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ADB Working Paper Series

**RECENT DEVELOPMENTS IN
BASIC EDUCATION IN THAILAND:
ISSUES AND CHALLENGES**

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Abstract

Over the past few decades, Thailand has made progress in expanding access to basic education, resulting in an increase in literacy rates and narrowing gaps in school attendance between socio-economic groups. This paper surveys recent developments in Thailand's basic education with an emphasis on the learning outcomes of Thai students, the determinants of such outcomes, and the challenges faced by the basic education system. The paper finds that despite the significant amount of resources spent on education and the fact that the quality of the workforce is crucial for the country's current stage of economic development, students' learning outcomes are low and have not improved significantly in either national or international assessments. The performance of junior secondary school students in the national examinations has declined, especially in mathematics and science. While the performance of senior secondary school students has improved slightly over the same period, the mean results for core subjects (mathematics, science, and English) were less than 50. This worrying figure is worsened by inequality in education quality across regions, since the performance of secondary school students is lower in poorer, remote regions. In addition, according to the results of the international assessments, Thai students are performing below the international average in core subjects. The paper argues that such poor learning outcomes are presumably due to two main reasons: the role of small school, and inefficient resource allocation for education in public spending. Key challenges in Thailand's basic education include the need to expand the supply of human capital to avoid the middle-income trap and the aging society. This is a pivotal period in Thailand's economic development. Educational reform is needed to ensure high-quality basic education for all.

Keywords: basic education, learning outcomes, Thailand

JEL Classification: I21, I25, I28

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1. INTRODUCTION

Despite the sizable public resources allocated to Thailand's basic education system, academic performance among primary and secondary school students in both national and international assessments is poor and has not improved markedly over the past decade. Over the years, numerous studies have established that this worrying trend is primarily driven by a large disparity in the quality of education between urban and rural areas, which in turn adversely affects other development indicators such as economic growth and income inequality (Lounkaew 2013; Paweenawat and McNown 2014; Lathapipat 2016; Wasi et al. 2019). The slowing economic growth and growing concern about the middle-income trap have spawned debate on equity in basic education among scholars and policy makers. This paper sets out to contribute to the debate by examining academic performance among primary and secondary school students, analyzing the forces driving it, and attempting to identify key challenges for Thailand's basic education system.

Over the past few decades, access to basic education has expanded remarkably. Even though early studies (e.g., Sirilaksana 1993; Warr 2007) found progress in basic education unsatisfactory because secondary school participation rates were low and did not improve significantly during the late 1980s, this was no longer the case after 2000. Lower secondary enrollment rates increased from 77% in 1995 to 95% in 2020. In the corresponding years, upper secondary enrollment rates rose from 41% to 81%. Primary and secondary school participation rates have improved significantly thanks to the first education reform implemented in 1999 and the Constitution, which guarantees an equal right to basic education among Thai citizens. This expansion of Thailand's education is the result of sustained public spending in education. Thailand has consistently allocated a significant share of total government expenditure to education each year. In 2020, the government spent about 12% of its budget on basic education.

However, it is unclear whether the substantial investments that Thailand has made in education have led to improvements in learning outcomes. Data from the 2018 Program for International Student Assessment (PISA) reveal that Thai students scored lower than the OECD average in reading, science, and mathematics. In addition, research over the years has established that there are large disparities in learning achievement between Bangkok and elsewhere in Thailand (Chiengkul 2019; Lathapipat 2016; Lounkaew 2013; Pattaravanich et al. 2005). Moreover, the distribution of learning in Bangkok is as good as in high-income countries such as the United States. This means that students in Bangkok are receiving high-quality education like that seen in other advanced countries. The World Bank (2012) called for improvements to the distribution of learning among rural areas for Thailand to have more equal education quality.

This study aims to review recent developments in Thailand's basic education system with a focus on students' learning outcomes, and attempts to identify key factors that explain such outcomes. While there is a growing body of research on basic education in other developing countries (e.g., Suryadarma et al. 2006; Ryan et al. 2009; Hanushek 2009; Asadullah et al. 2020), to the best of my knowledge, this is the first paper that provides a comprehensive review of the Thai basic education system using a new dataset. The data used in this paper are obtained from several sources, including the Ministry of Education, the National Institute of Educational Testing Services (NIETS), and the National Statistical Office (NSO).

The next section provides a brief overview of the Thai education system. Section 3 briefly summarizes progress in expanding access to basic education over the past two decades. The subsequent section discusses students' learning outcomes. Issues and challenges in Thailand's basic education system are identified in section 5. The last section concludes.

2. THAILAND'S EDUCATION SYSTEM

This section provides a brief account of the Thai education system. The Thai formal education system consists of three main levels: early year education, basic education, and higher education.

Enrollment in the basic education system begins at the age of six. Basic education in Thailand is divided into six years of primary schooling (Prathom 1 to 6), three years of lower secondary schooling (Mattayom 1 to 3), and three years of upper secondary schooling (Mattayom 4 to 6). Compulsory education in Thailand covers the first nine years of basic education (six years of primary schooling and three years of lower secondary school). This means that attending pre-school and upper secondary schooling is not mandatory. After completing lower secondary education, students are able to enroll in vocational and technical education as an alternative to a general academic path (upper secondary school program).

Based on the 2007 Constitution and the 1999 National Education Act (with a 2010 amendment), all Thai citizens have an equal right to receive free basic education for at least 12 years. This free basic education provision covers pre-primary, primary, and lower secondary education. The Ministry of Education is responsible for overseeing all levels of education and formulating education policies. The Office of the Basic Education Commission (OBEC), founded in 2003, is responsible for formulating basic education policies, the core curriculum, and standards. It also monitors and evaluates teaching promotion in schools. Public basic education is also administered within schools, as each school is responsible for its own administration, while management in several areas such as academic matters and general affairs is monitored by local administrative offices (LAO) (UNICEF 2017; Ministry of Education 2008).

In summary, Thailand implemented the first education reform in 1999, thanks to the 1999 National Education Act. This led to significant changes to the structure of management and administration, with an emphasis on the decentralization of administrative responsibilities to the local level. The Thai government also invests a significant amount of its resources in this section to support the initiative. Spending on basic education is about 15%–20% of national expenditure each year. The next section explains whether the increased spending and the reform have led to greater access to basic education.

3. PROGRESS IN BASIC EDUCATION SYSTEM

Over the past few decades, Thailand has made significant progress in increasing access to basic education. Table 1 shows enrollment rates (gross) in basic education from 1995 to 2020.

Table 1: Enrollment Rate (Gross) in Basic Education from 1995 to 2020

| | 1995 | 2000 | 2005 | 2010 | 2015 | 2020 |
|-----------------|------|------|------|------|------|------|
| Primary | 110 | 106 | 104 | 104 | 102 | 101 |
| Lower secondary | 77 | 87 | 95 | 98 | 99 | 95 |
| Upper secondary | 41 | 58 | 64 | 72 | 78 | 81 |

Note: Gross enrollment rate is the number of students enrolled in a given level, regardless of age, expressed as a percentage of the official school-age population corresponding to the same level of education. In general, a high enrollment rate indicates a high degree of participation in a given education level. However, the number can exceed 100% due to the inclusion of over-aged and under-aged students as a result of early and/or late entry and grade repetition.

Source: Ministry of Education (2021).

As shown in Table 1, primary school enrollment is always high as a result of the Primary Education Act which was first promulgated in 1921. From 1995 to 2020, lower secondary school enrollment increased from 77% to 95%. Over the same period, the upper secondary enrollment rate doubled. Such an increase in the enrollment rate across the three basic education levels indicates success in expanding access to basic education to Thai citizens. Another improvement in basic education is falling school dropout rates, as displayed in Table 2.

Table 2: The Number of School Dropouts in Basic Education from 2005 to 2019

| | 2005 | 2010 | 2015 | 2019 |
|-----------------|------------------|------------------|-----------------|-----------------|
| Primary | 29,703 (0.69) | 6,786 (0.19) | 1,313 (0.04) | 121 (0.00) |
| Lower secondary | 48,777 (2.11) | 20,155 (0.94) | 2,837 (0.16) | 681 (0.04) |
| Upper secondary | 20,775 (2.21) | 10,886 (1.03) | 1,417 (0.13) | 1,045 (0.11) |

Note: School dropout rates (the number of school dropouts in a given level of education as a percentage of all students) in parentheses.

Source: Ministry of Education (2021).

Previously, the number of school dropouts was high, especially among students in upper secondary schools. Note that it is not compulsory to attend upper secondary education, Mattayom 4 to 6. In the past two decades, there has been progress in reducing school dropouts. In 2002, more than 100,000 students dropped out of schools across all education levels. The figure was less than 2,000 in 2019. The school dropout rate was close to zero in 2019. In the past, poverty was the most cited reason among students who dropped out of school. Presently, family problems play a key role. At the upper secondary level, students drop out of school due to the requirement to support families. This means that economically disadvantaged students are more likely to drop out of school than their affluent classmates.

There have been other significant improvements in the basic education system. Over time, the student-teacher ratio has declined. On average, it fell from 0.20 in 2005 to 0.14 in 2019 (Office of the Educational Council 2019). Data from the World Bank (2021) reveal that there are 16.64 students for every teacher in primary education and 25.95 students per teacher in secondary education. Such figures are relatively low compared to the world average and other developing countries in Asia such as the Philippines and Viet Nam.

In addition, the literacy rate for the population aged 6 and above is very high, as the total literacy rate was 93.9% in 2018. There was a moderate increase in the literacy rate between 2000 and 2018, with a short period of declining literacy rates. Note, however, that more men than women are literate. The gender gap in the literacy rate is about three percentage points, and the gap has been fairly constant over time. Moreover, the mean number of years of schooling has increased over the past two decades in all age groups (see Table 3). Mean years of schooling is about eight for the population above 25. Nevertheless, this figure is still lower than other developed countries and neighboring countries, for instance, Singapore, Malaysia, and Viet Nam.

Table 3: Mean Years of Schooling from 2005 to 2020

| Age Groups | 2005 | 2010 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|------------|------|------|------|------|------|------|------|------|
| 15–39 | 9.9 | 10.6 | 10.6 | 10.7 | 10.8 | 10.8 | 10.8 | 11.0 |
| 40–59 | 6.9 | 7.4 | 7.8 | 7.9 | 8.1 | 8.2 | 8.3 | 8.6 |
| 15–59 | 8.6 | 9 | 9.3 | 9.4 | 9.5 | 9.6 | 9.7 | 9.9 |
| 15+ | 7.8 | 8.2 | 8.5 | 8.6 | 8.6 | 8.6 | 8.7 | 8.9 |
| 60+ | 4.1 | 4.6 | 5.0 | 5.0 | 5.1 | 5.1 | 5.2 | 5.4 |

Source: Ministry of Education (2021).

In summary, enrollment rates in education and mean years of schooling have increased remarkably over the past two decades, thanks to Thailand’s education reform in 1999 and expansion of free schooling from 12 to 15 years in 2009. The next section describes whether these considerable efforts have resulted in higher learning outcomes.

4. STUDENTS’ LEARNING OUTCOMES

This section discusses students’ learning outcomes. There is a national examination known as the Ordinary National Education Test (O-NET). It is a series of written examinations and is administered face-to-face and delivered through paper-pencil tests. The O-NET is a mandatory examination for all students and serves as student selection to higher education programs for those who desire to continue to higher education. The O-NET is administered annually by NIETS to grade 6 (Prathom 6), grade 9 (Mattayom 3), and grade 12 (Mattayom 6) students in both public and private schools. The O-NET was first administered to grade 12 students in 2005, then expanded to grade 6 students in 2007, and grade 9 students have had to do the test since 2008. Table 4 reports the O-NET results for grade 6 students (Prathom 6) between 2011 and 2020.

According to Table 4, the overall scores of grade 6 students have decreased over the past decade. The average score for all subjects except Thai language was lower than 50. In addition, the average scores for the subjects of English, math, and science have fallen over the past five years. Table 5 reports the O-NET score for grade 9 students (Mattayom 3).

Table 4: O-NET Results for Grade 6 Students (Prathom 6) from 2011 to 2020

| | 2011 | 2015 | 2020 | $\Delta 2011-2020$ | $\Delta 2015-2020$ |
|----------------|-------|-------|-------|--------------------|--------------------|
| Overall | 49.36 | 44.97 | 42.13 | -7.23 | -2.84 |
| Thai language | 50.04 | 49.33 | 56.20 | 6.16 | 6.87 |
| English | 38.37 | 40.31 | 43.55 | 5.18 | 3.24 |
| Math | 52.40 | 43.47 | 29.99 | -22.41 | -13.47 |
| Science | 40.82 | 42.59 | 38.78 | -2.04 | -3.81 |
| Social studies | 52.22 | 49.18 | N/A | N/A | N/A |

Note: Maximum score for each subject is 100.

Source: NIETS (2021).

Table 5: O-NET Scores for Grade 9 Students (Mattayom 3) from 2011 to 2015

| | 2011 | 2015 | 2020 | $\Delta 2011-2020$ | $\Delta 2015-2020$ |
|----------------|-------|-------|-------|--------------------|--------------------|
| Overall | 40.91 | 37.91 | 36.03 | -4.88 | -1.88 |
| Thai language | 48.11 | 42.64 | 54.29 | 6.18 | 11.65 |
| English | 30.49 | 30.62 | 34.38 | 3.89 | 3.76 |
| Math | 32.08 | 32.40 | 25.46 | -6.62 | -6.93 |
| Science | 32.19 | 37.63 | 29.89 | -2.30 | -7.74 |
| Social studies | 42.73 | 46.24 | N/A | N/A | N/A |

Note: Maximum score for each subject is 100.

Source: NEITS (2021).

Table 5 indicates a worrying trend in the performance of grade 9 students over the past ten years. The average scores for all subjects are less than 50 and, unfortunately, the scores have fallen continually. In addition, average scores for the subjects of math and science have decreased consistently, especially over the past five years. Note that English is the only subject that saw an increase in the average score between 2017 and 2020. Table 6 shows performance in the O-NET for grade 12 students (Mattayom 6).

Table 6: O-NET Scores for Grade 12 Students (Mattayom 6) from 2011 to 2020

| | 2011 | 2015 | 2020 | $\Delta 2011-2020$ | $\Delta 2015-2020$ |
|----------------|-------|-------|-------|--------------------|--------------------|
| Overall | 34.95 | 34.81 | 33.78 | -1.17 | -1.03 |
| Thai language | 41.88 | 49.36 | 44.36 | 2.48 | -5.00 |
| English | 21.80 | 24.98 | 29.94 | 8.14 | 4.96 |
| Math | 22.73 | 26.59 | 26.04 | 3.31 | -0.55 |
| Science | 27.90 | 33.40 | 32.68 | 4.78 | -0.72 |
| Social studies | 33.39 | 39.70 | 35.93 | 2.54 | -3.77 |

Note: Maximum score for each subject is 100.

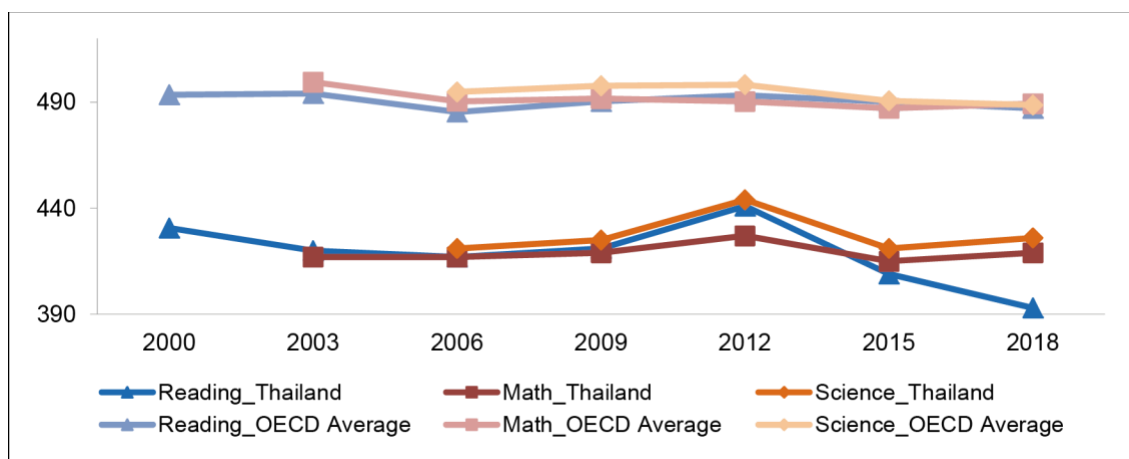
Source: NEITS (2021).

As shown in Table 6, the average O-NET scores for grade 12 students were also below 50 in all tested subjects. The average scores over the past ten years have not changed significantly. However, there was a slight improvement in the average scores for math and science between 2011 and 2020, with a slight decrease over the period between 2015 and 2020.

However, the O-NET has long been criticized for its failure to assess students' academic proficiency and for not testing students' use of knowledge and critical thinking. There was an attempt recently to replace the O-NET with a more relevant academic proficiency test, but progress has stalled. In this paper, I therefore present Thai students' performance in the OECD's PISA.

Thailand has participated in PISA since 2000. In 2018, about 70% of the country's 15-year-olds were covered. Students in Thailand scored lower than the OECD average in all subjects (see Figure 1). In addition, Thai students underperformed their peers in several Southeast Asian countries (see Table A1 in the Appendix).

Figure 1: PISA Scores Among Thai Students and OECD Average from 2000 to 2018

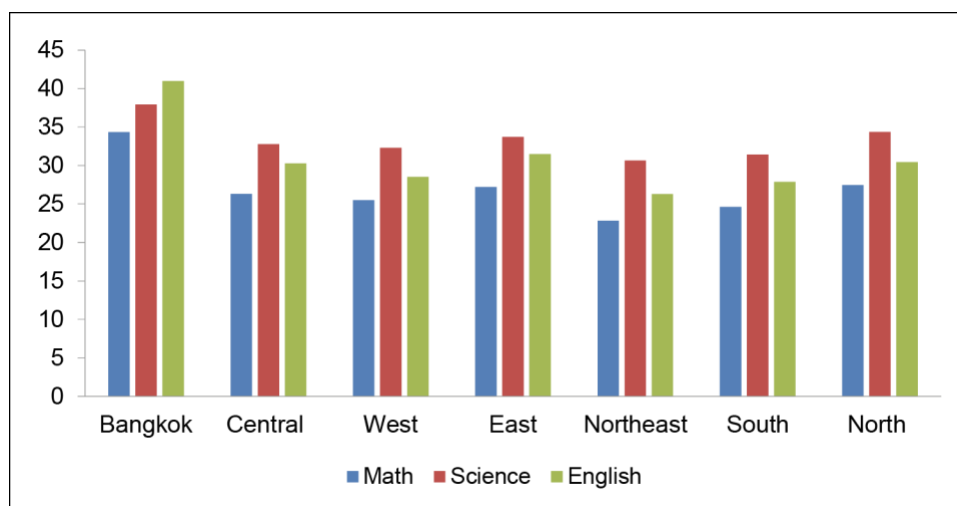


Source: OECD, PISA 2018 database.

According to Figure 1, scores for all subjects (reading, math, and science) have dropped significantly. In 2018, scores kept falling for reading, while there was a slight increase in scores for math and science. Between 2015 and 2018, the share of students who performed below the proficiency level for reading increased by 10% while the shares for math and science remained constant.

In addition, there is a wide gap in reading scores between economically disadvantaged and economically advantaged students, and between urban and rural students. Those who study in private independent schools—schools that receive less than 50% of their core funding from the government—do better than those in public and private schools.

While low and declining average scores in both national and international examinations among Thai students are disappointing and worrying, it is important to note that such scores hide vast differences in academic performance between students in urban and rural areas. This inequality in education has long been raised among scholars (Sirilaksana 1993; Pattaravanich et al. 2005; World Bank, 2012; Lounkaew 2013). Figure 2 compares learning achievement measured by national examination (O-NET) for three subjects in Bangkok and other regions.

Figure 2: O-NET Scores by Regions (Grade 12, Mattayom 6)

Source: NIETS (2021).

As demonstrated in Figure 2, there are large disparities in learning achievement between Bangkok and other areas in Thailand. Students in Bangkok outperformed students in other regions in math, science, and English. The average scores among students in other regions except the Northeast are fairly similar. However, the average scores of the Northeast students were lowest in all subjects. These urban-rural learning outcomes differentials are not surprising due to differences in the quality of teachers and infrastructure between regions. Such vast disparities in learning achievement are also found among grade 9 and 6 students (see Table A2 in the appendix).

Large gaps in learning outcomes also exist across provinces. Thanks to available data at the provincial level, it is found that only 24 out of 77 provinces (31%) achieved 2018 O-NET average scores higher than the country average. Consistent with an analysis at regional level, most of them are in the central region of Thailand, while none are in the Northeast region. A few Northern (e.g., Chiang Mai and Phrae) and Southern (i.e., Phuket and Trang) provinces are in this group. Table A3 in the appendix reports average O-NET scores in the top five scoring provinces and the bottom five scoring provinces in 2014 and 2018. High-performing provinces are those that are richer and more developed, measured by their income per capita. The low-performing provinces are remote and poorer. Moreover, average scores decreased between 2014 and 2018 in all provinces, but the poor-performing provinces (e.g., Yala, Pattani, and Narathiwat) saw bigger declines in average scores. Of 77 provinces, Bangkok registered the lowest drop in the average O-NET score (0.43 percentage points). Nong Bua Lamphu, one of the Northeastern provinces, had the biggest drop (4.48 percentage points). This is a worrying trend in academic performance among secondary students living in different areas and could worsen inequality in education in the country.

The following section discusses key issues and challenges in the basic education system in Thailand. It focuses on inequality in education, driven by small schools and differences in the quality of education in rural areas. The section also offers a discussion on how these inequalities in education can affect the Thai economy.

5. ISSUES AND CHALLENGES

Over the past few decades, Thailand has made significant progress toward increasing access to basic education, in line with economic development. Primary and secondary enrollment have improved remarkably, with an increase in the adult literacy rate. However, students' learning outcomes from both national and international assessments are low and have not improved greatly in recent years. This suggests that the problem lies in the quality of education at primary and secondary levels, given the impressive number of total school enrollments. Warr (2019) argues that a backward and under-resourced educational system has caused Thailand to be caught in a middle-income trap.

Recent studies (e.g., Lounkaew 2013; Prasartpornsirichoke and Takahashi 2013; Wittayasin 2017; Lathapipat 2016) suggest that low learning outcomes and rising inequalities in students' academic performance in standardized assessments are central to the current debate in Thailand's basic education. Lathapipat (2018) describes that the educational quality received by students in rural areas and urban areas is different. This is primarily because students in rural areas often attend small schools, defined as having fewer than 120 students, which lack high-quality teachers and infrastructure. Table 7 shows the number of small schools in 2020 administered by OBEC.

Table 7: The Number of Small Schools in 2020

| Level | Schools with More Than 120 Students | Schools with Fewer Than 120 Students (Small Schools) | Total |
|------------------------------|-------------------------------------|--|------------------|
| Primary school | 6,251 (31%) | 13,962 (69%) | 20,213 (100%) |
| Secondary school | 2,186 (93%) | 171 (7%) | 2,357 (100%) |
| Opportunity expansion school | 6,136 (88%) | 837 (12%) | 6,973 (100%) |
| Special education school | 93 (94%) | 6 (6%) | 99 (100%) |
| Total | 14,666 (49%) | 14,976 (51%) | 29,642 (100%) |

Source: Ministry of Education (2020).

In 2020, approximately half of the 29,642 schools in Thailand were classified as small schools. About 970,000 students are currently enrolled in these small schools. In addition, more than two-thirds of primary schools have fewer than 120 students.

Closing or merging small schools is a controversial subject in Thailand. Even though several studies suggest that small schools are not cost-effective and have limited ability to deliver high-quality education (Strike 2008; Halsey 2011; Panpinya et al. 2021), it is argued that these small schools provide learning opportunities, especially for poor students in rural areas, and guardians and community representatives should play a role in dealing with this issue (Choomponla et al. 2014; Wannagatesiri et al. 2014). According to the executive meeting at the Office of the Permanent Secretary, Ministry of Education, out of 14,976 small schools across the country, 8,375 (56%) need reform. About 200 small schools are due to close soon.

Another issue related to the gap in education quality between urban and rural areas is endowment. Sizable public investment is required to reduce the disparity in endowment between schools by solving problems of teacher shortages and poor infrastructure. Given the sheer amount of public investment each year in primary and secondary schools, greater educational resources are necessary but insufficient to reduce inequality in education. Intangible aspects of education such as accountability, autonomy, management, and perceptions of staff and students are also important in increasing education quality. Lounkaew (2013) utilized the Thai PISA 2009 literacy test, finding that intangible school characteristics such as autonomy, accountability, and management can explain achievement gaps between students in urban and rural areas. Therefore, an increase in educational investment alone may not necessarily reduce urban-rural student academic performance differentials.

Small improvements in learning levels could have detrimental effects on the Thai economy, given the country's current stage of economic development. In the decades since World War II, Thailand has structurally transformed from a low-income, agriculture-based, closed economy to a middle-income, industrial-based, and export-oriented economy. Sustained economic growth has resulted in large scale poverty reduction. However, given the slowing economic growth in the 2000s, there is growing concern among policymakers and scholars that Thailand is caught in the middle-income trap—an inability to raise the country from middle-income to high-income levels. A number of studies describes that both the quantity and the quality of the workforce are central to the debate on Thailand's miracle economic performance in the past few decades (Coxhead and Plangraphan 1999; Warr 2005; Warr and Suphannachart 2020). However, expanding the supply of human capital is viewed as an important tool to escape the trap (Jitsuchon 2012; Riedel 2019). Warr (2019) suggests that upgrading the quality of the workforce through massive public investment and reform of the education curriculum is required to overcome the middle-income trap. Given poor learning outcomes among students and disparity in academic performance among students across the country, it is challenging for Thailand to raise the quality of its educational system.

Another issue is that the Thai economy is aging, driven by low fertility rates and long life expectancy. Thailand's birth rate decreased from 796,091 in 2011 to 587,368 in 2020, the lowest rate ever. In addition, the total fertility rate was 1.51, which is lower than replacement level fertility (Department of Provincial Administration 2021). This results in declining student populations. The number of students enrolled in primary schools fell from about 6 million in 2002 to 5 million in 2010, and there were 4.7 million students in 2020. Over the same period, the number of students enrolled in pre-primary schools decreased from 2 million to 1.64 million. However, the number of educational institutions and teachers in these schools has been fairly constant over the past two decades (Ministry of Education 2021). Thus, demographic change, resulting in decreased demand for basic education, seems to pose another challenge for how to efficiently mobilize resources in the education system.

The next section raises discussion on key challenges and provides recommendations to practitioners and policy makers.

6. DISCUSSION AND CONCLUSION

As an upper-middle-income country, Thailand's remarkable economic development over the past few decades has been accompanied by startling improvements in indicators of wellbeing such as life expectancy, sanitation, and adult literacy.

Unsurprisingly, the sustained economic growth has been in line with the expansion of total school enrollments. However, given the slowing economic growth over the past two decades, many would argue that Thailand needs to undertake reform in education aimed at improving the quality of the workforce to overcome the middle-income trap. This paper constitutes the first step in understanding issues and key challenges in the basic education system in Thailand, with a focus on the most recent decade.

Against the backdrop of the considerable amount of public and private investment in basic education and the fact that school enrollment rates at both primary and secondary levels are high, this paper finds that students' learning outcomes are not satisfactory and have not improved significantly. Academic performance, especially for grade 6 and 9 students in national examinations, is low in the subjects of math, science, and English. Thai students' scores in the PISA are low by international standards and have not improved over the past decade. More importantly, there is a large disparity in learning outcomes between students in urban and rural areas. This achievement gap has not narrowed over time, which casts doubt on the current policy emphasis on providing equal access and quality of education to Thai citizens.

Differences in learning quality between urban and rural areas are due to insufficient educational resources and the physical infrastructure in rural areas. Increases in public education expenditure should be mobilized to narrow these differences. Recently, the Equitable Education Fund (EEF) was established under the Equitable Education Act 2018 with the objective of providing financial support for children and youths who are in greatest need and reducing inequality in education by forming partnerships with relevant stakeholders. In the 2021 fiscal year, the EEF received a budget of 6.08 billion Baht, up from 2.54 billion Baht in 2018. The EEF provides financial support to extremely poor students to increase access to basic education and prevent school dropout. Students receive financial support on the condition that they maintain a school attendance record of more than 80%; in addition, their weight and height are monitored to detect malnutrition. More than a million students nationwide receive this support (EEF, 2021). To ensure an increase in student learning outcomes among poor students, it is recommended that the government adds learning-related accountability measures to this program. Learning outcomes can be used as performance indicators. This is a way to ensure that funds are spent on things that matter for improving education quality.

Many studies describe the lack of qualified teachers in rural areas as one of the key factors explaining inequality in basic education (Vandeweyer et al. 2021; World Bank Group 2015). Another issue, however, is the lack of school administrative staff, especially in small schools. Small schools receive relatively small budgets, but they are subject to the same key performance indicators as larger schools. Teachers in these small schools therefore have to allocate time to do administrative work themselves, which precludes them from focusing on teaching. Increasing the supply of administrative staff in small schools, especially in rural areas, could allow teachers to focus on things that matter for improving students' learning outcomes.

Future research could shed light on factors that explain low student outcomes and inequality in education and the mechanisms through which these are influenced. In addition, it would be interesting to see whether there are differences in the quality of education between big, full-resourced and small, under-resourced schools, and how local administrative offices could play a role in closing such gaps. Finally, it is important to expand studies on the effects of educational inequality to other aspects, such as income, health, and life satisfaction.

APPENDIX

Table A1: The 2018 PISA Performance in Reading, Mathematics, and Science Among Southeast Asian Countries

| | Mathematics | Reading | Science |
|------------------------------------|-------------|---------|---------|
| Brunei Darussalam | 430.11 | 408.07 | 430.98 |
| Indonesia | 378.67 | 370.97 | 396.07 |
| Malaysia | 440.21 | 414.98 | 437.62 |
| Philippines | 352.57 | 339.69 | 356.93 |
| Singapore | 569.01 | 549.46 | 550.94 |
| Thailand | 418.56 | 392.89 | 425.81 |
| Viet Nam | 495.68 | 504.51 | 543.38 |
| Average | 440.68 | 425.80 | 448.82 |
| Average (Developing SEA countries) | 417.13 | 404.61 | 431.96 |

Source: OECD, PISA 2018 database.

Table A2: The 2020 Regional O-NET Performance by Region at Three Education Levels

| | Grade 12 (Mattayom 6) | | | Grade 9 (Mattayom 3) | | | Grade 6 (Prathom 6) | | |
|-----------|-----------------------|---------|---------|----------------------|---------|---------|---------------------|---------|---------|
| | Math | Science | English | Math | Science | English | Math | Science | English |
| Bangkok | 34.35 | 37.94 | 40.97 | 31.61 | 33.02 | 43.87 | 34.76 | 42.48 | 57.22 |
| Central | 26.33 | 32.76 | 30.27 | 25.81 | 30.12 | 35.19 | 30.47 | 39.07 | 45.43 |
| West | 25.50 | 32.31 | 28.51 | 25.32 | 30.09 | 33.74 | 29.54 | 38.28 | 42.29 |
| East | 27.19 | 33.73 | 31.50 | 26.59 | 30.61 | 37.17 | 31.00 | 40.18 | 48.03 |
| Northeast | 22.83 | 30.64 | 26.31 | 23.82 | 28.99 | 31.92 | 28.33 | 37.35 | 38.71 |
| South | 24.61 | 31.42 | 27.86 | 25.04 | 29.46 | 33.61 | 29.41 | 38.25 | 41.43 |
| North | 27.44 | 34.37 | 30.45 | 26.99 | 31.00 | 35.75 | 31.29 | 40.07 | 45.60 |

Source: NIETS (2021).

Table A3: The 2018 O-NET in Top- and Bottom-scoring Provinces

| | 2014 | 2018 | Change |
|--------------------------------|-------|-------|--------|
| Whole country | 37.56 | 35.02 | -2.54 |
| 1 Bangkok (Central) | 42.94 | 42.51 | -0.43 |
| 2 Nakhon Prathom (Central) | 41.01 | 39.60 | -1.41 |
| 3 Phuket (South) | 41.21 | 39.34 | -1.87 |
| 4 Nakhon Nayok (Central) | 40.02 | 38.66 | -1.37 |
| 5 Nonthaburi (Central) | 40.99 | 38.62 | -2.37 |
| 72 Kalasin (Northeast) | 34.19 | 30.34 | -3.85 |
| 73 Nong Bua Lamphu (Northeast) | 34.53 | 30.06 | -4.48 |
| 74 Yala (South) | 30.61 | 28.50 | -2.11 |
| 75 Pattani (South) | 29.50 | 28.04 | -1.46 |
| 76 Narathiwat (South) | 29.71 | 27.14 | -2.57 |

Source: NEITS (2021).

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