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IMPACT OF THE COVID-19
PANDEMIC ON THE AIR
TRANSPORT INDUSTRY,
WITH PARTICULAR FOCUS
ON THAILAND

FINANCIAL ACCESS
OF THAILAND'S SMALL AND
MEDIUM-SIZED ENTERPRISES:
IMPROVING THEIR CREDIT
RATING AND ASYMMETRIC
INFORMATION BY USING
NON-FINANCIAL DATA



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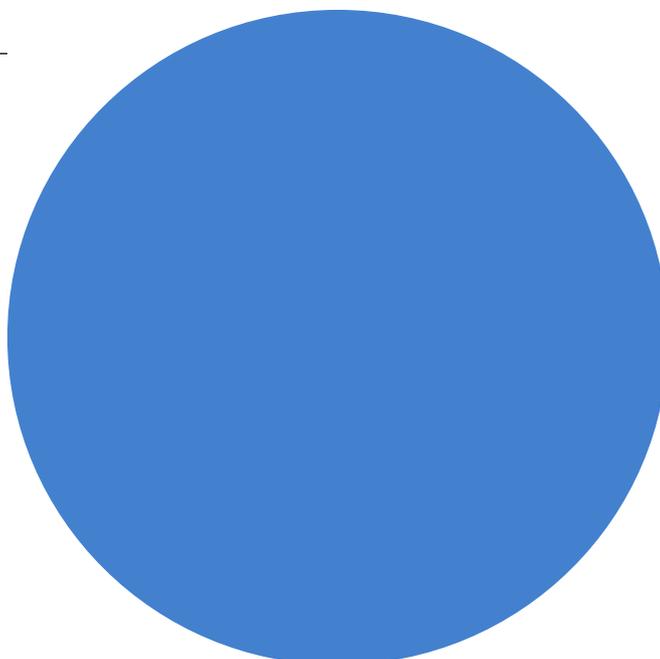
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IMPACT OF THE COVID-19 PANDEMIC ON THE AIR TRANSPORT INDUSTRY, WITH PARTICULAR FOCUS ON THAILAND

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1. INTRODUCTION

The outbreak of an infectious respiratory disease caused by a novel coronavirus initially occurred in Wuhan, China, toward the end of 2019. On February 11, 2020, the World Health Organization (WHO) named it coronavirus disease (COVID-19) and identified the causative agent as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). On January 30, 2020, WHO announced that the disease was a public health emergency of international concern. On March 11, 2020, WHO declared that the outbreak of COVID-19 had become a pandemic.¹

The spread of this disease has proved to be pandemic in the most genuine sense. To mitigate the health crisis, many countries have imposed various kinds and degrees of travel bans and social restrictions. The restriction measures include closure of national borders, closure of some airports and terminals or control of their regular operations, immigration controls in relation to permitting only the entry of citizens of certain countries, and suspension of certain services commonly used by crews and passengers, such as aircraft and hotels.

These virus containment and mitigation measures have apparently had devastating effects on the aviation industry because domestic and international air carriage has all but ground to a halt, at least temporarily, around the world. Among the majority of countries, Thailand has temporarily

closed its borders, and provisionally permitted the entry of only Thai nationals and necessary cargoes. These measures have consequently resulted in a number of flight cancellations. According to the declaration of a state of emergency in Thailand on March 25, 2020, non-Thais were restricted from entering the country effective from March 26, 2020.² As a consequence, the revenue of most airlines serving the Thai market has dropped sharply, and many airlines have become bankrupt during this year. Even if some airlines are able to continue their operations, it is not certain how long it will take for passenger demand to get back to the 2019 level due to the fear of infection on board and the global economic effects of this pandemic.

The decline in passenger traffic has had significant impacts on the supply side of air transport, leading to a decrease in load factors and yields for the airline industry, as well as aeronautical and non-aeronautical revenues for airports. Thus, circumstances have caused a severe financial loss for airlines, airports, and other related industries, in both the upstream and downstream sectors of air transportation. Because these sectors support many forms of career employment, the economic supply chain, flows of trade, tourism, and investment in Thailand, the COVID-19 pandemic has led to a downturn in the Thai economy. Hence, it is important to assess the medium- and long-term consequences of the COVID-19 pandemic in respect of the aviation industry in Thailand.

Meanwhile, due to the sharp contraction in air travel demand, air carriers across the globe have grounded a large proportion of their fleets in order to reduce their operating costs; yet, they hope that incumbent cash flow and credit lines might help them carry on their business during this financial slump, or that their governments will implement some measures supporting this industry. Owing to the lack of cash flow, however, most airlines have faced difficulties in satisfying their aircraft lease payment obligations. It is also arduous for them to pay even

¹ World Health Organization (WHO), 'WHO Director-General's Opening Remarks at the Media Briefing on COVID-19' (WHO, March 11, 2020). Available at <https://www.who.int/dg/speeches/detail/who-director-general-sopening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>; accessed December 3, 2020.

² Regulation I, issued on March 25, 2020 under section 9 of the Emergency Decree on Public Administration in Emergency Situations B.E. 2548 (2005), is the fundamental base on which business operations are restricted in Thailand. The regulation entered into effect on March 26, 2020.

for maintenance, landing and navigation fees, and staff salaries. As a result, some have negotiated with their lessors and financiers for loan payment holidays or waivers in order to maintain their cash flow. Air carriers have responded to the COVID-19 pandemic by employing various legal mechanisms. As the air carriers are encountering a myriad of legal challenges, however, it is necessary for them to prioritize and implement appropriate legal strategies as a part of their business plan so that they can maintain their cash flow and mitigate the adverse financial impacts of the pandemic, thus ensuring the survival of the industry.

This paper is aimed at examining the impacts of COVID-19 on Thailand's air transport industry, exploring the options for aircraft lessors and lessees under current legal arrangements, and providing policy recommendations for the airlines so that they can survive this unprecedented crisis. In doing so, this paper proceeds in four steps, which correspond with the paper's parts. The following part, Part II, examines the demand and supply of the aviation industry in Thailand, the impact of demand and supply during the pandemic, and contains an analysis of projected Thai air transport demand in the future regarding uncertainties that have arisen during the COVID-19 crisis. Part III discusses the incumbent legal alternatives under Thai laws for airlines when they encounter financial disruption due to the COVID-19 pandemic. Finally, the conclusion and policy recommendations are contained in Part IV.

2. DEMAND FORECAST

The air transport sector contributes significantly to the Thai economy. In 2018, it generated 4.3 million jobs in this country,³ \$63.7 billion in gross value-added contribution to GDP, and accounted for 15.5 percent of Thai GDP.⁴ Thailand's aviation industry further generated about 3.6 million jobs in the tourism sector

and 435,000 jobs in various supply chains.⁵ These outcomes have revealed that air transport is the sector where flows of goods, investment, and people are linked together, leading to an expansion in foreign tourist expenditure, foreign direct investment, and Thai exports.

Effects of COVID-19 pandemic on the air transport sector in Thailand

The COVID-19 pandemic has had a significant impact on the aviation industry in Thailand. The volume of domestic passengers declined after the declaration of the Emergency Decree on Public Administration in Emergency Situation of March 26, 2020. By the end of that month, passenger demand had fallen sharply by 90.2 percent.⁶ In April 2020, the number of both international and domestic passengers had drastically decreased by about 99 percent in both the domestic and international flight markets due to the imposition of a temporary ban on all international flights, as

³ *Economics IATA*, "The Importance of Air Transport to Thailand," *The International Air Transport Association (IATA)*, 2018, <https://www.iata.org/en/iata-repository/publications/economic-reports/thailand--value-of-aviation/>.

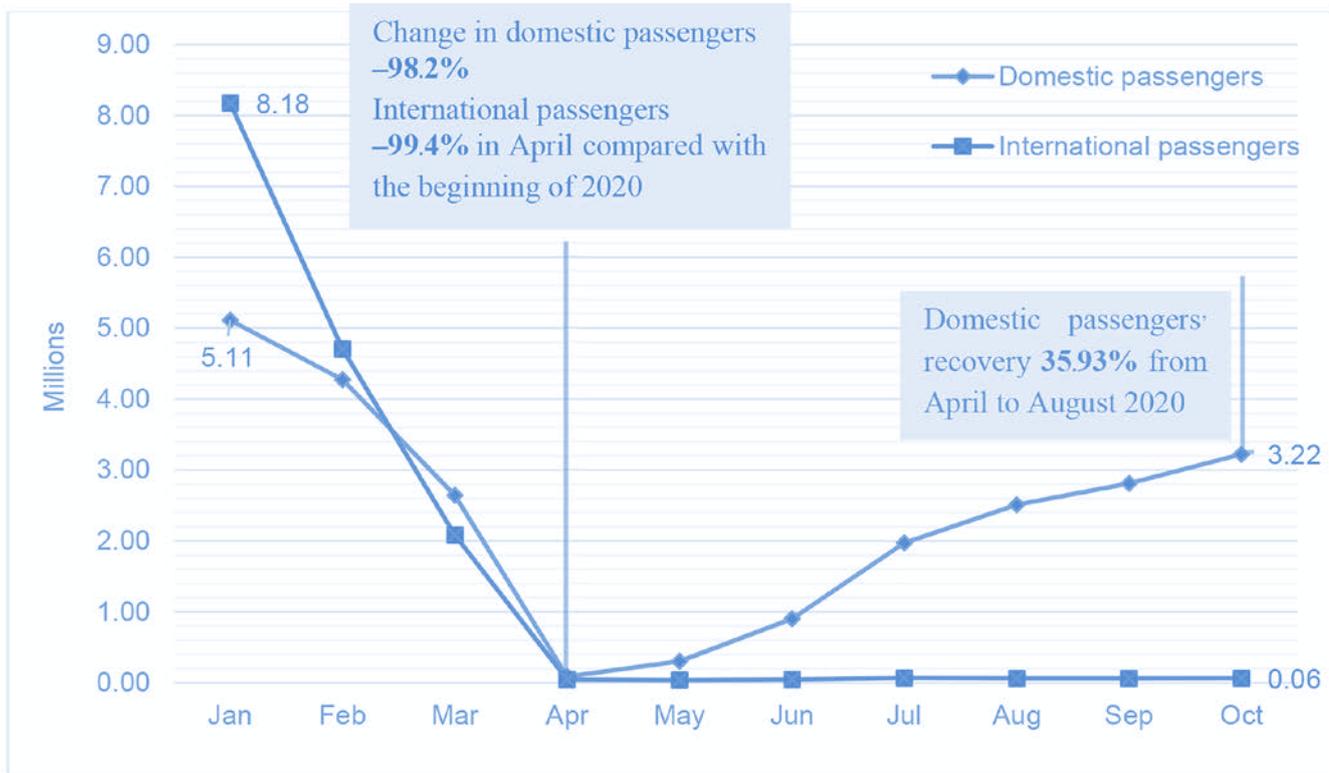
⁴ *Antalis Cocoon*, "Aviation Benefits beyond Borders," *Oxford Economics (Air Transport Action Group, 2018)*, https://www.aviationbenefits.org/media/166344/abbb18_full-report_web.pdf.

⁵ The total of 4.3 million jobs created by the aviation sector can be broken down as follows:

- Employment directly related to air transportation (airlines, airports, and other operators, such as airport on-site enterprises, aircraft manufacturers, and air navigation service providers), which generated more than 172,000 jobs;
- Employment in the field of economic supply chains from goods and services, which further created about 435,000 jobs;
- Employment resulting from the spending of the employees in the sectors mentioned above accounted for about 99,000 jobs;
- Employment related to tourism, which generated more than 3.6 million jobs in Thailand.

⁶ *AOT*, "Air Transport Statistics," *Airports of Thailand*, August 19, 2020, <https://www.airportthai.co.th/en/airports-of-thailand-plc/about-aot/air-transport-statistic/>.

Figure 1: Number of international and domestic air passengers in Thailand, by month, 2020



Source: Air Transport Information Division, AOT (Oct 2020).

shown in Figure 1, causing a sharp reduction in financial and economic performance in other related upstream and downstream industries, such as the tourism and hospitality industries. After all, China and the United States, the countries or regions with a greater percentage of domestic passengers than international passenger traffic, experienced a greater and swifter recovery of their air transport demand compared with countries having a smaller percentage of domestic passengers.

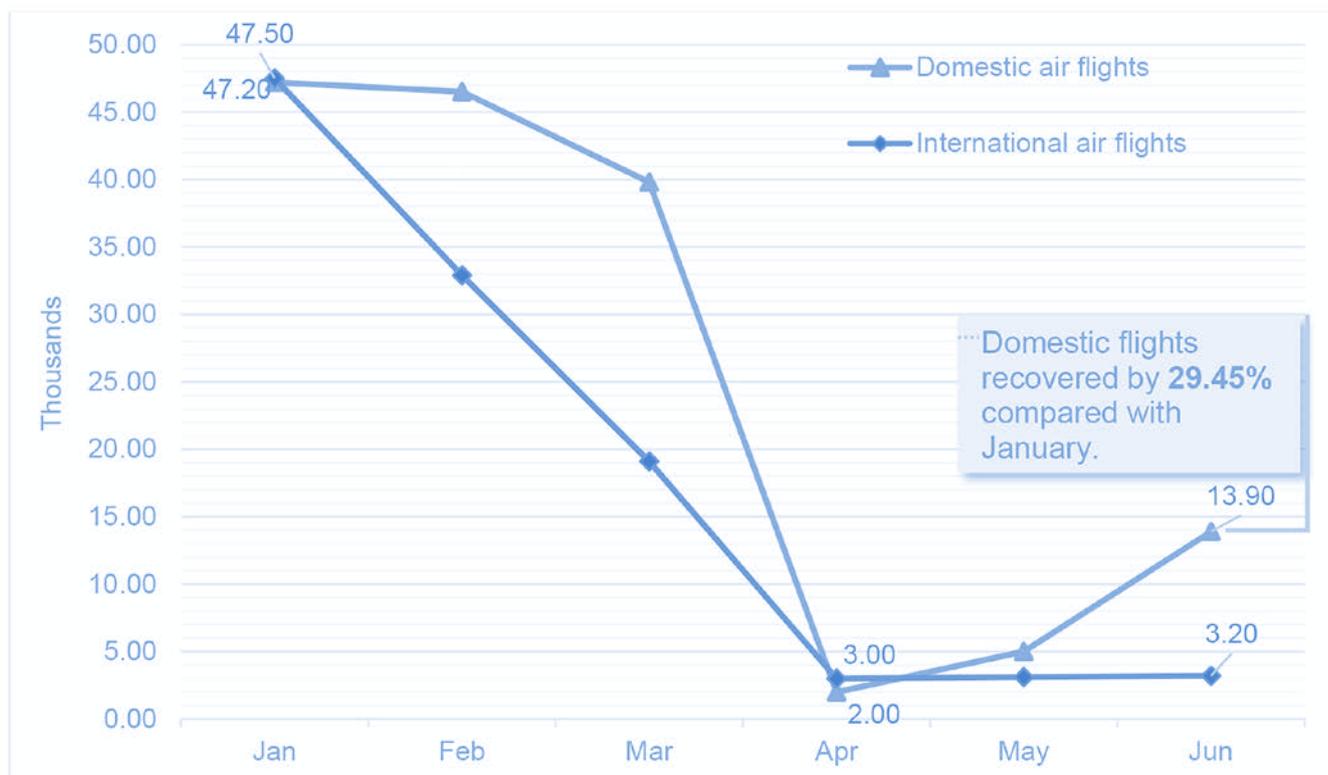
The market share of the Thai aviation industry is similar to that of China and the United States. The share of domestic passenger traffic in Thailand accounts for 56 percent of the overall number of passengers. However, after the deregulation of cross-provincial travel measures at the end of October

2020, the Thai domestic aviation market started to recover by 35.93 percent when compared with its lowest point in April 2020.

Apart from the demand for air passenger traffic in Thailand, the aviation industry's supply is also immensely affected by the prohibition on aircraft flying into Thailand, as international flights can be made only under particular circumstances to pick up Thai nationals.⁷ Non-Thais are allowed to enter the country only under certain conditions, such as persons who hold a valid certificate of residence or a

⁷ The government Public Relations Department, "Conditions for International Flight Permit to Thailand," June 2020, https://thailand.prd.go.th/mobile_detail.php?cid=4.

Figure 2: Number of Thai international and domestic air flights, 2020



Source: The Civil Aviation Authority of Thailand (Aug 2020).

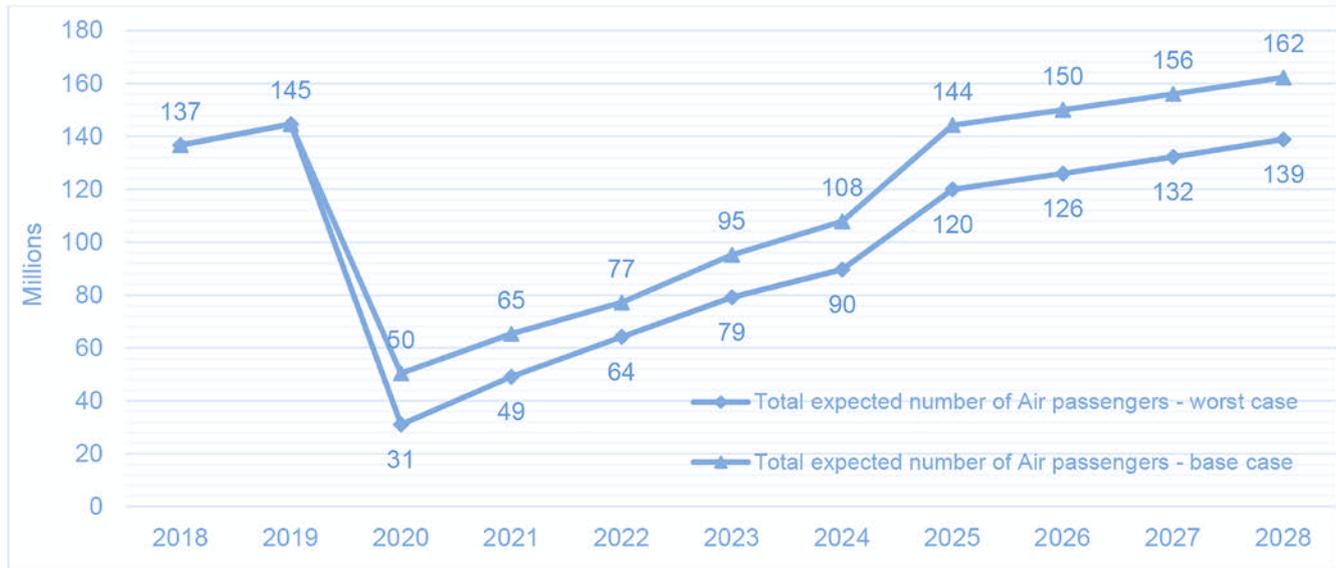
valid work permit. Both international and domestic flight volumes drastically dropped by more than 90 percent when comparing year-over-year data in April.⁸ While domestic air flights tended to recover faster due to tourism promotion and airline ticket discounts that were encouraged by the government, the recovery of supply has been more sluggish than the demand for air transport, as it increased by only 29.45 percent at the end of June 2020 due to flight restriction policies, as shown in Figure 2.

With regard to cargo, air freight has always

been considered a sector with high potential for investment in this country. When the COVID-19 pandemic was triggered, the demand for delivery of Thai people remained the same as previously. Afterward, there was an upward trend in e-commerce from online shopping despite the COVID-19 outbreak. However, as air cargo is usually delivered via passenger flights, Thai air freight initially faced a shortage of supply and, as a consequence, the volume of cargo fell for a short period. Nonetheless, many airlines overcame the deficiency in supply by rearranging their business strategies to operate cargo-only flights in order to earn more revenue during the passenger flight restriction period.

⁸ The Civil Aviation Authority of Thailand (CAAT), "Air Transport Statistics Report," caat.or.th, August 27, 2020, <https://www.caat.or.th/th/archives/52894>.

Figure 3: Estimated number of total air passengers, 2018-2028



Source: Civil Aviation Authority of Thailand, TDRI Calculation (2020).

Assessment of medium-term challenges facing the airline industry during the COVID-19 pandemic

The aviation industry is confronting two challenges: the cost of COVID-19 infection control measures, and the recovery of business-consumer confidence for air travel. First, the measures for prevention and control of COVID-19 infection have vastly increased operational costs for airlines and airports in both the short- and medium-term. Meanwhile, revenue has dropped by more than 50 percent compared with the pre-COVID-19 period due to the decrease in the airline passenger load factor as a result of the social distancing policy.

Second, consumer confidence is considered to be a key to revival of the aviation sector.⁹ However,

although some jurisdictions have removed travel restrictions and lockdowns, restoration of consumer confidence is still limited by the constriction of economic activity and the changes in travel behavior. In the long term, this situation may lead to structural changes in air transport demand.

Moreover, in the short term, many countries, including Thailand, may still implement air flight restrictions to prevent further outbreaks of the disease, particularly the prevention of a second wave of COVID-19 infection. This possibility might lead to the cessation of businesses in the related fields of aviation, or even bankruptcy.

Passenger-demand prediction of the air transport sector in Thailand

The future estimation of total air passengers for the period 2018–2028 in Thailand, base-case and worst-case scenarios, is shown below in figure 3. The variations in the base-case and worst-case scenarios are predicated on two uncertainties: the implementation of COVID-19 prevention measures, and consumer confidence toward the aviation industry.

⁹ IATA, “Restoring Confidence Will Be Key for Recovery in Air Travel Demand,” *IATA Economics’ Chart of the Week 20 (OECD)*, August 14, 2020, <https://www.iata.org/en/iata-repository/publications/economic-reports/restoring-confidence-will-be-key-for-recovery-in-air-travel-demand/>.

The base-case scenario was calculated on the assumption that there would be no implementation of preventive health measures toward airlines and the shape of business-consumer confidence would be in a positive state. Vaccination against COVID-19 would be approved by June 2021. Business and consumer confidence for aviation would start to fully recover due to the opening of borders for foreign tourists at the beginning of 2021 when air flight restrictions have been absolutely eliminated. As a result, by 2025 air passenger numbers are expected to bounce back to the same level as in 2019 (about 144 million passengers on both domestic and international flights), and the growth of the aviation industry is expected to increase continuously year-by-year at a stable rate thereafter.

The worst-case scenario was calculated with regard to a recurrence of the COVID-19 outbreak and without implementation of an effective vaccination program. This means that governments would need to implement COVID-19 preventive measures, such as travel bans, once again. In such a case, the total number of passengers is expected to reach by 2028 the identical level as that of 2018. Afterward, the number of passengers would gradually increase by a rate of about 4 percent per year.

3. LEGAL ALTERNATIVES FOR AIRLINES DURING THE COVID-19 PANDEMIC

About half of commercial airplanes are currently leased by air carriers, with most of the others subject to different types of financing. Only a minority of airlines have ever had sufficient monetary assets to obtain aircraft immediately from aircraft producers, and even in cases where they have, some part of their fleet would nonetheless be leased or financed. Simultaneously, an immediate outcome of an air carrier's inability to operate due to the substantial decrease in demand is that most air carriers have experienced a sharp drop in their income and disruption

to their cash flow. This situation could hardly be avoided, not even for some large, long-standing national airlines. As a result of this situation, various air carriers cannot pay rentals and are therefore in default on the commitments underlying their most significant assets – their airplanes. Because airlines are currently struggling to pay their leases, the contractual relationship between airlines as aircraft lessors and lessees from one viewpoint and aircraft lessors and financiers from the other is to put them to the test during this financial crisis. This part of the paper identifies some viable alternatives for airlines under Thai law when faced with the crisis arising from the COVID-19 pandemic.

a. Debt restructuring arrangements

For this alternative, an aircraft lessor and lessee may agree to restructure the amount of rental and maintenance reserve payments, for instance, allowing the debtor to hold off the rental payment until an agreed-upon future time when business is expected to improve, decreasing the rental payments and applying the earnest payment to compensate for the difference, or agreeing on both measures at the same time. When reaching such a new arrangement, a contract of compromise is enforceable written evidence signed by the liable party or agent.¹⁰

Since 2016, the Civil Aviation Authority of Thailand (CAAT) has inspected the annual audited financial records of all Thai airlines to ensure that the airlines concentrate on their financial management and have good and stable financial health.¹¹ According to the principle of party autonomy, CAAT does not forbid debt restructuring agreements as long as the newly agreed terms produce a valid contract and do

¹⁰ *The Civil and Commercial Code of Thailand, section 851.*

¹¹ *Alan Polivnick, Kulkanya Vorawanichar, and Nicharee Musikapraphan, "Aircraft Repossession in Thailand: Change is in the Air," Watson Farley & Williams (2017): 1.*

not violate the law.¹²

If the parties cannot reach an agreement to restructure the payment or to refinance the lease agreement, repossession and re-exportation of an aircraft from Thailand is another possible option for both private and state-owned air carriers.¹³ Nonetheless, many lessors and financial institutions have explored the possibility of working with the airlines and agreeing on rent holidays or payment restructuring. This is, to a great extent, an affirmation that, in the long run, it is better to secure the survival of the airlines rather than have to undergo the repossession process, which generally gives rise to losses, including rent arrears and the costs involved in such a transition. Further, for lessors, it is pointless to take back an aircraft during the COVID-19 pandemic when demand has substantially dried up, not to mention that, at the same rental rate, any airline would have similar trouble in paying rent.

b. Force majeure excuse

Because of the unforeseeable and unavoidable situation following the COVID-19 pandemic, a lessee airline may be able to invoke force majeure defense in order to suspend their obligations under the lease contract. For some airlines, the situation of a pandemic may have been contemplated at the time of the lease contract negotiation under the force majeure clause, with the effect that contractual obligations are temporarily discharged on mutually agreed terms.

Even in a case where a force majeure clause is not clearly stipulated in the contract, Thai law evidently recognizes the force majeure principle under the Civil and Commercial Code of Thailand (CCC).¹⁴ However, the term force majeure is broadly construed as an event that cannot be foreseen, prevented, and avoided for the invoking party; CCC does not provide an exhaustive list of force majeure events.¹⁵ According to this definition, the debtor must satisfy the contractual obligations, even during a pandemic or economic depression, because a pandemic, financial

disruption, or economic downturn does not make it absolutely impossible to perform one's obligations.

In the meantime, the Supreme Court of Thailand, in the same manner as many other countries, strictly interprets conditions of foreseeability and unavoidability; for example, a general economic slump is not considered a force majeure event in the context of past disputes.¹⁶ In particular, in Supreme Court of Thailand Decisions No. 5564/2551 and 842-844/2553, the so-called Tom Yum Kung Crisis (Asian Financial Crisis) of 1997 was rejected as constituting a force majeure event, based upon the grounds that the economic downturn could have been foreseen and that the invoking parties could have exercised more caution to avoid non-performance.¹⁷ It is uncertain whether an infectious disease outbreak can constitute a force majeure event as there has never been any court precedent. Thus, the party seeking to invoke force majeure must prove that it could not foresee the pandemic at the time it concluded the contract and that the pandemic itself or any measures imposed by the government for combatting the disease directly prevents the party from performing its obligations under the contract. For instance, the lessee may invoke force majeure in case the lessee is unable to perform its obligations because of government

¹² Nuanchun Somboonvinij, "COVID-19 and Aircraft Leases: Lessor Options under Thai Law," *COVID-19 and Aircraft Leases: Lessor Options under Thai law*. Tilleke & Gibbins, accessed November 28, 2020, <https://www.tilleke.com/resources/covid-19-and-aircraft-leases-lessor-options-under-thai-law>.

¹³ *Once a lessor cancels a lease contract, the lessee's "possessory right" is automatically terminated according to the Air Navigation Act B.E. 2497 (1954), section 32(1).*

¹⁴ *The Civil and Commercial Code of Thailand recognizes the force majeure principle under Section 8, 205 and 219.*

¹⁵ *The Civil and Commercial Code of Thailand, section 8.*

¹⁶ *Supreme Court of Thailand Decisions No. 5564/2551 and 842-844/2553.*

¹⁷ *Ibid.*

restrictions on all the flights of the lessee. In contrast, if the default is due to a cash flow shortage caused by the outbreak of the disease, force majeure cannot be claimed.

c. Mergers and amalgamation

Currently, CCC contains provisions governing only the amalgamation of companies rather than mergers.¹⁸ However, the government of Thailand recently approved an amendment to CCC to ease establishing and doing business in the Kingdom. That amendment is expected to come into force at the beginning of 2021.¹⁹

Alteration of the CCC simplifies the process of founding a company; it crucially provides new merger provisions and recognizes the merger concept in addition to the option of an amalgamation.²⁰ This regulatory development would allow interested companies the flexibility to undertake a merger or an amalgamation. Moreover, it would open the gate to more innovative restructuring of businesses and merger and acquisition transactions in the country over the next few years. The amendment could, in turn, mitigate some of the immediate adverse financial impacts arising from the COVID-19 pandemic.

To survive the demand shortage arising from the COVID-19 situation, the merger and amalgamation of airlines might be another viable option for air carriers, as the merger of businesses could lead to the airlines' network expansion and the enhancement of their competitiveness in the market. The case of Korean Air taking over Asiana Airlines due to the COVID-19 pandemic could be used to illustrate this point. In this case, Korean Air agreed to pay KRW1.8 trillion (almost 48.5 billion baht) for Asiana Airlines, with support from the state-owned Korea Development Bank in the amount of KRW800 billion (more than 21.7 billion baht).²¹ In addition, Korean Air plans to raise more than KRW2.5 trillion (almost 67.9 billion baht) from its shareholders.²² Based on 2019 data, the merger of Korean Air and Asiana would

produce a business that accounts for 57.5 percent of all departure seats in South Korea.²³ The domestic market share would account for 69.5 percent, while the international market share in South Korea would account for approximately 49.5 percent.²⁴

d. Business rehabilitation

The most common issue resolving an insolvent entity's financial problem is that sometimes an entity in such a condition can continue operating and can generate cash flow at a certain level but cannot generate sufficient amounts to pay its debts according to the original conditions. It is unlikely that an entity in this state would find new sources of credit or financing. Even if such support could be found, it may not be able to solve the airline's financial problems completely. Therefore, it is necessary for such an entity to negotiate a reconciliation or debt restructuring with creditors. In negotiations for debt restructuring with creditors, however, the debtor must negotiate an agreement with all creditors. Nonetheless, some debtors may find it difficult to request all creditors to negotiate and conclude a reconciliation agreement as the debt restructuring proposal must be agreed

¹⁸ *The concept of a merger allows more than two companies to consolidate into a single business entity while the rest are liquidated.*

¹⁹ *The resolution of the Council of State on the Draft Amendment to the Civil and Commercial Code No. 559/2017.*

²⁰ *Ibid.*

²¹ *Heekyong Yang and Joyce Lee, "Korean Air to Spend 1.8 Trillion Won to Become Asiana Airlines' Top Shareholder," The Edge Markets, November 16, 2020, <https://www.theedgemarkets.com/article/hanjin-kal-said-buy-asiana-airlines-after-getting-us724m-injection-korea-development-bank>.*

²² *Ibid.*

²³ *David Casey, "Korean Air and Asiana Merger to Offer 'Wider Range of Routes'," Routesonline, November 16, 2020, <https://www.routesonline.com/news/29/breaking-news/294733/korean-air-and-asiana-merger-to-offer-wider-range-of-routes/>.*

²⁴ *Ibid.*

upon by all creditors. Further, creditors who do not wish to negotiate a compromise with the debtor may choose to file a civil case or a bankruptcy action against such a debtor. This action would have an immediate impact on its debt restructuring efforts with other creditors.

For the airlines that encounter financial disruption due to the COVID-19 pandemic but still have the potential to recover, rehabilitation may be a viable option. Rehabilitation is a legal process that mitigates such a limitation on the restructuring of debt as it allows the debtor to resolve the debt repayment problem and continue its business operations. Meanwhile, the creditor would receive more debt repayment than otherwise if the debtor is prosecuted in a bankruptcy case because bankruptcy is focused particularly on the seizure of the debtor's property or its liquidation to pay off the debts owed to creditors. Also, it does not affect the rights of the creditors over the existing collateral. The rehabilitation process is also a better alternative for the employees of the debtor's and the business partners who are dependent upon the debtor's business compared with insolvency.

Thai Airways, like every other airline across the globe, has also gone through a financial crisis due to the COVID-19 pandemic and the restrictions imposed on travel. The government of Thailand has given its approval for Thai Airways International to undergo a rehabilitation process under the Bankruptcy Act.²⁵ Afterward, as part of the bankruptcy proceedings, the Central Bankruptcy Court of Thailand approved on September 14, 2020 Thai Airways International's request to restructure its debt.²⁶ This decision will permit the airline to restructure debt valued at 245 billion baht (\$7.8 billion). This process is estimated to take about 3-5 months.²⁷ The Court was of the view that the business structure of the airline is a business with the potential to generate income and is necessary for the public transportation and air transport system.²⁸ The Court added that Thai Airways is composed of valuable business resources

and skilled employees, including its reputation and long experience in the airline business, and that Thai Airways also has the ability to generate income.²⁹ The reasons why it experienced financial problems are not business-based but arising from the competitive environment in a changing industry, and the impacts of the COVID-19 pandemic.³⁰

Although the airline will undergo rehabilitation under the bankruptcy law, it will not be declared bankrupt and dissolved. However, the business restructuring chapter provides equivalent protection to all Thai Airways stakeholders concerned while allowing it to operate its passenger flights and cargo transportation business as usual.³¹ The airline will operate according to the reform plan to improve its operational efficiency and the quality of its services.

It should be noted here that, when the Bankruptcy Court accepts a rehabilitation petition, the aircraft lessor is eligible to submit a claim as a creditor and participate in the rehabilitation process until the case is finalized.³² Nonetheless, while an automatic stay is in place if the lease term does not expire, the aircraft lessor cannot demand from the Bankruptcy Court the aircraft's return.³³

²⁵ *Cabinet resolution approves Thai Airways to enter business rehabilitation on May 20, 2020.*

²⁶ *Order of the Central Bankruptcy Court No. fo fo 10/2020.*

²⁷ *MarketScreener, "Thai Airways Seeks Buyers for 34 Used Planes as Part of Restructuring Plan: MarketScreener," MarketScreener.com Company News, November 6, 2020, <https://www.marketscreener.com/quote/stock/THAI-AIRWAYS-INTERNATIONAL-6491677/news/Thai-Airways-seeks-buyers-for-34-used-planes-as-part-of-restructuring-plan-31704637/>.*

²⁸ *Order of the Central Bankruptcy Court No. fo fo 10/2020.*

²⁹ *Ibid.*

³⁰ *Ibid.*

³¹ *Bankruptcy Act, B.E. 2483 (1940) (Thailand), chapter III/I.*

³² *Ibid., part IV, section 90/26.*

³³ *Ibid., part II, section 90/12.*

To sum up, it is clear that, at this time, it is pointless to repossess leased aircraft owing to the lack of demand and the travel restriction policies imposed by many jurisdictions, not to mention that the lessee companies' dissolution could substantially affect the aircraft lessors, aircraft financiers, manufacturers, suppliers, maintenance, and airports. After all, more than 4.3 million jobs had been generated by this particular industry prior to the pandemic.³⁴

With this in mind, if the aircraft lessors lack a legal safety net, such as force majeure, to withhold or postpone payments, the airlines should approach their lessors and financiers for payment restructuring or any form of debt relief they can negotiate. The legal focus should shift from legal rights and alternatives caused by contractual defaults and instead rely upon restructuring agreements so that the aviation industry can swiftly recover from this unprecedented situation. Turning to constructive negotiations and resolutions in which all parties concerned can play essential roles in reconstructing the aviation industry and saving jobs for those dependent on it.

4. CONCLUSION AND POLICY RECOMMENDATIONS

The COVID-19 pandemic has caused air transport demand to stagnate over the medium term due to the measures imposed by different levels of state administration to contain or mitigate the pandemic, such as international and domestic flight restrictions. To deal with this situation, for the airlines that still have the potential for financial recovery, business restructuring may be an option for mitigating the impacts of the COVID-19 pandemic and substantially modifying the debt, operations, or company structure to restrict financial problems and improve the business. To resolve debt repayment problems while pursuing their businesses, it is highly recommended that airlines should approach their lessors and financiers for payment restructur-

ing or any form of debt relief that they might be able to negotiate. Further, the airlines may seek to consolidate their businesses by way of mergers or amalgamation to combine their assets so that they can expand their existing markets, improve their growth prospects, and increase their chances of survival. Alternatively, the airlines may consider scaling down their businesses and suspending unnecessary aspects, such as the retirement of old aircraft and the termination of low-demand flights, in order to increase their resource usage efficiency.

In addition, taking into account the fact that the aviation sector is one of the principal facilitators of economic activity as it provides inter-industrial linkages and generates over 4.3 million jobs in this country, this specific sector should be a significant target for policy intervention and governmental support, especially in the financial slump resulting from the COVID-19 pandemic. To ensure the survival of the aviation industry in Thailand and promote air transport sustainability over the long term, the government should strike a balance between financial intervention in the air transport industry and the need to retain business competition in the market. Instead of providing particular support to some national airlines, the government should focus on sustaining overall business dynamics in the aviation market by implementing measures to reduce the cost of airline operations and financially support them with disease-prevention equipment. Such supports are crucial for productivity growth in the aviation industry.

The Thai government has employed some measures to reduce the operational costs of airlines, which include:

³⁴ *International Transport Forum (2018), "Government support measures for domestic air connectivity," Case-Specific Policy Analysis Reports, https://www.itf-oecd.org/sites/default/files/docs/domestic-air-connectivity_0.pdf.*

- A 50 percent discount in landing and parking fees for all air carriers;³⁵

- A 50 percent discount in the air navigation service charge for domestic flights and a discount of 20 percent for international flights;³⁶ A discount of arrival and departure fees from 15 baht to 10 baht per passenger for all air carriers;³⁷

- A discount in jet fuel excise tax for domestic flights for Thai airlines from 4.726 baht per liter to 0.20 baht per liter;³⁸

- A discount on other airport expenses, such as office rental for Thai airlines.³⁹

Apart from these support measures to reduce the costs of operation, the government can play a crucial role in assisting airlines with reorganization plans or even rehabilitation plans. At the same time, the government should provide guidance to financiers, lessors, and other creditors, including suppliers and airport authorities, on their legal stances in the case of a default by an aircraft lessee or, in the worst-case scenarios, if a debtor is subject to an insolvency procedure.

Moreover, provided that the airlines opt to scale down their businesses, job retention schemes for displaced workers should be implemented to reduce job losses and unemployment and prevent a long-term recession. Simultaneously, for those who are sent home on mandatory leave without pay or who are laid off, unemployment benefits should be provided for a limited duration. Moreover, as air transportation is highly sensitive to negative externalities, which could be obviously seen in the COVID-19 situation, state aid implementation should be extended to upstream and downstream sectors, such as air freight, airports, and the hospitality sector, which are occasionally overlooked in government interventions.

³⁵ IATA ACIC, "Temporary Aviation Charges Measures," IATA ACIC - Temporary Aviation Charges Measures, accessed December 2, 2020, <https://aviationcharges.iata.org/covid19.xhtml>.

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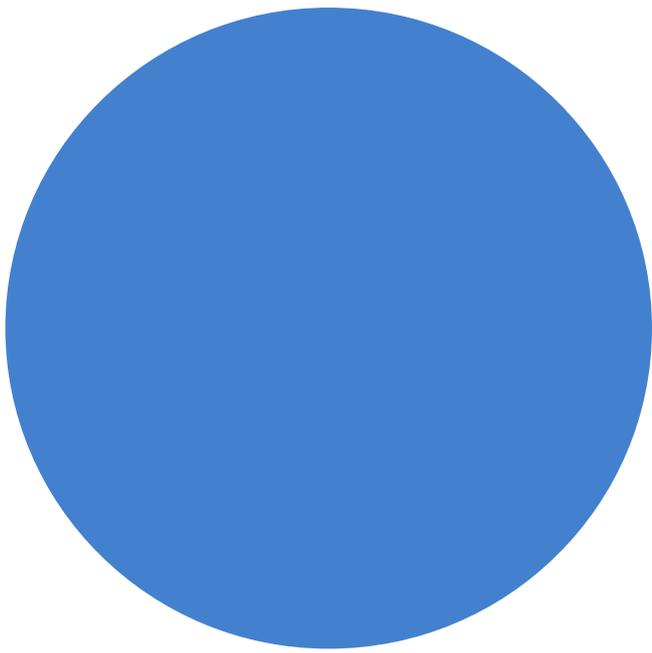
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³⁶ CAAT, "Air Navigation Service Charges," CAAT (Department of Civil Aviation, March 12, 2020), <https://aip.caat.or.th/2020-04-23-AIRAC/html/eAIP/VT-GEN-4.2-en-GB.html>.

³⁷ Announcement of the Civil Aviation Authority of Thailand, Re: Reduction of the Rate of International Arrival and Departure Fees to Mitigate Impact of the Coronavirus Disease (COVID-19) Transmission on Air Operators B.E. 2563 (2020).

³⁸ "Thailand Gazettes Regulation Setting Jet Fuel Excise Tax Rates Due to Coronavirus." Bloomberg Industry Group News, accessed December 2, 2020, <https://news.bloombergtax.com/daily-tax-report-international/thailand-gazettes-regulation-setting-jet-fuel-excise-tax-rates-due-to-coronavirus>.

³⁹ IATA ACIC, "Temporary Aviation Charges Measures," IATA ACIC - Temporary Aviation Charges Measures, accessed December 2, 2020, <https://aviationcharges.iata.org/covid19.xhtml>.



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FINANCIAL ACCESS OF THAILAND'S SMALL AND MEDIUM-SIZED ENTERPRISES: IMPROVING THEIR CREDIT RATING AND ASYMMETRIC INFORMATION BY USING NON-FINANCIAL DATA*

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* The article is drawn from the research report entitled *Non-Financial Data for SMEs' Credit Rating*, submitted to the Office of Small and Medium Enterprises Promotion in September 2019.

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Small and medium-sized enterprises (SMEs) in the Thai context often are faced with difficulties in raising money. This is because, in the eyes of banks that are their dominant funding source, SMEs frequently fail to prove how they can sustain their business operations. Even if some SMEs are profitable and financially healthy, banks would not be able to distinguish healthy SMEs from the risky ones because the SMEs rarely produce and keep financial records. Therefore, an attempt is made in this paper to study the possibility of using non-financial data as an alternative source of information in order to: strengthen the credibility of SMEs so that they may better access financing from banks, non-banks or other lending sources, such as peer-to-peer lending and crowdfunding; guide the government in helping Thai SMEs more effectively through policies, measures, and initiatives that meet the SMEs' needs; promote the understanding of entrepreneurs about their competency prior to attempting to access financing or to participate with the government in gaining support; and enhance the strategies and action plans of SMEs, as well as their budget integration. In the last section, a pilot study will be proposed concerning what kind of and how non-financial data should be collected, weighted, and scored in order to improve the credit rating of SMEs. By following these recommendations banks should be less concerned about asymmetric information and subsequently extend loans to SMEs, including at lower interest rates than is currently the case. This would enhance the viability of SMEs and reduce the number of non-performing loans of this economic sector, which is a key to national economic growth.

AN OVERVIEW OF THAI SMALL AND MEDIUM-SIZED ENTERPRISES

In Thailand, SMEs play an important role in economic and social development as they are a production base creating jobs and distributing wealth at the local level. SMEs in the Thai context are defined as businesses with fixed assets of less

Table 1: Snapshot of Thai small and medium-sized enterprises

2017	Small enterprises	Medium-sized enterprises	SMEs	Large enterprises	Non identifiable	Other enterprises*	Total
Establishments (N)	3,028,495	18,298	3,046,793	6,662	16		3,053,471
Employees (N)	10,729,124	1,426,523	12,155,647	2,629,525	-		14,785,172
GDP per sector							15,452,882
- Agriculture							
Volume (millions of baht)							1,337,284
Ratio (percentage)							8.7
- Non-agriculture							
Volume (millions of baht)	4,637,330	1,914,388	6,551,718	6,647,993	-	915,887	14,115,598
Percentage	30.0	12.4	42.4	43.0	-	5.9	91.3

* Refers to state administration and national security.

Source: National Statistical Office, Social Security Office, and Department of Business Development. Data were collected and compiled by the Office of Small and Medium Enterprises Promotion (OSMEP).

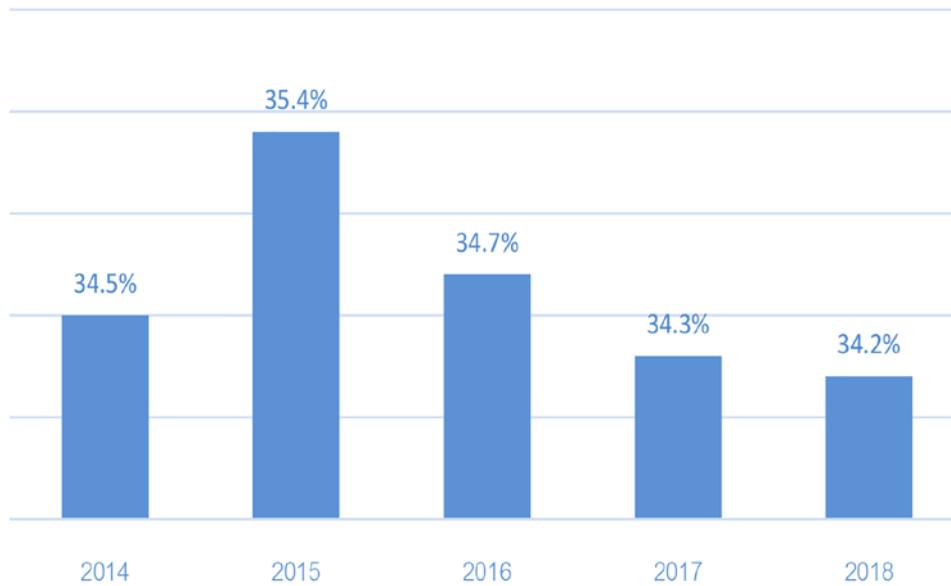
than 200 million baht (excluding the value of land) employing fewer than 200 persons. In 2017, statistics showed that 99.8 percent of business establishments in Thailand were SMEs, equivalent to more than 3 million enterprises, and accounting for 82.2 percent of all employment nationwide, equivalent to 12.1 employees and 42.2 percent of GDP (more than 6.55 million baht) (Table 1).

It is therefore essential that the government should fully support SMEs because they are the foundation of the Thai economy. If SMEs are viable, they could sustain the sector accordingly. However, economic growth of Thailand depends tremendously on large enterprises rather than SMEs. Commercial banks are the primary funder for SME entrepreneurs but such banks are not willing to offer loans at a scale matching the much larger demands of borrowers. SME loans provided by banks during the period 2014-2018 declined and dropped to 34-35 percent of total demand (Figure 1). However, overall SME loans in Thailand compared with other Asian countries was 50.5 percent in 2017, which was relatively lower than that of the other countries (Figure 2).

There are several reasons why Thai SMEs cannot compete effectively against larger enterprises. First, SME entrepreneurs lack the technical assistance and financial resources needed to improve their business and marketing strategies so that they could persuade lenders that they are capable of repaying loans. Second, SMEs' accounting procedures are purposely weak for tax purposes: the more indebted such an enterprise is, the lower is the amount of tax it must pay. Such accounting practices mean that SMEs are not considered credible, rendering them unable to access the bank funding they need for research and development of their businesses. Third, SMEs struggle to obtain government support because they must first meet many government requirements in such areas as environmental protection, tax auditing, and consumer safety.¹ As a result, it is likely that Thai

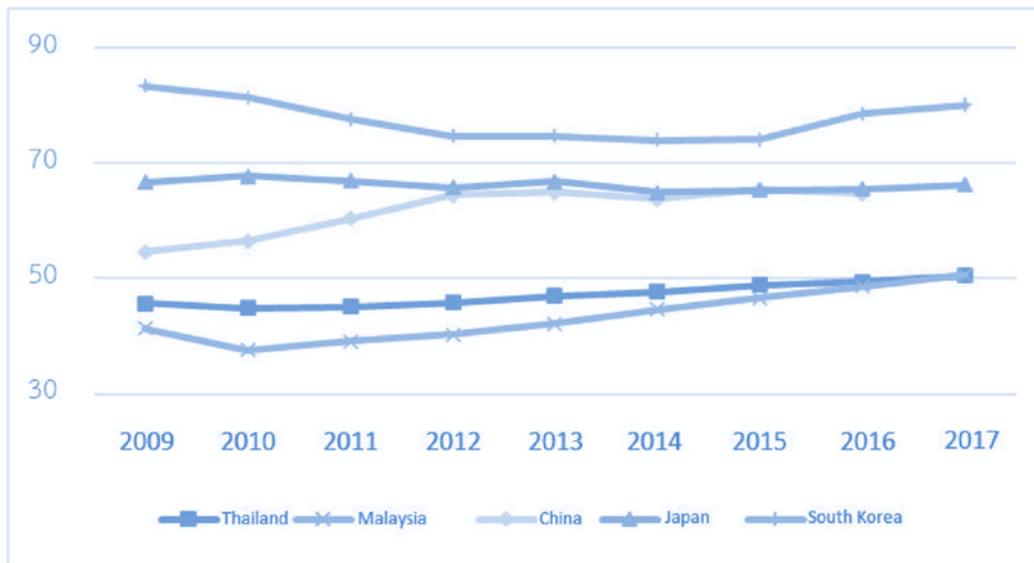
¹ Pornsiri Prakongtham. (2016). *Legal measures to promote the distribution channels for product and service of small and medium enterprises*. Thesis. Faculty of Law, Chulalongkorn University.

Figure 1: Percentage of small and medium-sized enterprise loans granted by Thai commercial banks



Source: Bank of Thailand.

Figure 2: Percentage of small and medium-sized enterprise loans in Asia



Source: Financing SMEs and Entrepreneurs 2019: An OECD Scoreboard. OECD.

SMEs could face liquidation and dissolution if they cannot secure adequate funds for their businesses. At the macro level, SMEs facing a financial crisis would have serious impacts on the economy as a whole.

CREDIT GUARANTEE FOR THAI SMALL AND MEDIUM-SIZED ENTERPRISES

Because of the aforementioned obstacles that Thai SMEs are encountering, the concept of

credit guarantee should be considered; such a guarantee would make it easier for an entrepreneur to access loans. In case of a default, the credit guarantee agency would have to repay the loan on behalf of an SME based on an insured guarantee agreement. Subsequently, the agency would endeavor to reclaim the money from the SME concerned. Such a guarantee would also provide banks with information regarding the adequacy of funding for a business's operations as well as a degree of mutual understanding so that the bank concerned would not charge an excessive rate of interest even if the SME lacks collateral. Apart from these aspects, such a guarantee in fact would contribute economic value in many ways, such as in terms of employment and GDP growth.

Based on the findings of Panyanukul, Promboon and Vorrarikulkij,² a credit guarantee increases the chance that an SME will obtain a loan with a lower requirement for collateral, lower rate of interest, and higher volume of assets owned by the SME entrepreneurs. However, those researchers also noted that a credit guarantee could lead to a moral hazard, with the borrower tending toward default, knowing that the guarantor must cover the non-payment of a loan before the SME has to do so. It is therefore important to design a preventive risk mechanism into a credit guarantee in order to ensure that SMEs will put their full efforts into repaying loans either to earn a reward or avoid punishment for a default.

Thailand established the Thai Credit Guarantee Corporation (TCG) in 1991 to promote the development of SMEs and the overall economy. TCG provides credit guarantees for viable SMEs to obtain more loans from banks and credit institutions. TCG provides a guarantee limit of 50 per-

cent of the loan value for amounts ranging from 10 million to 40 million baht, charging a fee of 1.75 percent of the loan value.³ However, based on an in-depth interview,⁴ TCG is running out of capital to ensure its operability and development as well as its ability to meet the credit demand of SMEs. In the past, TCG provided credit guarantees to only 10 percent of the 2.5 million SMEs registered with TCG. In addition, infrastructural development credit, such as for credit information systems, development tools, such as credit scoring, securitization of loans, including a re-guarantee system, are not yet in place to actively support the credit guarantee system. Thus, there is room to improve the effectiveness of TCG to support Thai SMEs in obtaining the funds necessary to operate their businesses.

MEANS OF RATING CREDITWORTHINESS OF THAI SMALL AND MEDIUM-SIZED ENTERPRISES

To address the above-mentioned issues, the primary concern, so far, has been to help Thai SMEs to access financing in order to manage, develop, market, and sustain their operations in the long run. Lending by financial institutions is usually based on the creditworthiness of the SME and its ability to repay loans, factors which are determined based mostly on financial data; however, it is in this regard that Thai SMEs fail to measure up to the requirements of financial institutions. Having access only to information that is inadequate, banks cannot fully assess the creditworthiness of the borrower, so they subsequently reject the loan application, or alternatively request that a guaran-

² Panyanukul, S., Promboon, W., & Vorrarikulkij, W. (2014). *Role of government in improving SME access to financing: Credit guarantee schemes and the way forward*. Paper Presented at the Board of Trade Symposium 2014. Retrieved from www.bot.or.th/Thai/MonetaryPolicy?ArticleAndResearch/SymposiumDocument?Paper3_SME2557.pdf.

³ Dang Thai Binh. (2015). *Credit Guarantee System for SMEs in ASEAN: Evidence from Thailand, Indonesia and Malaysia*. https://www.researchgate.net/publication/316341057_CREDIT_GUARANTEE_SYSTEM_FOR_SMEs_IN_ASEAN_EVIDENCE_FROM_THAILAND_INDONESIA_AND_MALAYSIA

⁴ Interview conducted on June 4, 2019 at the Thai Credit Guarantee Corporation.

tor be obtained by the borrower, or set a very high rate of interest to secure the loan.

Based on multiple Internet sources accessed by the authors in April 2019, financial institutions were found to provide more loans for SMEs than non-banks; the loan amounts ranged from 10 million to 20 million baht. Government banks were found to offer a higher ceiling for loans than private lenders. Non-banks were found to lend amounts ranging from 100,000 to 500,000 baht. These institutions remained focused on financial data as they all requested the previous six-month income statement of SMEs, a copy of the balance sheet for the previous three years, income statement, cash-flow statement, copy of revenue submission, and record of two consecutive years of profitability. These documents are regarded as quantitative data. It also should be noted that some banks accepted non-financial data, or so-called qualitative data, for submission of a loan application, as well as a copy of the business registration certificate, ID card, evidence showing the duration of business operations, shareholding of the main shareholder (owning more than 20% of the total shares), payment of utilities, and business plan.

However, both quantitative data and qualitative data yield advantages and disadvantages. Quantitative data can be used instantly and such data predict the results honestly while tending to look to the past. In contrast, qualitative data look toward the future, focusing on the opportunity/growth of the SME. However, the latter data are costly to collect and very subjective in terms of interpretation.

In Thailand, it is not yet certain at what ratio the financial institution should try to achieve a balance between both quantitative data and qualitative data prior to rating the creditworthiness of the SMEs concerned. However, the Fiscal Policy Research Institute⁵ in 2018 studied the credit rat-

ing index and categorized two domains: non-financial aspects focused on management, marketing, and production; and financial aspects focused on finance. In that study, it was suggested that quantitative data and qualitative data on Thai SMEs should be weighted at 40 percent and 60 percent respectively.

Moreover, the research paper entitled “Developing an ASEAN Benchmark for SME Credit Rating Methodology”⁶ by the Japan-ASEAN Integration Fund (JAIF), ASEAN, and Bank Indonesia presented SME credit ratings in ASEAN countries within three tiers. The first tier comprised those that were credible with a complete set of financial data, namely Malaysia and Singapore. The use of non-financial data to rate their creditworthiness should be less than 40 percent. The second tier includes Indonesia, the Philippines, and Thailand, which are regarded as having incomplete information asymmetry. Some financial information was missing for assessment; therefore, it was suggested that the use of non-financial data to rate their creditworthiness should be about 60-70 percent, which is consistent with the Fiscal Policy Research Institute’s earlier recommendation. The third tier, comprising Brunei, Cambodia, Laos, Myanmar, and Vietnam, was unlikely to be creditworthy, especially in terms of financial information. As a result, the use of non-financial data to rate their creditworthiness should be more than 70 percent.

LEARNING FROM CASE STUDIES IN FRANCE, JAPAN, AND SOUTH KOREA

The findings in three case studies are very important to the national economy as they could contribute significantly to the rate of employment

⁵ Fiscal Policy Research Institute (2018). *Study on “Micro Enterprise in ASEAN+8 and Guideline for Credibility Index*

for MSMEs.” Proposed to the Office of Small and Medium Enterprises Promotion. pp. 6-73 – 6-81.

⁶ <https://www.bi.go.id/id/umkm/penelitian/nasional/kajian/Documents/Developing%20an%20ASEAN%20Benchmark%20for%20SME%20Credit%20Rating%20Methodology.pdf>.

and exports. The studies were conducted both in the field (Japan and South Korea) and in literature reviews (France, Japan, and South Korea) in order to identify the gap that Thailand could adjust in order to fit within the Thai context. The selection of case studies is based on how SMEs are important to the domestic economy in terms of number of enterprises, number of people in employment, GDP contribution, and export volume. The substance of comparative studies is summarized, highlighting the key elements of SMEs as shown in Table 2.

Several panels in the above summary of case studies identify insights gained from in-depth interviews and focus groups, and show that Thailand is far behind in strengthening the ability of SMEs to access needed finances. First, SME information is still limited in Thailand, and the information is scattered among various firms, including agencies with a mandate to monitor credit, such as the National Credit Bureau. Private rating firms and financial institutions individually collect and acquire information based on loan applications without sharing it. This therefore restricts the national SME database from computing the risk of the borrower accurately, unlike the situation in France, Japan, and South Korea.

Second, it is unfortunate that Thailand has yet to establish an agency specialized in SME credit assessment. Credit rating firms and the authorized agency on credit do not standardize the means of rating credit. Some rely on credit scoring, whereas others choose rating schemes. Also, each of them has its own model to assess the probability of default. However, this concern is currently being addressed. The Thailand Technology Rating System (TTRS), under the National Science and Technology Development Agency (NSTDA) in association with KOTEC, South Korea, is now developing a model and the means to assess SME creditworthiness, while private firms, such as Credit OK, are conducting credit scoring for microenterprises. Nonetheless, these efforts have yet to develop SME credit specialists as found in Japan (JCR and CRD) and South Korea (KED and KOTEC).

Third, without adequate financial data, financial bodies remain constrained even though they supplement the data they do have with non-financial data in order to assess creditworthiness, as was found to be the situation in the case studies; however, numerous non-financial data are missed that should be taken into account. Moreover, the proportion of use is not consistent with the fact that SMEs remain ineffective in keeping records for verifying their loan documentation.

Fourth, Thailand's Office of Small and Medium Enterprises Promotion is the crucial agency for supporting SMEs. It should be noted that microenterprises outweigh, by up to 85.7 percent, all SMEs and are unable to be identified and traceable. In part, government policy is made to favor other priorities but negatively affect SMEs. For instance, online shopping and transactions are used as a base for taxation, which makes entrepreneurs reluctant to use e-payments because they are unwilling to pay higher taxes on increasing sales, even though it would be beneficial for their financial profile in case they seek to borrow money.

Further, the Thai Credit Guarantee Corporation, the government financial institution for SMEs, is the sole body responsible for credit guarantees but it is falling short of budget to comply with its responsibilities. Unlike in Japan and South Korea, there is no law stipulating that the government must secure funding based on the discharge of financial output to SMEs. Moreover, no government agencies initiate a re-guarantee scheme in order to fix the interest rate and to reduce payments over the life of a loan, or to change the duration of a loan. Last but not least, local governments do not fully take action to assist SMEs financially or technically no matter where they are located in the country.

METHODS TO INTEGRATE NON-FINANCIAL DATA INTO SMALL AND MEDIUM-SIZED ENTERPRISE CREDIT RATINGS

As mentioned previously, this study is

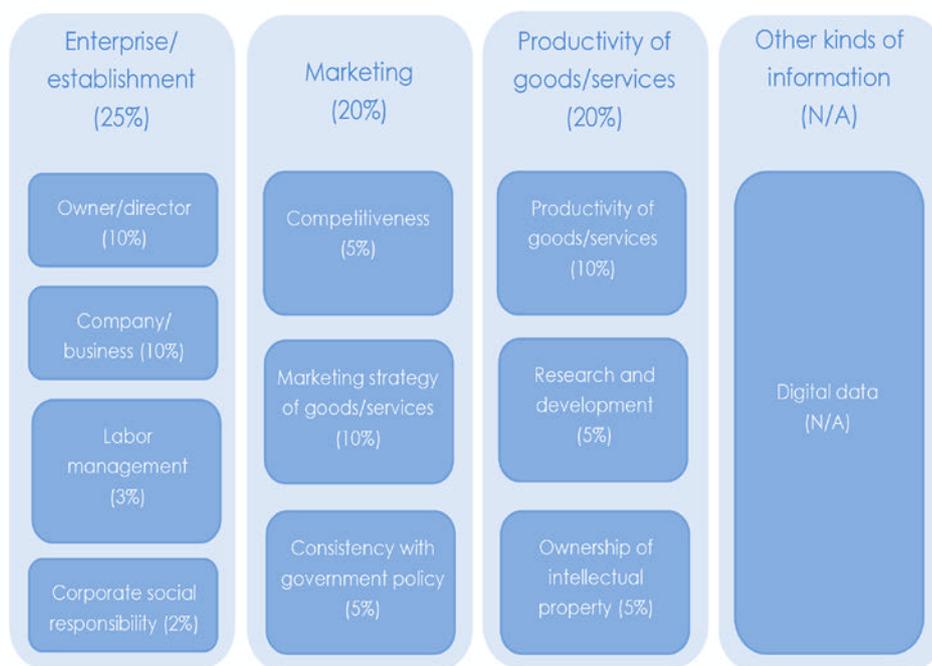
Table 2: Comparative studies of small and medium-sized enterprises in France, Japan, and South Korea

Issue \ Country	France	Japan	South Korea
Connection between SMEs and domestic growth	<ul style="list-style-type: none"> 99.9% of all enterprises are SMEs. Percentage employed is 61.6%. Economic value is approximately 529.1 billion euros, equivalent to 55.2% of GDP. 	<ul style="list-style-type: none"> 99% of all enterprises are SMEs. Percentage employed is 70%. Percentage of exports contributed by SMEs is 30%. 	<ul style="list-style-type: none"> 99% of all enterprises are SMEs. Percentage employed is 88%. Economic value is approximately 60% of GDP Percentage of exports contributed by SMEs is 33%.
SME rating firms	SME rating firms, such as Compagnie Française d'Assurance pour le Commerce Extérieur (COFACE) and Spread Research Ltd., as well as multinational firms, such as Fitch France and Moody's France	<ul style="list-style-type: none"> Private credit bureaus, such as Tokyo Shoko Research (TSR), and Teikoku Databank (TDB). Private credit risk agency/databases, such as Japan Credit Rating Agency Ltd. (JCR), CRD Association, and Risk Data Bank of Japan (RDB). 	<ul style="list-style-type: none"> Credit guarantee firms and non-financial databases, such as Korea Credit Guarantee Fund (KODIT), Korea Technology Finance Corporation (KOTEC), Korea Federation of Credit Guarantee Foundations (KOREG), Credit Guarantee Foundation (CGF), and Korea Credit Bureau (KCB). Credit rating firms, such as Korea Enterprise Data (KED), and National Information & Credit Evaluation Inc. (NICE).
SME national databases	Fichier Bancaire des Entreprises (FIBEN) is an SME database that borrowers and lender can access to assess ability to repay and avoid default.	CRD is an organization collecting and producing an SME database for assessing the probability of default.	KED is an organization collecting and producing an SME database for assessing the probability of default.
Credit assessment	Companies with profits of at least 0.75 million euros and residing in France are rated automatically by analysts nationwide under the supervision of banks. They are local and knowledgeable about local businesses; therefore, they are competent in rating creditworthiness based on quantitative and qualitative data, as well as FIBEN.	Credit rating and the probability of default of the SME enterprises are conducted by rating firms via quantitative and qualitative data, as well as the SME database.	Credit Guarantee Agency assesses credibility prior to the financial institution because it is highly competent in rating by employing both quantitative and qualitative data, as well as the SME database.
Government support	<ol style="list-style-type: none"> Local administrative office is lawfully mandated to provide assistance to SMEs. Law on public procurement was revised by allowing the SMEs to bid on projects. An ombudsman is appointed in order to settle disputes between SMEs and banks or credit guarantee firms. 	<ol style="list-style-type: none"> The Marukei project was initiated by granting a small loan without security or guarantor. SMEs and local government mutually provide subsidies, technical assistance for doing business, and facilitation of obtaining soft loans. 	<ol style="list-style-type: none"> The central agency, local agency and financial institution provide SMEs with subsidies and credit guarantee scheme. A local agency offers to re-guarantee loan with the main credit guarantee scheme.
Financial access volume of SMEs	Loan application rejections decreased by 4.3% in 2017 compared with 2016 when the percentage was 7.3%.	Loan volume rose to \$2.38 billion in 2011, and \$2.52 billion in 2015.	Loan volume increased from \$262 billion in 2006 to \$500 billion in 2015.
Non-financial data requirements	<ol style="list-style-type: none"> Business/firm: owner/director, management, and corporate social responsibility Marketing: competitiveness, purchase order, and consistency with government policies Production: productivity and service, research and development, and ownership of intellectual property Other kinds of digital data 		
Weighting	Financial data > Non-financial data		

Source: Authors.



Figure 3: A pilot set of non-financial data



Source: Authors.

aimed at assessing the possibility of using non-financial data as an alternative source of information to strengthen the credibility of SMEs to give them better access to financing. The authors, with contributions from bankers, practitioners, scholars, and credit rating firms, have developed a pilot set of non-financial data for those who need to evaluate an SME's creditworthiness and probability of default. The set is divided into four categories: (a) enterprise/establishment; (b) marketing; (c) productivity of goods/services; and (d) other kinds of information (see Figure 3). Each category is supplemented with sub-categories and is weighted to be relatively equal. It should be noted that the given set of non-financial data is only a prototype to examine whether it could respond to the credit rating process in an effective way.

It was mutually agreed by the focus group meeting (which included the relevant stakeholders of SMEs and the credit rating agency concerned) that the weighting ratio in each sub-category should set the proportion applying non-financial information at 65 percent (out of 100 percent), where the residue is reserved for financial information. How-

ever, it should be noted that this weighting has not yet been settled; a trial is needed to apply and test it. Given that percentage, the following condition and justifications apply.

- The weighting is subject to the existing information that has already been collected.
- The weighting should be relatively equal (20-25% per category) because they are proportionately material. Those percentages should also be flexible in order to readjust weighting in the future depending on the availability and importance of that information.
- Objective information should be greater than subjective information (i.e., vision of a company) to weight.

To simplify what kind of non-financial information in each sub-category is relevant to use for credit evaluation, the authors have preliminarily identified them in Tables 3-6 based on a literature review and in-depth interview domestically and internationally.

Table 3: Enterprise/establishment

Sub-category	Description/indicator	Justification	Means of collection
(1) Owner/director			
Education (+) (O)	Educational degree/certificate	Education and experience show competency and how the business operates	- Survey - Financial institution
Experience (+) (O)	Businesswise (number of years), management-wise (number of years)		
Health (-) (O)	Level of healthiness	Health can increase/decrease the efficiency of business operation	Survey/site visitation
Networking (+) (O)	Social capital that benefits the company	Connection plays crucial role for business deals	
Organization relationship (+) (O)	Founder/family business/promotion/outsourcing, etc.	Organization relationship can increase/decrease the efficiency of business operation	
Training (+) (O)	Capacity-building, such as e-commerce, search engine optimization	Training helps scaling up business management	
Attitude (+) (S)	Positive/negative views for business	Attitude and vision shape the direction toward business goals	
Vision (+) (S)	Way forward to reach the company's goals		
Asset (+)/debt (-) (O)	Value/acquirement/transaction	Asset/debt reflects reliability and financial discipline of the owner	- Financial institution - Survey
(2) Company/business			
Establishing age (+) (O)	Number of years	Age reflects the reliability of the enterprise	- Department of Business Development - Survey
Business risk (+) (O)	<ul style="list-style-type: none"> - Preparation of business continuity plan - Succession planning - Information on insurance - Financial resources - Ownership of enterprise 	Risk constitutes security and continuity of business operation	Survey/site visitation
Business recognition (-/+) (O)	<ul style="list-style-type: none"> - Crime record - Bankruptcy record - Financial offense record - Number of deals with public offices/reliable agencies - Taxation - Recognition in social media - Online rankings & customer reviews 	Business recognition reflects reliability and reputation of the enterprise	<ul style="list-style-type: none"> - Survey/site visitation - Legal Execution Department - Royal Gazette - Financial institution - Tax documentation - Survey/analysis by experts
Management (+) (O)	<ul style="list-style-type: none"> - Inventory & warehouse - Logistics 	Management is the key for business operation	- Survey/site visitation
Utilities information (-/+) (O)	<ul style="list-style-type: none"> - Electricity/water - Phone & Internet 	Utilities present fixed expenditures and competency to run a business	<ul style="list-style-type: none"> - Metropolitan Electricity Authority - Metropolitan Waterworks Authority - Telephone service providers
Award (+) (O)	SME Provincial Champions, Prime Minister's Award	Award upgrades the reliability, reputation and competitiveness of the enterprise	Survey/site visitation
(3) Labor management (-/+) (O)	<ul style="list-style-type: none"> - Average age of employee - Level of skilled/unskilled employee - Human development - Working welfare - Employee relations - Working motivation & work-life balance 	Labor management reflects reliability and reputation of the enterprise, as well as enhances the business operation	Survey/site visitation
(4) Corporate social responsibility (+) (O)	<ul style="list-style-type: none"> - Corporate governance - Corporate social responsibility - Waste disposal management - Community relations - Energy efficiency 	Corporate social responsibility reflects reliability and reputation of the enterprise	Survey/site visitation

Table 4: Marketing

Sub-category	Description/indicator	Justification	Means of collection
(1) Competitiveness (+) (O/S)	<ul style="list-style-type: none"> - Competitor in business (market share ranking) - Marketing and sale plan 	Competitiveness, reliability and reputation of the enterprise, as well as enhances business operation	Survey/site visitation
(2) Marketing strategy of goods/services (+) (O/S)	<ul style="list-style-type: none"> - Sales growth of goods/services - Sales location of goods/services - Sale channel (direct/consignment/online) - Customer relations - Number of pre-orders 	Marketing strategy leads to positive outcome of business operation	Survey/site visitation
(3) Consistency with government policy (+) (O)	Targeted business/area for promotion such as S-curve industry, tourism, special economic zone	The more consistent, the better is the business operation and the more support it gets from the government	Survey

Note: (+) means an increase of SME credit, (-) means a decrease of SME credit, (O) means objective information, and (S) means subjective information.

Table 5: Productivity of goods/services

Sub-category	Description/Indicator	Justification	Means of collection
(1) Productivity of goods/services (+) (O/S)	<ul style="list-style-type: none"> - Selection of and reliance on raw materials - Extensification/reclassification/enhancement of productivity 	Productivity reflects how the enterprise responds to the demands of the market, as well as adds to cash flow for running the business	Survey/site visitation
(2) Research and development (R&D) (+) (O)	<ul style="list-style-type: none"> - R&D planning for novel innovation - Number of goods/service certificates, such as GMP or ISO series 	R&D reflects reliability and reputation of the enterprise, including competitiveness	<ul style="list-style-type: none"> - Survey/site visitation - Submission of certificates
(3) Ownership of intellectual property (+) (O)	Number of intellectual property items		<ul style="list-style-type: none"> - Department of Intellectual Property - Survey/site visitation

Note: (+) means an increase of SME credit, (-) means a decrease of SME credit, (O) means objective information, and (S) means subjective information.

Table 6: Other kinds of information

Sub-category	Description/indicator	Justification	Means of collection
(1) Digital data (+) (O)	<ul style="list-style-type: none"> - Volume/value of online transaction - e-payment - Billing and payment online - Information from point of sale - Social media data, search history 	Digital data can be supplementary to support productivity and financial status of the company	<ul style="list-style-type: none"> - e-commerce platform - Financial institution - Survey

Note: (+) means an increase of SME credit, (-) means a decrease of SME credit, and (O) means objective information.

Table 7: Suggested credit rating ladder

Rating	Score
AA	86-100
A	76-85
BB	66-75
B	51-65
CC	46-50
C	41-45
DD	36-40

Source: Authors.

In practice, the information contained in the given prototype might be difficult to use for credit evaluation because it is as yet in the database or not possible to be collected. However, simply relying on existing information is inadequate for evaluation as well. It is suggested therefore to phase in several periods for data development and collection based on the availability and completeness of the information. Information gathering in each phase should be beneficial for analysts to assess in a correct manner whether an SME is eligible to be granted funding.

The result of a credit rating is usually presented in scoring from 1 to 100 or DD to AA, and can be measured as follows because either way is acceptable.

1. Each subcategory is scored within a range of 0-3 points based on the submission of non-financial information.
2. A score of 0 represents no submission/not available; a score of 1 represents accomplishment of the minimum requirement; a score of 2 represents accomplishment of intermediate requirements; and a score of 3 represents accomplishment of the maximum requirements.
3. For non-financial information, the maximum score can reach up to 65, or equivalent to B. With additional scores from

financial data, the total will be the final result of a credit rating.

4. It is suggested that a credit rating be divided into the eight levels, whereby AA or 86-100 is the highest score and DD or 36-40 the lowest, according to Table 7.

With these methods, it is likely that the creditworthiness of Thai SMEs would be more convincing to lenders as a minimum standard. They would help: the SMEs become aware of how to record their non-financial information in order to better access financing; lenders to obtain systematic and symmetrical information on SMEs so that they could analyze risk properly; and the government to create a credit risk database, and design better policies that respond to the needs of entrepreneurs in a more effective manner. It is inevitable that the Thai economy must depend on SMEs; therefore, access to financing is a priority concern that the government, lenders, and enterprises should jointly address in order to promote economic flow and circulation.

POLICY RECOMMENDATIONS ON SMALL AND MEDIUM-SIZED ENTERPRISES

Given the problems that the authors have narrated on Thai SMEs accessing financing, it is

essential to address them by considering the issues and roles of the main actors. The authors have therefore provided a set of recommendations for the consideration of those who are involved in SME credit rating, as follows.

For strengthening credit rating tools

- The creation of an SME national database should be studied further, especially the law on information collection and the agency that should be responsible to carry out this mission.
- To make non-financial information relevant for rating credit, various factors should be considered, such as the nature, industry, size, and age of the enterprise, so that the rating would be more accurate.
- All financiers usually possess their clients' information, particularly on SME borrowers. They should share with the responsible agency (so that it could initiate the creation of an SME national database) only information that is anonymous in order to avoid violating laws on the privacy of personal information.

For strengthening the role of borrowers

- SME entrepreneurs should study their credit rating after evaluation in order to strengthen their weaknesses and improve their effectiveness and reliability for obtaining further loans in the future.
- SME entrepreneurs should try to commercialize some of their operations, including making payments via online transactions, so that they could create electronic records which are necessary for credit rating/scoring.
- SME entrepreneurs should build networks based on either their commonalities or supply chains in order to support

and address their business management.

For strengthening the role of lenders

- Lenders should highlight non-financial information to address the context that Thai SMEs, the small and micro type in particular, are encountering.
- Lenders should point out the strengths and weaknesses of those who are rejected for loans, guide them on how to meet the lenders' requirements, as well as advocate financial literacy so that borrowers can become eligible for the granting of loans in the future.
- Lenders should synergize with credit firms or the agencies responsible for SMEs, as well as credit guarantees, if they are rated as trustworthy to receive funding in cases when lenders are not fully functional in assessing credit risk by themselves.
- Lenders should aim to finance borrowers not only by loan volume but also by the number of applications in order to gain better access to funding. Focusing on the former is cost-effective for the lenders but does not promote redistributive growth sustainably and evenly.

For strengthening the role of government

- All responsible agencies should coordinate and develop the proposed SME national database with funding from the government.
- The government should create an "ecosystem" for SMEs to voluntarily participate in keeping histories of their commercial and payment transactions through incentives rather than penalties, such as through an auditing subsidy for the first three years or a fee waiver for



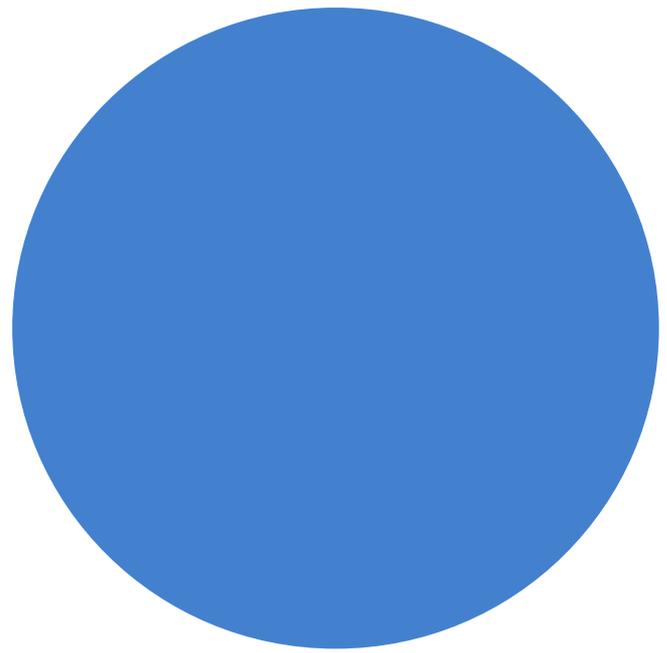
credit rating/scoring, or special rate of interest for loan/credit guarantees.

- The government should support the agency that is responsible for credit guarantees by legally enforcing financial institutions to subsidize such agencies, if deemed appropriate, while in return they access the proposed SME national database to conduct credit ratings in an accurate manner.
- The government should promote the Business Collateral Act of 2015 by allowing the assets belonging to SMEs, such as a vehicle or item of intellectual property, to be used for securing their solvency.
- The government should subsidize SME entrepreneurs' rate of interest on loans, partly at the beginning of business operations, and provide any kind of assistance for those whose business is in accordance with government policy.

CONCLUSION

SME credit rating currently is measured mainly on the basis of financial information, although some non-financial information may be applied. As such, weighting of the former does not fit the Thai context regarding the financial access of SMEs. This study proposes the simulation of SME credit rating by highlighting the essence of non-financial information in the hope that it could be beneficial for evaluating the creditworthiness of enterprises. Such a simulation should kick start this initiative among governmental bodies, such as the Office of Small and Medium Enterprises Promotion, SME Development Bank, Government Savings Bank, Export-Import Bank of Thailand, and Thai Credit Guarantee Corporation, so that private banks could adopt such measure accordingly.

Once the initiative becomes widely applica-



ble, the accuracy of credit risk evaluation will be promising, as is the case in Japan and South Korea, which eventually developed their credit risk database and standards of credit rating. The database could incentivize financiers to integrate non-financial information into their credit risk evaluation for further access to loans, while SME entrepreneurs simultaneously could understand how to record and maintain all relevant information prior to applying for a loan to secure their long-term business operations. Lastly, systematic information is the primary input needed by a competent agency to prepare a master plan for promoting and subsidizing SMEs.

