepreneurship through the Tax Code: Angel Investor Tax Credits”, *NBER Working Paper*, No. 26486, November 2019, National Bureau of Economic Research, Cambridge, MA, https://www.nber.org/papers/w26486.

Hussain, J., S. Salia and A. Karim (2018), “Is knowledge that powerful? Financial literacy and access to finance: An analysis of enterprises in the UK”, *Journal of Small Business and Enterprise Development*, Volume 25, Issue 6, August 2018, Emerald Publishing, https://www.emerald.com/insight/content/doi/10.1108/JSBED-01-2018-0021/full/html.

IEA (2019), *Southeast Asia Energy Outlook 2019*, October 2019, International Energy Agency, Paris, https://iea.blob.core.windows.net/assets/47552310-d697-498c-b112-d987f36abf34/Southeast_Asia_Energy_Outlook_2019.pdf.

IRAS (2022), *Angel Investors Tax Deduction Scheme (AITD)*, Inland Revenue Authority of Singapore, Singapore, https://www.iras.gov.sg/taxes/individual-income-tax/basics-of-individual-income-

tax/special-tax-schemes/angel-investors-tax-deduction-scheme-(aitd).

Kaplan, S. N. and P. Stromberg (2003), "Financial Contracting Theory Meets the Real World: An Empirical Analysis of Venture Capital Contracts", *The Review of Economic Studies*, Volume 70, Issue 2, April 2003, pp. 281-315, Oxford Academic, Oxford, https://doi.org/10.1111/1467-937X.00245.

Keuschnigg, C. and S. B. Nielsen (2003), "Tax policy, venture capital, and entrepreneurship", *Journal of Public Economics*, Volume 87, Issue 1, January 2003, pp. 175-203, Elsevier, Amsterdam, https://doi.org/10.1016/S0047-2727(01)00170-0.

Klingler-Vidra, R. (2014), "Building a Venture Capital Market in Vietnam: Diffusion of a Neoliberal Market Strategy to a Socialist State", *Asian Studies Review*, Volume 38, Issue 4, 2014, Taylor & Francis Online, London, https://doi.org/10.1080/10357823.2014.958054.

Lefebvre, V., G. Certhoux and M. Radu-Lefebvre (2022), "Sustaining trust to cross the Valley of Death: A retrospective study of business angels' investment and reinvestment decisions", *Technovation*, Volume 109, January 2022, 102159, Elsevier, Amsterdam, https://doi.org/10.1016/j.technovation.2020.102159.

Liu, Z., J. Shang, S. Wu and P. Chen (2020), "Social collateral, soft information and online peer-to-peer lending: A theoretical model", *European Journal of Operational Research*, Volume 281, Issue 2, March 2020, pp. 428-438, Elsevier, Amsterdam, https://doi.org/10.1016/j.ejor.2019.08.038.

Manigart, S. and H. Sapienza (2017), "Venture Capital and Growth", *The Blackwell Handbook of Entrepreneurship*, Chapter 12, September 2017, Wiley Online Library, Hoboken, NJ, https://doi.org/10.1002/9781405164214.ch12.

MASTIC (2022), *Angel Tax Incentives,* January 2022, Malaysian Science and Technology Information Centre, Putrajaya, https://mastic.mosti.gov.my/sti-incentive/angel-tax-incentives#:~:text=The%20Angel%20Tax%20Incentive%20is,the%20growth%20of%20start%2Dups.

Myers, S. C. (1984), "The Capital Structure Puzzle", *The Journal of Finance,* Volume 39, Issue 3, July 1984, pp. 574-592, Wiley Online Library, Hoboken, NJ, https://doi.org/10.1111/j.1540-6261.1984.tb03646.x.

Nassr, I. K. and G. Wehinger (2016), "Opportunities and limitations of public equity markets for SMEs", *OECD Journal: Financial Market Trends*, Volume 2015, Issue 1, OECD Publishing, Paris, https://doi.org/10.1787/19952872.

OECD (2022), *Economic Outlook for Southeast Asia, China and India 2022: Financing Sustainable Recovery from COVID-19*, March 2022, OECD Publishing, Paris, https://doi.org/10.1787/e712f278-en.

Ojo, S. and E. Elgadi (2020), "Crowdfunding of SMEs", *Entrepreneurship Marketing*, Second Edition, Routledge, Taylor & Francis Online, London, https://www.taylorfrancis.com/chapters/edit/10.4324/9780429505461-16/crowdfunding-smes-sanya-ojo-entissar-elgadi.

Pastor, L. and R. F. Stambaugh (2003), "Liquidity Risk and Expected Stock Returns", *Journal of Political Economy,* Volume 111, Issue 3, The University of Chicago Press, Chicago, IL, https://www.journals.uchicago.edu/doi/abs/10.1086/374184?journalCode=jpe.

Paul, S., G. Whittam and J. Wyper (2007), "The pecking order hypothesis: does it apply to start-up firms?", *Journal of Small Business and Enterprise Development*, Volume 14, Issue 1, February 2007, https://www.emerald.com/insight/content/doi/10.1108/14626000710727854/full/html.

Pierrakis, Y. and G. Saridakis (2017), "Do publicly backed venture capital investments promote innovation? Differences between privately and publicly backed funds in the UK venture capital market", *Journal of Business Venturing Insights*, Volume 7, June 2017, pp. 55-64, Elsevier, Amsterdam, https://doi.org/10.1016/j.jbvi.2017.02.002.

Pradhan, R. P., M. B. Arvin, M. Nair, S. E. Bennett, S. Bahmani and J. H. Hall (2018), "Endogenous dynamics between innovation, financial markets, venture capital and economic growth: Evidence from Europe", *Journal of Multinational Financial Management*, Volume 45, June 2018, pp. 15-34, Elsevier, Amsterdam, https://doi.org/10.1016/j.mulfin.2018.01.002.

Rampini, A. A. and S. Viswanathan (2013), "Collateral and capital structure", *Journal of Financial Economics*, Volume 109, Issue 2, August 2013, pp. 466-492, Elsevier, Amsterdam, https://doi.org/10.1016/j.jfineco.2013.03.002.

Rau, R. (2017), "Law, trust, and the development of crowdfunding", June 2017, https://www.philadelphiafed.org/-/media/frbp/assets/events/2017/consumer-finance/fintech-2017/day-2/law-trust-development-of-crowdfunding.pdf.

Roma, P., M. Vasi and C. Kolympiris (2021), "On the signaling effect of reward-based crowdfunding: (When) do later stage venture capitalists rely more on the crowd than their peers?", *Research Policy*, Volume 50, Issue 6, July 2021, 104267, Elsevier, Amsterdam, https://doi.org/10.1016/j.respol.2021.104267.

Rossi, M., J. Chouaibi, D. Graziano and G. Festa (2022), "Corporate venture capitalists as entrepreneurial knowledge accelerators in global innovation ecosystems", *Journal of Business Research*, Volume 142, March 2022, pp. 512-523, Elsevier, Amsterdam, https://doi.org/10.1016/j.jbusres.2022.01.003.

Santoso, W., I. Trinugroho and T. Risfandy (2020), "What Determine Loan Rate and Default Status in Financial Technology Online Direct Lending? Evidence from Indonesia", *Emerging Markets Finance and Trade*, Volume 56, Issue 2, 2020, Taylor & Francis Online, London, https://doi.org/10.1080/1540496X.2019.1605595.

Schmidt, J. (2020), *Crowdfunding Statistics Worldwide: Market Development, Country Volumes, and Industry Trends*, May 2020, P2PMarketData, https://p2pmarketdata.com/blog/crowdfunding-statistics-worldwide/ (Accessed on 30 August 2022).

Securities Commission Malaysia (2014), *SC invites comments on proposed regulatory framework for equity crowdfunding*, Press release, 21 August 2014, Kuala Lumpur, https://www.sc.com.my/resources/media/media-release/sc-invites-comments-on-proposed-regulatory-framework-for-equity-crowdfunding.

Securities Commission Malaysia (2016), *SC introduces regulatory framework to facilitate peer-to-peer financing,* Press release, 13 April 2016, Kuala Lumpur, https://www.sc.com.my/resources/media/media-release/sc-introduces-regulatory-framework-to-facilitate-peer-to-peer-financing.

Securities and Exchange Commission of Thailand (2019), *SEC issues debt crowdfunding regulations*, News release, 22 May 2019, Bangkok, https://www.sec.or.th/EN/Pages/News_Detail.aspx?SECID=7457.

Stander, P. (2017), "Public policies to promote venture capital: how to get national and EU measures in sync", *Policy Paper,* No. 203, August 2017, Jacques Delors Institut, Berlin, https://institutdelors.eu/wp-content/uploads/2018/01/publicpoliciestopromoteventurecapital-stnder-august17.pdf.

Stock Exchange of Thailand (n.d.), *About MAI: Mission & Vision*, Bangkok, https://classic.set.or.th/mai/en/about/vision.html.

Susan, M. (2020), "Financial Literacy and Growth of Micro, Small, and Medium Enterprises in West Java, Indonesia", *Advanced Issues in the Economics of Emerging Markets"*, Volume 27, June 2020, Emerald Publishing, https://www.emerald.com/insight/content/doi/10.1108/S1571-038620200000027004/full/html.

Tan, S. L., Y. W. Tok and C. Thitipat (2021), "Financing Singapore's SMEs and the crowdfunding industry in Singapore", *The Singapore economy: Dynamism and inclusion*, August 2021, Research Collection School of Economics, Singapore, https://ink.library.smu.edu.sg/soe_research/2511.

Triantis, G. G. (2000), "Financial Slack Policy and the Laws of Secured Transactions", *The Journal of Legal Studies,* Volume 29, No. 1, January 2000, pp. 35-69, Jstor, https://doi.org/10.1086/468063.

Van Rijnsoever, F. J. (2020), "Meeting, mating, and intermediating: How incubators can overcome weak network problems in entrepreneurial ecosystems", *Research Policy*, Volume 49, Issue 1, February 2020, 103884, https://doi.org/10.1016/j.respol.2019.103884.

Van Rooij, M., A. Lusardi and R. Alessie (2011), "Financial literacy and stock market participation", *Journal of Financial Economics*, Volume 101, Issue 2, August 2011, pp. 449-472, Elsevier, Amsterdam, https://doi.org/10.1016/j.jfineco.2011.03.006.

Venancio, A. and J. Jorge (2021), "The role of accelerator programmes on the capital structure of start-ups", *Small Business Economics*, November 2021, https://doi.org/10.1007/s11187-021-00572-8.

Wagner, M. (2018), "Revenue-share crowdfunding looks promising for small businesses and investors", *Research Briefs,* July 2018, University of Washington Foster School of Business, Seattle, WA, https://foster.uw.edu/research-brief/revenue-share-crowdfunding-looks-promising-small-businesses-investors/.

Winton, A. and V. Yerramilli (2008), "Entrepreneurial finance: Banks versus venture capital", *Journal of Financial Economics,* Volume 88, Issue 1, April 2008, pp. 51-79, Elsevier, Amsterdam, https://doi.org/10.1016/j.jfineco.2007.05.004.

World Bank and CCAF (2019), "Regulating Alternative Finance: Results from a Global Regulator Survey", World Bank and the Cambridge Centre for Alternative Finance at the University of Cambridge Judge Business School, https://openknowledge.worldbank.org/bitstream/handle/10986/32592/142764.pdf?sequence=1.

World Bank (2022), "Malaysia: Assessment of the Start-Up Financing Ecosystem", March 2022, World Bank, Washington, DC, https://openknowledge.worldbank.org/bitstream/handle/10986/37136/P17485303a40a50a308bd60c618d61ee0c4.pdf?sequence=1.

Yasar, B. (2021), "The new investment landscape: Equity crowdfunding", *Central Bank Review,* Volume 21, Issue 1, March 2021, pp. 1-16, Elsevier, Amsterdam, https://doi.org/10.1016/j.cbrev.2021.01.001.

Zhao, L. and R. Shneor (2020), "Donation Crowdfunding: Principles and Donor Behavior", *Advances in Crowdfunding,* August 2020, pp. 145-160, Palgrave Macmillan, London, https://doi.org/10.1007/978-3-030-46309-0_7.

Zhou, L. J., X. Zhang and Y. Sha (2021), "The role of angel investment for technology-based SMEs: Evidence from China", *Pacific-Basin Finance Journal*, Volume 67, June 2021, 101540, Elsevier, Amsterdam, https://doi.org/10.1016/j.pacfin.2021.101540.

Ziegler, T. et al. (2018), *The 3rd Asia Pacific Region Alternative Finance Industry Report,* November 2018, Cambridge Centre for Alternative Finance, Cambridge, https://www.jbs.cam.ac.uk/wp-content/uploads/2020/08/2019-04-3rd-asia-pacific-alternative-finance-industry-report.pdf.

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[i] The concept of 'alternative finance' refers here to: peer-to-peer lending, balance sheet business lending, equity-based crowdfunding, invoice trading, revenue-sharing crowdfunding and real estate crowdfunding.

[ii] For the purpose of these calculations, Emerging Asia includes the following countries: Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Kazakhstan, Korea, Lao PDR, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, the Philippines, Singapore, Sri Lanka, Tajikistan, Thailand and Viet Nam.

[iii] See the description from [i].