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SOCIAL IMPACT PARTNERSHIP MODEL EXECUTIVE SUMMARY

THAILAND'S CONCENTRATION OF WEALTH AND SPREAD OF POVERTY: EVIDENCE FROM THE STOCK EXCHANGE OF THAILAND

Nonarit Bisonyabut
Wichaya Peechapat

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The Thailand Development Research Institute Foundation was established in 1984 to conduct policy research and disseminate results to the public and private sectors. TDRI was conceived, created and registered as a non-profit, non-governmental foundation, and is recognized as such by the Royal Thai Government. The Institute does technical and policy analyses to support the formulation of policies with long-term implications for sustaining social and economic development.

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SOCIAL IMPACT PARTNERSHIP MODEL:* EXECUTIVE SUMMARY

Currently, the Thai government allocates a vast amount of budget to fund several social projects. However, due to limited resources, the budget is not sufficient to serve all the needs of social members who are heterogeneous. Moreover, social services provided by the government often are focused on solving existing problems rather than providing preventative measures which could eliminate problems that might occur in the future. The current public budget allocation system does not have a mechanism which reflects the effectiveness and efficiency of projects, the reason being that the public system lacks systematic monitoring and evaluation procedures due to the limited resources. On the other hand, awareness of social issues by other sectors, including the private

** This research report was submitted to the National Economic and Social Development Board in September 2017. The research team comprises Dr. Boonwara Sumano Chenphuengpawn and others.*

sector and the general public, has been increasing significantly. This is reflected in an increasing number of corporate social responsibility projects carried out by businesses, and an increasing amount of donations from general citizens. Nonetheless, there is still a lack of systematic monitoring and evaluation procedures, just as in the public system.

A TDRI research team believes that Thailand could benefit greatly from the social impact partnership model (SIPM), which engages and brings together the public sector, the private sector and the social sector. SIPM can improve the effectiveness and efficiency of existing and forthcoming social services. Currently, there are 89 SIPM projects operating in 19 countries around the world.

RESEARCH OBJECTIVES

1. To examine the structure of SIPM that is most suitable for Thailand, particularly in the areas of educational development, health care and preventive health care, small and medium-sized enterprises, and skills and employment development.

2. To lay out the process of the social impact partnership model that would be suitable for Thailand, for instance by examining the most suitable structure, identifying incentives for all the parties involved, evaluating, and providing suggestions on regulations.

RESEARCH METHODOLOGY

Four social issues have been selected for this study, namely educational development, health promotion and disease prevention, small and medium-sized enterprise promotion, and skills development and employment promotion. The research methodology used is participatory action research in addition to literature reviews and case studies.

To start, the researchers collected secondary data by reviewing all the relevant documents related to SIPM in other countries. The researchers focused on such issues as social services, funding, and SIPM management and evaluation. By doing so, they were able to examine the conditions for success, the problems and obstacles encountered, the budgets available for each social project, and the outcome and impact of previous projects.

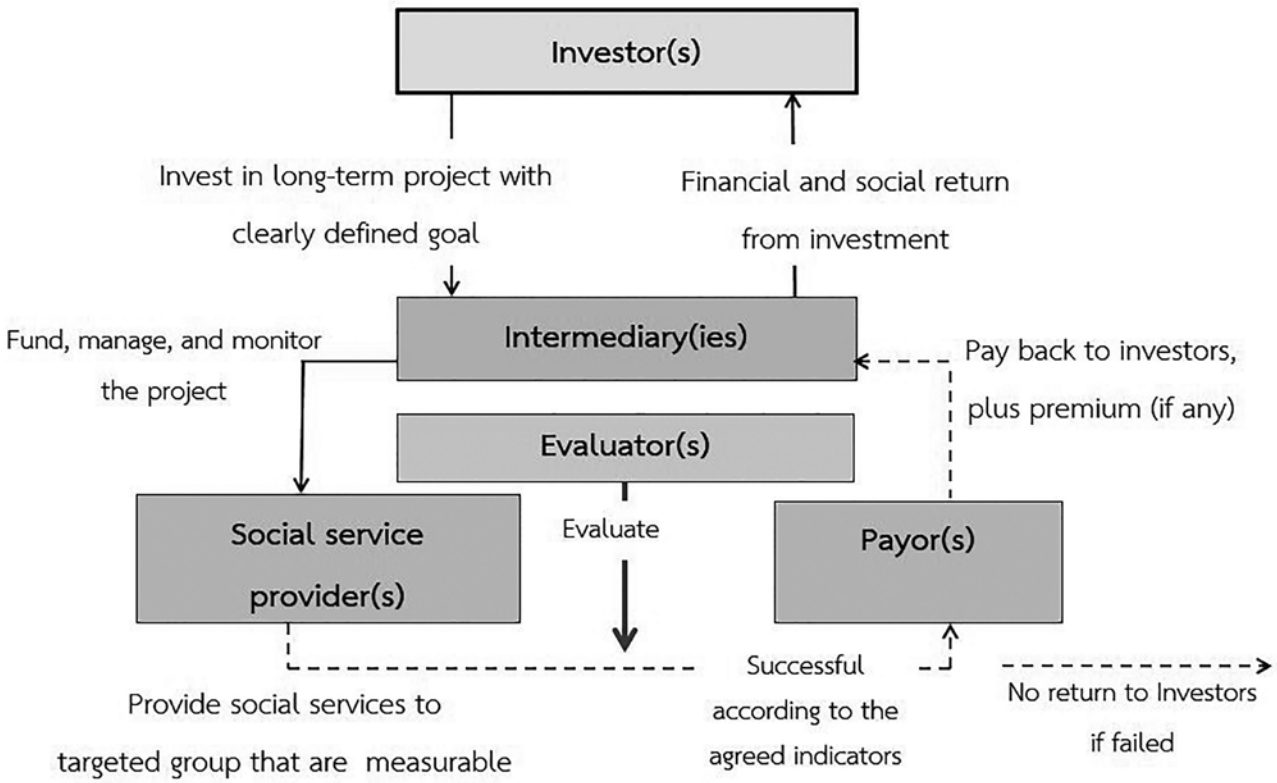
The researchers then collected primary data by using the following methods:

- Conducting in-depth interviews of Thai and foreign experts from the public, private and social sectors. The methods used for the interviews were face-to-face interviews, telephone calls, and e-mail.
- Carrying out focus group discussions with experts and those who are interested in or might be able to get involved in the SIPM project in Thailand. The purpose of the focus groups was to elicit more dynamic ideas from a range of parties and to examine the feasibility of SIPM in Thailand. There were four sessions (one session for each issue) for the focus group discussions, with no more than 30 participants per session.
- Organizing a seminar to present the research findings, and obtaining feedback and suggestions from experts, interested organizations and the general public.

RESEARCH FINDINGS

SIPM involves the public, private and social sectors in coordinating and designing the structure of SIPM that is suitable for a selected social project. These parties would also be involved in managing the SIPM project, laying out regulations, providing funding, furnishing social services, implementing the project, and evaluating it. An SIPM project is a preventive project which provides early intervention aimed at preventing negative outcomes and reducing future social costs.

Figure: Social Impact Partnership Model



The figure above shows the general structure of such a model. An investor could be a single investor or multiple investors from the private sector or general citizens who jointly invest in a clearly defined project, such as providing extra classes for primary students from low-income families. The payor is usually from the public sector, that agrees to pay the principle plus interest to the investors if the SIPM project has met the outcome agreed upon at the beginning of the project. The responsibilities of the intermediary are to assist all parties during the agreement process, coordinate, and manage the overall project and the budget. A social service provider could be a charitable organization that has a proven track record of efficiency and achieving positive outcomes. The indicators of the outcome must be measurable, for example the rate of access to secondary education is at least 80 percent in a 10-year timeframe. The intermediary selects an independent evaluator to assess the outcome and impacts of the SIPM project.

The payor, or the government, that usually bears the cost of providing educational services then uses such costs to repay the investor if the project is successful, that is, it has met the criteria that had initially been agreed. Such a social investment model can solve the lack of funds problem among social service providers, and save the government budget by paying only for successful projects. The investors and general public also would benefit from financial returns and social outcome that is sustainable. Social impact partnership is also known as a social benefit bond, or pay for success.

There are three components of SIPM, as follows:

- Financing component – The initial fund can come from many sources, such as fund-raising through the selling of bonds, donations from philanthropists and businesses, as well as provision of public funds. Funds will then be provided to the social service provider to deliver the services according to the objective of the project. The government then repays the investors the initial fund and the return on it, as had initially been agreed, if the project becomes successful.
- Management component – Because an SIPM project involves many actors, having an intermediary can help coordinate between the different parties involved in designing and planning the project, recruiting service providers and evaluators, managing funds and monitoring service delivery, and facilitating the repayment process. At the same time, a small project may not need to have an intermediary if the payor can effectively manage the funds.
- Evaluation component – Since an SIPM project is aimed at creating tangible and measurable outcomes in order to build confidence among investors and the government that repayment can be made when the project becomes successful, the outcome of service delivery must be evaluated by an independent evaluator who is specialized in the area that requires evaluation; for this purpose the evaluator uses indicators which are relevant to the objective(s) of the project.

Findings of this research about SIPM that are suitable for Thailand in educational development, health promotion and disease prevention, small and medium-sized enterprise promotion, skills development and employment promotion are as follows.

1. Educational development

Thailand's major educational problem is the quality of education, which is reflected in the national average score of the Ordinary National Educational Test (O-NET), which is below 40 on a scale of 100. Therefore, an SIPM project should be developed in order to develop educational quality by increasing O-NET scores among secondary school students; it should involve the following actors:

- Investor: local and provincial administration organizations, as they have an annual budget for educational development.
- Intermediary: a special-purpose vehicle should be established.
- Payor: businesses with a social purpose, such as the Mitr Phol Group and Siam Cement Group, or the Education Technology Development Fund under Ministry of Education.
- Social service provider: Learn Education, a company which offers software for learning mathematics and science. The indicator is the O-NET score in science and math examinations of the group using the software compared with that of the control group. An educational expert may also suggest self-assessment during service delivery.
- Evaluator: university or research institute that is independent.

2. Health promotion and disease prevention

Health statistics show that there are many preventable diseases that Thai people are facing, and

SIPM projects can be developed to deal with them. In this research study, it is proposed that there are three projects, namely diabetes prevention, support for teenage mothers, and HIV/AIDS control and prevention, that are suitable; however, only the last one is presented here.

Currently, Thailand's health system provides antiretroviral drugs for people living with HIV/AIDS. In 2016, the National Health Security Office (NHSO) set a budget of 3,011.90 million baht to support 270,993 people living with HIV/AIDS. The government pays about 2,000 baht per person per month for the antiretroviral drug. However, if those persons do not receive their antiretroviral drug on a regular basis, they must be treated with a higher-dose drug to suppress the problem of drug resistance. This higher-dose drug can cost between 9,000 and 30,000 baht per person per month. Therefore, NHSO could save some of its budget for the future if HIV/AIDS can be controlled and prevented.

The following actors are involved:

- Payor: local government in those provinces where HIV infection is high.
- Intermediary: the Thai Red Cross Society or a newly established organization.
- Social service provider: the Provincial Public Health Office and local organizations.
- Investor: businesses supporting HIV/AIDS prevention projects, such as the BMW Group.
- Evaluator: medical specialists in HIV/AIDS.

3. Promotion of small and medium-sized enterprises

The government has many projects for supporting small and medium-sized enterprises. However, these are usually uncoordinated, overlap, are not holistic, and do not respond to the actual needs of such enterprises. Business organizations, such as the Federation of Thai Industries, the Thai Chamber of Commerce, and the Tourism Council of Thailand, which are more familiar with small and medium-sized enterprises should therefore provide support through a holistic business and professional skills development project.

The following actors are involved:

- Payor: Office of Small and Medium Enterprises Promotion.
- Intermediary and service provider: the Federation of Thai Industries, the Thai Chamber of Commerce, and the Tourism Council of Thailand.
- Target population: small and medium-sized enterprises which had previously been supported by the three above-mentioned business organizations.
- Evaluator: Office of Small and Medium Enterprises Promotion and other related organizations, such as the Department of Industrial Promotion, depending on the activity concerned.

4. Skills development and employment promotion.

It was found that many groups face difficulties in finding employment, such as unemployed people among the general public, workers with vertical and horizontal mismatches in terms of their education, field of study or skills, workers who lack skills in general, disabled persons, and former prisoners.

The following actors are involved:

- Payor: Fund for Empowerment of Persons with Disabilities.
- Intermediary: Thai Health Promotion Foundation and other social organizations.
- Investor: businesses and philanthropists.

- Service providers: foundations, social organizations, and social enterprises, which provide such services as a suitable workplace for disabled persons, developing skills that the business sector needs, and job placement.
- Evaluator: university or research institute.

POLICY RECOMMENDATIONS

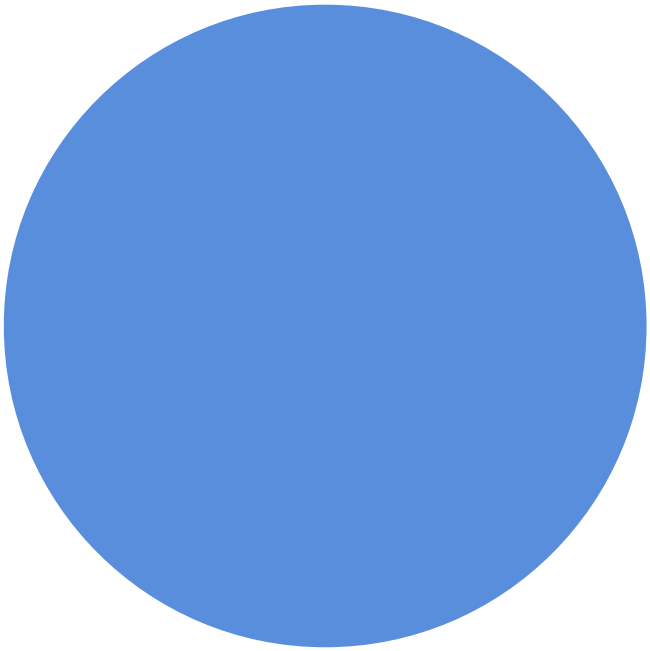
In this research study, the following policy recommendations are proposed:

Recommendations for immediate action

1. As a major beneficiary of the success of SIPM programs, the government should be a major actor to form and encourage the model for use in Thailand. Because the government can save budget, including for human resources and equipment, by selectively paying returns only on achieved projects. This action will also assure potential investors about the government's commitment to the project.

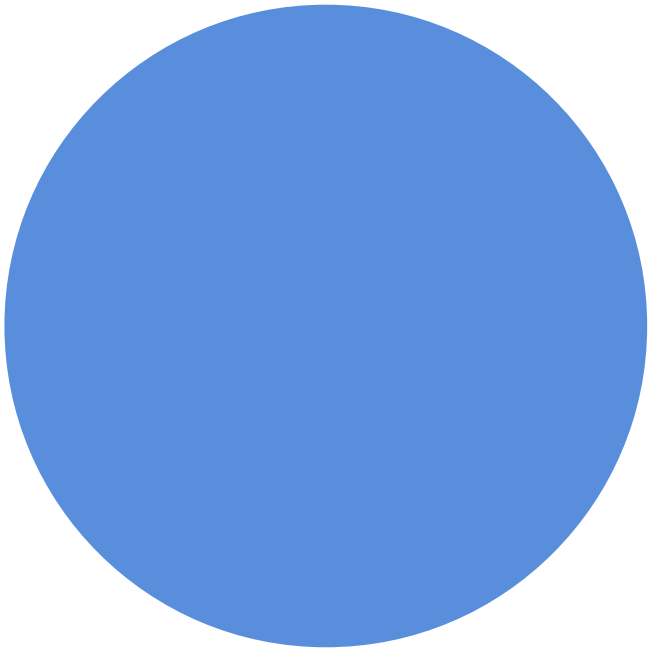
Initially, the government should set up an open platform for exchanging opinions and sharing information on best practices to design an appropriate SIPM in Thailand. The platform should function as a social consultancy service, akin to the Council for Social Action, which is the introductory form of social finance – an intermediary organization for SIPM programs in the United Kingdom. This platform will become a main mechanism for SIPM in the long term.

2. Government agencies should start collecting data, such as the unit cost in each public service within each agency's area of responsibility. There should also be a calculation and analysis of social return on investment for the service planned to be conducted under the SIPM program, as such data will be used to evaluate the potential of the program.



3. An SIPM project should be small and area-based in order to tackle social issues in an in-depth manner, or several projects that operate in various areas but can be linked together to generate outcome at the national level. An SIPM project suitable for Thailand should comprise the following components:

- Financing component – Payor should be established funds, the purposes of which are related to the project such as the Fund for Empowerment of Persons with Disabilities, and the Fund for Small and Medium Enterprises Promotion. Issues for which there is no established fund may use the government's budget set aside for each issue. Because there is currently no law that permits the government to pay investors, in the short run the government should use tax rebate measures



in cases where an SIPM project becomes successful. In the long term, after the laws and regulations are amended, and the investors are consulted, the government should repay the investors the agreed return.

- Management component – Because SIPM requires many parts of society to work together, there should be an intermediary to coordinate and support every step of the project, such as designing and planning together with the payor and investor, finding and selecting service providers, managing the fund and monitoring service provision, finding an evaluator, and facilitating the repayment. The intermediary must be non-governmental and non-profit, independent, and have no conflict of interest with any party involved in the project.
- Evaluation component – Because an SIPM project is aimed at creating concrete and measurable outcomes in order to build confidence among investors and ensure that the government will pay only for successful projects, it is vital to have indicators which are truly related to the goal of the project. The evaluator must have the necessary skills and experience in evaluation and have no conflict of interest with any party. An evaluator can be a university or a research institute which is familiar with social impact assessment tools, such as social return on investment.

A pilot project has to be either initiated or openly supported by the government to encourage the private sector and social sector to participate in the project. A feasibility study for the pilot project should be conducted. There may be more than one pilot project with different objectives and small target groups. Most importantly, all the data in pilot projects must be systematically stored for future use.

It should be noted that SIPM may not be suitable for all public services. Some services must be executed by the government because the law stipulates so, for example the police service. Moreover, investors are interested in investing in particular areas, usually those that they regard as beneficial, such as the promotion of small and medium-sized enterprises or areas which traditionally attract donations for such purposes as education and support for the underprivileged.

4. The concept of SIPM must be promoted among relevant parties, such as government departments, businesses, social organizations, and the general public. In addition to communicating about the framework, strengths and limitations of SIPM, the concept of social investment must also be

promoted to replace the concept of making donations with no return on them and no evaluation of their effectiveness.

Long-term recommendations

1. The government and relevant ministries, such as the Ministry of Finance, should consider amending laws and regulations in order to facilitate the initiative of SIPM projects. Examples of laws that should be reviewed are:
    - The Public Debt Management Act, B.E. 2548 (2005) in cases when issuing bonds is necessary in order to raise funds from the public, and especially if the government wants to scale up the project which previously was able to achieve a desirable outcome.
    - The Budget Procedures Act, B.E. 2502 (1959), to ensure that the government can repay investors.
    - A holistic law which could support the implementation of SIPM as in the case of the United States Social Impact Partnership Act, which specifies the source of budget, the role of public organizations, permission for making government-to-business payments under the SIPM scheme, or the establishment of an intermediary institution, which would take part in collecting data and consulting stakeholders.

2. To promote collaborative integration of all sectors, there should be a non-profit intermediary which has specific functions in operating long-term mechanisms without any conflict of interest involving other actors. This organization should employ experts in many fields, such as social, financial, and data management. Its roles should cover consulting services for interested groups, and technical assistance, such as training in service provision, accounting management for social service providers, and evaluation training, such as on the social return on investment method.

Moreover, Social Finance United Kingdom could be invited to help in setting up and running an SIPM project in Thailand as an intermediary, which has been done in many countries. For example, Israel and the United States set up their own Social Finance (Social Finance Israel and Social Finance US), while Canada and Portugal invited Social Finance to give advice to local organizations selected to act as intermediaries in the countries.

3. In the case of successful pilot projects, the results should be made known among the general public in order to encourage the participation of the private and social sectors. Principal plus interest could be returned to investors if the project succeeds, while tax reduction could be provided if the project could not achieve its goals.

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Nonarit Bisonyabut
*Wichaya Peechapat**

* *Dr. Nonarit Bisonyabut is Research Fellow, and Ms. Wichaya Peechapat is Researcher, Macroeconomic Program, TDRI.*

1. INTRODUCTION

Inequality has become one of the most important global issues today. Famous economists, such as Thomas Piketty[1] and Joseph Stiglitz,[2] have come forward to point out that the "trickle down" economic effect suggested by the famous Kuznets curve[3] may not be achievable in reality.

In the case of Thailand, records from the past show that the inequality situation has been improving, even in the period following the deep 2008/09 financial crisis triggered by the collapse of United States subprime loans, a period often called the "Great Recession" (Figure 1).

Figure 1 shows that the GDP Growth rate on average during the period 2000-2007 was 5.19 percent (dashed line) while GDP growth on average in the period 2008-2016 dropped to 2.98 percent. Gini coefficients declined from 0.52 to 0.45 between 2000 and 2015.

Figure 1 depicts Thailand's annual GDP growth rate between 2000 and 2016 (bar graph). The average GDP growth rate was about 5.19 percent (dashed line) in the sub-period before the start of the 2008/09 financial crisis. However, average GDP growth after the crisis was only 2.98 percent (dashed line), which was much lower than before. On the positive side, Gini coefficients, a measure of the severity of inequality, have consistently declined, from 0.52 in 2000 to 0.45 in 2015 (solid line).

Yet, there is much evidence showing that the current economic recovery may not be broad-based. For example, income data from household surveys indicate that, despite the fact that Thailand's economy in the first half of 2017 was growing by 3.5 percent, the income of the bottom 40 percent of households actually decreased.[4] Also, the recent economic recovery is driven mainly by the export sector, which consists of mostly medium to large-size firms. Therefore, the current economic recovery should be classified as strong on the outside but weak on the inside; in other words, it has been strong for companies whose revenues are from abroad and weak for companies that mainly attract local revenues.[5]

This situation reflects a "concentration of wealth and spread of poverty," which is roughly defined as a situation in which the distribution of economic gains is concentrated in the group that is wealthier and has more political power than the other groups in the market.

This paper is focused on the concentration of wealth and spread of poverty in Thailand's stock market, which is one of the key distributive channels for economic gains. The main hypothesis for this paper is that firms listed on the stock exchange are, on average, relatively larger than other firms outside, and powerful and wealthier individuals can gain access to obtain profits from this market much easier than others. Hence, the concentration of wealth and spread of poverty in the stock market, if it ever happens, would benefit the rich more than others and aggravate the country's inequality problem.

The paper is organized as follows. In section 1, there is an explanation of the motivation for conducting this research. Section 2 briefly covers some basic background and explains the methodologies of the analysis applied in this paper. Next, in section 3, the results of inequality analyses are displayed using data from the stock market of Thailand; it is divided into two parts. One part covers analysis of the return on assets (ROA), and the other covers analysis of the net profit of firms listed on both

[1] *Piketty, T. 2015. The Economics of Inequality. Cambridge: Harvard University Press.*

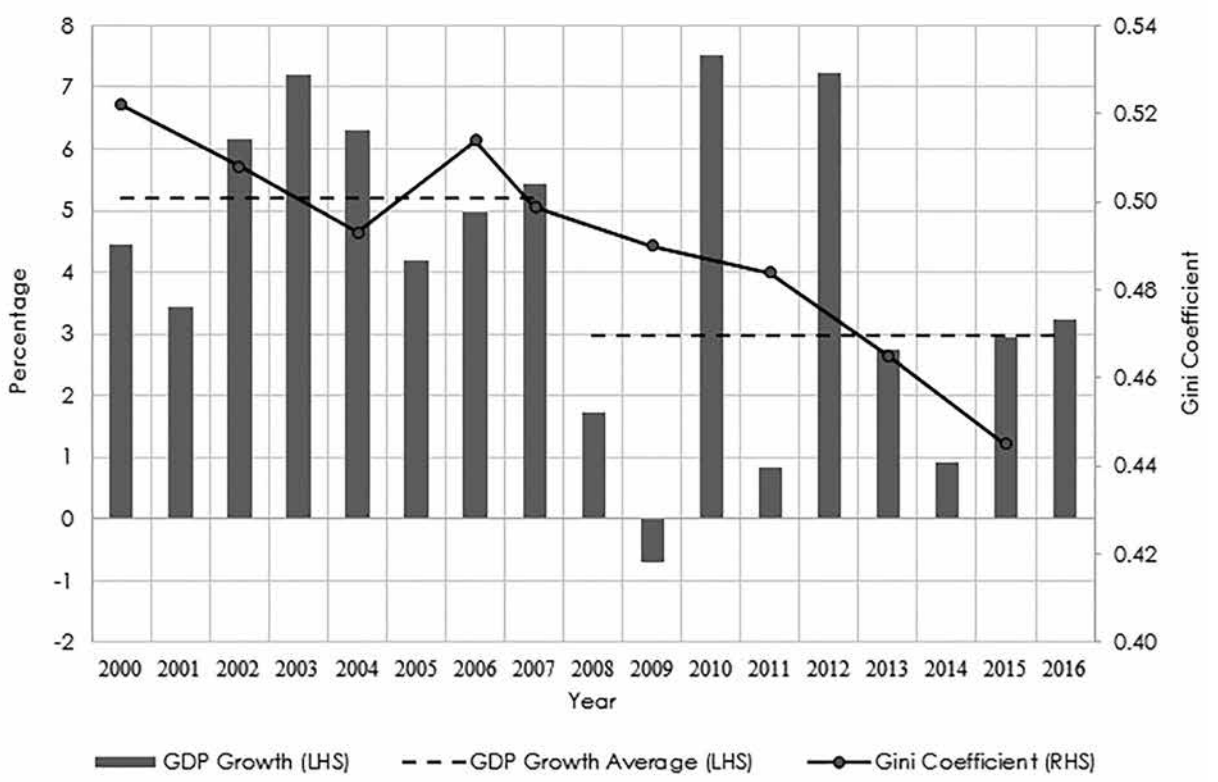
[2] *Stiglitz, J. E. 2012. The Price of Inequality: How Today's Divided Society Endangers Our Future. New York: W.W. Norton & Company.*

[3] *Kuznets, S. 1955. "Economic growth and income inequality." American Economic Review Vol. 45 No. 1 (March).*

[4] *Sukkumnert, D. 2017. "Deep down Thai economy: Hard and soft side." GM Live. (in Thai)*

[5] *Jawala, A. 2017. "Why does the Thai economy concentrate wealth and spread poverty?" Thairath. (in Thai)*

Figure 1: Thailand's GDP growth rate and Gini coefficients from 2000 to 2016



Source: World Bank, with authors' calculations.

the Stock Exchange of Thailand and the Market for Alternative Investment. Finally, the last section provides a brief summary.

2. SOME BASIC BACKGROUND AND METHODOLOGY

It is useful to lay out some of the basic background on Thailand's stock market. The stock market of Thailand serves as an intermediary for fundraising on behalf of its member companies. The market is divided into two major markets: the Stock Exchange of Thailand (SET), a market for member companies with more than 300 million baht in paid-up capital, and the Market for Alternative Investment (MAI), a market for small and medium-sized enterprises, having more than 20 million baht in paid-up capital. Using stock price movement, liquidity and current market value as indicators, member companies in the SET are generally classified into three groups: Top 50 (SET50), Top 100 (SET100), and Others (Non-SET100), in which the top firms are the ones that enjoy solid price movement with high liquidity and high current market value.

To examine the concentration of wealth and spread of poverty in Thailand's stock market, this paper applies two approaches, including analysis of ROA statistics, and of net profit distribution of the member firms in both SET and MAI.

The first approach involves analysis of

ROA statistics. ROA is an indicator measuring how profitable a company is relative to its total assets. A company with a higher ROA ratio is relatively more efficient in using its assets to generate earnings and has better growth prospects than those with a lower ROA. Technically, ROA is calculated as the ratio of:

$$ROA = \frac{Net\ income}{Total\ assets}$$

Alternatively, one may ignore the cost of financial debt and/or may use the average of total assets from different periods to calculate ROA as:

$$ROA = \frac{Revenue - Operating\ expenses}{Average\ total\ assets}$$ [6]

In this paper, the formula in the second definition is employed for the analysis; it is also commonly used by SET.

The second approach analyzes the net profit of firms in both SET and MAI. In this paper, three comparisons are used to examine the current inequality status of the firms in the stock market: (a) comparison of each firm's profitability; (b) comparison of profit-sharing among SET and MAI firms; and (c) comparison of each firm's performance, by industry.

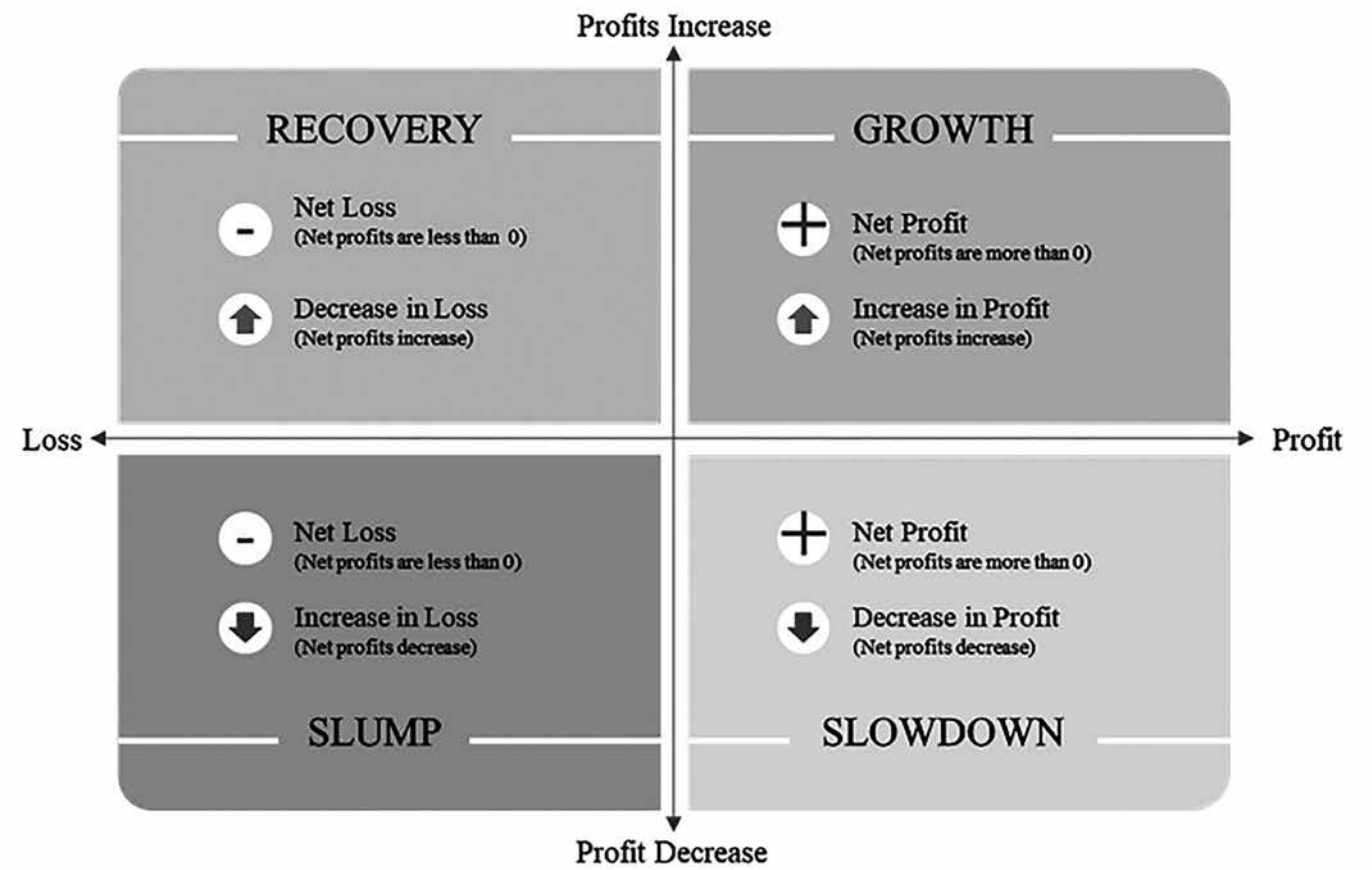
The first comparison is aimed at providing an overview of the overall profitability of all firms in the stock market. Both SET and MAI firms are classified into four groups based on net profit (positive or negative) and change in net profit (positive and negative): (a) Growth (positive in both net profit and change in net profit); (b) Slowdown (positive net profit and negative change in net profit); (c) Recovery (negative net profit and positive change in net profit); and (d) Slump (negative in both net profit and change in net profit). Each group represents the current status of the firm's profitability. A positive net profit signifies that the firm is making a profit, and a positive change in net profit implies that the firm is doing better than previously (Figure 2). Lastly, the firm's profitability is compared among three different broad groups (SET100, Non-SET100, and MAI) by counting the number of firms for each profitability status (Figure 2) for each firm's broad group. It is important to point out that the three

[6] *The formula to calculate average total assets in a period (t) is*

$$Average\ total\ assets = \frac{Total\ assets_{t-1} + Total\ assets_{t}}{2}$$

Where t stands for the current target period of the study (i.e. the second quarter of 2017 for the present paper) and t-1 indicates the period before the current time (i.e. the first quarter of 2017).

Figure 2: Classification of SET and MAI firms



Source: Authors' classification.

broad groups represent relatively large, medium, and small firms respectively in that order.

In the second comparison, profit-sharing among firm groups is examined by calculating the total net profit, total change in net profit, the average of net profit, and the average of change in net profit by three broad groups: firms in SET100, firms in Non-SET100, and firms in MAI. Then, the profitability of the three groups is considered using the cumulative summation of net profit and change in net profit by firm size. The cumulative summation is calculated by sorting the net profit from the highest to the lowest for each group, and cumulatively summing the net profit from the first firm in the first group (SET100) to the last firm in the last group (MAI). The resulting cumulative curve shows to what extent profits are concentrated in the top firms.

The third comparison is focused on industry comparison. Some industries may have gained more profits than others during the current economic recovery. The analysis also categorizes industries into four groups in the same way as in the first comparison. In this paper, industry is broadly disaggregated into 30 sub-industries (Table 1), which is consistent with the classification system used by the stock market authority.

Table 1: Sub-industries and sector symbol

Sub-industries	Sector symbol
Agribusiness	AGRI
Food & beverage	FOOD
Fashion	FASHION
Home & office products	HOME
Personal products & pharmaceuticals	PERSON
Banking	BANK
Finance & securities	FIN
Insurance	INSUR
Automotive	AUTO
Industrial materials & machinery	IMM
Packaging	PKG
Paper & printing materials	PAPER
Petrochemicals & chemicals	PETRO
Steel	STEEL
Construction materials	CONMAT
Construction services	CONS
Property development	PROP
Property fund & real estate investment trusts	PF&REIT
Energy & utilities	ENERG
Mining	MINE
Commerce	COMM
Health-care services	HELTH
Media & publishing	MEDIA
Professional services	PROF
Tourism & leisure	TOURISM
Transportation & logistics	TRANS
Technology	TECH
Electronic components	ETRON
Information & communication technology	ICT
Others	OTHER

Source: Stock Exchange of Thailand.

The analyses cover 648 companies in both SET and MAI, excluding only those companies delisted in the first half of 2017. The analysis of ROA employs data from the first quarter of 2014 to the second quarter of 2017, and the analyses of the net profit distribution compares the first-half statistics between 2016 and 2017.

3. RESULTS OF THE INEQUALITY ANALYSES

3.1 Analysis of the return on assets statistics

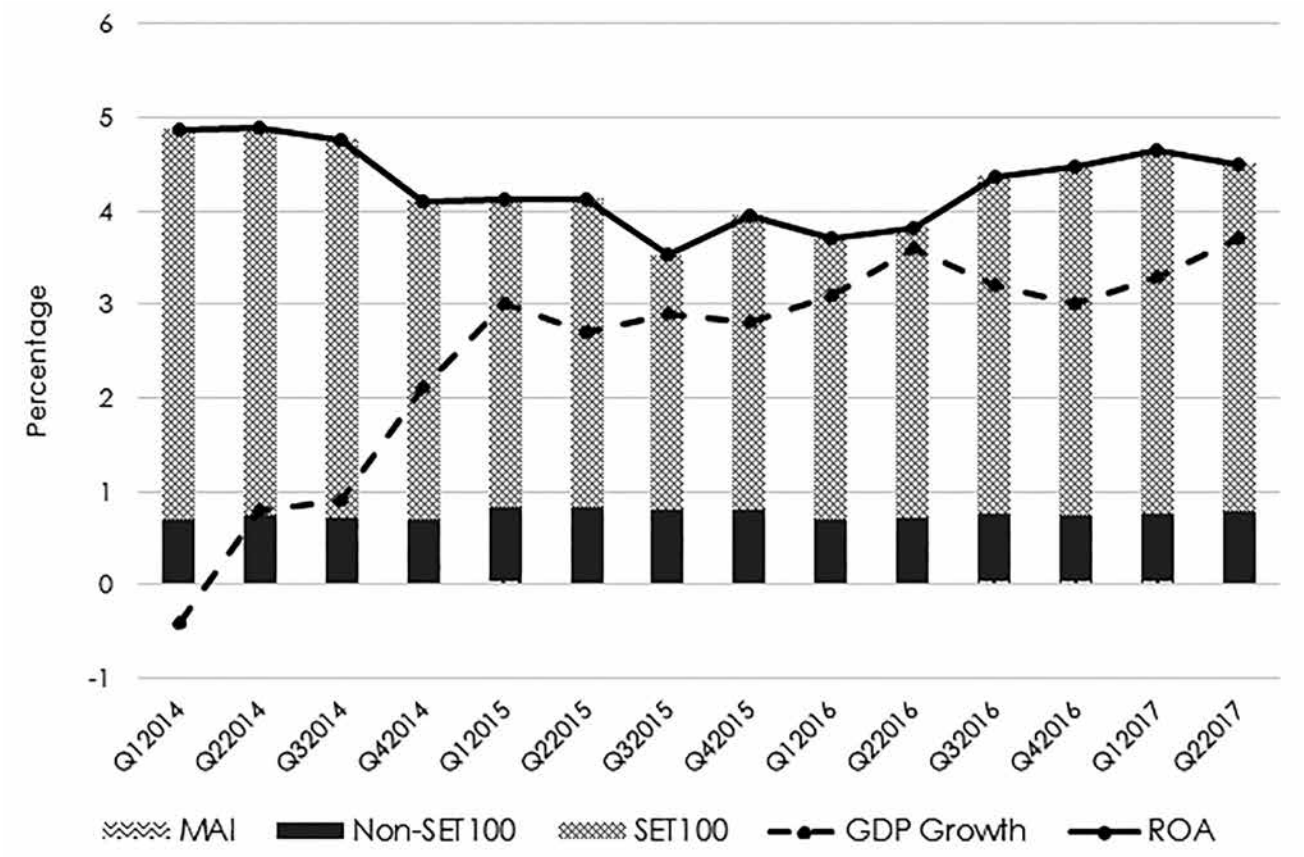
The results of the analysis of the ROA statistics are presented in this section. In this paper, the ROA statistics are compared with the GDP growth rate as a measure of inequality between firms in the stock market and firms not in the stock market. Because the GDP growth rate is the average of all activities in the economy, if the ROA statistics are larger than the GDP growth rate, then firms in the stock market are making more profits than those outside the stock market. On the contrary, if the ROA statistics are smaller than the GDP growth rate, then the opposite is true.

In the analysis it is found that, between the first quarter of 2014 and the second quarter of 2017, the ROA statistics (solid line) are always higher than the respective GDP growth rate (dashed line) (Figure 3). The differences between the two are an average of 1.8 percent. These two facts imply that firms in the stock market are getting more benefits from the ongoing economic recovery while the other firms in the country outside the stock market are at a disadvantage.

The ROA statistics can further be disaggregated by the sources of return for different firm size groups. In Figure 3, the total value of ROA (bar graph) is shown as the sum of profits from three firm size groups (SET100, Non-SET100, and MAI). Remarkably, the share of profits from SET100 is the largest and contributes up to 82.2 percent of all returns. On the contrary, the share of profits from MAI, barely seen on the graph, is only 0.6 percent. The difference in the contribution of profits from different size firms leads to a further examination to determine whether there is an inequality issue among firms in the stock market, which is the main subject of the subsequent sections.

Figure 3 shows comparison between the GDP growth rate (dashed line) and ROA statistics (solid line) from the first quarter of 2014 to the second quarter of 2017. The GDP growth rate of Thailand gradually recovered from negative GDP

Figure 3: GDP growth rates and return on assets



Source: World Bank, with authors' calculations.

growth (-0.4 percent) in the first quarter of 2014 to a growth rate of 3.7 percent in the second quarter of 2017. In contrast, ROA statistics fluctuated between 3.5 and 5 percent for the entire period. In addition, Figure 3 also depicts the net contributors to ROA by firms in three broad groups (SET100, Non-SET100, and MAI), which are shown by three different layouts in the bar graph.

3.2 Analysis of the net profit of firms in the Stock Exchange of Thailand and Market for Alternative Investment

In this section, the inequality situation among firms in the stock exchange market is examined using three different methods. Each subsection provides deeper understanding of the inequality in different aspects.

3.2.1 Comparison of firms' profitability

The results of the analysis of firms' profitability (Table 2) revealed that larger firms (SET100, Non-SET100), in general, are more profitable than smaller firms (Non-SET100, MAI), which is shown by the higher percentage of firms in the Growth group and by the lower percentage of firms in the Slump group. Interestingly, the large number of firms in the Slowdown and Recovery groups imply that some firms in their respective groups are weaker than their peers.

In addition, despite the fact that the econo-

Table 2: Overall profitability status of firms in different broad groups

		Growth	Slowdown	Recovery	Slump	Total
First half 2016-2017	SET100	59 (59.0%)	35 (35.0%)	0 (0.0%)	6 (6.0%)	**100** (100%)
	Non-SET100	179 (43.8%)	141 (34.5%)	26 (6.7%)	63 (15.4%)	**409** (100%)
	MAI	53 (38.7%)	36 (26.3%)	11 (8.0%)	37 (27.0%)	**137** (100%)
	Total	**291** (45.0%)	**212** (32.8%)	**37** (5.7%)	**106** (16.4%)	**646** (100%)
First half 2015-2016	SET100	64 (66.0%)	29 (29.9%)	2 (2.1%)	2 (2.1%)	**97** (100%)
	Non-SET100	195 (49.1%)	111 (28.0%)	18 (4.5%)	73 (18.4%)	**397** (100%)
	MAI	69 (55.6%)	21 (16.9%)	10 (8.1%)	24 (19.4%)	**124** (100%)
	Total	**328** (53.1%)	**161** (26.1%)	**30** (4.69%)	**99** (16.0%)	**618** (100%)

Source: Bank of Thailand and the Stock Exchange of Thailand, with authors' calculations.

my was improving between the two periods, the number of firms in the Growth group declined between the first half of 2016 and the first half of 2017. The number of firms in the Slowdown and Slump groups also increased during the same period, which happened in most of the cases (SET100, Non-SET100, MAI, Total), except for the number of firms in the Slump group for Non-SET100, which decreased from 73 to 63 firms.

To sum up, the comparison of firms' profitability shows that there are two types of inequality in the stock market. One is the inequality between firms of different size (between broad firm groups); the other is the inequality between firms of the same size (within each broad group). All of these findings imply that profits are unequally distributed among firms in the stock market.

Table 2 shows the overall profitability status of firms in different broad groups. SET and MAI firms are classified into four profitability categories based on net profit and change in net profit and are sorted into three broad groups (SET100, Non-SET100, and MAI).[7] In general, about 45-53 percent of firms are in the Growth group and about 26-32 percent of firms are in the Slowdown group. The percentage of firms in the Recovery and Slump groups is about 4-5 percent and 16 percent respectively. In considering each broad firm group, it can be seen that the majority of firms in the SET100 and Non-SET100 groups fall into the Growth and Slowdown groups. However, the majority of firms

[7] *For more details, see section 2.*

Table 3: Net profit in SET, by size of firms, in the first half of 2017

	Net profit (2016)	Net profit (2017)	Change in profit (2016-2017)	Net profit per firm (2016)	Net profit per firm (2017)	Change in profit per firm (2016-2017)
SET100	368,734	401,811	33,077	3,801	4,018	330
Non-SET100	75,081	84,890	9,809	189	207	24
MAI	3,545	1,944	-1,600	29	14	-11
Total	**447,360**	**488,646**	**41,287**	**724**	**756**	**64**

Source: Stock Exchange of Thailand, with authors' calculations.

in the MAI group fall into the Growth, Slowdown and Slump groups.

3.2.2 Comparison of profit sharing among SET and MAI firms

The results of the analysis of profit sharing among the SET and MAI firms are shown in Table 3. In that table, it may be observed that the total net profit of all firms increased by 41,287 million baht between the first half of 2016 and the first half of 2017, from 447,360 million baht in the first half of 2016 to 488,646 million baht in the first half of 2017. On average, the net profit of all firms increased from 724 million baht per firm to 756 million baht per firm, which is equivalent to an increase of 64 million baht per firm when taking into account the change in the total number of firms between the two periods.

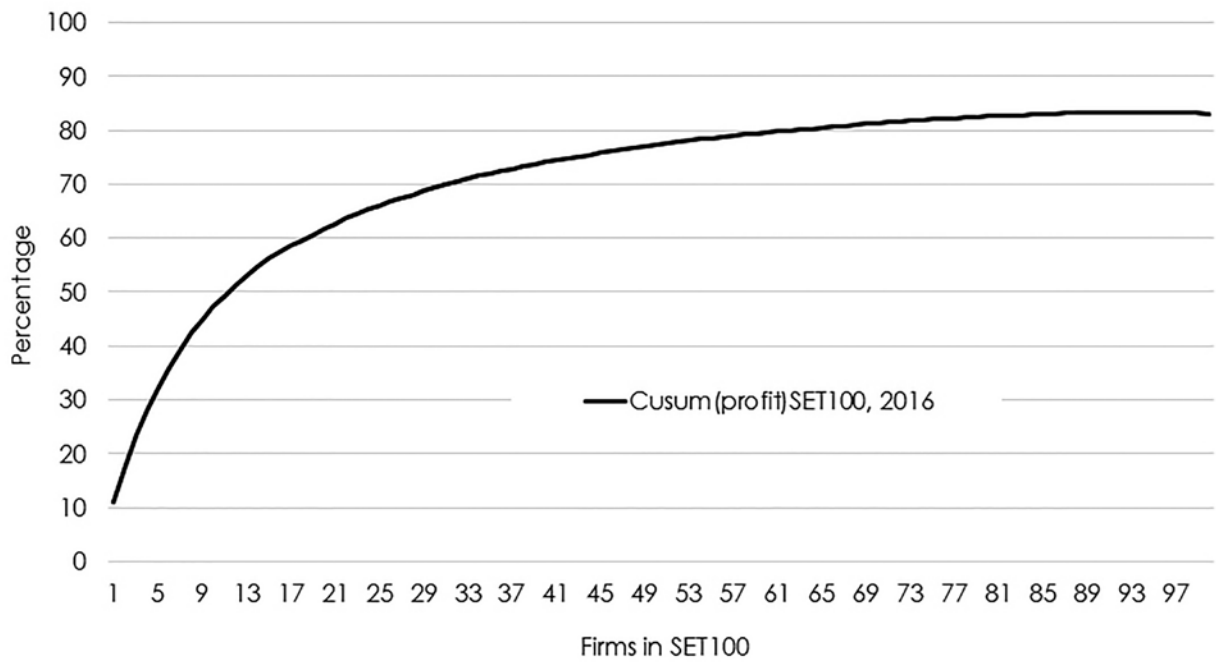
In comparing the three broad firm groups between the two periods, firms in the SET100 have the highest net profit gains, both in total value (an increase of 33,007 million baht) and in average value (an increase of 330 million baht, on average, per firm). Non-SET100 firms also gained a good share of profits, with a gain of 9,809 million baht in total net value, or an average of 24 million baht per firm. Unfortunately, MAI firms experienced a negative return of 1,600 million baht in the value of total losses, or an average of 11 million baht per firm. This comparison affirms the inequality situation observed in the previous subsection, with additional information that not only are large firms gaining more profits but also firms at the bottom (MAI firms) are worse off following the recent economic recovery.

Next, the cumulative curves in Figures 4, 5, and 6 depict the degree of profits concentrated in the top firms.

Figure 4 depicts a cumulative curve representing the profit-sharing situation in the SET100 firms in the first half of 2017. The higher cumulative sum line would imply that few firms had a higher profit share of all net profits in the stock market; hence, this would indicate a higher degree of profit concentration.

The current inequality situation in the Stock Exchange of Thailand, insinuated by the cumulative curve, is that the top 20 firms have a shared profit of 63.27 percent of all net profits in the stock market, and all 100 firms in the SET100 have 82.81 percent of such profits.

Figure 4: Cumulative curve of SET100 firms in the first half of 2017



Source: Bank of Thailand and The Stock Exchange of Thailand, with authors' calculations.

In Figure 5, the cumulative curve in Figure 4 has been disaggregated into two components: the cumulative net profit curve of the first half of 2016 and the cumulative change in the profit curve between the first half of the 2016 and the first half of 2017. If the former curve is below (above) the latter curve, firms at the top will have a higher (lower) share of profits between the two periods than in the first half of the 2016; hence, net profit would be more (less) concentrated in the top firms in the first half of 2017 than in the first half of 2016 when the cumulative curve of the first half of 2017 was higher (lower).

As shown in Figure 5, the cumulative net profit curve of the first half of 2016 (solid line), being well below the cumulative change in the net profit curve between the first half of 2016 and the first half of 2017 (dashed line), indicates that net profits were more concentrated in the top firms in the first half of 2017.

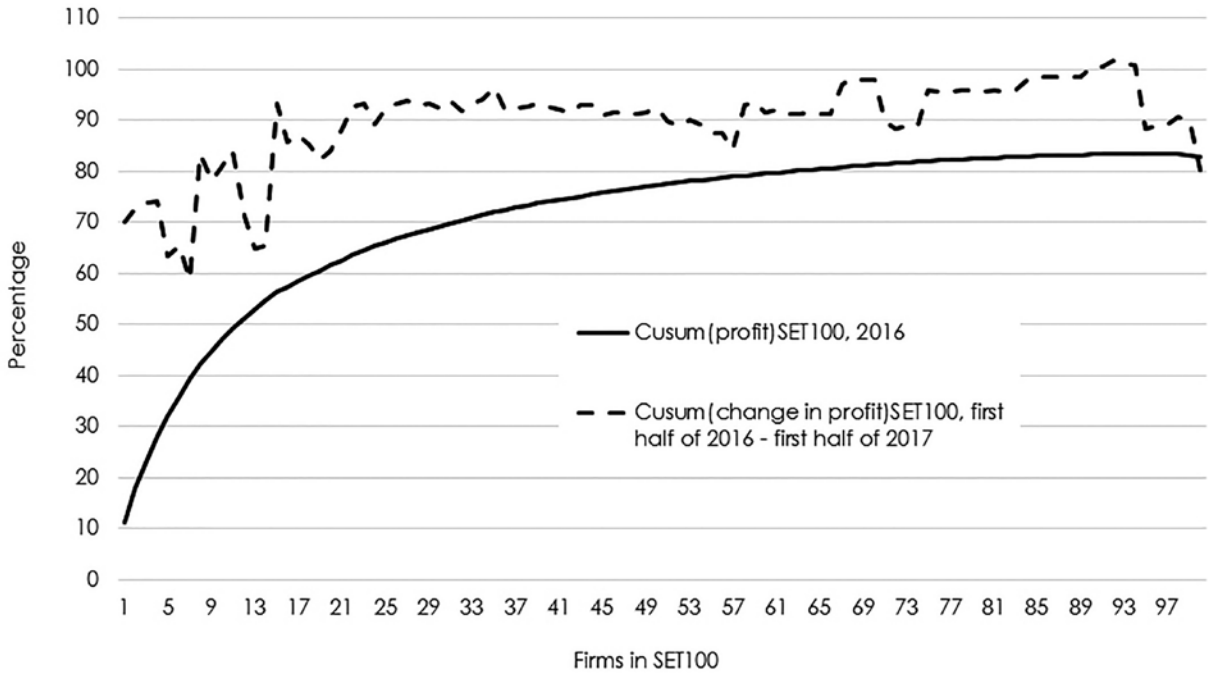
Finally, the analysis is extended to cover not only the SET100 firms but also Non-SET100 and MAI firms (Figure 6). The results are shown in Figure 6.

Surprisingly, for Non-SET100 firms, which are shown in the previous section as having an inequality issue within the group, the inequality situation improved in the first half of 2017, which implies that profit sharing of firms in the group became more even.

For MAI firms, the result is mixed. The top 17.5 percent of MAI firms appear to have gained relatively more profits, while 8.0 percent of the bottom firms had relatively more equal profits.

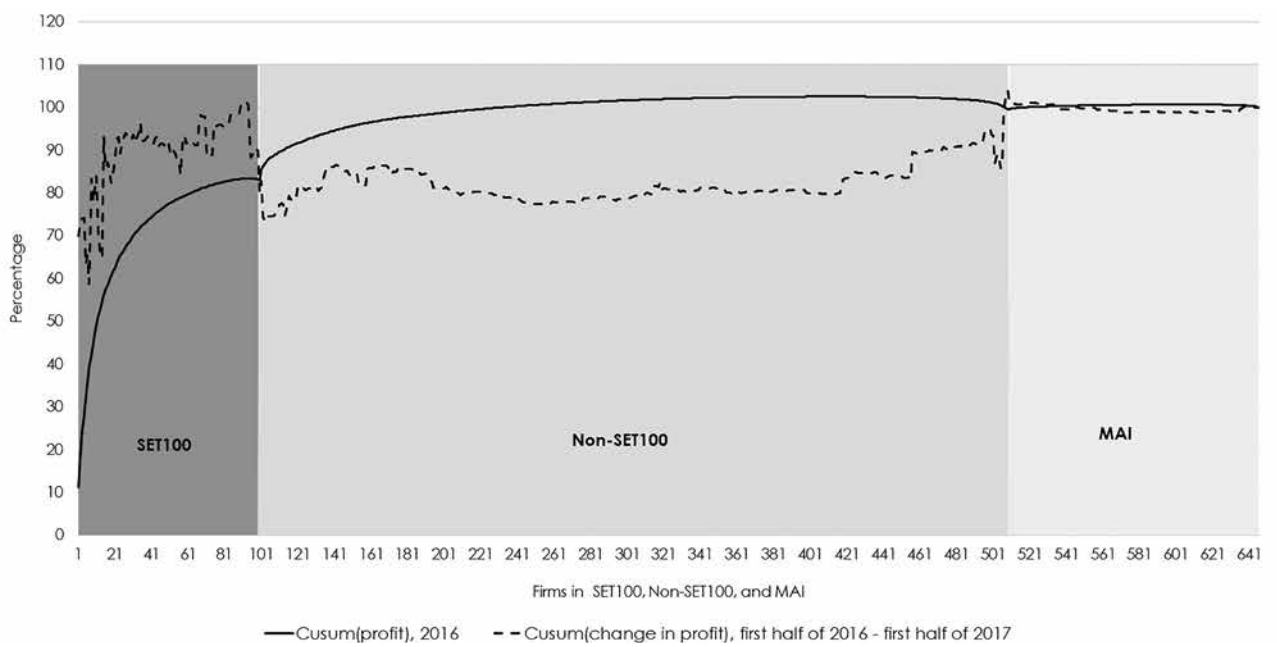
In this section, a close look is taken into the inequality issue of profit sharing among firms in the stock market. The cumulative curves show that inequalities may be observed within and between all three broad firm sizes. However, the inequality

Figure 5: Cumulative net profit curve of the first half of 2016 and the cumulative change in net profit curve between the first half of 2016 and the first half of 2017 (Only SET100 firms)

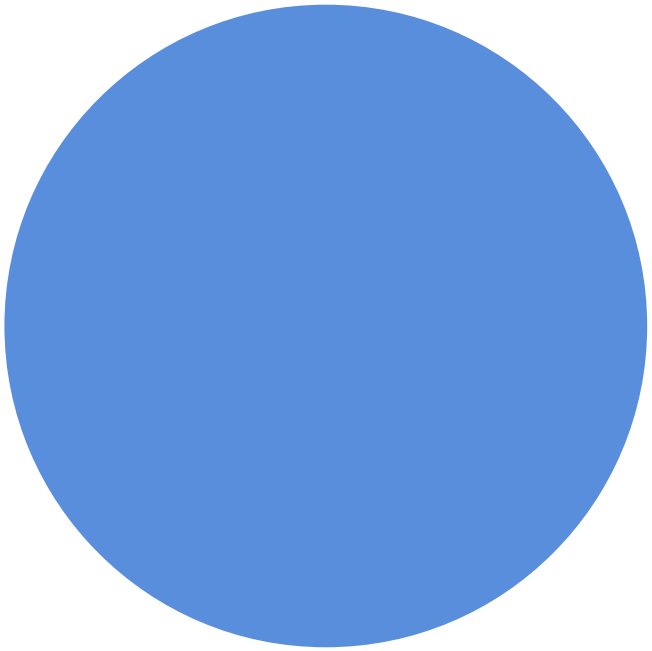


Source: Bank of Thailand and Stock Exchange of Thailand and the author's calculations.

Figure 6: Cumulative net profit curve of the first half of 2016 and the cumulative change in net profit curve between the first half of 2016 and the first half of 2017 (All three broad groups)



Source: Bank of Thailand and Stock Exchange of Thailand, with authors' calculations.



situation worsened in the SET100 and top firms in the MAI groups and lessened in the Non-SET100 and bottom firms in the MAI groups. Thus, profits were found to be concentrated in the top firms (in both the SET and MAI markets), with poverty spread among the laggard firms.

3.2.3 Comparison of firms' performance by industry

In Figure 7, firms' performance is depicted using a two-dimensional graph. The horizontal axis shows industries' net profit in the first half of 2017, and the vertical axis displays industries' change in profits between the first half of 2016 and the first half of 2017.

Using the net profit as a main benchmark, industry performance can be classified into three groups: one group having superior net profits includes only one industry (ENERG); the second group having moderate net profits comprises FIN, HELTH, TRANS, COMM, FOOD, PETRO, TECH, PROP, ICT, CONMAT and BANK; and the last group, which had very low net profits is constituted by the remaining industries: ETRON, INSUR, FASHION, AUTO, PKG, MEDIA, TOURISM, IMM, MINE, PERSON, PROF, HOME, REHABCO, PAPER, AGRI, STEEL, CONS, OTHER.[8]

In comparison, the ENERG industry outperformed other industries in both net profits and change in net profits. Its profit was at 31.37 percent of all net profits and 105.91 percent of all changes in net profits. In the second group, the BANK industry led the group in terms of net profits, but its profits were somewhat the same (unchanged from the previous year). For other industries in the second group, six of them showed a positive change in net profits, while four of them had a negative change in net profits. The net profits of all of these industries seem to stay somewhere in this region, except for the ICT industry, which experienced a strong negative change in net profits. Finally, the last group seems to be on a declining trend, with only six industries having recorded a positive change in net profits.

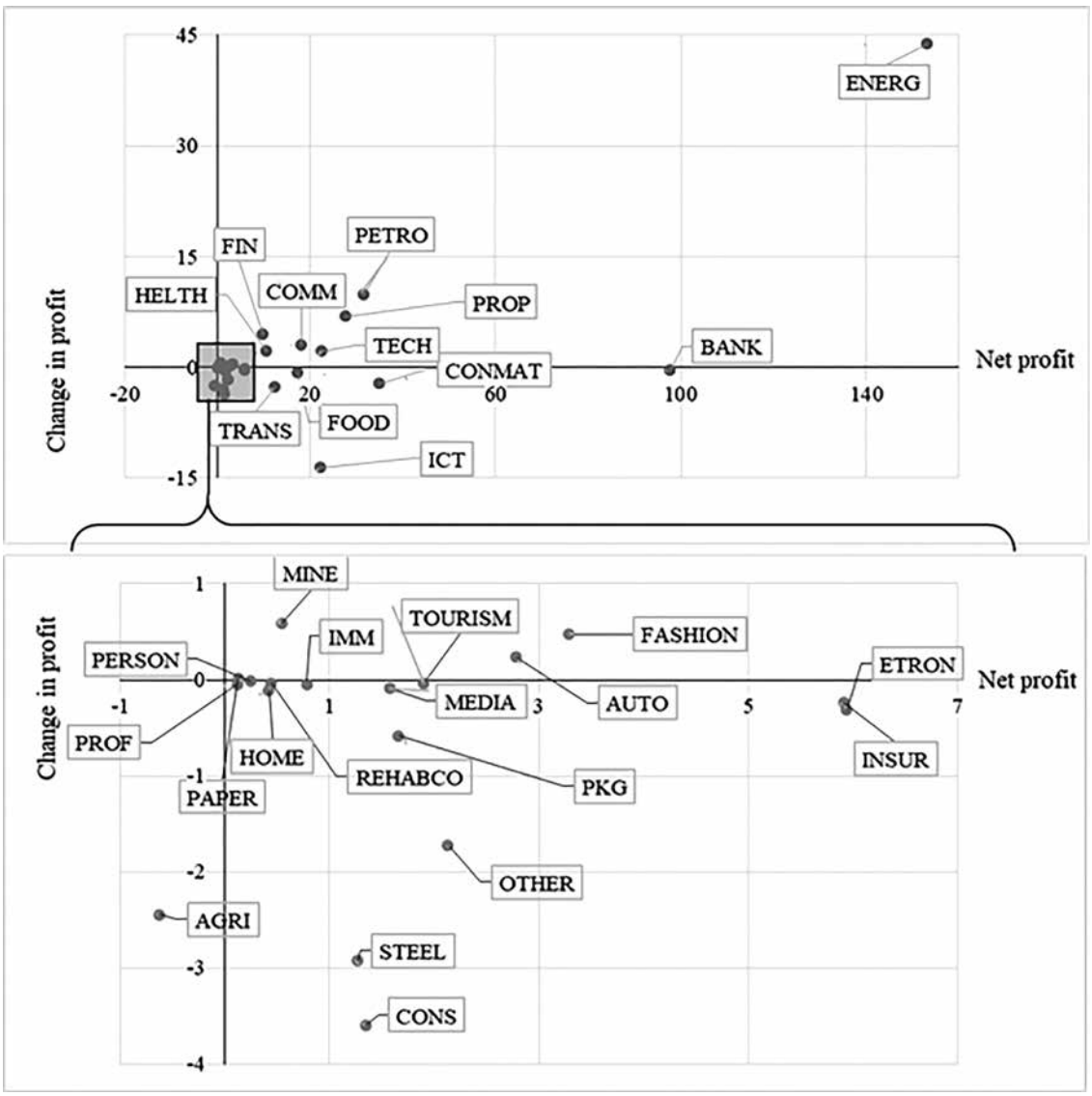
Thus, while the ENERG industry is stronger, other industries seem to remain with their peer group, or perform worse, as in the case of the ICT industry. These findings show that Thailand also faces an inequality issue with regard to the concentration of wealth and spread of poverty in terms of industry.

4. CONCLUSION

In general, Thailand is one of the countries that has had a good experience with taming the inequality problem. Even with a slower GDP growth after the 2008/09 financial crisis, inequality status, measured by a standard inequality measure, has

[8] See definition of industry in section 2.

Figure 7: Firms' performance by industry (Millions of baht)



Source: Stock Exchange of Thailand, with authors' calculations.

been consistently improving over time. However, many experts have shown recently a concern that the inequality issue for Thailand may be worsening. In the recent economy recovery, the benefits may accrue only to those who have more power, and profits may be concentrated at the top of the pyramid, in a situation best described as the concentration of wealth and spread of poverty.

This paper partially addresses the issue by examining data on the stock market of Thailand. By performing analyses on ROA and net profit statistics, it was found that firms in the stock market gained more from the recent economic recovery than firms outside the market. In addition, within the stock market, profit sharing among the firms was also found to be largely different. Relatively

large firms have made a greater share of profits, while medium-sized firms gained a moderate share of profits. Firms at the bottom (MAI firms), on average, posted a negative net profit.

An inequality issue was also observed within broad groups of firms of similar size. However, the analyses show that firms at the top (SET100 and top firms in MAI) gained larger and larger shares of the profits, while the net profits of firms at the bottom (Non-SET100 and bottom firms in MAI) became more and more level (showing less inequality).

A closer look at the industry level would indicate that the energy industry outperforms other industries by comparison, and the gap seems to widen with other industries remaining with their own peer groups. For Thailand, it seems that the concentration of wealth and the spread of poverty can be observed in all three aspects: between firms in/out of the stock market, between firms of different sizes, and between leading and other lagging industries.

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