



Secondary
education

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to

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as

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for

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ABBREVIATION

A-NET	Advanced National Educational Test
BMR	Bangkok Metropolitan Region
CGD	Comptroller General's Department
CYS	Children and Youth Survey
DGE	Department of General Education
ESAs	Education Service Areas
FDI	Foreign Direct Investment
GAT	General Aptitude Test
GDP	Gross Domestic Product
GER	Gross Enrollment Rate
GNI	Gross National Income
GPP	Gross Provincial Product
HSEP	High School Equalization Policy
ICL	Income Contingent Loan
IEA	International Association for the Evaluation of Educational Achievement
LGO	Local Government Organization
LLECE	Latin American Laboratory for the Assessment of Quality in Education
MDGs	Millennium Development Goals
MOE	Ministry of Education
MOI	Ministry of Interior
NEA	National Education Act
NFE	Non-Formal Education
NER	Net Enrollment Rate
NESDB	National Economic and Social Development Board
NIETS	National Institute of Education Testing Services
NSO	National Statistics Office
OBEC	Office of Basic Education Commission
OEC	Office of Education Council
OECD	Organization for Economic Co-operation and Development
ONEC	Office of National Education Commission
ONESQA	Office of National Education Standards and Quality Assessment
O-NET	Ordinary National Educational Test
ONPEC	Office of National Primary Education Commission
PASEC	Programme d'Analyse des Systemes Educatifs de la CONFEMEN
PIRLS	Progress in International Reading Literacy Study
PISA	Programme for International Student Assessment
PROGRESA	Programa Nacional de Educación in, Salud y Alimentación
RTG	Royal Thai Government
SACMEQ	Southern and Eastern African Consortium for Monitoring Educational Quality
SAT	Scholastic Aptitude Test
SES	Socio-Economic Survey
SPR	School Participation Rate
TIMSS	Trends in International Mathematics and Science Study
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund



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The Thailand Social Monitor series was conceived as a tool to reflect on current situations about selected social issues in Thailand's health, education and social protection sectors. The first Social Monitor, Challenge for Social Reform, was launched in 1999 in response to the 1997 economic crisis. To date, five Social Monitors have been issued.

This issue of the Social Monitor focuses on Thailand secondary education. The Monitor first attempts to highlight recent accomplishment in the advancement of Thailand secondary education. It addresses the issues of access and equity, quality and efficiency and considers challenges Thailand is facing with regards to secondary education. Finally, it provides some recommendations for policy consideration.

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CONTENTS

Abbreviation	3
Acknowledgements	4
Contents	5
Executive Summary	8
Background to Education in Thailand	9
Access to and Equity in Secondary Education	9
Quality of Secondary Education in Thailand	10
Efficiency of the Thai Education System	11
Addressing the Next Generation of Challenges	12
I. Education in Thailand: An Overview	14
Introduction	15
Education Reform in Thailand: Historical Context	15
Bridging Basic Education, Tertiary Education and the Labor Market	18
A Key Tool for Closing Equality and Equity Gaps	23
II. Access to and Equity in Secondary Education in Thailand	26
Access to Secondary Education	27
Equity in Secondary Education	31
Reaching out to the Excluded	36
Interventions to Stimulate Equitable Secondary School Expansion	44
III. Quality of Secondary Education in Thailand	52
Quality of Thai Education: Lessons From International Data	53
Factors Affecting Quality of Education in Thailand	59
Teacher Characteristics	59
School Characteristics	61
Household and Individual Characteristics	64
Quality Assurance Mechanisms in Thai Education	66
IV. Efficiency of the Thai Education System	70
Public Spending on Education	71
Household Education Expenditure	77
Raising Efficiency of Secondary Education Financing	80
V. Addressing the Next Generation of Challenges	84
Increasing Access And Equity	85
Improving Quality	86
Assuring Efficiency	88
References	91

FIGURES

Figure 1.A: Primary School Participation Rate by Income Quintile, 1994-2002	19
Figure 1.B: Education Transition Patterns	20
Figure 1.C: Comparison of Secondary Gross Enrollment Rate Trends, 1970-2000	21
Figure 1.D: Secondary Participation Trends by Income Quintile, 1994-2002	22
Figure 2.A: Thailand Educational Attainment Profiles for Ages 16 to 19, 1994-2002	28
Figure 2.B: Transition of Three Cohorts from Grades 1 to 12, 2001-2003	30
Figure 2.C: School Participation Rates, Gross Enrollment Rates and Net Enrollment Rates by Sex and Gains, 1994-2002	32
Figure 2.D: Grade Completion by Urban/Rural Location, 1994 and 2002	32
Figure 2.E: Secondary Net Enrollment Rates by Region, 1994-2002	33
Figure 2.F: Survival Curve Estimates for Ages 6 to 15 in Thailand, 1994 and 2002	34
Figure 2.G: Trends in Secondary Gross Enrollment Rates across Asian Countries, 1980-2003	35
Figure 2.H: Percentage of Upper Secondary Graduates to the Population, 2003	36
Figure 2.I: Reasons Cited for Dropping Out, Grades 7-12, 2004	39
Figure 2.J: Reasons for not Continuing Lower and Upper Secondary Education, 2002	40
Figure 2.K: Average Annual Expenditure on Education per Person by Education Level, 2002	42
Figure 2.L: Share of Children and Youth at School or Work by Age, 2002	43
Figure 2.M: Ratio of Number of Students Attending Public to Private Schools at Secondary Level, 1992-2002	49
Figure 3.A: PISA 2003 Test Score Results in Mathematics Literacy by Income Group	55
Figure 3.B: PISA 2000 Test Score Results in Reading Literacy by Income Group	55
Figure 3.C: Trend Line of PISA Test Scores against Log GDP per Capita	56
Figure 3.D: Trend Line of TIMSS Mathematics Scores against 2003 GNI per Capita	56
Figure 3.E: Trend Line of TIMSS Science Scores against 2003 GNI per Capita	57
Figure 3.F: Average Mathematics Performance by Wealth, 2000	57
Figure 3.G: Between- and Within-School Variation in Mathematics Scores, 2000	58
Figure 3.H: Student Teacher Ratio and Class Size in Secondary Schools by Region, 2002	61
Figure 3.I: Cross-National Comparison of Average Mathematics Achievement and Class Size, 1999	62
Figure 3.J: Perceived Adequacy of Physical Infrastructure and Educational Resources	63
Figure 3.K: Mean Scores by Level of Mothers' Education	65
Figure 4.A: Share of Education Budget by Spending Category, 1997-2004	72
Figure 4.B: Sources of Revenue for Local Governments, 1997-2004	75
Figure 4.C: Incidence of Public Expenditure across Income Quintiles by Education Level, 2002	76
Figure 4.D: Distribution of Public Spending on Education by Level, 2000 and 2002	77

TABLES

Table 1.1: Incidence of Public Spending for Primary Education by Income Quintile, 2000	19
Table 1.2: Incidence of Public Spending for Secondary Education by Income Quintile, 2000	22
Table 1.3: Gini Coefficient by Country and Share due to Differences in Educational Attainment of Household Head	24
Table 2.1: Average Years of Educational Attainment, 1999-2003	29
Table 2.2: Age Distribution by Grade, 2002	26
Table 2.3: School Participation Rate by Income Quintile and Provincial per Capita Income, 2002	34
Table 2.4: Number of Disabled and Special Students by Type and Gender, Academic Year 2004	38
Table 2.5: Private Expenditure Estimates on Education by Income Quintile (Real Baht), 1994-2002	41
Table 3.1: Percent of Teachers with Master's Degree or Higher, 2002	59
Table 4.1: Education Budget, 2000-2005	71
Table 4.2: Education Budget Allocation and Student Enrollment by Spending Category, 2002	73
Table 4.3: Total Secondary Education Expenditure as Percent of GDP by Source of Funding, 2003	74
Table 4.4: Per Capita Educational Expenditure by Region (Baht), 2002	76
Table 4.5: Household Expenditure on Education by Region, 1994-2002	78
Table 4.6: Household Expenditure on Education by per Capita Income Quintile, 1994-2002	79
Table 4.7: Utilization Ratios by Education Level, 2002	82

BOXES

Box 2.1: Educational Enrollment-GER or NER?	29
Box 2.2: The Path to Universal Secondary Education in Korea	37
Box 2.3: Summary of Government-Initiated Interventions	45
Box 2.4: Demand Side Financing Mechanisms	50
Box 3.1: Measuring Quality of Education across Countries	59
Box 3.2: The Office for National Education Standards and Quality Assessment	67
Box 4.1: Private Participation in Education: Examples from Korea, Africa and Chile	77

EXECUTIVE SUMMARY



Secondary education has the potential to serve as a pathway for students' progress and advancement. It can offer skills development for producing a workforce with expertise that matches the needs of the labor market. Indeed, investment in secondary education reaps great rewards when it acts as the critical link between basic education, higher education and the

labor market. Yet secondary education can also act as the main bottleneck preventing the equitable expansion of educational opportunities. Thailand's secondary education is currently at a crossroads, with the potential to improve opportunities for young people or become a binding constraint to economic growth and competitiveness. It is thus an opportune time to

take stock of recent accomplishments in the advancement of Thailand's secondary education, as well as consider the challenges that lie ahead.

Chapter 1 provides a background to education in Thailand, including the historical context of reform and recent trends at the primary and tertiary levels. Chapter 2 reviews the current state of the Thai secondary education system as a whole and across different groups of the population. Additionally, comparisons are offered across regions. Based on these results, an analysis of the demand side of secondary education is explored, such as the effects of household decision-making in sending children to school. Chapter 3 looks into the issue of the quality of secondary education and suggests possible avenues for improving the quality of educational services in Thailand. Chapter 4 investigates options to enhance efficiency in the utilization of financial resources. Finally, policy recommendations are suggested in Chapter 5, taking into consideration the goals of the Royal Thai Government (RTG) and the distinct historical evolution of its education system.

BACKGROUND TO EDUCATION IN THAILAND

Education has been a priority area since Thailand shifted to a constitutional monarchy in 1932. National Education Development Schemes (NEDSs) have guided major education reform strategies and identified targets and priority areas at the national level. Most recently, the 1999 National Education Act (NEA) and the 2002-2016 National Education Plan have respectively raised compulsory education from 6 to 9 years and introduced a balanced focus on both human-centered and economic

development. Decentralization of educational management has been implemented through the creation of Education Service Areas (ESAs) that are meant to increase community-level participation.

During the 1980s, the RTG focused on expanding primary education. Such efforts are reflected in the achievement of near universal primary education, regardless of income, geographical location or sex. During the same time period, however, secondary education enrollment lagged. Efforts by the Thai government to expand access at the secondary level have produced dramatic growth in secondary enrollment in the 1990s and onwards. In 1997, 70 percent of the total labor force had only received elementary education or less, while 17 percent had obtained secondary education and 8 percent had a university degree. But investments in secondary education in the 1990s began to pay off. By 2004, the labor force with more than primary education reached close to 40 percent. While recent achievements put Thailand ahead of most East Asian countries, it still falls behind Asian Tiger¹ and Organization for Economic Co-operation and Development (OECD) countries. In order for Thailand to take the next step in advancing its secondary education system, a better understanding of how key issues such as access, equity, quality and efficiency play out in the Thai context is crucial.

ACCESS TO AND EQUITY IN SECONDARY EDUCATION

The RTG has set a goal in its first national Millennium Development Goals (MDGs) report to achieve universal lower secondary education by 2006 and universal upper secondary education by 2015. Both gross and

¹ Asian Tiger countries refer to Hong Kong, SAR, Singapore, Taiwan and South Korea.

net secondary enrollment rates have increased significantly in the past 15 years. Currently, secondary education is at reach for most children. This is a result of a concerted effort from the RTG to redress inequities in education participation.

Equity in access to secondary education has improved. Participation rates in secondary education demonstrate that access across gender, the rural-urban divide, regions and socioeconomic status groups has expanded, benefiting all groups in some measure. However, while the urban/rural gap has grown smaller, on average the gender gap has grown significantly larger and to the benefit of girls. It is also worthy of notice that barriers to secondary schooling narrowly due to household income remain an important concern in Thailand. There are large differences in secondary school enrollment between the poorest and the richest population groups. Although these differences have narrowed over time, they have remained quite substantial. The gap in school participation between the wealthiest and the poorest population quintiles in 1994 was 24 percent and stood at 17 percent in 2002. Finally, international comparisons show that Thailand made dramatic improvements over the past two decades. Thailand started out in the late 1980s with one of the lowest secondary gross enrollment rates in the region, but subsequently picked up pace in later decades to position itself in the top tier due to a concerted Government effort to expand access.

But despite important gains, much work remains to be done. While 98.6 percent of children were estimated to complete primary school in 2002, only 88 percent transferred to lower secondary and 69 percent continued to upper secondary. Understanding both demand and supply side factors to educational attainment is

vital in order to address access and equality gaps in Thailand. A cost benefit analysis shows that the main reason preventing children from attending or staying in schools is lack of financial support. Educational cost poses a larger burden to poor families, who must contribute a greater share of the household income after paying for food and other basic needs. The opportunity costs of forgone income are compounded for these families as well. In addition, while the RTG committed to provide 12 years of free education, non-tuition costs such as library fees, exam levies, meals and transportation serve as substantial financial obstacles for many poor families. Despite high rates of return to education in Thailand, many poor families are still unable to meet the direct or opportunity costs of sending their children to secondary school.

Thailand has implemented several key policy interventions in an attempt to boost secondary enrollment. Such interventions include loan and lunch programs, scholarships and a bicycle lending project for rural students, which have indeed contributed to the recent surge in secondary education access. However, the interventions have fallen short of meeting the needs of very poor families, whose children continue to drop out of the education system. In particular, targeting disadvantaged students at the lower secondary school level will ensure a higher transition rate from primary to secondary level.

QUALITY OF SECONDARY EDUCATION IN THAILAND

An area of great concern for Thailand's secondary education system is student achievement. An important conclusion stands out from benchmarking the performance of Thai students internationally: Thailand has higher scores than other countries at similar income levels, suggesting that

it has been generally successful at providing educational services of certain quality equitably. And not only Thai students on average perform well relative to their peers in other countries at similar income levels, but the distribution of knowledge across Thailand is fairly equitably distributed. Socioeconomic status accounts for a modest share of the total variation in student achievement scores overall.

Yet, while the Programme for International Student Assessment (PISA) and the Trends in International Mathematics and Science Study (TIMSS) results suggest that Thailand's performance is acceptable given its income level and knowledge is rather fairly distributed, they also underscore that there are urgent problems with education quality that demand urgent attention. Very few Thai children score in the top proficiency levels. Furthermore, a very large share of students is performing below acceptable proficiency levels. Thailand had roughly 40 percent of students performing at or below the PISA level one in literacy and over 50 percent of students performing at or below the PISA level one in mathematics. This contrasts greatly with the upper income countries where only around 10 percent of students score at or below level one. In summary, a vast proportion of students are functioning at or below the most basic level of language, mathematics and science ability.

What factors affect student achievement? Given Thailand's low levels of academic achievement in absolute terms, policies to raise the overall performance level of the general student population are imperative. Teacher quality is an important factor. Enhancing teacher professional development could potentially translate into significant improvements in student flows and learning. There is also a shortage of resources for learning in Thai schools and this is generally perceived as a constraint to

higher student achievement. Greater investments in basic school resources in order to provide a minimum set of materials for effective use by teachers to support instructional content could well buttress student performance in Thailand and translate into higher learning outcomes.

EFFICIENCY OF THE THAI EDUCATION SYSTEM

The RTG allocates more than one fifth of its total budget on education, which accounts for about 4 or 5 percent of the country's Gross Domestic Product (GDP). This level of allocation was maintained even through the economic crisis in the late 1990s. More than two thirds of the education budget is allocated to basic education, with pre-primary and primary levels receiving the largest proportion. Thailand allocated approximately 28 percent of its total education budget (1.13 percent of GDP) to secondary education in 2003, falling behind what countries with strong secondary education sectors typically spend. Lower-middle income countries allocated on average 40 percent of their total education resources (1.86 percent of GDP) to the secondary level. Most strikingly, the unit cost for secondary education in Thailand is lower than the unit cost for primary education. The limited resourcing of secondary education through public financing is further compounded by very low shares of private resources coming to secondary education. In Thailand, private sector contributions amounted to 0.06 percent of GDP, an equivalent of 5 percent of the public sector financing.

Local governments are reliant on subsidies from the central government to finance education. The RTG has encouraged the decentralization of educational management in order to improve local participation and ownership. Decentralization also includes increasing the share of local gov-

ernment resources spent on education. However, most local agencies still rely on subsidies from the central government to finance education. In general, resources from local government only comprise 20 to 30 percent of education spending.

While education receives the largest share of the national budget across sectors, whether those resources are equally and efficiently distributed among different income groups is debatable. The poorest 40 percent of the population receives 56 percent of total spending, reflecting a pro-poor allocation of resources. The quintile distribution for secondary level is distributed relatively equally; however, spending for tertiary education is clearly regressive. The wealthiest 20 percent of the population receives 53 percent of total spending.

The NEA articulates a vision for free basic education during 9 years of compulsory education. In addition, it proposes ambitious targets on education service provision, including a student teacher ratio adjusted to 25:1, a new teacher compensation structure, increased and better integrated use of information technology, and additional funds to encourage more children to enroll in the system. These are worthy goals. But these commitments require substantial funding upfront, either from the public or the private sectors. Current spending in secondary education is insufficient to fulfill these commitments. Raising the cost effectiveness and performance of the education sector will be imperative to enhance outcomes and contain costs. Without serious considerations to efficiency measures, many of the commitments promulgated under the NEA could remain elusive.

ADDRESSING THE NEXT GENERATION OF CHALLENGES

In order to include the excluded and increase school participation, efficient data collection and analysis is a prerequisite. Data and management information systems should be able to timely estimate children outside the formal education system, enabling the design of suitable programs and providing strong evidence for policy decision making. For instance, although the gender gap in secondary education participation has been increasing, to the benefit of girls, there is a lack of clear understanding about the reasons that are driving this phenomenon and virtually no policy discussion as to how to redress this situation.

The role of alternative education service modalities can be strengthened. Existing programs, although encouraged by the NEA, are small and do not seem to satisfy the potential demand. Flexible education arrangements can play a key role in providing opportunities to disadvantaged children in accessing secondary education. Greater flexibility in terms of learning sites, class schedules and curriculum can provide a more suitable environment to fit the needs of children who cannot participate in traditional school settings, such as rural migrant workers.

In order to improve student outcomes, internal and external quality assurance mechanisms have been established. The Ministry of Education (MOE) has adopted a cautious approach to manage the “stakes” of this assessment, in order to encourage school staff to approach it openly as an opportunity for self-improvement. On the one hand, recommendations made by external evaluators must be tangible and achievable. And the quality of external independent evaluators itself needs to be monitored and evaluated for the process to be mean-

ingful. On the other hand, school staff will need to demonstrate action to turn around ineffective practices in order to make a difference in student performance. Mechanisms to provide systematic rewards for improvements in academic or institutional outcomes could be weaved into the current system. Performance-based incentives could provide the necessary impetus to fuel administrative and instructional behavioral changes.

Significant citizen participation is expected to take place in the management of ESAs. Additionally, pilot programs examining different types of school boards to explore ways to enhance the relevance and responsiveness of education service delivery to local needs are under way. As administrative and service delivery functions are being devolved, a strong accountability system must be actively nurtured in order to foster a service-oriented culture that is responsive to local aspirations and needs.

The NEA specifies that the financing system will be restructured by providing block grants to ESAs and schools on the basis of a standard capitation formula in addition to other per capita top ups according to poverty levels and other provisions for disadvantaged students. ESAs will also be responsible for raising additional funding, but the level of local revenue generation is

uncertain and, according to current estimates, likely to be low. At present, the private sector plays a small role in general secondary education, accounting for 11 percent of student enrollments in lower secondary and 20 percent in upper secondary education. Its overall share has either remained largely stagnant or diminished over the past decade. In terms of financial contributions, the private sector accounted for approximately 5 percent of overall domestic secondary education resources. Mobilizing private resources can be an important source of secondary education financing and could free up public resources for improved targeting to disadvantaged populations or service delivery quality enhancements.

Thailand has achieved remarkable improvements in education secondary provision and participation. Much has been accomplished in the last decade. The RTG has now embarked on finding solutions to the next generation of challenges: consolidating equitable access, improving quality and enhancing efficiency. An ambitious education reform program is gathering momentum. Dedicated efforts and a continued focus in redressing existing systemic imbalances can realize the potential to fulfill the goal of a high quality universal secondary education for all Thai children.



EDUCATION IN THAILAND: AN OVERVIEW



INTRODUCTION

Secondary education has the potential to serve as a pathway for students' progress and advancement. It can offer skill development for producing a workforce with expertise that matches the needs of the labor market. Indeed, investment in secondary education reaps great rewards when it acts as the critical link between basic education, higher education and the labor market. Yet secondary education can also act as the main bottleneck preventing the equitable expansion of educational opportunities. Thailand's secondary education is currently at a crossroads, with the potential to improve opportunities for young people or become a binding constraint to greater economic growth and competitiveness. It is thus an opportune time to take stock of recent accomplishments in the advancement of Thailand's secondary education, as well as consider the challenges that lie ahead.

This chapter elucidates the importance of developing the Thai secondary education system, first by considering its distinct historical development. Education reform efforts since 1932 are considered in order to explore the trajectory that Thailand's secondary education system followed. The potential for secondary education to serve as the key bridging point between primary schooling, tertiary education institutions and the labor market is considered. The advancement of secondary schooling is discussed with respect to its links to the alleviation of poverty and income inequality. Finally, an international comparison places the current state of Thai secondary education in the context of accomplishments of comparable countries.

EDUCATION REFORM IN THAILAND: HISTORICAL CONTEXT

Since Thailand shifted from an absolute to a constitutional monarchy in 1932, educational policy has been regarded as an integral component of national development planning. The first NEDS was devised the same year, formally recognizing every individual's educational ability. During the NEDS of 1960-1976, the RTG pledged compulsory primary education, with special provisions made for children with disabilities. The primary school dropout rate was as high as 60 percent in the 1960s, and secondary enrollment was only 2 percent of the age group (World Bank 1998). The NEDS of 1977-1991 changed the structure of the education system from 4:3:3:2 (4 years lower primary, 3 years upper primary, 3 years lower secondary and 2 years upper secondary) to 6:3:3, whereby six years of compulsory primary education is followed by three years each of lower and upper secondary schooling. The subsequent NEDS of 1992-2001 oversaw the passing of a new Constitution in 1997, which ensures the "equal right to receive fundamental education for the duration of not less than twelve years which shall be provided by the State thoroughly, of quality, and without charge," paving the way for universal access to 12 years of quality education for all Thai children.

In 1999, the NEA was promulgated to serve as the cornerstone of education provision and administration. The NEA raised compulsory education from 6 to 9 years, enforcing all parents to enroll their children in schools until they graduate from the lower secondary level. In particular, the NEA recognizes children with special educational needs. Those with physical, mental, intellectual, emotional, social, communication or learning deficiencies as well as economically or

legally disadvantaged groups are fully entitled to government educational services and basic education is to be specially provided.

Under the NEA, the Thai education system was divided into formal, non-formal, and informal sectors.² All educational institutions, regardless of the type of education provided, are expected to allow the transfer of credits both within and across different types of institutions so that students are able to transition smoothly between school levels and tracks as necessary. This eases the transition for students who drop out of the formal education system but elect to continue their learning through community-based or non-formal programs. The policy also allows students to re-enter the formal education system later. This section of the NEA also spurred the building of additional schools for special programs and learning centers to enhance informal education. However, the credit transfer across different types of educational institutions has remained very limited to date.

The NEA calls for major reforms in all aspects of the Thai education system. Among them are three priority areas: (a) learning reform, (b) teacher reform and (c) education quality assurance. In the area of learning reform, a more targeted core curriculum responding to capabilities and interests of different groups of learners has been developed. The new basic education curriculum entered into implementation country-wide in 2001. A primary goal is for teaching to be more learner-oriented and

encouraging a thirst for knowledge that can lead to life-long learning.

Teacher reform has focused on improvements in the quality of pre-service and in-service teacher training, professional standardization and personnel administration. A five-year university program for preparing new teachers has been rolled out. During the 2003-2006 period, the MOE has set a target to produce teachers and school managers with post-graduate qualifications (higher than a bachelor's degree). The results of these reform efforts need to be carefully evaluated. While support for in-service teacher development has become more available, training programs have tended to be conventionally provided through short-term workshops. A cascade model predominates where Ministry officials train ESA supervisors who subsequently train teachers. Training sessions generally provide little time for teachers to practice what they are learning and seldom is any follow up support provided when they return to their classrooms to implement what they have learned. There is limited evidence that these training programs are demand-driven or fully responsive to teachers' needs. Nor is there evidence that the current approach to teacher professional development leads to improved teaching practice and improved student learning. The on-going decentralization process has also hindered teacher development activities as it remains unclear whether the MOE or ESAs should be playing a leading role in this arena. Moreover, delays in the development of professional standards and enactment of

² Formal education consists of two levels: basic education and higher education. Basic education covers the 12 years of education prior to higher education. Higher education is further divided into two levels, lower than degree and degree levels. Formal education includes schools under the jurisdiction of the government, including institutions that provide schooling for students with disabilities, as well as welfare-based schools that address the needs of students who are socially disadvantaged. Other types of formal education include schools for the ecclesiastic, specialized education, vocational and special vocational consisting of sports and fine art schools. Non-formal education aims to reach those outside the formal school system, including early childhood and adult education. Pre-schools, literacy programs and certain adult vocational training fit under the non-formal education category. Finally, informal education promotes self-learning and often operates out of community-based locations such as learning centers, libraries and museums.

Acts related to decentralized personnel administration have had an unfavorable effect on teacher reform as a whole.

The quality of education provision must be monitored through both internal and external quality assurance mechanisms. The NEA requires that internal evaluations for secondary education be conducted annually by each individual institution on the basis of MOE's standards. These evaluations must be made available to the public. External evaluations are carried out by an independent agency - the Office for National Education Standards and Quality Assessment (ONESQA). For the most part, it appears that the internal and external quality assurance process to date has been largely procedural. There is limited demand for information on school quality and the formative evaluation process has not translated yet into a reflective exercise to improve school development planning or foster accountability to education sector stakeholders regarding the quality of service delivery.

Most recently, the National Education Plan 2002-2016 has advanced a vision of education that embraces human-centered development and a holistic scheme integrating education, religion, art and culture. It is hoped that the National Education Plan "will (1) lead to a knowledge-based society; (2) promote continuous learning and (3) involve all segments of society in designing and decision-making concerning public activities" (Bhangananda 2003). The goals outlined in the National Education Plan reflect an ongoing debate in Thailand about the balance between educational development for the sake of promoting economic competitiveness and for preserving "cultural self-reliance" (Witte 2000). This debate has intensified during the post-Asian Crisis years, as Thailand attempts to navigate the tides and pressures of economic globalization.

Considerable structural change has been introduced in recent years. The agencies mainly responsible for educational provision, namely the MOE, the Ministry of University Affairs (MUA) and the Office of National Education Commission (ONEC), were re-organized into a single MOE. One hundred and seventy five ESAs have been established to handle education management at a decentralized level. ESAs have different capacities for absorbing service delivery functions transferred to them due to variations in coverage area, number of qualified personnel and endowed resources. Sustained technical assistance will be needed to build local-level institutional capacity for efficient service provision.

The 1997 Constitution ensures the right of local administration organizations to participate in the provision of education to improve outcomes through increased community participation. The decentralization initiative requires Local Government Organizations (LGOs) to assume greater responsibility in school management. LGOs began taking on some functions in late 2004, including the monitoring of child development centers, developing appropriate activities for pre-primary schools, overseeing sub-district libraries and village reading centers, and providing school milk and lunches. However, the transfer of secondary school management to LGOs has been more complex. A study conducted by the Office of Inspection and Evaluation found that around 78 percent of LGOs were ready to assume transferred functions in primary education, but only 11 percent of these LGOs were ready to take responsibility for secondary schools. Further evaluation is needed to assess the readiness of school administration capacities before this transfer occurs at the secondary level. Currently, the Cabinet has agreed to slow down the transfer process and requested that the MOE work closely with related stakeholders

to ensure a smooth transition. In addition, teachers have raised concerns about transferring administrative responsibility for secondary schools to LGOs, fearing that this could lead to political interference in educational issues such as teacher job security, curriculum and classroom pedagogy as well as possible recruitment of teachers for electoral purposes.

In addition to recent reforms, the RTG currently allocates more than 20 percent of its total budget to the education sector, reflecting its strong commitment to educational development. The emphasis on the importance of education comes at a crucial time for Thailand. Emerging from the Asian Crisis, the country has revived and projected itself towards being a competitive nation in the global marketplace. Four national priorities have been laid down, all of which require better quality of education and knowledge management: (a) increasing competitiveness; (b) reducing poverty and inequality; (c) developing social capital and (d) managing natural resources. Furthermore, as economic growth picked up speed after the crisis, exports have grown from USD50,000 million in 1998 to almost USD111,000 million in 2005. Foreign Direct Investment (FDI) also rose from USD6,900 million to USD9,800 million over the same period. The trend in economic growth and FDI has placed pressure on local firms to be more competitive, as well as stimulate technological progress, and hence heightened the demand for a better skilled and educated workforce.

BRIDGING BASIC EDUCATION, TERTIARY EDUCATION AND THE LABOR MARKET

At a global level, limited investments in secondary education have been an outcome of several factors. There have been no comprehensive initiatives for secondary edu-

cation, such as Education for All and the Fast Track Initiative at the primary level. While there tend to be advocates that push for the expansion of primary and tertiary institutions at the country level, secondary schooling tends to be neglected. Finally, reaching political consensus for secondary expansion and reform has been more difficult than for primary or tertiary education, making secondary school policy choices more ambiguous, risky and complex (Moreno 2005). Yet there has been increasing recognition of the key role that secondary education can play as the bridging point between primary schooling, higher education and the labor market. Below, the link between primary expansion and secondary schooling in Thailand is outlined. The importance of secondary education in connecting young people to tertiary education and the labor market is also discussed.

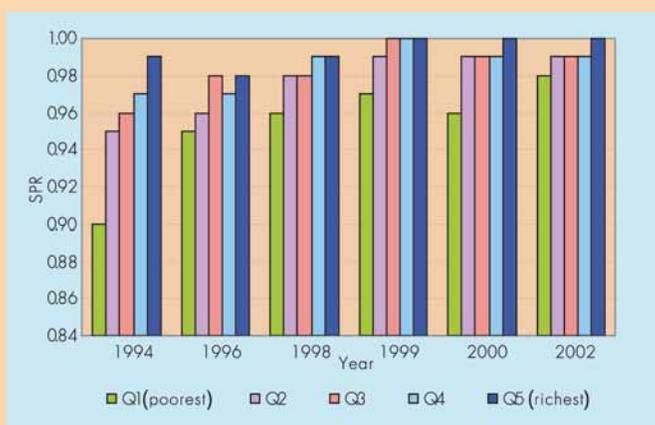
During the 1980s, the RTG promoted universal primary education and reduced the adult illiteracy rate through the heavy expansion of primary education. In this period, the government built at least one primary school with extension classes up to lower secondary levels for every two villages throughout the country (Suwansathit 2002). In addition, the change in the format of the education system from 4:3:3:2 to 6:3:3 ensured that children stayed longer in schools. Through this effort, universal primary education, measured in terms of the Gross Enrollment Rate (GER), was successfully achieved (104 percent in 2003). Household survey data largely confirm official statistics, showing a rising trend towards universal primary completion. School Participation Rates (SPR) - that is the proportion of children 6-11 years of age that enroll in school regardless of their schooling level - have also demonstrated impressive outcomes. In 2003, the transition rate from primary to lower secondary level was 93 percent, the retention rate at the primary

level was 90 percent and the literacy rate was 96 percent (Thailand Ministry of Education 2004).

Such achievements at the primary education level were experienced across the Thai population, regardless of income, geograph-

ical location or sex. Especially across income groups, recent trends between 1994 and 2002 show that the primary SPR for the poorest quintile has risen continuously over time, reflecting the successful inclusion of poor households (see Figure 1.A).

Figure 1.A: Primary School Participation Rate by Income Quintile, 1994-2002



Source: Household Socio-Economic Survey 1994-2002

An analysis of public expenditure in 2000 also supports this finding. A calculation based on the number of students enrolled in public school and fixed unit cost show that at the pre-primary and primary educa-

tion level, about 31 percent of public expenditure was allocated to the poorest quintile while only 8 percent went to the richest quintile (see Table 1.1).

Table 1.1: Incidence of Public Spending for Primary Education by Income Quintile, 2000

Level of Income	Public School Enrollment (thousands)	Enrollment Fixed Unit Cost	Expenditure Incidence (% share)
Q1 (Poorest)	2,118	29,755	31
Q2	1,739	24,425	25
Q3	1,463	20,549	21
Q4	1,050	14,754	15
Q5 (Richest)	548	7,704	8

Source: Household Socio-Economic Survey 2000

As the RTG intensified efforts to achieve universal primary education in the 1980s, it also focused on boosting access to tertiary education. This resulted in almost universal access to primary education and a rapid

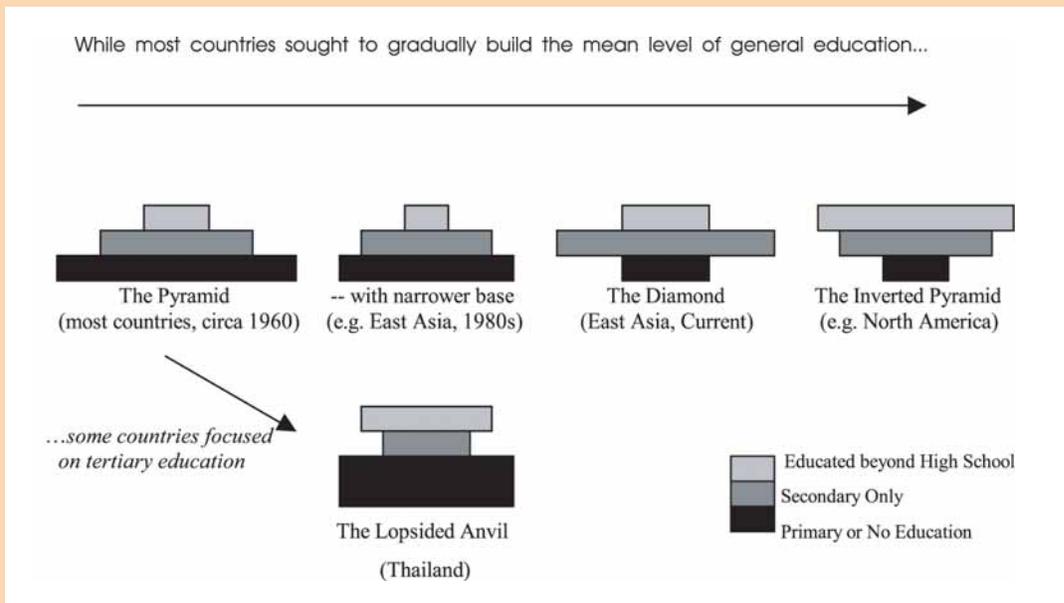
expansion of tertiary education, while secondary enrollments stagnated through this period. Main obstacles have been poverty and the high direct and opportunity cost of education (World Bank 1998). Such factors

resulted in a sluggish secondary Gross Enrollment Rate (GER) of around 30 percent with almost half of all children finishing primary education dropping out of the formal education system.

In a recent World Bank study titled "Closing the Gap in Education and Technology," de Ferranti et al. (2003) find that most OECD countries and many East Asian countries followed an educational transition trajectory that resembles a pyramid: primary education was universalized first, followed by an expansion of the secondary system and finally broader access to universities. Thailand, instead, took a different path. In the 1980s, after a decade of successful

expansion at the primary level, the focus shifted towards tertiary education, overlooking the expansion of secondary education. Consequently only a small number of secondary graduates constituted the new recruits entering the skilled labor force and the middle income bracket. In other words, the distribution of educational attainment in Thailand was "squeezed from the middle", where the base got thinner and the top wider, while the middle remained relatively unaffected. The distribution looked more like an anvil than a pyramid, with the majority of the population having only primary education or less, but more individuals with tertiary education than secondary education only (see Figure 1.B).

Figure 1.B: Education Transition Patterns



Source: De Ferranti et al. 2003

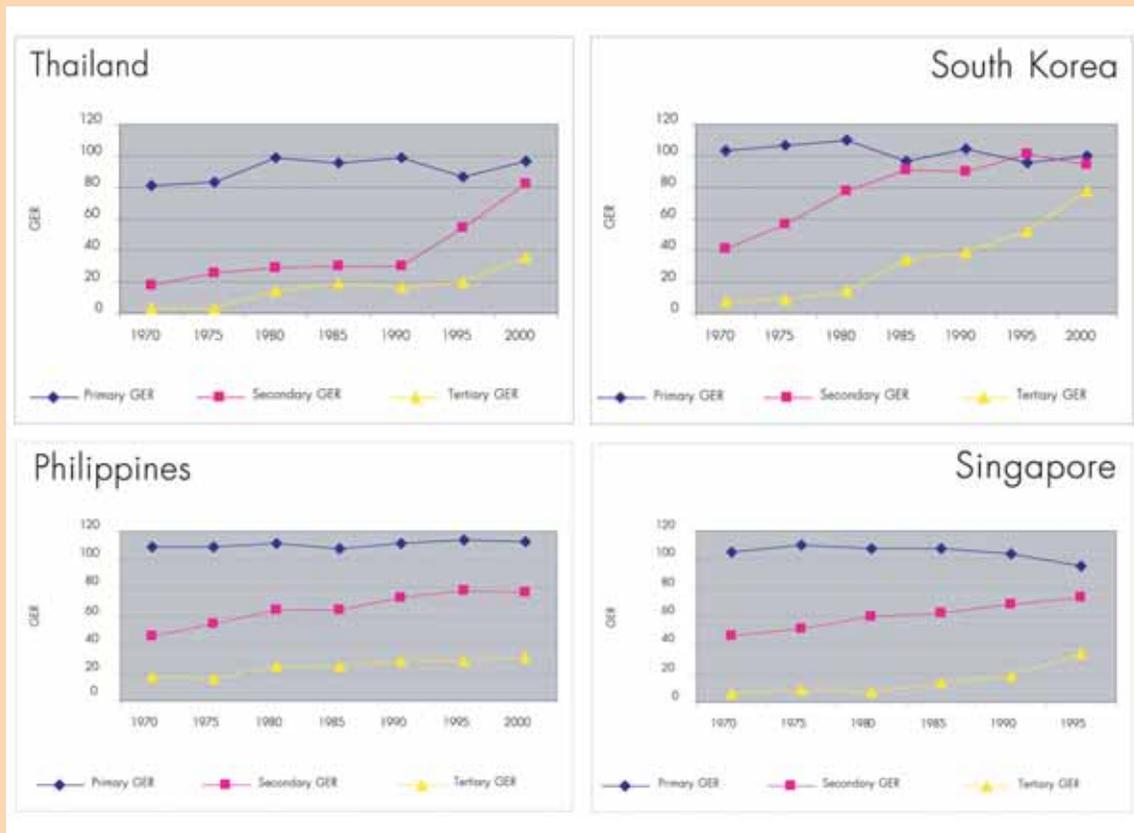
The achievement of universal primary education eventually led to increasing pressure on the Government to expand compulsory education to cover the lower secondary level. Direct subsidies were introduced in 1987 covering free textbooks and uniforms, low cost dormitories, health/nutrition programs and school fee exemptions. Approximately 50 percent of all rural sec-

ondary students benefited from these subsidy programs. However, poverty and the cost of schooling have continued to be a constraint for expanding secondary schooling and reaching universal coverage.

Country comparisons show that Thailand's secondary GER was stagnant until around 1990 and then picked up dramatically. In

contrast, other Asian countries started with higher secondary GERs and continued to grow at a more modest pace during the same period (see Figure 1.C).

Figure 1.C: Comparison of Secondary Gross Enrollment Rate Trends, 1970-2000

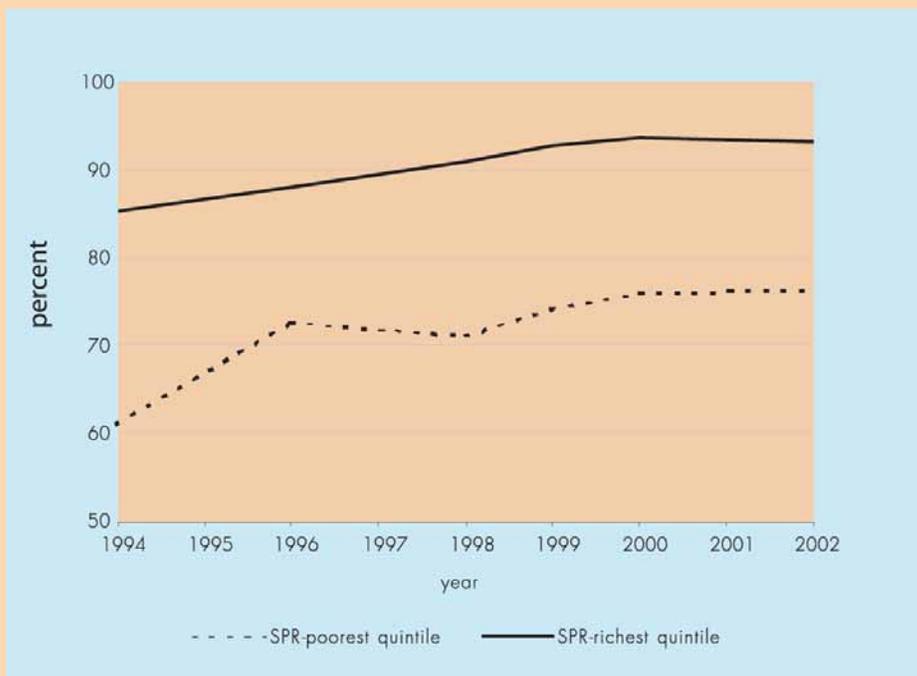


Source: World Bank 2005

Low levels of investment at the secondary level through the 1980s had led to a relatively low-skilled workforce in Thailand. In 1997, 70 percent of the total labor force had only received elementary education or less, while 17 percent had obtained secondary education and 8 percent had a university degree. But investments in secondary education in the 1990s began to pay off. By 2004, the labor force with more than primary education reached close to 40 percent. Secondary GERs had jumped from 68 percent in 1994 to 77 percent in 2002. But disaggregating by household per capi-

ta quintile reveals large differences in secondary school enrollment between the poorest and the richest population groups. These differences have remained quite substantial over time. The gap in SPR between the wealthiest and the poorest population quintiles in 1994 was 24 percent (85% versus 61%) and stood at 17 percent in 2002 (93% versus 76%). While it is clear that secondary schooling opportunities for the poorest children still have much room for improvement, Thailand had accomplished an impressive rate of expansion nonetheless (see Figure 1.D).

Figure 1.D. Secondary Participation Trends by Income Quintile, 1994-2002



Source: Household Socio-Economic Survey 1994-2002

The incidence of public expenditure for secondary education shows that spending is distributed almost equally across quintiles (see Table 1.2). Such spending patterns partially explain why the gap in secondary achievement between the richest and the poorest quintile has remained relatively stable over time. Enrollment rates are higher in Bangkok than in other parts of the coun-

try, higher in urban than in rural areas and lower in those districts where ethnic groups account for a high percentage of the population. The challenge facing the government is how to continue to expand basic education to disadvantaged groups while maintaining universal access to and good quality of primary education.

Table 1.2: Incidence of Public Spending for Secondary Education by Income Quintile, 2000

Level of Income	Public School Enrollment (thousands)	Enrollment Fixed Unit Cost	Expenditure Incidence (% share)
Q1 (Poorest)	843	11,829	19
Q2	987	13,846	23
Q3	967	13,575	22
Q4	885	12,412	20
Q5 (Richest)	646	9,064	15

Source: Household Socio-Economic Survey 2000

Mandatory education under the 1999 NEA only includes up to lower secondary schooling. Students who want to continue their education beyond the lower level have an option between three years of upper secondary or three years of lower vocational (technical) education. Most students who choose upper secondary education aim to go to university. Those who choose lower vocational education tend to continue their education at the upper vocational level. Students with diploma or upper vocational education can continue to a university degree by continuing with two more years of schooling at a university.

Enrollment estimates at lower and upper secondary levels indicate that growth trends and between-group gaps are much larger in the higher grades, probably as a result that in upper secondary education there has been greater room for improvement. For example, the average SPR for lower secondary (12-14 years age-group) increased from 88 percent in 1994 to 94 percent in 2002, while at the upper secondary level (15-17 years age-group), it increased from 57 percent in 1994 to 77 percent in 2002. The absolute (and relative) gains were larger in the poorest quintile: from 31% to 56% at the upper secondary level.

In an effort to continue to expand secondary education, Thailand faces two critical challenges: developing an effective strategy for further broadening access to upper secondary education and finding an appropriate balance between the academic and vocational tracks. Thailand's ability to address these issues will greatly impact its ability to open up the pipeline from secondary to tertiary education as well as to the labor market.

Furthermore, Thailand's reform program focuses not only on access, but also enhancement of quality and market rele-

vance. Anticipating the needs of the new knowledge-based economy will prove key. The "new general skills" needed for such an economy go beyond reading and writing and mathematics to include such things as the ability to work in a team, to approach new problems creatively, to know how to use a computer and at least to understand English, if not speak it fluently (World Bank 2001b). The Thai secondary education system will act as the bridging point to a changing labor market only to the extent that graduates attain such skills and their talents and creativity are harnessed into the economy.

A KEY TOOL FOR CLOSING EQUALITY AND EQUITY GAPS

Secondary education is a key tool for alleviating poverty in Thailand. A recent report on Poverty and Public Policy (World Bank 2001a) finds that in 1998-99, individuals with upper secondary education and vocational and technical qualifications improved their standard of living. In contrast, those with secondary or lower levels of schooling suffered real income declines. Education also had a powerful effect on reducing rural poverty. The risk of poverty declined by 66 to 74 percent when the highest educated adult in the household had primary or secondary education, as compared to no education. Finally, the less-educated population was at greater risk of increased poverty during times of crises. Between 1996 and 1999, poverty incidence increased from 21 to 24 percent for households headed by an illiterate person and from 12 to 19 percent among those headed by a primary-educated person. In contrast, the rate did not change appreciably among households headed by persons with vocational and postsecondary education.

Secondary education is an important vehicle for bringing about broader income equality and social equity in Thailand, particularly since the country has one of the highest Gini coefficients in the region (0.51 in 2002, contrasted with the regional average of 0.38). Furthermore, Thailand was estimated to have the fifth worst income distribution among developing countries in the 1990s (Phongpaichit and Sarntisart 2000). Income inequality in Thailand worsened steadily from the 1960s to 1992, improved marginally over 1992-98, and then lost all those gains over one year in the Asian economic crisis. Evidence from Thailand, as well as other countries such as Turkey, Chile and Russia, shows that differences in educa-

tional attainment of household head contribute to lingering inequality in income distribution (see Table 1.3). Additionally, differences in education attainment alone account for at least one-fifth of total overall inequality and for an even larger fraction for within-region inequality. In particular, inequality in access to secondary education may adversely affect the extent of inequality in income distribution (Phongpaichit and Sarntisart 2000). Evidence also suggests that as secondary education is expanded, and as supply of literacy and other skills is distributed among more youth, income inequality begins to diminish (UNESCO 2003).

Table 1.3: Gini Coefficient by Country and Share due to Differences in Educational Attainment of Household Head

Country	Gini Coefficient	% of Total Income Inequality due to Education
Thailand (1999)	0.53	19%
Turkey (1994)	0.45	22%
Chile (1999)	0.51	26%
Russia (1995)	0.47	5%

Source: World Bank 2000 and 2001a

Apart from private rates of return, which are realized through higher earnings of individuals, an increase in educational attainment contributes to higher social returns to investment in education, particularly with respect to health benefits. Social returns, for instance, may come in the form of a better educated mother who heads a family that is more health conscious, better nourished and has the prospect of realizing the importance of education for the next generation. Evidence from 45 demographic and health surveys across countries show that children of mothers with secondary schooling have a mortality rate that is 36 percent lower than those whose mothers only have primary schooling (Filmer and

Prichett 1997). Additional years of schooling also serve as an effective prevention scheme against HIV/AIDS, an epidemic that is increasingly of concern in Thailand and the region (World Bank 2002). Finally, children residing in households headed by an educated individual have an increased chance of continuing with additional years of schooling.

Secondary education attainment is also a contributing factor to non-market public benefits. In general, better educated citizens tend to participate more in public affairs in the form of increased voting rates and staying abreast of current events in politics. In addition, better educated citizens

tend to have less association with crime. One study shows a decreasing likelihood of youths engaging in criminal activities when they attend school and work (Witte and Tauchen 1994). Increased years of schooling, usually associated with higher earnings, can also reduce the reliance on welfare and public assistance programs.

The NEA paved the way for a new stage in the enhancement of Thailand's education system. The most recent National Education Plan has the potential to further advance the system with strategies currently in place through 2016. In particular, efforts to balance economic competitiveness and human-centered development mark a distinct phase in the thinking that frames Thailand's future educational advancement. Although recent trends in secondary education expansion show improving results, much remains to be done to promote access and quality as well as the efficiency of the secondary education system.

In this regard, the current issue of the Thailand Social Monitor looks into the challenges lying ahead for secondary education in Thailand. First, the interplay of demand and supply is investigated, and in particular, how their interaction affects the secondary education system. Equity in access to sec-

ondary education across different groups of population is explored, as well as the obstacles behind universal access to secondary education. Second, the quality of secondary education is analyzed on the basis of comparative data from international assessments. Third, this issue reviews the efficiency of the secondary education system, both in terms of resource allocation and internal efficiency. Finally, some general policy recommendations are provided.

The report is organized as follows. Chapter 2 reviews the current state of the Thai secondary education system as a whole and across different groups of the population. Additionally, comparisons are offered across regions. Based on these results, an analysis of the demand side of secondary education is presented, including effects of household decision-making in sending children to school. Chapter 3 looks into the issue of the quality of secondary education in Thailand and suggests possible avenues for improving it. Chapter 4 investigates options to enhance efficiency in the utilization of financial resources. Finally, Chapter 5 suggests policy recommendation, taking into consideration the goals of the RTG and the distinct historical evolution of its education system.

II.

ACCESS TO AND EQUITY IN SECONDARY EDUCATION IN THAILAND



The RTG intensified its efforts to expand access to secondary education in recent years, particularly in rural areas. Its commitment is mirrored in the 1997 Constitution where universal access to 12 years of education is guaranteed for all Thai children. Greater commitment is reflected in the 1999 NEA which extended compulsory education from 6 to 9 years. To translate these commitments into action, the RTG has set a target to achieve universal lower secondary education by 2006 and universal upper secondary education by 2015.³

Currently, lower secondary education is at reach for most children. Compared to enrollment rates in 1994, access to secondary schooling has notably expanded for all socioeconomic groups. This is a result of a concerted effort from the RTG to redress inequities in education participation. Despite important gains, much work remains to be done. While 98.6 percent of children were estimated to complete primary school in 2002, only 88 percent transferred to lower secondary and 69 percent continued to upper secondary. Poor and rural children are at the greatest disadvantage. One of the challenges for the RTG lies in developing appropriate policies and strategies to enroll and keep disadvantaged children in secondary school in order to continue to promote equitable development and growth opportunities. Thus, this section offers an in-depth look at secondary educational attainment, disaggregated along the

lines of gender, the rural-urban divide, regional and income groups.

The analyses in this chapter are largely based on two data sources: (1) administrative data collected by the MOE and (2) a large-scale, national survey of representative households, called the Household Socio-Economic Survey or SES⁴ (National Statistics Office 1994-2002). While the MOE administrative data are considered to be census-based, errors due to inconsistency and data manipulation are known to exist. The SES has been recognized as a credible source of data. However, its reliability is also limited due to a small sample size - 45,000 households for most of the analyses in this chapter, but even smaller when focusing on the secondary school age population (between 12 to 17 years). A snapshot of data from these two sources is not always consistent, but they reflect similar trends over time.

ACCESS TO SECONDARY EDUCATION

There has been a consistent gradual rise in the average number of years of educational attainment for the Thai population aged 15 and over. For the population aged between 15 and 21, in particular, the average years of schooling is nearly 10 years. This suggests that most children have at least completed lower secondary educa-

3 In September 2000, the RTG, along with other governments, signed the Millennium Declaration, pledging a commitment towards achieving the MDGs, where achieving universal primary education is one of the eight goals. The first Thailand MDGs Report, launched in June 2004, assessed the current Thai education system and showed that Thailand has already achieved universal primary education in terms of gross enrollment ratio.

4 The SES is conducted every two years by the National Statistics Office (NSO). It contains information on household income, household consumption patterns, changes in assets and liabilities, ownership of durable goods and housing characteristics. It was first conducted in 1957 with intervals of five years until 1988, after which point the survey has been undertaken every two years.

Table 2.1: Average Years of Educational Attainment, 1999-2003

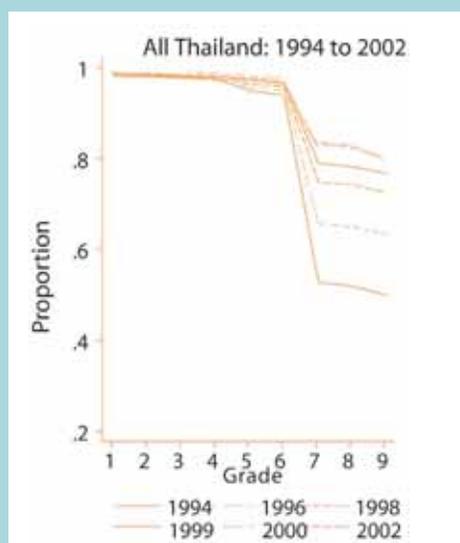
Age	1999	2000	2001	2002	2003
15 and over	7.1	7.2	7.4	7.6	7.8
15-21	9.4	9.5	9.6	9.7	9.8
15-59	7.7	7.8	7.7	7.8	7.9
60 and over	3.5	3.6	3.7	3.8	3.9

Source: Office of Education Council 2004a

Educational attainment profiles for ages 16 to 19 show a notable improvement over time. Based on the SES, the number of youth between 16 and 19 years-old who completed primary education (grade 6) and lower secondary education (grade 9) rose continuously since 1994 (see Figure 2.A). By 2002, about 95 percent of the 16 to 19 year-old population completed at

least grade 6, indicating an impressive primary school completion rate. Moreover, 80 percent of the population aged between 16 and 19 had completed lower secondary education in 2002, which is a significant increase compared with 50 percent in 1994. However, a closer review shows that most of the gains in educational attainment took place before 1998.

Figure 2.A: Thailand Educational Attainment Profiles for Ages 16 to 19, 1994-2002



Source: Household Socio-Economic Survey 1994, 2002

Overall, secondary education enrollment has improved after a period of stagnation prior to the 1990s. Even through the financial crisis in the late 1990s, enrollment growth remained relatively constant. GER rose from 68 to 77 percent between 1994 and 2002, while Net Enrollment Rate (NER) also rose from 68 to 74 percent (see Box 2.1 for a discussion on the

difference between gross and net enrollment rates). However, both GER and NER have risen at a decreasing rate in recent years. The challenge of maintaining a constant growth rate over time is common among countries as they approach universal access to schooling, known as the "ceiling effect."

Box 2.1: Educational Enrollment - GER or NER?

There are several methods of measuring educational enrollment and participation. Traditional aggregated measures of educational enrollment include gross and net enrollment rates. These two indicators measure the number of children enrolled in a specific education level as a percentage of the school age population corresponding to the same education level. GER measures the number of all children enrolled, regardless of age, as a percentage of the population of children in the specified education level. NER includes only those children in the official age group for a particular education level, again measured as a percentage of the population of children in the specified education level. In the case of Thailand, the official age group for secondary education is 12 to 17 years.

GER is widely used to show the general level of participation in a given education level. Unlike NER, it reflects the extent of over-aged or under-aged enrollment. A secondary GER higher than 100 percent indicates the presence of children who are either over-aged or under-aged in the system, thus exceeding the number of children in the official secondary level age group. A high repetition rate might produce a GER higher than 100 percent, resulting in shortage of space for children whose age corresponds to the official secondary age group. A comparison between GER and NER can, in this sense, be useful for analyzing internal efficiency of a system through the construction of elaborated indicators based on cohort analysis. Achieving 100 percent NER is perhaps unrealistic, given that it would require every child to enter school at exactly the official age, proceed through the education level with zero repetition or disruptions, thus resulting in a 100 percent on-time completion rate. This is a highly improbable scenario, particularly in countries with constraints on on-time enrollment.

Source: Monitoring Educational Performance in the Caribbean (Di Gropello 2003)

Disparities between gross and net enrollment rates in Thailand are minimal, suggesting little age mismatch. Unlike countries such as Brazil, where the ratio of gross to net enrollment rate is high (i.e. 1.63 for primary and 1.24 for lower secondary), Thailand's ratio at the secondary level is around 1.1 (Larach 2001). The gap between secondary NER and GER reflects the extent of over- and under-age students in the education system. For most grades, while less than one third of

children attend school at the grade corresponding to their age, the vast majority of children are within one year of their expected official grade level (see Table 2.2). This is good news for Thailand. Often, students who are significantly over-aged run a higher risk of dropping out of school for reasons including the rise in the opportunity cost of education to foregone income from labor as a child grows older.

Table 2.2: Age Distribution by Grade, 2002

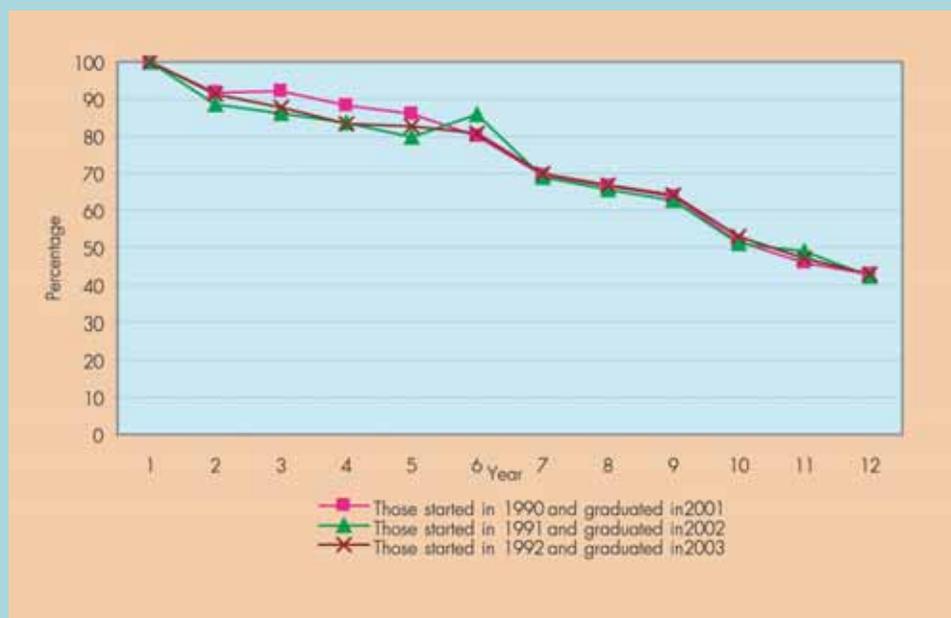
	Age	12	13	14	15	16	17	18	19
Grade 7	12	36.46%	55.02%	6.81%	1.23%	0.47%			
Grade 8	13	3.92%	33.48%	54.78%	6.59%	1.23%			
Grade 9	14	1.10%	3.46%	34.59%	53.84%	7.02%			
Grade 10	15				29.81%	59.22%	8.74%	1.65%	0.59%
Grade 11	16				3.77%	27.77%	58.73%	8.08%	1.64%
Grade 12	17				1.60%	3.79%	28.33%	57.49%	8.80%

Source: Ministry of Education 2002

Education participation for teen-age children has expanded, but there is still room for improvement. The SPR of the cohort aged 12 to 17 years increased from 75 to 86 percent between 1994 and 2002. This reveals an improvement in general access to and permanence within the education system since SPR measures the school participation level of children in a particular age group, regardless of the grade attended. Given that there were about 5.8 million children in the 12 to 17 year-old cohort in 2002, this leaves about 800,000 children excluded from the education system. The challenge for the RTG lies in reaching the last 14 percent of the 12 to 17 year-old cohort and successfully bringing them into the formal education system. To achieve universal secondary education, it will be crucial to formulate appropriate strategies for reaching out-of-school youth and target interventions to address the obstacles they face in attending secondary school.

Repetition is a minor problem. MOE data from 2002 show that while there was a slight repetition rate (1 to 2 percent) at the primary level, there was none for secondary education. Dropout is relatively a source of greater concern. An analysis of school dropouts in 1999, which sampled 1,157 schools and included grades 1 to 12, found that only 2 percent of students dropped out of school. However, examining data that follow three cohorts from grades 1 through 12, it is clear that students primarily drop out of the education system when they transition from one level to another (depicted by dips in cohort enrollment between grades 6 and 7, as well as 9 and 10 in Figure 2.B). Thus once students start grade 1, they tend to stay on through grade 6. From grades 6 to 7, some students drop out of the system while those that continue tend to stay on through grade 9.

Figure 2.B: Transition of Three Cohorts from Grades 1 to 12, 2001-2003



Source: Ministry of Education 2001, 2002, 2003

The vast majority of secondary school students are enrolled in traditional general academic programs. A snapshot review of secondary students in 2004 using MOE data shows that out of approximately 5.8 million youth between 12 to 17 years-old, around 74 percent are enrolled in the formal education system. About 84 percent of all students attend a school administered by the MOE. Among those who attend schools facilitated by the MOE, approximately 75 percent of secondary students go to institutions under the Office of Basic Education Commission (OBEC). For upper secondary level, approximately 63 percent of students go to an academic track while 37 percent go to a vocational track. Less than 1 percent of students attend welfare schools that are provided for those in need of financial assistance and less than 1 percent of secondary students attend schools for the disabled or with special programs. The private sector plays a small role in general secondary education, accounting for 11 percent of student enrollments in lower secondary and 20 percent in upper secondary education. The highest proportion of private enrollments is found in the vocational education track at the upper secondary level, accounting for approximately 38 percent students enrolled in 2004.

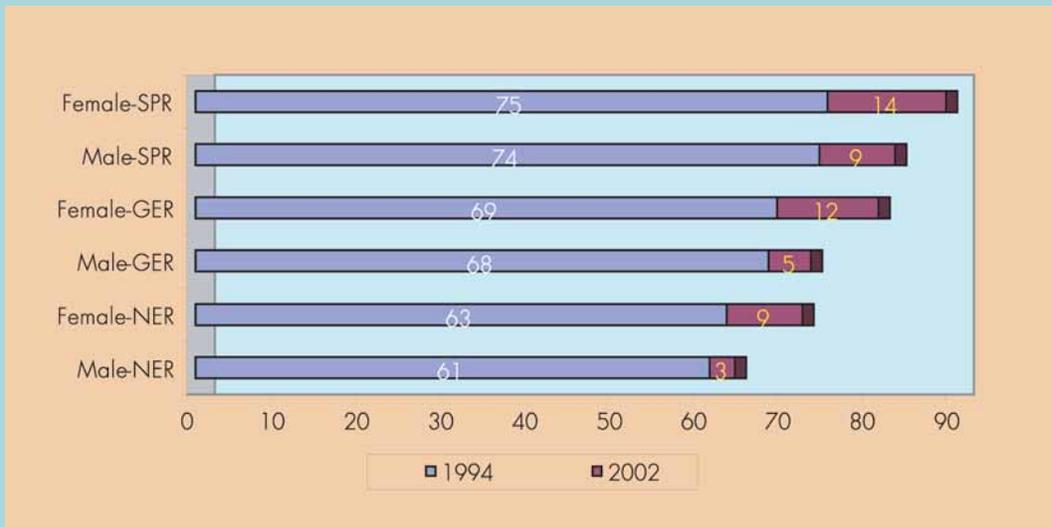
EQUITY IN SECONDARY EDUCATION

Equity in access to secondary education has improved. Participation rates in secondary education demonstrate that access across gender, the rural-urban divide, regions and socioeconomic status groups has expanded, benefiting all groups in some measure. However, while the income and urban/rural gaps have grown smaller, on average the gender gap has grown significantly larger and to the benefit of girls. In contrast to many other developing nations,

a different equity challenge - keeping boys in school - has arisen.

Girls outperform boys in secondary school participation and completion. NER for girls in 1994 was 63 percent contrasted with 61 percent for boys, while in 2002, NER for girls was 72 percent and 64 percent for boys. Thus, while enrollment for both girls and boys is on the rise, girls outperform their male counterparts and this gap has grown over time (see Figure 2.C). In addition, the grade 9 completion rate for females has overtaken that of males between 1994 and 2002. While in 1994 about half of the cohort for both females and males had completed grade 9, the completion rate was 84 percent for females and 76 percent for males by 2002.

Figure 2.C: School Participation Rates, Gross Enrollment Rates and Net Enrollment Rates by Sex and Gains, 1994-2002

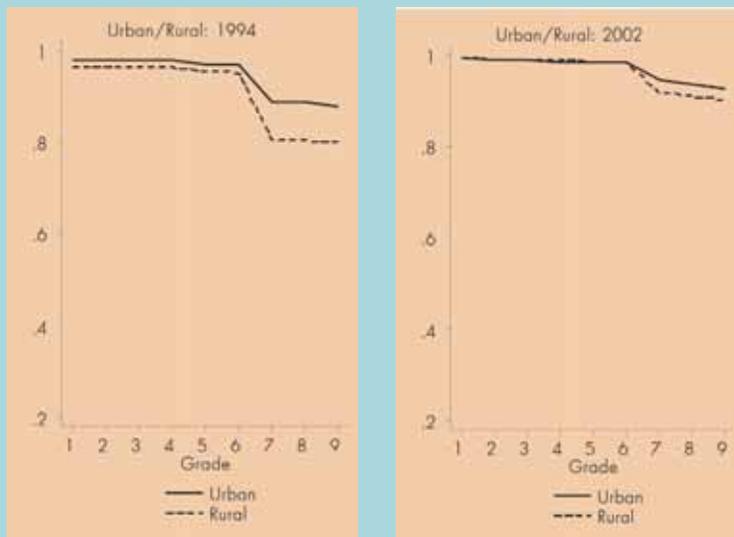


Source: Household Socio-Economic Survey 1994, 2002

Coverage has been expanded to rural areas. With respect to the rural-urban divide, net enrollment and school participation rates in non-municipal, or rural, areas have pulled alongside municipal areas, and in some cases even exceeded rates of their urban counterparts. The gradual rise in both SPR and NER reflects improvement in

access to secondary education for rural children, following massive expansion of schools to remote locations in the early 1980s. Similarly, the urban-rural gap for grade completion has decreased from 25 percent in 1994 to only 8 percent in 2002 (see Figure 2.D).

Figure 2.D: Grade Completion by Urban/Rural Location, 1994 and 2002



Source: Household Socio-Economic Survey 1994, 2002

The Northeast, the poorest region in Thailand, is catching up with other regions. In the 1980s, there was great concern about lagging enrollment rates of the most impoverished regions in Thailand, particularly the Northeast. However, SES data show that by 1994, NER for the Northeast was higher than other regions and continued to

maintain that position through 2002 (see Figure 2.E). Most of the growth took place between 1994 and 1996. Like many other regions, the Northeast experienced a dip in NER in more recent years. More striking is the NER trend in Bangkok, where the NER fell between 1994 and 1998, while rates in other regions continued to climb.

Figure 2.E: Secondary Net Enrollment Rates by Region, 1994-2002



Source: Household Socio-Economic Survey 1994, 2002

Disparities exist across provinces, especially among the richest and the poorest provinces. Based on data collected by the MOE, most provinces achieved secondary GERs around 60-70 percent by 2002, reflecting notable improvements but also extensive room for further expansion. Grouping provinces into five quintiles according to

provincial per capita income, school participation rates are relatively consistent among the bottom four quintiles (see Table 2.3). However, the provinces in the wealthiest quintile achieved higher rates than those in the bottom quintiles, across all age groups. The difference among provinces is especially striking for younger children.

Table 2.3: School Participation Rate by Income Quintile and Provincial per Capita Income, 2002

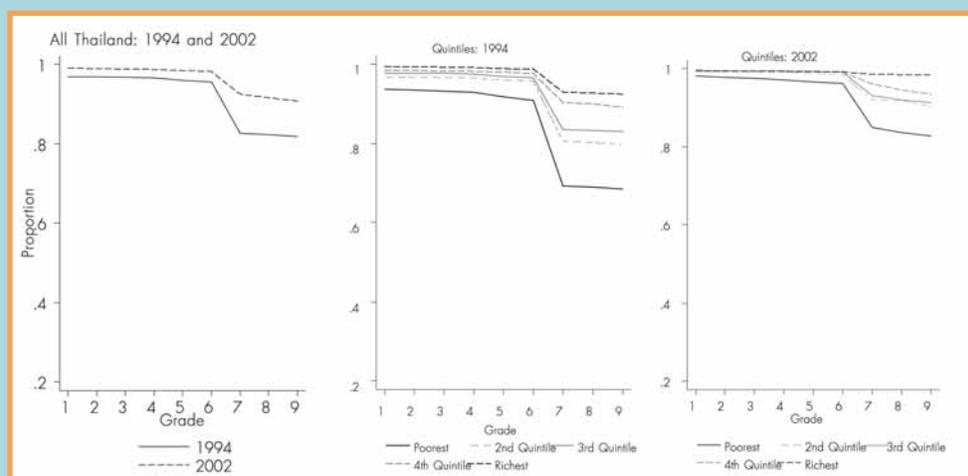
Quintile	12-14 Years Old (%)	15-17 Years Old (%)	12-17 Years Old (%)
Q1 (Poorest)	51.73	36.47	44.03
Q2	51.84	35.40	43.58
Q3	55.49	35.81	45.59
Q4	55.04	36.69	45.74
Q5 (Richest)	66.36	41.21	53.91

Source: Estimation with data from Ministry of Education and Ministry of Interior

Figure 2.F shows Kaplan-Meier survival curves for all children in the 6 to 15 year old age-group in 1994 and 2002, both overall and disaggregated by wealth quintile. Overall survival probabilities through grade 6 were already high in 1994, and are more than 98 percent for 2002. In both years, the transition between primary and secondary is where attainment drops off. Nevertheless, by 2002 overall grade 7 completion was over 90 percent. This average masks significant differences by quintile though. In 1994, the completion rate gap between the poorest quintile and other groups was less than 5 percent through to grade 4, and then widened progressively: 6 to 10 percent for grades 5 and 6, 20 to 50 percent for

grades 7 to 9. By 2002, the gap between the richest and the poorest quintiles' completion rates had narrowed, but persisted despite improvements in absolute levels for both quintiles. While the richest quintile's survival rate was almost 100 percent for grade 9, it was only slightly above 80 percent for the poorest group. These survival estimates confirm that overall the problem of retention is more pronounced in the transition between primary and lower secondary and only minor across each grade within these levels. Again, however, there is some dropout among children from the poorest group within both the primary and secondary cycles, even among this most recent cohort of children.

Figure 2.F: Survival Curve Estimates for Ages 6 to 15 in Thailand, 1994 and 2002

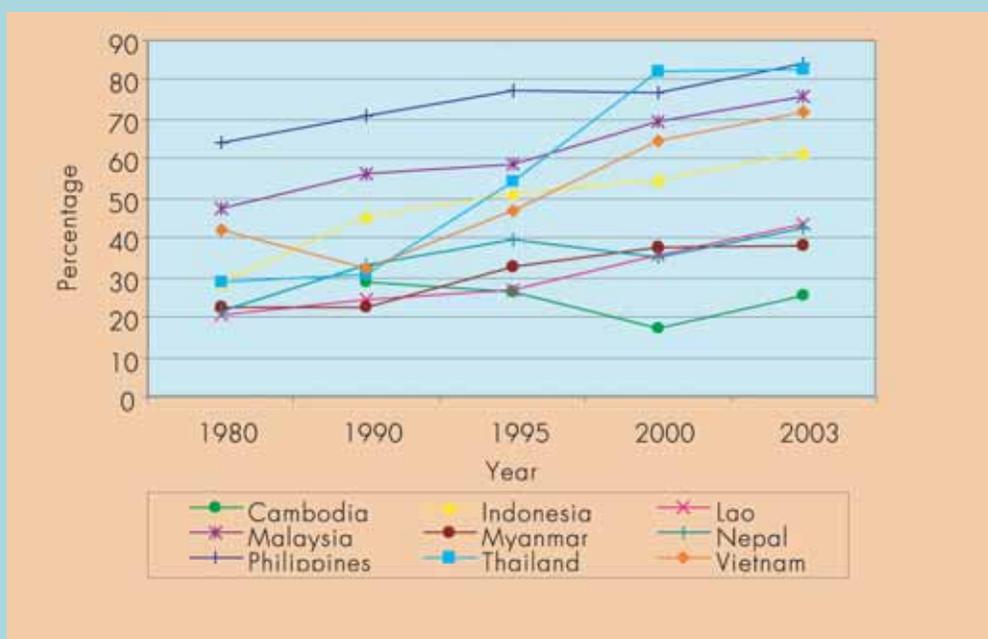


Source: Household Socio-Economic Survey 1994, 2002

Urbanicity is relatively a minor factor in explaining inequities of survival and completion. Previously shown in Figure 2.D, the urban-rural gap on grade survival curves is smaller than that of household wealth (of the poorest and the richest) depicted in figure 2.F. Survival probabilities to grade 6 of urban and rural children were largely similar in 1994 and more so in 2002. Urban-rural differences grow larger across into the lower secondary grades, albeit less pronounced now than a decade ago.

International comparisons show that Thailand made dramatic improvements over the past two decades. Data from the World Development Indicators (World Bank 2003) confirm that Thailand started out in the late 1980s with one of the lowest secondary gross enrollment rates in the region, but subsequently picked up pace in later decades to position itself in the top tier due to a concerted Government effort to expand access (see Figure 2.G).

Figure 2.G: Trends in Secondary Gross Enrollment Rates across Asian Countries, 1980-2003



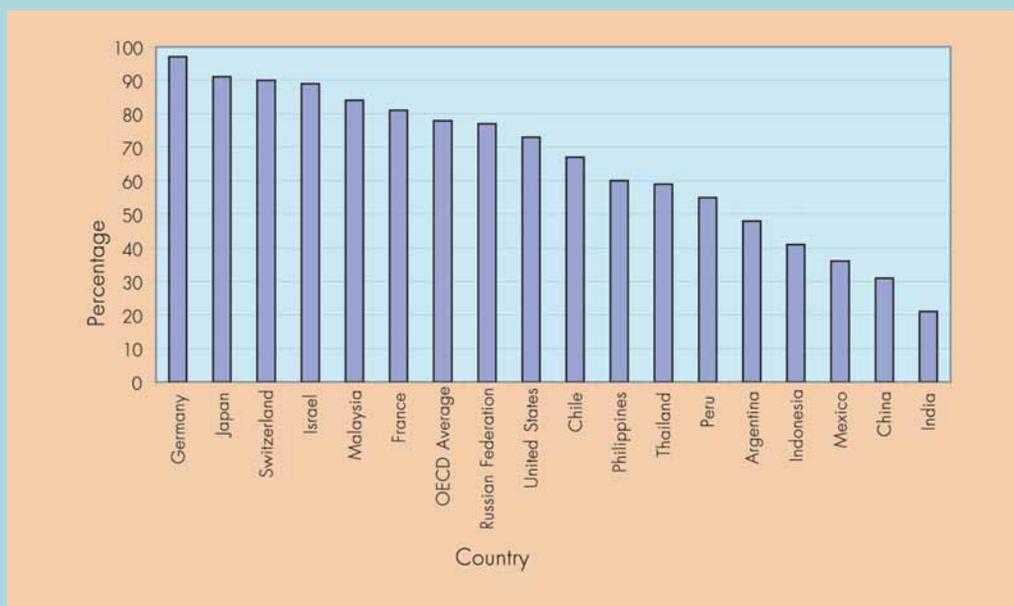
Note: Data for Thailand and Philippines in 2000 are from World Development Indicators 2003

Source: World Development Indicators Database, World Bank 2006

GERs for the upper secondary level have also experienced a notable increase. The share of upper secondary school graduates to the population has steadily increased, reaching 59 percent in 2003. Thailand performs comparatively better than other regional neighbors such as Indonesia, China

and India in this realm (OECD 2005b). Furthermore, Thailand's share of secondary school graduates was largely at par or larger than countries with a higher GDP per capita, such as the Philippines, Argentina or Mexico (see Figure 2.H).

Figure 2.H: Percentage of Upper Secondary Graduates to the Population, 2003



Source: OECD 2005a

REACHING OUT TO THE EXCLUDED

Thailand's expansion of secondary education is a success story, but many children remain excluded from sharing in the benefits of school participation. For Thailand to achieve its commitment of universal secondary education by 2015, it is necessary to tease out the supply- and demand-side constraints to education faced by the remainder 14 percent of the school age population outside the formal education system. On the one hand, there are several socioeconomic factors that determine fami-

ly decision-making regarding the demand for secondary education and the level of investment in human capital. On the other hand, there are supply side variables that affect access to secondary education. Understanding the interplay between these variables will allow the RTG to develop appropriate strategies for better targeting out-of-school children, broadening coverage even further and achieving universal participation objectives.

Box 2.2: The Path to Universal Secondary Education in Korea

The Republic of Korea achieved nearly universal primary and secondary education in just four decades, following the end of the Korean War in 1953. Educational expansion in South Korea was accompanied by a declining Gini coefficient, indicating that equality gaps were narrowed during the same time period. Korean students are also among the top performers in both mathematics and science in OECD countries, as illustrated by recent PISA and TIMSS results.

According to a case study on Korea's path to universal secondary education in "Expanding Opportunities and Building Competencies for Young People: A New Agenda for Secondary Education" (World Bank 2005), several factors played a key role. First, Korea included strategies for a strengthened and broadened education system in its national development plan as early as the late 1950s. Education was identified as a top priority area in the 1960s and a focus on secondary education was established in the 1970s, followed by tertiary level in the 1980s. Second, Korea included equality and equity considerations in its educational expansion strategies. In 1968, the government abolished entrance examination for middle schools and introduced a lottery system for student placement, which was intended to democratize access at this level. The High School Equalization Policy (HSEP) was passed in 1974, which was intended to equalize schools inputs such as operating expenditures, student intake, class size and education facilities. As a result, there is no discernible quality difference across public schools or between private and public institutions. Third, government expenditure on education has increased steadily since the 1950s. Education expenditure as a percentage of GDP increased from 2.9 percent in 1970 to nearly 5 percent in 2003. Fourth, private school participation has played a significant role in sustaining expansion. While providers of secondary education were greatly supported by government tax incentives, fees, family contributions and foreign aid at first, government revenues have been reinvested in education following the introduction of school-leveling policies.

MOE statistics primarily report on children who are already in school. These data also provide some insights on students' decision making regarding whether to continue or abandon school. The Thai education management information system, however, has limited information on out-of-school children. Statistics (or acceptable estimates) of these children from various organizations vary widely.

Children with disabilities have been a group largely neglected from efforts to universalize basic education. The MOE manages 41 specialized basic education schools for children with disabilities throughout Thailand that serve approximately 13,000 students. In addition, the MOE has generally espoused an inclusive policy of mainstreaming children with disabilities within the regular edu-

cational system. But this policy has not been clearly articulated and children with disabilities have traditionally not been emphasized as a priority target group to reach Education for All targets. Thus, they have remained largely excluded from education participation. According to national statistics, in 2004 there were only 175,000 children with disabilities enrolled in pre-primary through upper secondary school. The total population between 3 and 17 years old in 2004 was 13,774,909. Thus, the share of children with disabilities enrolled in school was approximately 1.27 percent. Estimates from other middle-income countries suggest that the share of children with disabilities tend to oscillate between 4 and 5 percent, suggesting that there are likely a few hundred thousand children with disabilities in Thailand outside the school system.

Table 2.4: Number of Disabled and Special Students by Type and Gender, Academic Year 2004

Type	Male	Female	Total
Seeing-impaired	5,898	5,445	11,343
Hearing-impaired	3,578	3,302	6,880
Mentally impaired	15,302	14,125	29,427
Physically impaired	8,343	7,701	16,044
Students having difficulties in learning	39,478	36,442	75,920
Speaking-impaired	5,994	5,532	11,526
Students with autism	1,965	1,814	3,779
Students with behavioral/emotional problems	5,001	4,617	9,618
Students with more than one characteristic of disability	5,518	5,094	10,612
Total	91,077	84,072	175,149

Source: Office of Education Council 2005

Another group that has remained at the margins of inclusive education policies is comprised of children of non-Thai citizens currently living in Thailand. According to MOE's and Ministry of Interior (MOI)'s regulations, non-Thai children have a right to receive basic education with financial support from the RTG. While this policy is in effect, it has been irregularly implemented. Demand-side constraints keep a large share of non-Thai children out of school. Language of instruction has also been a problem as alien children may not be fluent in Thai. Efforts to reach immigrant out-of-school youth have been small in scope and mostly led by specialized non-governmental organizations. Furthermore, schools that do enroll non-Thai children oftentimes do not claim their entitled governmental per capita funding for these students due to ignorance of existing policies or fail to receive their entitled allocation. At present, there are approximately 45,000 non-citizens in Thai schools receiving budgetary per capita entitlements. A study of the Office of

Education Council (OEC) covering 250 children of alien workers in Samut Sakhon province shows that the provision of free education has resulted in a 46 percent decline in the number of school dropouts and child labor abuse cases. Yet nearly half of the schools which were providing free education for alien children had not received state subsidies.

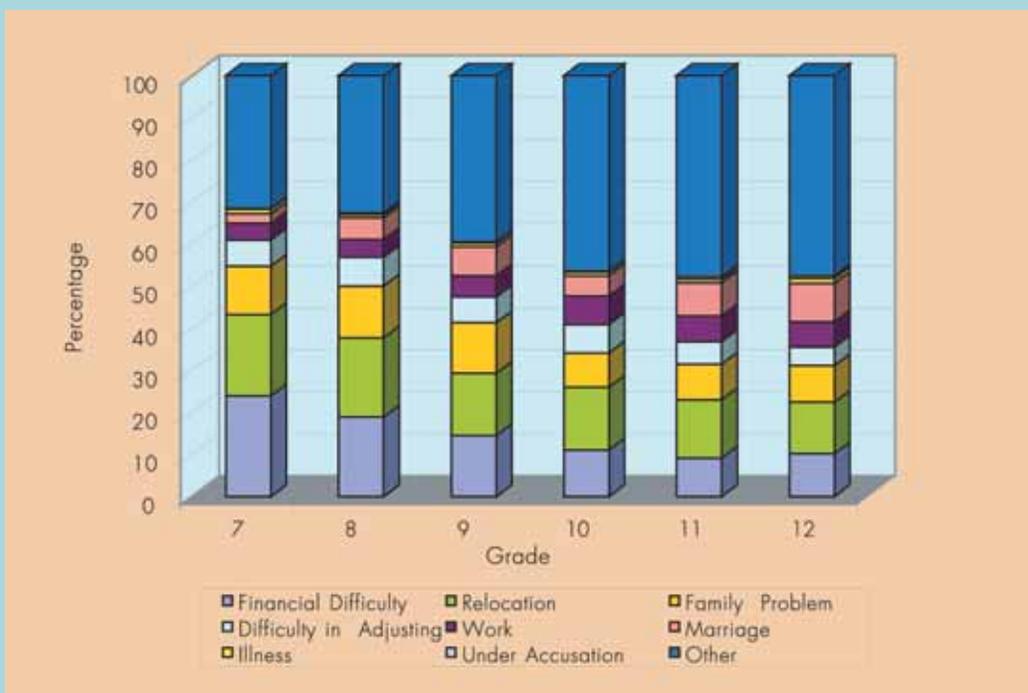
As noted earlier, the pattern of school participation in Thailand reveals that the majority of school abandonment is occurring between cycles. Figure 2.D suggests that transitions between cycles tend to be sharper in rural areas in particular, although these have diminished between 1994 and 2002. Possible explanations for this phenomenon may relate to basic supply constraints in which students simply do not have access to the next education cycle and are forced to drop out. Between-cycle abandonment may also be due to low perceptions of the benefits of the subsequent education cycle. Low real or perceived returns to education,

high private costs, or high opportunity costs may cause students not to enter higher education cycles. Lack of relevance or poor school quality can also play an important role in a household decision to keep their children in school.

MOE data indicate that while financial constraints are often identified as the main obstacle keeping students out of schools, another important factor is student relocation (without transfer to a new school) (see

Figure 2.I). Financial constraints tend to lessen as students progress to higher grades; while relocation grows in relative significance into the upper secondary level. Nevertheless, relocation also shows a diminishing impact when moving along the higher grades. The “other” category in this survey probably captures lack of knowledge about the reasons for dropout due to an inability to track students outside the formal educational system.

Figure 2.I: Reasons Cited for Dropping Out, Grades 7-12, 2004



Source: Ministry of Education 2006

A multivariate analysis model was constructed to determine how demand side indicators affect school participation rates of children ages 12 to 17 years old. The effect of age and household composition on schooling decisions have waned. In general, as children grow older, they stand a higher chance of dropping out of school as the direct and opportunity costs to educa-

tion weigh more heavily into participation decisions. In 1994, there was a probability of 12 percent that children would dropout of school if they were one year older. This probability declined to just 5 percent in 2002. Likewise, it is common that children from larger households have less of a chance of attending secondary school, most likely because limited resources have

to be allocated among a greater number of children. Recent household data show that the effect is presently marginal and has declined over time.

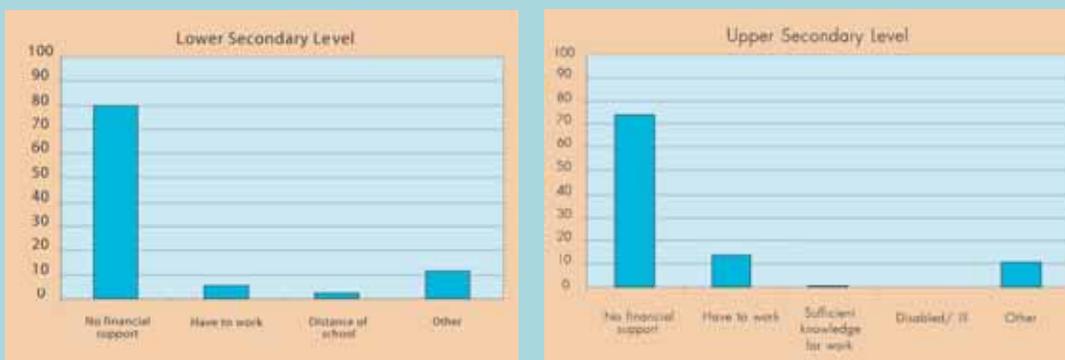
Children with educated parents tend to achieve higher secondary school participation rates. The educational attainment of adult males and females are both positively associated with children's participation in secondary school. The higher the educational attainment of the adult in a household, the likelier the children in that particular household will participate in school. The effect is even stronger with females. The marginal effect of adult educational attainment has increased over time between 1994 (2.5 percent) and 2002 (3.5 percent).

The relationship between school enrollment and household expenditures has remained strong. Relative to children from the poorest quintile, children from the second, the third, the fourth and the fifth (the richest) quintiles have 7.3, 11.9, 17.0 and 18.3 percentage points higher probabilities of school

participation respectively in 1994. While effects have decreased over the years (and stand at 5.5, 8.0, 8.8 and 9.9 respectively for 2002) they remain statistically significant. An alternative specification that replaces quintile dummy variables with the (natural) log of per capita household expenditure suggests that a 10 percent increase in monthly real per capita expenditure is associated with almost a 1.5 percentage point increase in child's school participation in 1994. This magnitude is about 1 percentage point for 2002 data.

Direct costs to education act as a barrier to access to secondary schooling. The transition from one level of education to another is heavily influenced by financial considerations. According to the Children and Youth Survey (CYS), regularly conducted by the NSO, inability to pay is overwhelmingly the prime reason for children who are completing an educational cycle not to progress to the next educational level (see Figure 2.J). Other minor reasons include having to work, distance from school and have sufficient knowledge for work.

Figure 2.J: Reasons for not Continuing Lower and Upper Secondary Education, 2002



Source: Children and Youth Survey 2002

The gap between the rich and the poor for household expenditures in secondary education is widening. Average household spending on education was 3,449 Baht per year in 2002 with vast differences across quintiles - from 840 Baht in the poorest quintile to over 7,870 Baht in the richest quintile - and across regions - from about 1,750 Baht in the Northeast to over 9,585 Baht in Bangkok. Poor households allocate on the order of 1.5 percent of total expenditures to education whereas richer households allocate 2 or 3 percent. The SES does not collect information about spending on education at the student level, but estimates can be derived indirectly by calculating the average increase in household expenditures associated with an additional child enrolled at each level of education. The average

spending per student at the secondary level was equal to about 2,300 Baht in 2002, but again this estimate masks wide variations across income quintiles (see Table 2.5). Households in the poorest quintile spent about 860 Baht per secondary students as compared to over 6,800 Baht in the richest quintile - close to eight times as much. This gap appears to have widened over time. In 1994 household per secondary student spending in the richest quintile was only about 4 times as much as that in the poorest quintile; in 1999 it was 6 times as much and by 2002 it had grown to 8 times as much. Moreover, while spending in secondary education in real terms by the poorest quintile between 1994 and 2002 experienced a downward trend, spending by the other four quintiles increased.

Table 2.5: Private Expenditure Estimates on Education by Income Quintile (Real Baht), 1994-2002

	1994	1996	1998	1999	2000	2002
Overall						
Primary	1,308	1,233	1,447	1,631	1,569	1,701
Secondary	2,053	2,160	1,909	2,202	2,194	2,353
Tertiary	9,465	13,429	15,839	17,010	17,344	19,203
Poorest quintile						
Primary	414	502	477	500	471	469
Secondary	967	1,175	1,175	1,053	1,081	864
Tertiary	2,583	2,417	2,392	3,303	3,143	1,864
Quintile 2						
Primary	658	721	646	676	733	717
Secondary	1,425	1,501	1,551	1,682	1,599	1,492
Tertiary	3,467	3,058	4,237	3,549	3,231	5,888
Quintile 3						
Primary	898	1,081	1,176	1,291	1,064	1,318
Secondary	2,032	2,143	1,929	1,935	2,242	2,180
Tertiary	4,117	3,908	4,350	5,731	4,795	6,044
Quintile 4						
Primary	1,772	1,915	2,240	2,588	2,541	2,876
Secondary	2,399	2,898	2,874	2,864	2,908	2,963
Tertiary	5,866	6,233	7,142	7,082	8,095	9,403
Richest quintile						
Primary	5,604	4,850	6,735	8,702	7,144	8,380
Secondary	4,336	4,394	5,244	6,566	5,687	6,889
Tertiary	11,759	18,560	21,584	22,698	22,615	22,821

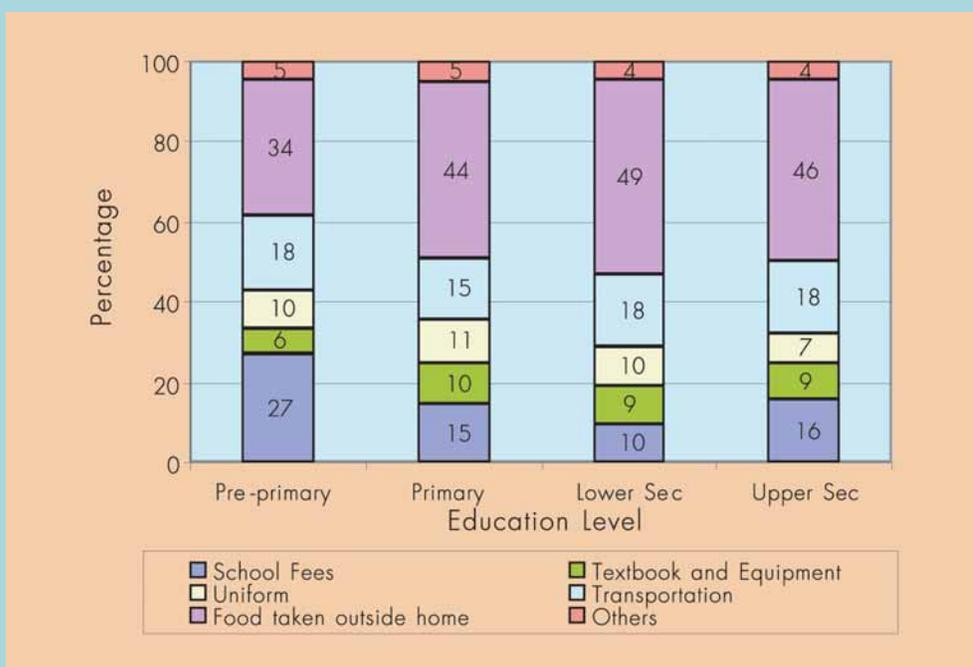
*Prices are deflated by regional and yearly CPIs (Base region= Bangkok, Base year=2002).
Yearly CPIs: 1994=75.0, 1996=84.1, 1998=96.0, 1999=96.3, 2000=97.8, 2002=100
** SES data does not disaggregate household education spending by levels, therefore, the above figures are estimated using OLS regression of education expenditure on number of students at each level of schooling and reading off the appropriate coefficients.

Source: Household Socio-Economic Survey 1994-2002

“Free” education for all does not truly meet the needs of poor households. While the RTG committed to provide 12 years of free education for all under the 1997 Constitution, tuition covers only a small part of total expenditure that households must bear in association with education. Data from the CYS show that in 2002, school tuition and textbooks represented only 19 to 25 percent of the total cost of sending a child to lower or upper secondary level (see

Figure 2.K). Meals and transportation costs combined represented about 65 percent of total education-related expenditures. A recent study from the National Human Rights Commission also indicates that students often had to pay “hidden fees” to utilize libraries, have access to computers and sit for examinations. Other students report being charged for school landscaping or after-school tuition classes (Thai News Agency 2006).

Figure 2.K: Average Annual Expenditure on Education per Person by Education Levels, 2002



Note: Average annual expenditure for upper secondary level includes both academic and vocational streams.

Source: Children and Youth Survey 2002

Opportunity costs may hinder households from sending children to school. A large number of rural children, especially in poor households, financially contribute to their families by working inside or outside the home. By sending these children to school, households forego these financial benefits. Opportunity costs relate to how households

perceive the impact of income foregone, which is often affected by conditions in the labor market. For the poorest households, this indirect cost may be substantial, with seasonal variations relating to the demand for agricultural and other labor. In Thailand, this is apparently a problem for only a very small fraction of children at the lower sec-

ondary level. According to the SES, children begin to become involved in productive work at around 15 years of age (see Figure 2.L). Data from the CYS confirms that only a small minority of out-of-school youth cite having to work as a reason not to enter lower secondary education. As expected, work begins to compete with schooling by

precluding school attendance at a higher rate in the upper secondary level. In 2002, 17 percent of 16-year olds were engaged in productive work and 14 percent of children in Grade 9 cited work as a reason to stop their education at the lower secondary level.

Figure 2.L: Share of Children and Youth at School or Work by Age, 2002



Source: di Gropello 2006

But in order to achieve universal secondary education, it is crucial to ensure not only that there is strong demand but also sufficient supply of educational services. In the early 1990s, a school infrastructure development program was pushed forward by the Department of General Education (DGE). There were on average 18 public secondary schools in every province. In addition, the Office of National Primary Education Commission (ONPEC) expanded existing rural primary schools under its jurisdiction to cover lower secondary education. Expanding schools into the rural areas enabled students to attend schools by reducing transportation costs for households. With such heavy expansion, the enrollment gap between children in the urban and rural areas was dramatically reduced. But while secondary schools seats have grown over time, a simple analysis shows that there may still be room for expansion. Comparing the number of students in the official secondary level age group between 12-17 years old and the number of secondary classrooms available by province, it is clear that more classrooms may be needed. The student to classroom average ratio ranges from 27:1 in Pattani to 42:1 in Nontaburi and Samutprakarn. For many provinces, if all students in the respective age group decided to attend secondary school, there would not be enough classrooms to hold them.

INTERVENTIONS TO STIMULATE EQUITABLE SECONDARY SCHOOL EXPANSION

So what accounts for the extraordinary growth in secondary school enrollments in the 1990s? As noted immediately above, the expansion of the schooling network, either through a new infrastructure program or the addition of lower secondary grades to existing primary schools, is credited in dramatically opening new educational opportunities for children throughout Thailand. Studies conducted in rural areas provide evidence that parents saw secondary education as a means to break the cycle of poverty for their children or open up greater job opportunities in the expanding labor market. Bringing schools closer to the point of demand reduced the costs associated with schooling and minimized concerns about their children falling into bad company. The use of excess physical facilities and teachers in primary schools, resulting from the declining primary school-age population, facilitated the transition to lower secondary education. The primary schools prioritized for expansion had to be successful in teaching vocational subjects where students could earn income while studying, staffed by an adequate number of teachers and located in areas with low continuation rates due to poverty (Jones 2003). The number of primary schools supplying secondary education increased from 119 in 1990 to 2,688 in 1992, 4,081 in 1994 and 6,281 in 1997. Despite this very dramatic expansion, as the rough estimations already provided suggest, Thailand may still face a supply side shortage to offer adequate opportunities for all children.

Financial incentives were introduced to reduce the cost burden on families. While the Government has expanded its school network and committed to provide free tuition for grades one to twelve, expendi-

tures for school-related costs such as uniforms, textbooks and transportation are large and significant. In order to address demand-side constraints, the RTG launched a comprehensive set of programs to assist poor children in response to the evidence that lack of financial support is a significant constraint to secondary school participation. The main features of these programs are described in Box 2.3 below. Among the

government-initiated programs, the student loan program, established in 1996, receives more than 185 billion Baht and is the largest education-related intervention. More than 2 million students have received loans to attend upper secondary and tertiary schools to date.

Box 2.3: Summary of Government-Initiated Interventions

Policy Intervention	Target Population	Target Level	Total Budget
<p>School Lunch Program</p> <p><u>Objective:</u> The fund, established in 1992, aims to ensure sufficient nutrition for pre-primary and primary students across countries, including pre-primary children in mosque and temple schools. Each student receives 6 Baht per day for 200 days in each school year, totaling 1,200 Baht per person per school year. This program has also been replicated independently with community contributions across the nation.</p> <p><u>Responsible agencies:</u> Ministry of Education</p> <p><u>Current situation:</u> In 2005, more than 2 million students received free school lunches</p>	<p>Children with nutritional problems, in Rachaprachanukrao, in border police schools, from hill tribes and the poor, which accounts for 30 percent of all children.</p>	<p>Pre-primary and primary levels</p>	<p>Around 4,000 million Baht in FY 2005</p>
<p>Scholarships for Poor Children from Essay Writing</p> <p><u>Objective:</u> Scholarships for poor children, using Government's revenue from lottery tickets sales. Scholarships are granted to children who have submitted an essay describing hardships they face. Scholarships are awarded after verifying attendance with schools and teachers.</p> <p><u>Responsible agencies:</u> Ministry of Education (Office of Basic Education Commission, Office of Vocational Education Commission, Commission on Higher Education) tracks students and monitors project outcomes.</p> <p><u>Current situation:</u> Currently, around 250,000 children have received a scholarship with 150,000 applications being processed. In total, the program is currently using about 67 percent of its allocated resources.</p>	<p>Poor students</p>	<p>All levels</p>	

Box 2.3: Summary of Government-Initiated Interventions

Policy Intervention	Target Population	Target Level	Total Budget
<p>Scholarships for Poor Students whose parents are dedicated to social activities</p> <p><u>Objective:</u> The project aims to help poor students whose parents have devoted their time and efforts to government and social activities.</p> <p><u>Responsibility agencies:</u> Ministry of Education, Office of Lottery Service</p> <p><u>Current situation:</u> The project started in 2004. There were 66,560 scholarships granted.</p>	<p>Poor children of government officials and permanent employees of every ministry, volunteers on special taskforces (public health, anti-drugs), junior police officials</p>	<p>All levels</p>	
<p>Bicycle Lending Project</p> <p><u>Objective:</u> Beginning in 2003, students who live in remote areas at least 3 kilometers away from schools and whose family annual income is less than 300,000 Baht can borrow a bicycle to travel to schools. The borrowed bicycles are returned to the project upon graduation.</p> <p><u>Responsible agencies:</u> Ministry of Education and Ministry of Industry.</p> <p><u>Current situation:</u> 426,734,545 Baht have been allocated and 75,900 bicycles have been provided on loan for students</p>	<p>Poor students who have to travel long distances to school</p>	<p>Primary and secondary levels</p>	<p>Around 500 million Baht has been allocated.</p>
<p>Student Loan Scheme</p> <p><u>Objective:</u> Established in 1996, the fund aims to provide financial assistance to children from poor families who wish to continue to upper secondary or tertiary level on both general and vocational tracks. This also includes learners in non-formal education programs who wish to further their studies beyond lower secondary. The loan provides 55,400 Baht per year for upper secondary and 100,000 Baht for bachelor degree studies.</p> <p><u>Responsible agencies:</u> Ministry of Education is responsible for loan recipients. Ministry of Finance is responsible for allocation of loans while Krung Thai Public Company Limited is responsible for debt repayment from students after graduation.</p> <p><u>Current situation:</u> In 2004, around 880,000 students were recipients, using around 26 billion Baht of student loan funds.</p>	<p>Children from poor households whose family total annual income is less than 150,000 Baht (for recipients before 1998 their annual household income should be no more than 300,000 Baht)</p>	<p>Upper secondary and tertiary levels</p>	<p>26,045 million Baht in FY 2004</p>

Box 2.3: Summary of Government-Initiated Interventions

Policy Intervention	Target Population	Target Level	Total Budget
<p>One District One Scholarship Program</p> <p><u>Objective:</u> The project aims to address issues of equal access to quality education for Thai students. Scholarship applicants are poor students whose family income does not exceed 100,000 Baht per year. In addition, these students are required to have a minimum of 3.00 GPA, pass the general test (on mathematics, science, social science), pass an English writing test and interview.</p> <p><u>Responsible agencies:</u> Office of Lottery Service and Ministry of Education.</p> <p><u>Current situation:</u> In 2005, the first year of the program, 921 students have received scholarships, out of which 740 have studied abroad and 181 have attended universities in country. The second batch of 2006 is in process.</p>	<p>Poor students whose family income is less than 100,000 Baht per year</p>	<p>Tertiary level both in-country and overseas</p>	<p>Allocation of 1 billion Baht on an annual basis.</p>

Source: Office of National Economic and Social Development Board (NESDB) and Ministry of Education

Government interventions have proliferated, but their impact could be improved. In 2000, about a quarter of students at the upper-secondary level (general and vocational) received student loans (including 40 percent of students enrolled in private vocational upper secondary). Yet the loan program itself did not produce the expected boost in overall upper secondary education enrollments. An in-depth study of the Student Loan Scheme shows that over the period 1996-2000, upper-secondary education evidenced a declining overall share in terms of number of borrowers and total size of loan disbursements (from 63 to 47 percent and 46 to 21 percent respectively). In 1999, the loan scheme covered approximately 453,000 children or 33 percent of poor students enrolled - that is, two thirds of eligible poor students enrolled in upper secondary schools that year did not receive

any assistance and an additional 600,000 poor youth were out of school (Ziderman 2003). Furthermore, more recent evidence suggests that loans do not seem to reach its intended beneficiaries: students who would be unable to attend schooling in the absence of a loan. Interview data shows that only 30 percent of borrowers would drop out if the loan was terminated. According to a recent study by Chulalongkorn University's education faculty, 58 percent of secondary school recipients did not need financial assistance to stay in school, while 21 percent of rejected applicants at all educational levels were actually in a worse off financial position than scholarship recipients (Bangkok Post, 2006). In addition, there is a problem with slow repayment and low recovery rates. Comparing with other Asian countries, Thailand has the lowest repayment rate (21

percent), contrasted with 55 percent in Korea and 79 percent in China. Moreover, the recovery rate, which includes default and administrative costs, is at 8 percent considered to be very low, compared with 53 percent in China (Ziderman 2004). To ensure that the student loan program is an effective intervention, the RTG needs to urgently improve its outreach and targeting to the poorest students.

Scholarships may act as a stronger incentive for poor families to send their children to secondary school, while cutting down related administrative costs of the scheme. Indeed, the Government has announced an intention to replace loans for upper secondary students by grants and use an Income Contingent Loan (ICL) for tertiary education. The ICL is scheduled to start this academic year 2006. Student loans for upper secondary students are expected to be gradually phased out and replaced by student grants for grade 10 students.

There are no prominent schemes for assisting poor students at the lower secondary level. Official assistance programs targeting lower secondary students in need are relatively small and unfocused. For instance, the bicycle lending program, which does not specify an education level, tends to overwhelmingly support students at the primary level. Lower secondary students account for 25 percent of recipients in this scheme and upper secondary students for only 5 percent. Thus, while many of the programs do target poor households, some interventions could be better directed or specifically earmarked to at-risk lower secondary school students in order to redress the notable drop in enrollments in the transition beyond primary schooling.

Increasing the role of alternative education service delivery programs may provide further opportunities for rural and poor stu-

dents. At present, Non-Formal Education (NFE) programs are prohibited to serve children under the age of 16, unless they are referred by an ESA. The NEA encourages schools to organize flexible classes for out-of-school youth children and youth, but this practice is not very widespread. In 2002, over 4 million children were enrolled in NFE institutions at all educational levels. Most of these students attended schools under the jurisdiction of the MOE; hence they are included in counts of participation and gross and net enrollment rates collected by the MOE as well as the SES. Unfortunately, data on specific age groups are not available at the moment. It is thus difficult to estimate how many children aged between 12 and 17 enroll in alternative education programs. Data from ONEC indicate that approximately 1.8 out of 4 million were at the secondary education level. Alternative education pathways provide opportunities for those who cannot attend schools during regular hours, and such students tend to come notably from disadvantaged families. The Vocational Education Certificate Course involves a community-based curriculum over a three-year period. An evaluation conducted in 2000 showed that only 30,000 students per year opted for this option (Jones 2003). Increasing the role of credible alternative education programs may provide enhanced opportunities for children from poor households and further strengthen the equity dimension of the educational system.

Promoting private sector involvement may alleviate some of the educational expenditure demands on the Government. The expansion of public schools places additional burden on government resources, especially when the government is committed to providing 12 years of free education for all students. Promoting the expansion of private schools, especially in urban areas, could potentially alleviate pressures on government expenditure on education, allowing

the government to redirect additional resources to rural areas or better target out-of-school children. At the lower secondary school level, over 90 percent of students attend public schools (see Figure 2.M). Public sector provision of upper secondary education grew from around 72 percent of

the student population in 1992 to 85 percent by 2002. In other words, the private sector share in secondary education has either remained largely stagnant or diminished over the past decade, suggesting that there is room for improvement.

Figure 2.M: Ratio of Number of Students Attending Public to Private Schools at Secondary Level, 1992-2002



Source: Ministry of Education 2002

Educational reforms have stimulated private partnerships. Currently various schemes have been put in place to promote private partnerships in the education system. For example, any individual or organization which establishes a school or institution is permitted to deduct 30 percent of the profits from the operation on a tax free basis. Additionally, incentives such as tax rebates or exemptions are provided for contributions from non-profit organizations. A Revolving Fund for Developing Private Higher Education Institutions was launched in 1999 to provide loans to private sector agents. A closer analysis of the impact of these measures would be desirable to assess their viability for expanding educational opportunities.

Thailand could draw lessons from several financing mechanisms implemented in other countries. Programs such as the Programa Nacional de Educación, Salud y Alimentación (PROGRESA) in Mexico or Bolsa Escola in Brazil have proven to be effective mechanisms to stimulate demand for education and encouraging households to send children to school. They are expected to produce higher school attendance rates while lowering school dropout rates. The most comprehensive programs, such as PROGRESA in Mexico, resulted in a reduction of child labor, increased educational attainment and improved health and nutrition of the most impoverished. This particular program targets the poorest population in rural areas and provides monetary assistance to each child under 18 years old that enroll in school between grades 3 and

9. Each year the grant amounts increase as the student progresses to the next level. This grant compensates for a household's foregone income as their children attend school instead of working and contributing to the family income. More than 97 percent of eligible families choose to participate in the program.

Box 2.4: Demand Side Financing Mechanisms

Demand side financing programs raise family income and reduce the cost of attending school. They have also proven to be cost effective. Such programs can be targeted to specific populations identified to be in greatest need, such as households below a certain income level or living farther away from school. Incentive schemes are proving to be very effective in increasing access to secondary education. This is true in high enrollment countries such as Mexico as well as countries where enrollment rates, particularly for girls, have historically been very low, as is the case in Bangladesh or Cambodia.

A variety of demand side financing mechanisms include :

- A stipend is a cash payment that a public agency makes to a family to offset schooling related costs for a child. By granting a poor student a tuition-earmarked stipend, for example, the local education authority reduces parents' direct cost of sending this child to school. For reducing the direct costs of schooling, the benefits of schooling will outweigh costs and the child's family will elect to send the child to school. Stipends act to increase demand for schooling by lowering the direct and/or indirect costs of education and making it more likely that the utility maximizing option for a family will be to send a child to school. Stipends can be earmarked for core expenses such as books, tuition and transport, and incidental expenses such as materials, game fees and cloths. These can also be known as scholarships or conditional cash transfers.

- A targeted voucher is a cash payment given directly to students/families, typically by a public entity, to be used at a school that the student selects. The primary reason voucher programs are typically considered is to increase the range of choices available to students, thereby benefiting both students and school systems. By making more schooling options available to students, it is possible that families will be able to choose an alternative that better meets their needs.

Targeted bursaries are cash payments that may go directly to schools, municipalities or provinces and are earmarked for specific purposes, such as improving the curriculum or increasing school access for minority, indigenous or poor children. They are not given to students or their families but are made available to financial officers or the bursars at school or relevant administrative offices. When targeted bursaries are used to reduce or eliminate school fees, their effect is essentially the same as a stipend.

- Community grants are given to a community of students in a lump sum but are tied to attending a community created institution. The term voucher-like is sometimes used because the amount of money is related to the number of students and the approach has an element of choice. Parents choose to send their children to a community school, thereby making the community school eligible for cash payments. Payments may cover some expenses or the full cost of schooling. The grants can be used, for instance, to address gender equity issues by giving scholarships in lump sum to schools that girls attend.

Source: A Review of Demand Side Financing Initiatives in Education (Patrinos 2002)

Special groups of children also require additional resources. Although children who have a physical or intellectual disability are small in number, they often require support as well as additional resources and tailored services.⁵ Schools have been incentivized and supported to attract and serve children with disabilities by providing increased per capita expenditures in addition to allocations for the general student body under the NEA. Additionally, mainstreaming strategies for inclusive education within the existing curriculum and teacher training programs have provide teachers, principals and

administrators with some basic tools to support children with disabilities and strive towards an inclusive school system. These have been important first steps in the right direction, but a more comprehensive and clearly articulated policy to mainstream children with disabilities will be required to achieve Education for All targets. Other barriers to educational access include inaccessible school infrastructure to accommodate children with disabilities and negative social perceptions about disability that have tended to keep these children at home or in segregated institutions.

III.

QUALITY OF SECONDARY EDUCATION IN THAILAND



Accurately capturing and evaluating the various facets of educational quality is difficult. UNESCO has defined education quality around four principal concepts, (i) learning to know; (ii) learning to do; (iii) learning to live together; and (iv) learning to be (UNESCO, 2005). Education quality encompasses multiple areas of learning, ranging from content knowledge of both external and local or indigenous subjects, skills to apply what is learned in the larger society and labor market, qualities to build more cohesive, peaceful, and equitable societies, and opportunities to develop personally. Unfortunately, many of these areas of education quality are difficult to assess, measure, or compare. Because of this, most research is confined to the more conventional area of content knowledge; and as UNESCO states, "It could be judged unfortunate that the quantitative aspects of education have become the main focus of attention in recent years for policy makers."

International assessments are attempting to ameliorate this weakness, at least partially, by testing skills and practical applications of content rather than content alone. One of the principal international assessments, the OECD Programme for International Student Assessment (PISA), does this by measuring content "literacy", a concept that encompasses how 15 year-old students apply knowledge and skills; how they identify, solve, and interpret problems; and how they analyze, reason and communicate. The Trends in International Mathematics and Science Study (TIMSS) is another international assessment. TIMSS is a curriculum-based test for mathematics and science administered to eighth-grade students (typically 14 to 15 years of age). Together with PISA, these tests have proved to be valuable and reliable instruments for measuring education quality comparatively across countries and explore the reasons that affect student performance (see Box 3.1). Thailand has participated in TIMSS assessments in 1995 and 1999 and in PISA assessments in 2000 and 2003.

Box 3.1: Measuring Quality of Education across Countries

In the late 1950s, the International Association for the Evaluation of Educational Achievement (IEA) was formed. It initiated what would become a major set of studies aiming to measure cognitive achievement at various levels of education in several countries and to identify the main causes of differences in outcomes. Twelve countries joined its first mathematics study. By 2000, some 50 countries were participating in surveys covering mathematics and science (now called the Trends in International Mathematics and Science Study or TIMSS), reading (the Progress in International Reading Literacy Study or PIRLS) and other subjects. Strongly influenced by the IEA experience, several other such studies, usually regionally focused, have since been established. They include the Programme for International Student Assessment (PISA), set up by the OECD in 1998 and now covering 59 mainly industrialized and middle income countries; the Southern and Eastern African Consortium for Monitoring Educational Quality (SACMEQ), which since its first survey in Zimbabwe in 1991 has expanded to 15 African countries; the Latin American Laboratory for the Assessment of Quality in Education (LLECE), which began in 1997 and covers sixteen countries; and the survey in French-speaking Africa known as the Programme d'Analyse des Systemes Educatifs de la CONFEMEN (PASEC). At present, both UNICEF and the World Bank are sponsoring separate East Asian regional training programs with selected countries to strengthen national capacity to regularly monitor and assess student achievement.

The RTG has also recognized the importance of educational quality in realizing the potential of all young children and maintaining long-term economic competitiveness. Thus, it has placed improving the quality of education as one of its top priorities. Thailand has adopted several national mechanisms for monitoring student learning and assessing progress in educational achievement. First, every Thai student must take a school-based mid-year examination at the end of the first semester and a final examination at the end of the school year in order to pass on to the next grade. Second, standardized national tests at the end of primary, lower secondary and upper secondary levels were introduced in the year 2000 by the Office of Education Assessment and Testing Services, under the Department of Curriculum and Instruction Development, and were carried out until 2003. These tests were comparable in measuring student performance within and across provinces. They were known as the General Aptitude Test (GAT) and the Scholastic Aptitude Test (SAT). The GAT covered Thai, mathematics, science and English in grade 6; grade 9 students had to sit for an additional social studies exam; while all 12 graders had to take a Thai, English and social studies exam and additional subjects such as general science, chemistry, biology, physics and mathematics depending on students' study programs. The SAT, only applicable to Grade 12 students, covered 4 skills of language, mathematical calculation, analytical thinking and scholastic aptitude. At present, the National Institute of Education Testing Services (NIETS), founded in 2004, is responsible for the evaluation and testing of Thai education at all levels, including secondary education. In academic year 2006, NIETS introduced the Ordinary National Educational Test (O-NET) and the Advanced National Educational Test (A-NET) at grade 12. These are required tests for university admission.

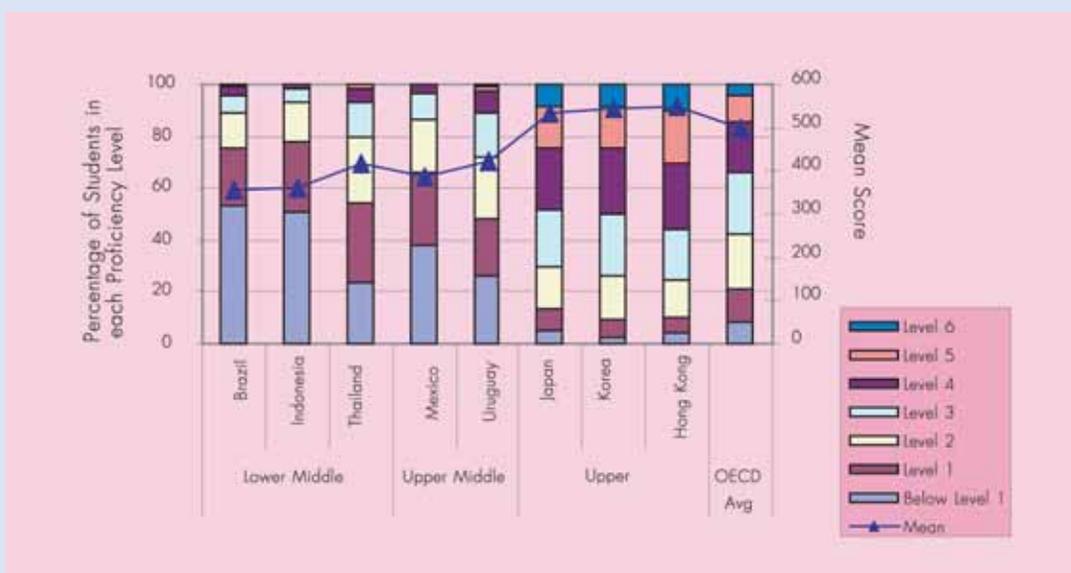
QUALITY OF THAI EDUCATION: LESSONS FROM INTERNATIONAL DATA

This section uses international assessments to analyze education quality in Thailand compared to other countries in East Asia and Latin America. An important conclusion stands out from benchmarking the performance of Thai students internationally: Thailand has higher scores than other countries at similar income levels, suggesting that it has been generally successful at providing educational services of certain quality equitably.

The bars in Figure 3.A show the proportion of students in participating East Asian and Latin American countries divided into PISA's six proficiency levels for the PISA 2003 exam in mathematics. The line running through the figure shows the mean test score for each country. The figure groups countries according to the World Bank's income groupings. Figure 3.B shows the same information for the PISA 2000 exam in reading literacy. In this case, student scores were divided into five rather than six proficiency levels.

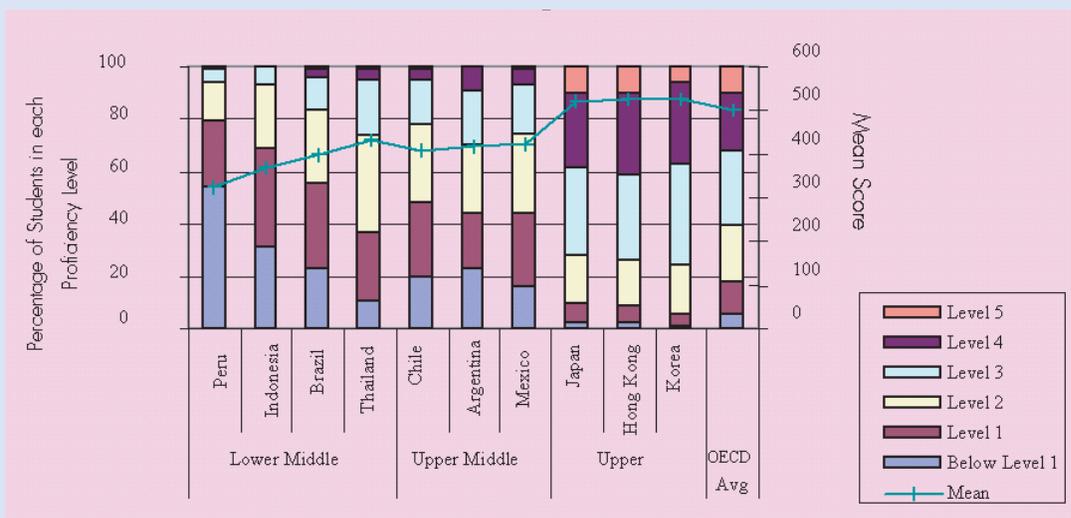
In both years and in both subjects a clear trend of lower income countries scoring below higher income countries is present. Thus, Thailand trails significantly behind its Asian counterparts: Japan, Hong Kong, SAR and Korea. This is not surprising. The average 2003 PISA mathematics test score for lower middle income countries (381) is more than 150 points below that of upper income countries (542). This indicates a real quality gap between wealthier countries, such as Japan and South Korea, and developing countries, like Thailand and Indonesia. The same pattern is true for 2000 PISA Reading Literacy, where the average test score for lower middle countries (385) is 139 points below that of upper income countries (524).

Figure 3.A: PISA 2003 Test Score Results in Mathematics Literacy by Income Group



Source: di Gropello 2006

Figure 3.B: PISA 2000 Test Score Results in Reading Literacy by Income Group



Source: di Gropello 2006

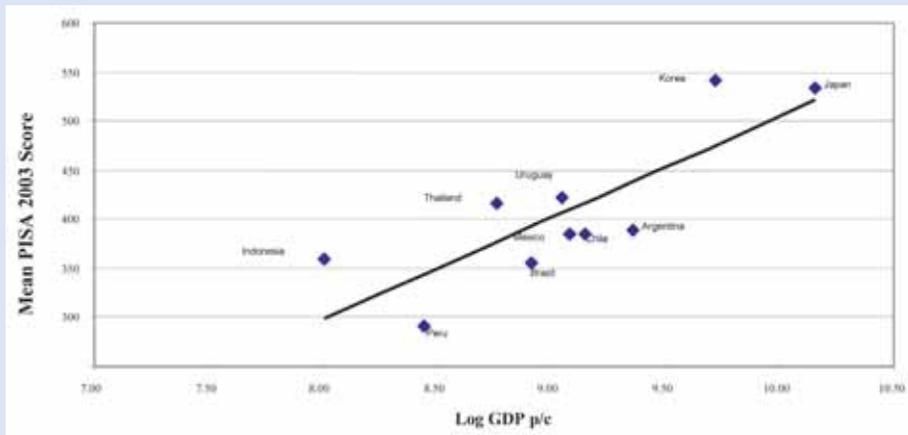
However, when analyzing the performance of Thailand against other lower middle income countries, such as Indonesia or Brazil, we observe that Thailand performs better than its peers both in terms of mean test scores as well as proficiency level distribution. In fact, Thailand performed more than 50 points

above the other countries in its income grouping in the 2003 mathematics test. While 20 percent of Thai students scored at or above proficiency level 3, notably fewer Brazilian, Indonesian or Mexican students reached that benchmark. A similar phenomenon can be observed in the 2000 reading literacy exam.

This substantial congruence in the results of both tests over time suggests that Thailand has been more successful at producing better student outcomes - at least as is measured by the skills and contents of the PISA exam - than other countries at similar income levels.

This point is further buttressed when regressing mean PISA test scores against log GDP per capita. The trend line in Figure 3.C shows the expected performance of countries at a given income level. Thailand clearly performs above the trend line; that is, student achievement is higher than would be predicted by its GDP level.

Figure 3.C: Trend Line of PISA Test Scores against Log GDP per Capita

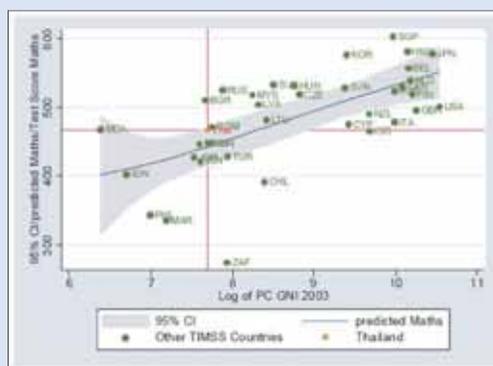


Source: di Gropello 2006

The results of the 1999 TIMSS study show a very similar pattern to the PISA results. Thailand ranked 27th in mathematics and 24th in science among 38 participating countries (statistically equal to the international average), among the bottom tier of participating countries. Yet, relative to

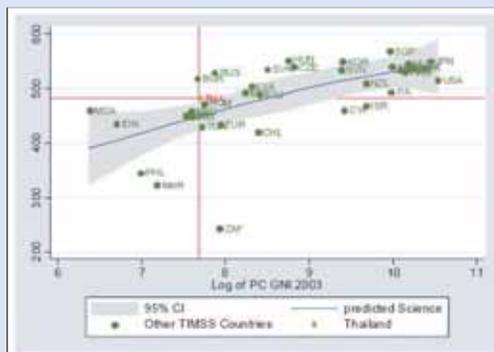
national income levels, Thailand's performance could be rated as adequate (see Figure 3.D and Figure 3.E). In both mathematics and science, Thailand ranks above the trend line for its per capita Gross National Income (GNI) level.

Figure 3.D: Trend Line of TIMSS Mathematics Scores against 2003 GNI per Capita



Source: Richter 2006

Figure 3.E: Trend Line of TIMSS Science Scores against 2003 GNI per Capita

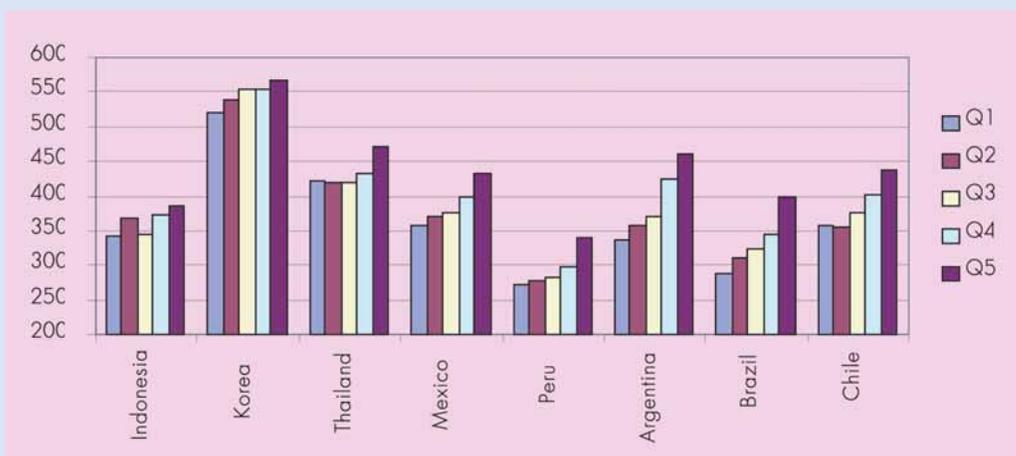


Source: Richter 2006

Not only Thai students on average perform well relative to their peers in other countries at similar income levels, but the distribution of knowledge across Thailand is fairly equitably distributed. Figure 3.F graphs the performance in mathematics of individuals from different wealth quintiles in PISA 2000, but the basic results hold for other subjects and years. The wealth variable is based on an index of several household asset-ownership and housing conditions variables.⁶ As

expected, there are statistically significant differences in test scores across wealth quintiles in all countries. Individuals from wealthier households perform better than individuals from poorer households. But in the case of Thailand, these differences are less sharply marked than in other countries illustrated, such as Argentina, Brazil and Chile. Wealth accounts for a very modest share of the total variation in mathematics scores overall.

Figure 3.F: Average Mathematics Performance by Wealth, 2000



Note: Q1 refers to the poorest quintile, while Q5 refers to the richest quintile.

Source: di Gropello 2006

⁶ These include the availability of a dishwasher, a room of their own, educational software and a link to the Internet and the number of cellular phones, television sets, computers, motorcars and bathrooms at home. This type of variables has been used in many other studies as a good proxy for household welfare in the absence of consumption information (see Filmer and Pritchett, 1999).

Differences across schools can make a difference in how much students learn and how they perform. In an equitable educational system, between-school differences are minimized; that is, all students have an equal opportunity to learn regardless of what school they attend. Figure 3.G shows that most of the variation in student performance in Thailand is due to within- rather than between-school differences. In fact,

Thailand presents the least share of between-school variation in mathematics for the countries selected. Much of this between-school variation can be explained by differences on average socioeconomic background of student population among schools. But the sorting of students across schools by wealth is less pronounced in Thailand than in most other comparison countries.

Figure 3.G: Between- and Within-School Variation in Mathematics Scores, 2000



Source: di Gropello 2006

This finding provides an additional explanation for Thailand's significant gains in educational attainment across individuals from all socioeconomic backgrounds. The growth in student participation can be explained not only strictly in terms of an increase in access to schooling but also to greater equity in access to quality schooling, as low quality schooling provides little incentive to remain in school. Comparing the secondary completion profiles with test scores as measured through the PISA assessment for the five countries for which we have both types of information (Indonesia, Mexico, Argentina, Thailand and Brazil), there is confirmation that higher secondary completion is generally related to higher quality (as illustrated

by a correlation coefficient of 0.6).

On the other hand, while PISA and TIMSS results suggest that Thailand's performance is acceptable given its income level and knowledge is rather fairly distributed, it also underscores that there are problems with education quality that demand urgent attention. First, it is clear that very few children score in the top proficiency levels. For PISA, less than 10 percent of students scored beyond levels 4 in mathematics or reading. This is in stark contrast to all three participating East Asian upper income countries, where roughly 50 percent of students in mathematics and 40 percent in reading scored above this level. The same holds

true for TIMSS. Only 16 percent of students in Thailand reached the upper quarter proficiency benchmark in the mathematics test, while in Singapore, Chinese Taipei, Korea, Hong Kong, SAR and Japan at least 64 percent of students performed at this level.

Furthermore, a very large share of students is performing below acceptable proficiency levels. Thailand had roughly 40 percent of students performing at or below the PISA level one in literacy and over 50 percent of students performing at or below the PISA level one in mathematics. This contrasts greatly with the upper income countries where only around 10 percent of students score at or below level one. In summary, a vast proportion of students are functioning at or below the most basic level of language, mathematics and science ability.

FACTORS AFFECTING QUALITY OF EDUCATION IN THAILAND

What do we know about school inputs that affect educational outcomes? In the sections below, selected educational input variables are discussed in order to better understand which factors positively affect educational outcomes in the Thai context. International assessments have collected

extensive background data to appraise the relationship between various educational inputs and outcomes. We now turn our attention to the contributions of teacher, school and household characteristics to student learning and performance.

Teacher Characteristics

Teacher quality is considered one of the most important contributing factors to improving student achievement (Rice 2003; Rivkin, Hanushek and Kain 2005). In 2005, about 87 percent of secondary school teachers under OBEC had earned at least a bachelor's degree. Only a small minority of teachers in lower and upper secondary schools possessed a Master's degree or above - about 4 and 11 percent respectively. The Bangkok Metropolitan Region (BMR) and Northern provinces tended to have a greater concentration of teachers with a Master's degree or higher (see Table 3.1), while teachers from other regions tended to have comparatively less education. The distribution of teachers with higher education degrees is also more heavily biased towards schools that cater children of higher income brackets, while schools that serve lower income populations have teaching staff with fewer years of professional training.

Table 3.1: Percent of Teachers with Master's Degree or Higher, 2002

Region	Lower Secondary	Upper Secondary
BMR	5.9	18.6
North	5.4	15.5
Northeast	2.6	8.4
Central	3.3	9.7
South	3.3	7.3
Whole Kingdom	3.8	11.0

Source: Ministry of Education

What is the evidence regarding Thai teachers' contributions to student learning? About 80 percent of students interviewed by the PISA 2003 test reported that their teachers showed an interest in every student's learning, gave extra help when students needed it, helped students with their learning, continued teaching until students understand and gave students the opportunity to express opinions (PISA 2004). These are subjective perceptions of teacher performance, rather than an accurate description of teachers' attitudes and classroom practices. Nonetheless, they portray an overall positive general classroom environment in which student learning can be adequately nurtured.

On the other hand, on the basis of data from questionnaires completed by school principals, an index of teacher adequacy was constructed reflecting perceptions about the extent to which teacher supply hindered student learning. Thailand was amongst the countries where principals reported shortage or inadequacy of teachers. For instance, 37 percent of students had principals who believed instruction in mathematics was hampered by teacher inadequacy while 24 percent reported lack of experienced teachers (PISA 2004). Moreover, poor students' perception of teacher-student relations - that is, students who disagree that most teachers are interested in their well being, treat them fairly or provide help when needed - had on average a strong and significant negative correlation on mathematics performance (PISA 2004).

TIMSS constructed an index based on teachers' own perceptions of their ability to teach various topics (e.g. properties of geometric figures, solving linear equations, earth's features, chemical reactivity, etc.). In 1999, 55 percent of students were taught by instructors who felt less than adequately prepared in mathematics and 58 percent of

students were taught by instructors who felt less than adequately prepared in science. Only 13 and 18 percent of students were taught by instructors who felt confident in their abilities in science and mathematics respectively. Higher levels of teacher confidence were associated with superior student scores.

Traditionally, Thai secondary classrooms have relied on a front-style lecture format, rather than on child-centered pedagogical methodologies or active learning environments. On average, Thai students spend about one fifth of class time each month in lecture-based classes and another one-fifth on teacher-guided student practice. Such distribution of class time is similar to averages reported by students from other countries participating in TIMSS. The distinction between Thailand and others lies in the very limited opportunities for Thai students to apply knowledge to new situations or exercise creative thinking during the school day. In response to a question which asked to identify activities frequently undertaken in the classroom, 91 percent of students reported that teachers actually showed them how to do their mathematics work.

More strikingly, only 19 percent of Thai students reported working independently on class mathematics projects, in contrast to Hong Kong, SAR (67 percent) or Korea (46 percent). The international average was 36 percent. More than 90 percent of Thai students practice computational skills in most mathematics lessons; yet, only 54 percent of students report that their teachers explain the reasoning behind an idea and a mere 12 percent report the use of tables, charts or graphs to represent and analyze relationships. While 93 percent of students report that mathematics teachers use the blackboard for presentations, only 33 percent of students get called to the front of the class, compared to an international average of 60

percent. A similar trend can be observed in science instruction.

On the other hand, science instruction appears to adequately emphasize scientific investigation and practical application. A majority of Thai students report conducting experiments in science classes. Over half of students report that they spend more than 25 percent of class time in practical demonstrations always or pretty often, in contrast to an international average of 38 percent and largely at par with Singapore, Japan, Malaysia and New Zealand.

Overall, these findings from TIMSS and PISA indicate that there is a need for targeted teacher support and skills upgrading policies to complement existing shortfalls and imbalances in teacher performance. The heterogeneous distribution of confidence in teaching capacity suggests limited opportunities for professional development. Enhancing teacher professional development could potentially translate into significant improvements in student flows and learning.

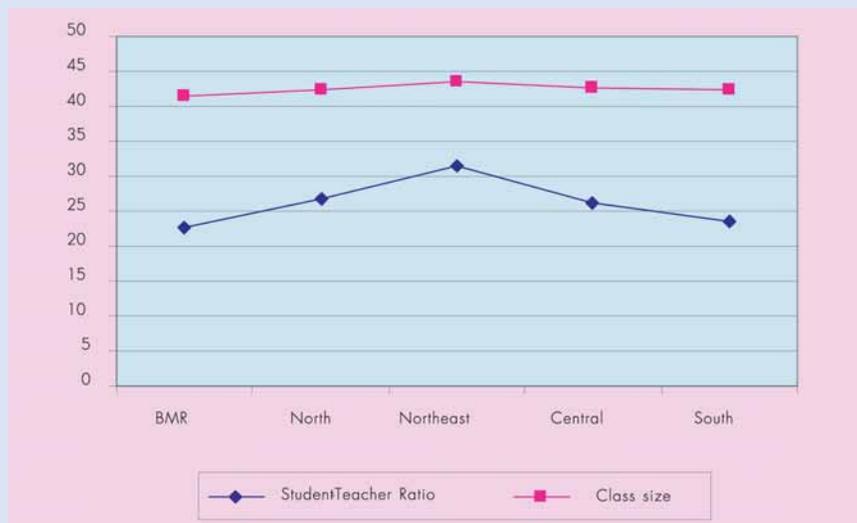
There is an emerging recognition within the MOE that lasting changes in teacher edu-

cational practices do not come about from one off workshops, but are the product of sustained capacity development efforts. An ongoing pilot program has sought to train leader teachers (facilitators) and subject teachers through innovative distance training models. Leader teachers and educational supervisors also provide continuous support through roving teams. They observe classrooms, make recommendations and provide advice with teaching planning. This is a promising model. Research evidence suggests that among alternative quality improvement interventions at the school level, teacher training investments can have high payoff in terms of student retention, promotion and, particularly, student learning (see Rowe 2003 for example).

School Characteristics

The average student teacher ratio in secondary education is 28:1, ranging from as low as 12 to 1 in Phetchabun to as high as 37 to 1 in Chiang Rai. Although student teacher ratios generally stand below 30:1, class sizes in Thailand are notably larger. The average secondary school class size for Thailand is 43 students (see Figure 3.H).

Figure 3.H: Student Teacher Ratio and Class Size in Secondary Schools by Region, 2002

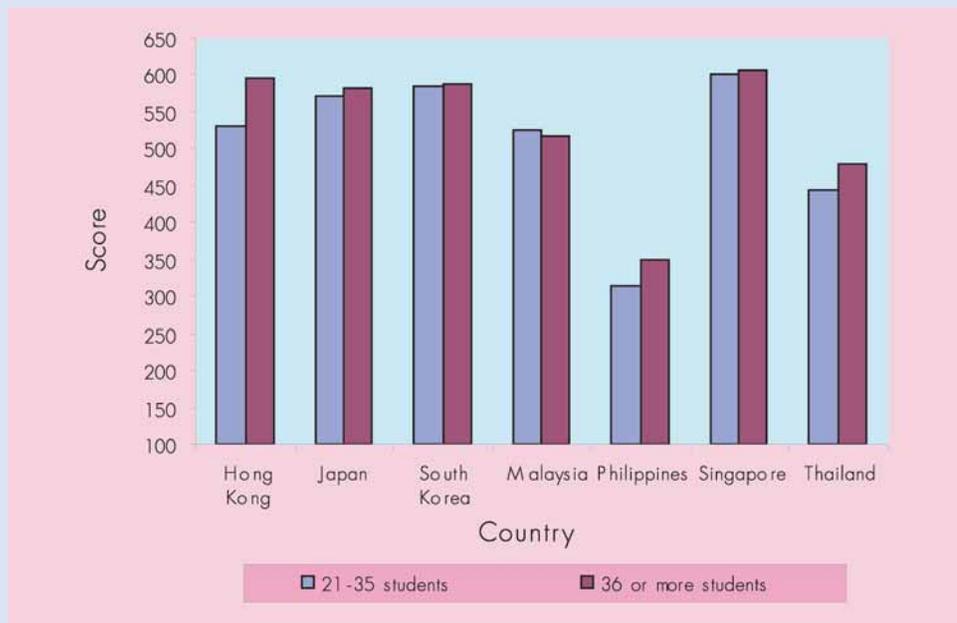


Source: Ministry of Education

The relationship between class size and student achievement is difficult to extricate. Although TIMSS and PISA data concur that large class sizes do not appear to have a negative impact on student test scores in Thailand, there are many other factors influencing higher scores achieved among students from larger classes. Class size in East Asia tends to be larger than the international average, ranging from 36 in Japan to as high as 50 in the Philippines. In Thailand, about 75 percent of eight grade students tested in TIMSS enrolled in mathematics classes with 36 or more pupils, while less than 5 percent enrolled in a class with 1 to 20 students. Interestingly, students from larger classes achieved better scores in both mathematics and science (see Figure 3.1). This was also applicable to other Asian countries, including Japan, South Korea, and Hong Kong, SAR where students in

large classes performed just as well or slightly better than their counterparts in smaller classes. PISA results corroborate these findings. No negative effects of adding students could be discerned at any relevant class size in the PISA literacy or mathematics exams (PISA 2003). In Thailand, large classes are generally better equipped and in highly competitive schools. In those schools, students tend to come from higher socio-economic backgrounds, therefore, receiving better support for education at home. The number of schools with class size larger than 40 students, as specified by the MOE, is only about 300 secondary schools (from approximately 10,000 schools in total) throughout Thailand. Most schools with small class size tend to be located in rural areas where students are from less privileged backgrounds and cannot afford to attend large schools in cities.

Figure 3.1: Cross-National Comparison of Average Mathematics Achievement and Class Size, 1999

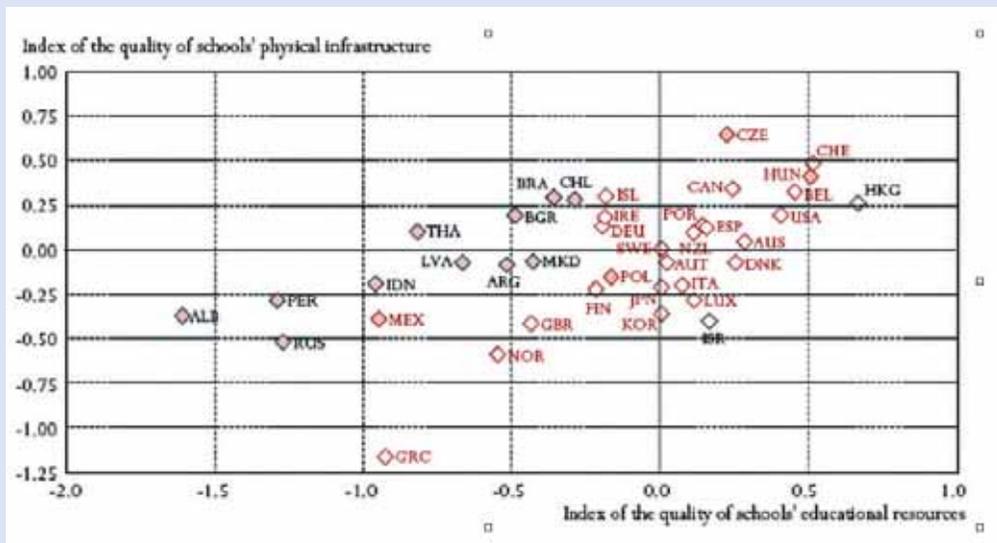


Source: TIMSS 1999

PISA 2000 collected extensive data on principals' perceptions about the adequacy of school resources (PISA 2003). Based on their responses, a distinction can be drawn between the impact of physical infrastructure (condition of buildings, the instructional space, and heating, cooling and lighting systems) and educational resources (computers, library material, multi-media resources, science laboratory equipment and facilities for the fine arts) to student learning. School principals perceived the quality of educational resources to be a

more important obstacle to student achievement than school physical infrastructure. Figure 3.J shows that, according to Thai school administrators, the quality of school physical infrastructure is rated around the OECD country mean, while school educational resources are rated more than two thirds of a standard deviation below the OECD mean (-0.82). The marginal effect of an increase by one unit in the index of the quality of education resources is associated with an increase by about 11 points in reading literacy scores.

Figure 3.J: Perceived Adequacy of Physical Infrastructure and Educational Resources



Source: PISA 2003, p. 195

A key area of concern is that Thailand is in the lowest decile among all PISA participating countries with regards to the difference in the quality of school resources between the top and bottom quarter of schools as characterized by a proxy of school socioeconomic background (PISA 2005). Moreover, the distribution of school resources is inequitably distributed among schools. There is a statistically significant performance difference between schools in the top and bottom quarters of this educational resources index.

The impact of school resources for instruction on student achievement in mathematics and science is complex, but overall TIMSS data also suggest that they play an important role in advancing student learning. TIMSS created an index of availability of school resources for mathematics and science instruction. This index includes general instructional items - such as basic materials, budget for supplies, instructional space-as well as more specific mathematics and science instructional items - such as computers, library materials and audio-visual resources. Over half of the stu-

dents in Thailand report that shortages affect instructional capacity some or a lot, compared to 18 to 20 percent internationally. Less than 40 percent of eighth grade students had access to a calculator in mathematics class, compared to an international average of 73 percent. Not surprisingly, 85 percent of students have never used a computer in class. Countries that tended to report shortages in the availability of instructional materials were significantly below the international average in mathematics or science achievement.

A study focused on the relationship between schooling inputs and student learning performance in Thai public schools also points in the same direction. Annual average public expenditure in 2001-2002 for secondary education ranged between 15,000 and 16,000 Baht per student. Per student expenditure varies across regions, with the Northeast receiving the lowest share. A production function analysis using data from the Bureau of Budget and the MOE suggests that an increase in non-salary recurrent expenditures per student at the provincial level results in a higher mean on national test scores (Punyasavatsut et al. 2005). On average, for secondary education, an increase in per pupil expenditure by 10,000 Baht raises the mean of national test scores by 4.8 points.

Thus, the evidence gathered by PISA, TIMSS and other research persuasively suggests that there is a shortage of resources for learning in Thai schools and this is generally perceived as a constraint to higher student achievement. Greater investments in basic school resources in order to provide a minimum set of materials for effective use by teachers to support instructional content could well buttress student performance in

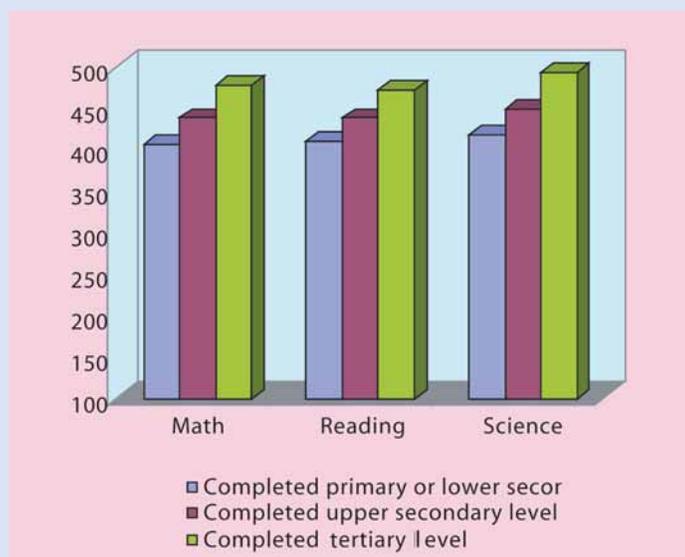
Thailand and translate into higher learning outcomes.

Household and Individual Characteristics

It is widely acknowledged that higher family income and household resources have a positive effect on student achievement. Some of the obstacles that disadvantaged students face include poorly educated parents, greater demand to supplement family income through labor, peers with low academic performance and lesser expectations about the future.

Parents with more education tend to place greater emphasis and provide more support for their children's education. According to TIMSS, eighth grade students with parents who are well-educated tend to score better in mathematics and science tests. This was the case across Asia, including Thailand. PISA 2003 data also support these findings. Students whose parents have more education score higher across subjects - reading literacy, mathematics and science. For example, students whose mothers obtained an upper secondary degree increased their raw test scores for mathematics (32 points), reading (28 points) and science (28 points), compared with those whose mothers only have primary or lower secondary education (see Figure 3.K).

Figure 3.K: Mean Scores by Level of Mothers' Education



Source: PISA 2003

Yet, as noted earlier, the differences among socioeconomic groups are not as stark in Thailand as in other countries. For instance, the variance in student performance on the PISA mathematics test was more than 15 per cent below the OECD average variance (PISA 2003). Although children from wealthier households perform better than children from poorer households, the distribution of knowledge is fairly equitable across income groups.

Along these lines, parental education is not an influential factor shaping student aspirations for tertiary education in Thailand. Students tended to have high expectations independently from their parents' educational background. Although 30 percent of Thai students had a parent who did not finish primary school and another 40 percent had a parent who did not complete upper secondary school, 55 percent of students expressed an intention to graduate from university (TIMSS 1999).

Thus, it appears that efforts to improve student performance need not be primarily targeted

along socioeconomic lines. Low-performing students are not concentrated among lower income quintiles necessarily. Rather, given Thailand's low levels of academic achievement in absolute terms, policies to raise the overall performance level of the general student population are imperative, such as enhancing teacher preparedness and practice, providing adequate instructional materials, promoting performance incentives for school staff, encouraging greater accountability for results or strengthening a formative evaluative culture.

Early childhood care and development programs are often cited in research literature as an important contributor to readiness to learn at primary school entry as well as to later academic success (see for example Evans 2000). Evidence from PISA provides further support to this body of work in the Thai context. Thai students who attended pre-school for at least one year showed a modest advantage in PISA test scores in mathematics, even when controlling for socioeconomic background factors (PISA 2004).

QUALITY ASSURANCE MECHANISMS IN THAI EDUCATION

Since the NEA was promulgated, the quality of the Thai education system is officially evaluated both internally and externally. Internally, schools are expected to conduct self-assessments of their institutional quality. This process is meant to be woven into the administrative apparatus of each institution. Schools are expected to prepare annual reports which are then submitted to government agencies and made available to the public.

External assessments are meant to complement and follow up on school self-assessments. The NEA established ONESQA as the agency responsible for overseeing quality assessment studies of every educational institution at least once every five years (see Box 3.2). These results are shared with relevant agencies and made available to the public, with the first assessments conducted

in 2001. As of March 2005, nearly 98 percent of primary and secondary education schools had been evaluated. The assessments monitor student academic performance, teacher performance, administrators' vision and leadership as well as school laboratories and equipment.

The NEA authorizes ONESQA to submit corrective measures and actions for schools that are performing poorly in order to improve their function. If an institution continues to perform poorly, a report is submitted to the Basic Education Commission for further action. But anecdotal data suggests that the review process, frequency and type of the advice provided for school improvement by external independent evaluators is insufficient to generate actual changes in schooling practices. There is room for ONESQA's overall supervisory function to be further strengthened in order to translate the monitoring and evaluation process into tangible improvements in educational quality.

Box 3.2: The Office for National Education Standards and Quality Assessment

ONESQA is the public organization established by the 1999 NEA to serve external quality assessment institutions along with support to internal quality assessments conducted by the MOE. ONESQA consists of an Executive Committee, the Committee for Development of an Assessment System for Basic Education, and the Committee for Development of an Assessment System for Higher Education. ONESQA espouses the following operational principles:

- i. Emphasis on quality and efficiency in functioning
- ii. Promotion of educational institutions for their development to the highest potentiality
- iii. Establishing an information system for linking with concerned agencies
- iv. The assessment is aimed at quality enhancement, not passing judgment for either reward or punishment
- v. External assessment must be transparent and supported by concrete evidence
- vi. Private, professional or academic organizations will be encouraged to participate in the training of external assessors
- vii. Selection of external assessors, based on the criteria of competency for accreditation and registration, as well as periodic assessment of these assessors
- viii. Networking with other parties concerned in order to create an awareness of the collective responsibility for educational quality

ONESQA also seeks to promote school self-evaluations through a variety of mechanisms, such as a distance education via satellite and trainings for directors and deputy directors of education area offices. ONESQA's budget for FY04 was approximately USD16 million.

Source: Excerpted from <http://www.onesqa.or.th> (ONESQA 2006)

The MOE has also spearheaded selected research initiatives to further review and strengthen Thailand's educational quality assurance mechanisms. A project initiated by the ONEC, now the OEC, strives to better understand how government agencies and schools can work together to improve student outcomes. In-depth data was collected from 250 schools in 2001 and 2002. One of the most notable findings is that education activities across different ministries need to be better harmonized. While recent reform efforts have attempted to streamline the administrative and operational work of government agencies, schools still consider the system confusing and less than adequate. This situation has been further compounded by the ongoing education decentralization process, where the roles and responsibilities for service provision

and administration are shifting and being redefined. Sustained coordination and cooperation between government agencies and educational institutions is vital for improving quality assurance and enhancement mechanisms in Thailand.

There has also been increasing recognition that the school governance structure can play an important role in school improvement, in particular the role that school community leaders can exert (Gamage and Sooksomchitra 2004). A pilot program examining different types of school boards to explore ways to effectively improve the efficiency of local government and its role in supporting education development is ongoing. Training modules for school boards and administrators have been developed and are being evaluated for possible

implementation nationwide.

Thailand's newly established framework for educational quality assurance is promising, but at present it is still in an incipient development stage. Teachers and principals need better information about student performance so that they can adequately respond to the educational needs of students, policymakers need to understand what the conditions that positively influence

learning are and timely identify shortcomings in education service delivery so that interventions can be put in place to support the instructional function of schools, while parents must play a more active role in school decision-making so that as partners in the schooling process they can better articulate their needs or aspirations as well as hold schools accountable for the quality of educational services received.

IV.

EFFICIENCY OF THE THAI EDUCATION SYSTEM



This chapter outlines the basic characteristics of educational spending in Thailand, including both public and private sectors, with a focus on secondary education. Secondary education financing in Thailand is confronted by the dual challenges of expanding access while improving quality. It is crucial not only to secure sufficient resources to finance the system, but also to ensure that those resources are apportioned in the most productive manner. Outlined below is an overview of salient issues on secondary education financing, followed by selected recommendations for possible improvements in allocative efficiency.

PUBLIC SPENDING ON EDUCATION

The RTG spends more than one fifth of its total budget on education, but education allocation has shown a declining trend in recent years. Over the past decade, the Thai government allocated more than 20 percent of its total budget to education, accounting for 4 to 5 percent of the country's GDP. This level of allocation was maintained even through the economic crisis in the late 1990s. The budget allocation for education as a share of GDP and total budget peaked in 2000 but has experienced a slight declining trend in recent years (see Table 4.1). On the other hand, the share of basic education in the overall education budget has been steadily maintained, with a slight upward trend.

Table 4.1: Education Budget, 2000-2005

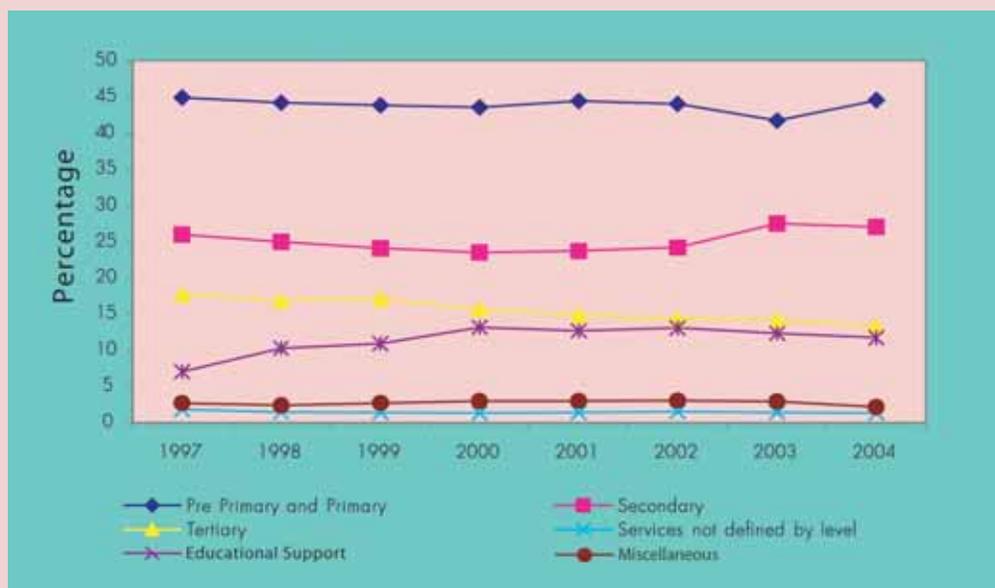
Fiscal Year	2000	2001	2002	2003	2004	2005
Education budget (million Baht)	220,621	221,603	222,990	235,092	251,233	262,938
As % of total government budget	25.7%	24.4%	21.8%	23.5%	24.4%	21.9%
As % of GDP	4.5%	4.3%	4.1%	4.0%	3.9%	3.7%
Basic education budget as % of total education budget	67.2%	68.1%	68.1%	69.3%	71.5%	70.2%
Basic education budget as % of GDP	3.0%	2.8%	2.8%	2.8%	2.8%	2.6%

Source: Bureau of Budget, Office of Education Council and World Bank calculations

More than 80 percent of the education budget is allocated to current expenditure. In 2003, education had the largest average per capita current spending rate of all sectors. Per capita current spending was at 2,425 Baht, four times more than the sector with the second largest current spending rate, public order and safety affairs (NESDB 2003). Sixty percent of current expenditure is used to pay for salaries for permanent and temporary staff, while the rest pays for non-personnel items such as remuneration and other services. Education budget trends show that increasing resources have been allocated toward current expenditure in recent years. Although capital expenditures are not made on a regular basis, its share has been declining over time, from 25 to 6 percent between 1997 and 2002.

More than two thirds of the education budget is allocated to basic education, with pre-primary and primary levels receiving the largest proportion. Education expenditure is divided into six categories: pre-primary and primary; secondary; tertiary; services not defined by level; educational support; and miscellaneous. Almost 50 percent of education resources are allocated to pre-primary and primary education levels, with another one quarter spent on secondary education and 15 percent on higher education (see Figure 4.A). Resources allocated to educational support have increased recently, rising from 6 billion Baht in 1996 to more than 28 billion Baht in 2003.

Figure 4.A: Share of Education Budget by Spending Category, 1997-2004



Source: Ministry of Education

Although basic education (primary and secondary levels) received almost 70 percent of the education budget, it accounts for 90 percent of all students enrolled in the Thai education system (see Table 4.2). On the other

hand, tertiary education commands close to 15 percent of the budget while only 9 percent of the total student population is enrolled at this level.

Table 4.2: Education Budget Allocation and Student Enrollment by Spending Category, 2002

Level	Total (million Baht)	Percentage of budget	Percent of enrollment (GER)
Pre-Primary and Primary	98,228	41.7%	62%
Secondary	64,770	27.5%	29%
Tertiary	33,348	14.2%	9%
Services not defined by level	3,377	1.4%	
Education support	28,868	12.3%	
Miscellaneous	6,854	2.9%	
Total	235,444	100%	100%

Source: Office of Education Council 2004b

Thailand allocated approximately 28 percent of its total education budget and 1.13 percent of GDP to secondary education in 2003, falling behind what countries with strong secondary education sectors typically spend. On average, OECD countries spent 2.1 percent of GDP in secondary education. Lower-middle income countries allocated on average 40 percent of their total education resources and 1.86 percent of GDP to the secondary level. The limited resourcing of secondary education through public financing is further compound-

ed by very low shares of private resources coming to secondary education compared to other countries. For example, while the Philippines only invested 0.69 percent of GDP in secondary education, the share of private resources was 84 percent or 0.58 percent of GDP. In Thailand, private sector contributions amounted to 0.06 percent of GDP, an equivalent of 5 percent of the public sector financing (see Table 4.3). This is a level too low to be efficient.

Table 4.3: Total Secondary Education Expenditure as Percent of GDP by Source of Funding, 2003

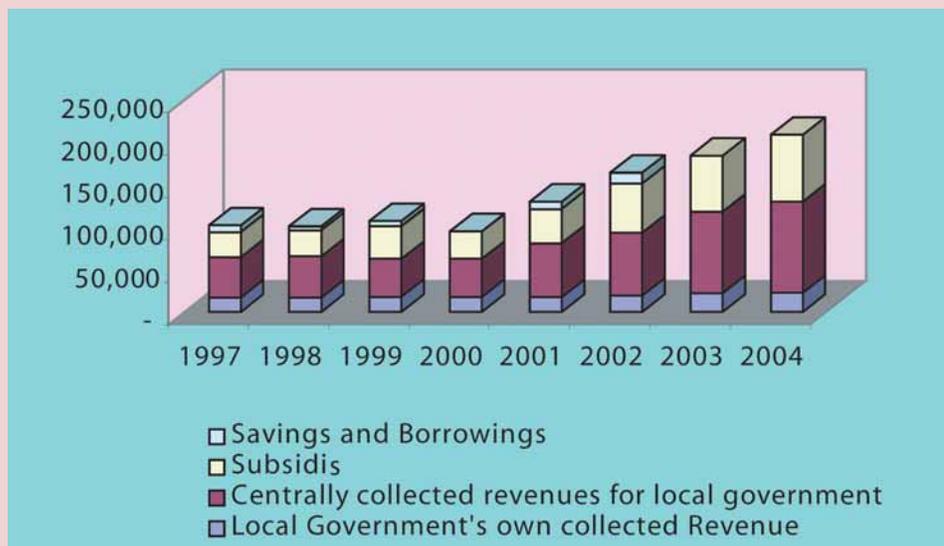
	Income Level	Public Resources (% of GDP)	Private Resources (% of GDP)	Share of Private Resources in all Domestic Resources
Argentina	Upper-middle	1.58	0.38	24%
Chile	Upper-middle	1.49	0.70	47%
Colombia	Lower-middle	1.53	1.00	65%
Hong Kong, SAR	High	1.50	0.75	50%
Indonesia	Lower-middle	0.48	0.28	58%
Mexico	Upper-middle	1.52	0.40	26%
Philippines	Lower-middle	0.69	0.58	84%
Korea	High	1.83	0.60	32%
Thailand	Lower-middle	1.13	0.06	5%

Source: UNESCO 2005b

Analysis of unit costs shows that per student public spending on secondary education is lowest. Per student spending usually rises as students matriculate from primary to secondary to tertiary levels. In East Asia and Pacific, on average, putting a student through secondary education during the school year 2002-2003 was 74 percent more expensive than primary education. These countries spent USD1,711 on each primary level student and USD2,409 on each secondary student (in purchasing power parity converted terms). Among OECD countries, each primary school student cost USD4,818 and each secondary school student cost 39 percent more at USD6,688. Yet in Thailand, the unit cost for secondary education is lower than the unit cost for primary education. In 2000, the unit cost for pre-primary and primary was 13,770 Baht, for secondary 8,564 Baht and for tertiary 32,336 Baht. Similar trends persist in 2002 data: per student spending in primary was estimated at 13,226 Baht and 10,011 Baht in secondary.

Local governments are reliant on subsidies from the central government to finance education. The RTG has encouraged the decentralization of educational management in order to improve local participation and ownership. Decentralization also includes increasing the share of local government resources spent on education. However, most local agencies still rely on subsidies from the central government to finance education. In general, resources from local government only comprise 20 to 30 percent of education spending. Additionally, recent data from the MOE show that subsidies from the central government have been increasing in recent years, the opposite of what should have been observed (Punyasavatsut et al. 2005).

Figure 4.B: Sources of Revenue for Local Governments, 1997-2004



Source: Bureau of Budget

Budget allocation to local levels needs to be more equitable. Although guidelines for how to allocate the national education budget at the provincial level exist, they are not strictly followed. In practice, provincial budget allocations are calculated based on how much each province received the previous year. As a result, provinces that started off receiving larger shares of the national education budget continue to receive proportionately more each year, regardless of the number of schools, students or teachers. Additionally, findings from a study funded by the Asian Development Bank point out that budget allocation at the secondary level favors wealthier provinces and that this trend has remained constant over time (Cresswell 1999). On the other hand, the government tends to abide by the funding formula for the allocation of resources to ESAs, which takes into account factors such as enrollment, number and type of schools, student teacher ratio and number of classrooms. Yet when ESA budget allocations are disaggregated by Gross Provincial Product (GPP), while average spending per

student appears to advantage the poor at the primary level, this is not the case at the secondary level (Punyasavatsut et al. 2005).

Bangkok and its vicinity accounts for the largest share of total educational expenditure. Unlike any other region, however, educational expenditure is concentrated at the tertiary level in Bangkok, totaling more than pre-primary, primary, secondary, vocational and others combined. The Northeast region spent the most on pre-primary and primary levels and only about a tenth of that amount on tertiary education. However, a breakdown of data by per student spending paints a different picture (see Table 4.4). Because of the large population of school-aged children in the Northeast region, per student cost is 2,705 Baht compared with 3,953 Baht for Bangkok and its vicinity. At the secondary level, while per capita educational expenditure in Bangkok and its vicinity is as high as 764 Baht per head, the Northeast received only 575 Baht per head, the lowest share across regions.

Table 4.4: Per Capita Educational Expenditure by Region (Baht), 2002*

Region	BMR	Central	Northeast	North	South	National Average	National Average (w/o BMR)
Pre-Primary and Primary	706	1,595	1,737	1,718	1,724	1,536	1,699
Secondary	764	699	575	623	760	663	643
Vocational	251	248	142	214	260	208	200
Tertiary	1,960	151	180	442	349	537	257
Others	271	96	71	110	87	118	87
Total	3,953	2,791	2,705	3,107	3,180	3,062	2,886

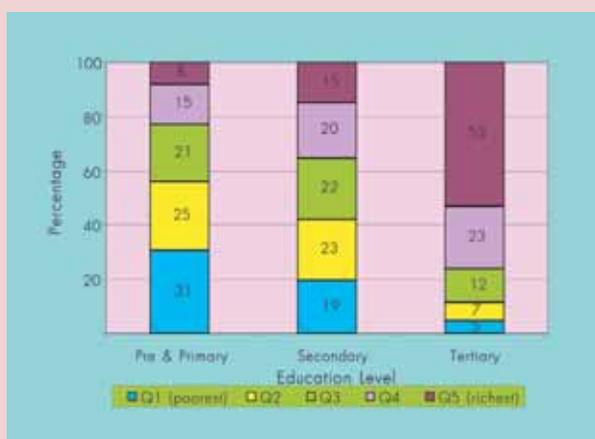
* Divided by entire cohort population, not the corresponding school-age groups.

Source: Comptroller General’s Department

While education receives the largest share of the national budget across sectors, whether those resources are equally and efficiently distributed among different income groups is debatable. We have estimated expenditure shares by per capita income quintiles. The results, disaggregated by levels of education, show that the poorest 40 percent of the population receives 56 percent of total spending in pre-primary and primary levels, reflecting a pro-poor allocation of resources. The quintile distribution for secondary level is also distributed relatively equally and slightly skewed towards giving more to the poor (see Figure

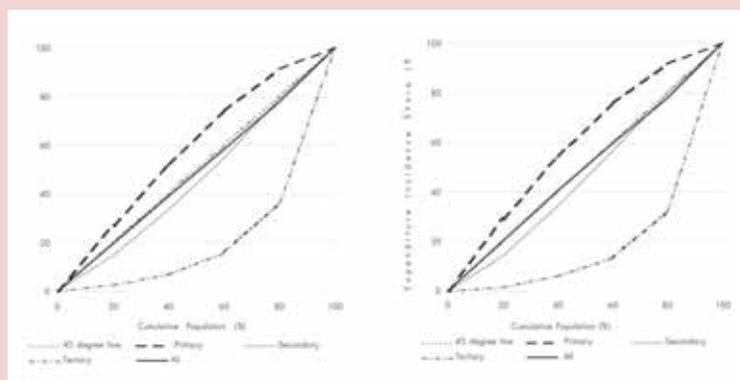
4.C). However, analysis of data from the SES and the Comptroller General’s Department (CGD) shows secondary education expenditure as slightly favoring the wealthy (see Figure 4.D). Spending for tertiary education is clearly regressive, regardless of which data are examined. The wealthiest 20 percent of the population receives 53 percent of total spending. Thus, although Thailand’s educational expenditure pattern is proportionately distributed across income quintiles as a whole, there are some notable discrepancies in ensuring an equitable distribution, particularly at the tertiary level.

Figure 4.C: Incidence of Public Expenditure across Income Quintiles by Education Level, 2002



Source: Household Socio-Economic Survey 2002

Figure 4.D: Distribution of Public Spending on Education by Level, 2000 and 2002



Note: Estimates by geographically disaggregated unit-cost.

Source: Household Socio-Economic Survey (2000-2002) and CGD (2000-2002)

HOUSEHOLD EDUCATION EXPENDITURE

The Government is not the only source of educational financing in Thailand. Households, the private sector, non-profits and international organizations can all contribute significantly to improving the Thai secondary education system (for examples, see Box 4.1). As already noted, public

resources comprise about 95 percent of the domestic education budget for secondary education, with only a tiny share provided by local governments, and 5 percent originate from private resources (UNESCO 2005b). This section focuses on the current state of household spending on education, with a particular focus on differences between wealthy and poor families.

Box 4.1: Private Participation in Education: Examples from Korea, Africa and Chile

In the Republic of Korea, the government introduced subsidies and tax exemptions in the 1970s. Such subsidies were based on the difference between the school's own budget and a standard budget for a public school of the same enrollment size and type. Private school institutions responded to the subsidies and tax exemptions by scaling up their capacity to reach more students. Consequently, as of 2000, private sector enrollment had reached 20 percent for middle schools and 55 percent for high schools.

In Africa, fees have been maintained at the secondary level, even in countries where free primary education is provided, such as Malawi, Uganda, Tanzania and Kenya. Such fees at the secondary level, however, are controlled and increases beyond stated levels must be cleared with the Ministry of Education. The cost burden to poor families, as well as to those with female children or living in hard to reach areas, are sometimes subsidized through bursaries or scholarships.

Chilean schools were previously not allowed to charge fees if they were a public institution or a private school that received government subsidies. This policy was changed in the mid-1990s and now private schools are able to charge fees within certain parameters and continue to receive subsidies. The Chilean system ensures that schools charging fees exempt a proportion of parents from fee payment and to use some of the revenue to set up internal cross-subsidies from fee-paying parents to non-fee-paying parents.

Source: Expanding Opportunities and Building Competencies for Young People: A New Agenda for Secondary Education (World Bank 2005)

Average household spending on education in 2002 was 3,449 Baht per year, but this expenditure varies dramatically across regions. It ranges from 1,753 Baht in the Northeast to over 9,585 Baht in Bangkok (see Table 4.5). A trend analysis over time shows households in the Northeast consistently spending less on education than

those in other regions. Education as a share of household expenditure also varies across regions. While on average households in Bangkok spend between 2.3 to 3.9 percent on education, the share of household educational expenditure in the Northeast ranges between 1.3 to 1.9 percent.

Table 4.5: Household Expenditure on Education by Region, 1994-2002

	1994	1996	1998	1999	2000	2002
a. Average Household Expenditure on Education (per year, real Baht*)						
Expenditure Quintile						
Bangkok	6,278	6,564	9,666	10,553	10,428	9,585
Central	2,111	2,436	3,291	3,654	2,979	3,280
North	1,702	2,218	2,742	3,958	2,655	2,922
Northeast	1,429	1,579	1,887	1,933	1,665	1,753
South	2,300	2,411	2,815	3,043	2,948	2,882
Total	2,452	2,738	3,426	3,912	3,394	3,449
b. Share of Total Household Expenditure (%)						
Expenditure Quintile						
Bangkok	2.3	2.3	3.6	3.9	3.7	3.2
Central	1.4	1.5	1.8	1.9	1.7	1.6
North	1.4	1.7	1.9	2.5	2.1	2.0
Northeast	1.3	1.5	1.7	1.9	1.7	1.6
South	1.6	1.7	2.0	2.2	2.1	1.8
Total	1.5	1.7	2.0	2.3	2.1	1.9

* Prices are deflated by regional and yearly CPIs (Base region = Bangkok, Base year = 2002).
Yearly CPIs: 1994 = 75.0, 1996 = 84.1, 1998 = 96.0, 1999 = 96.3, 2000 = 97.8, 2002 = 100

Source: Household Socio-Economic Survey 1994-2002

Poorer households spend less on education. Average household spending by per capita income quintile shows that the poorest quintile spends only 840 Baht on education while the wealthiest quintile spend over 7,870 Baht (see Table 4.6). The difference in spending across income quintiles is reflected not just in the absolute levels of spending on education but also as a share of total household expenditures. Given that poor households spend most of their income on food and other basic needs, fewer resources are allocated for education. Hence on average, poor households allo-

cate around 1.5 percent of total household expenditures to education, compared with 2 or 3 percent in wealthier households. The financial burden on poor households is compounded during times of economic crises. A World Bank study examining the impact of the Asian Crisis on educational spending in Thailand finds that an increase in per capita income of one baht raised education expenditure by 0.12 baht. Larger households spent less on education per capita than smaller households (World Bank 1999).

Table 4.6: Household Expenditure on Education by per Capita Income Quintile, 1994-2002

	1994	1996	1998	1999	2000	2002
a. Average Household Expenditure on Education (per year, real Baht*) Expenditure Quintile						
Expenditure Quintile						
Poorest	777	934	1,023	1,044	1,048	840
Second	1,145	1,314	1,432	1,538	1,415	1,322
Third	1,611	1,939	1,928	2,108	1,930	1,822
Fourth	2,445	2,916	3,455	3,325	3,024	3,214
Richest	4,981	5,268	7,237	8,940	7,471	7,878
Thailand	2,452	2,738	3,426	3,912	3,394	3,449
b. Share of Total Household Expenditure (%)						
Expenditure Quintile						
Poorest	1.3	1.5	1.6	1.7	1.8	1.3
Second	1.4	1.5	1.6	1.8	1.8	1.5
Third	1.5	1.6	1.7	1.9	4.8	1.5
Fourth	1.6	1.8	2.2	2.2	2.0	2.0
Richest	1.8	1.9	2.7	3.3	2.7	2.7
Thailand	1.5	1.7	2.0	2.3	2.1	1.9

* Prices are deflated by regional and yearly CPIs (Base region = Bangkok, Base year = 2002).
Yearly CPIs: 1994 = 75.0, 1996 = 84.1, 1998 = 96.0, 1999 = 96.3, 2000 = 97.8, 2002 = 100

Source: Household Socio-Economic Survey 1994-2002

As noted already in Chapter 2, wealthy households are allocating more resources towards each secondary school student and the spending gap between the rich and the poor has widened over time. Results from an estimation of per student spending from the SES show that real spending per student has increased between 1994 and 2002 at all levels of education, but notably at the primary and tertiary levels (see Table 2.4). This jump is not observed at the secondary level. Furthermore, there is a wide variation in household secondary expenditure across per capita income quintiles. In 2002, households in the poorest quintiles spent about 860 Baht per secondary school student, compared with over 6,800 Baht in the wealthiest quintile, approximately 8 times as much. This gap appears to have widened over time. In 1994, household expenditure per secondary school student in the top quintile was about 4.5 times as much as that in the poorest quintile, while in 1999 it was 6 times as much.

RAISING EFFICIENCY OF SECONDARY EDUCATION FINANCING

Examining the efficiency of the Thai educational system may be a key factor in improving student outcomes. On the one hand, Thailand allocates a significant share of its national income to the education sector. On the other hand, the secondary level only captures less than a third of the overall public budget, while the private sector is a relatively minor player in secondary education financing. It has been argued that lower per student expenditures for secondary education, in contrast to primary education, are a reflection that school expenses are significantly subsidized by private contributions in the form of tuition fees or parental support. Evidence from the SES suggests that this is unlikely. In 2002, families spent on average 1,700 Baht to edu-

cate a primary school child, while they spent 2,350 Baht for a secondary school student. The premium paid by households for secondary education does not make up for the relative decline in public financing, even if primary and secondary education had similar per student costs. In summary, as noted in an earlier section, Thailand lags behind in secondary education resourcing by international standards.

Despite relatively low levels of financial resourcing, Chapter 3 documents that Thai students perform on average above predicted levels when taking into consideration Thailand's economic developmental stage. Moreover, the distribution of knowledge across Thailand is fairly equitably distributed. These successes on student outcomes would indicate that funding for secondary education has been put to work in a relatively efficient manner.

Yet, it is also apparent by Thailand's performance in international assessments that student achievement levels are low. A vast proportion of students are functioning at or below the most basic level of language, mathematics and science ability. Poor academic performance and low educational quality have increasingly raised concerns regarding Thailand's competitiveness relative to more developed East Asian countries. Secondary education is an important tool for growth, economic development and social stability. This raises the question of allocative efficiency in the Thai educational system.

Is there empirical evidence that financial resources act as a constraint for the improvement of student outcomes? Although results from international assessments demonstrate that the impact of socio-economic background on student performance in Thailand is significantly lower than the OECD average, results from PISA

also indicate that “among the more advanced group of students, home background makes a greater difference to student performance in mathematics. In other words, the greater the socio-economic advantage, the greater the advantage it has in terms of student performance” (OECD 2004, p. 182). Households from the richest quintile more than double private expenditures on education than households in the fourth quintile. According to the SES, while the fourth quintile spent on average 2,960 Baht in private education expenditures, the richest quintile spent 6,890 Baht. International experience points to the fact that quality improvements are costlier at the secondary level than at the primary level. Furthermore, achieving universal secondary education will depend on making concerted efforts to redirect resources to enrolling poor children currently excluded.

Given Thailand’s already sizable investments in education, is there scope for a more efficient allocation of resources? Evidence from the benefit incidence analysis of public spending on education provides clear evidence that tertiary education investments have disproportionately favored wealthier sectors of the population. Thus, there may be scope for further investigation about the appropriate distribution of the education budget across levels in order to improve the efficiency of the Thai system.

Another important indicator that should be examined within the context of raising efficiency of schools is the student teacher ratio. There is a delicate balance between

lowering the overall cost of education by minimizing the number of teachers in order to maximize teacher utility and raising achievement through the provision of more teachers who can then give individualized attention to pupils. A study on the efficiency of expenditure in education provision by comparing PISA 2003 results with teachers per student and time spent at school suggest that Thailand is performing significantly below the production function frontier for education. In other words, inefficiencies in Thailand are relatively high compared to other countries. These findings hold even when correcting for GDP per capita and parental educational attainment under the assumption that a wealthier and more cultivated environment are catalysts for better student performance (Afonso and St. Aubyn 2005).

The Thai government has sought in recent years to merge small rural schools together, wherever possible, in order to maximize efficiency. Closer scrutiny of other utilization ratios, such as the average number of students per class and number of classes taught by teachers may also shed light on ways of increasing internal efficiency (see Table 4.7). On the other hand, teacher redeployment efforts must also take into account that service delivery points must remain within a reasonable distance from children’s home to remain accessible. Furthermore, any teacher redeployment effort must also consider the plea of remote rural and other disadvantaged areas that experience teacher shortages and rely primarily on volunteer teachers for staffing.

Table 4.7: Utilization Ratios by Education Level, 2002

	Lower Secondary	Upper Secondary - General	Upper Secondary -Vocational
Number of students per class	39	35	37
Number of classes taught by teachers	1.63	1.59	1.48
Student teacher ratio	24	22	25

Source: Office of Basic Education Commission

Conventionally, an education system is considered internally efficient if it generates maximum output at minimal cost (Hossain 1996). Outputs are often measured by indicators such as transition rates or cohort survival rates. In Thailand, the transition rate is high from primary to lower secondary level, with an average of 90 percent of students from grade 6 continuing to grade 7. The rate declines for students graduating from grade 9 and entering into grade 10 to around 80 percent. The majority of lower secondary graduates continue to the general, rather than vocational, track. However, a closer examination by following the same cohort throughout the entire basic education system shows that only 40 percent of students entering grade 1 make it to grade 12. The RTG must continue to monitor closely transition rates, particularly at the junction between lower and upper secondary level.

Retaining a larger share of students in the education system will lower per student expenditure for every secondary school graduate. Annual public spending per student in 2002 was 13,226 Baht for primary

education. This means that for every student graduating from primary school, the government spent approximately 80,000 Baht over 6 years. As for secondary level, public spending per student was 10,011 Baht in 2002, thus the total cost of producing one high school graduate is over 60,000 Baht. In total, this means that the government spends nearly 140,000 Baht for 12 years of schooling. With only 40 percent of students graduating from secondary school, however, per pupil expenditure for every secondary school graduate comes closer to 350,000 Baht.

The NEA ensures that free basic education will be available to all students through government subsidies, whether a student attends public or private schools. The funding mechanism for the provision of free basic education is driven by the number of students at each school. Under the NEA, schools receive per pupil subsidies based on expected number of students each year, in principle with differential formulas for different "types" of students to adjust for the fact that poor or other disadvantaged children may require additional resources to achieve

a similar level of educational output. Thus, student counts largely drive the resource allocation process. In addition, both private and public schools receive additional funds for expenditures such as equipment, buildings and special programs through this funding mechanism. Since allocation of the education budget is dependent on the number of expected students, it is hoped that schools will become more competitive in an attempt to attract more students. School autonomy will be further encouraged through a proposed block grant system so that operational budgets, including both salary and non-salary costs, are directly transferred to schools. Schools then have full authority to determine how to allocate funds. Block grants will continue to be calculated based on the number of students, giving an incentive for schools to improve quality and attract more students.

However, as noted in Chapter 3, what has not been fully established along with this funding mechanism is a functional accountability system to act as another avenue for the promotion of educational quality and efficiency enhancement. Maximizing the impact of schooling inputs can entail empowering principals and administrators to manage for results and making them accountable for these results. Adequate information allows local stakeholders to reflect on existing practices, support interventions to bring about efficiency changes, monitor performance and demand results. The school external assessments conducted under the auspices of the ONESQA are in its infancy. The feedback loops to disseminate information and raise community awareness on school management issues are at present largely notional. The pilots on school governance and community boards are also a promising development to improve oversight on school management practices that can lead to efficiency gains, but operate on a small scale basis. Albeit

steps in the right direction, the current educational system lacks a coherent framework of checks and balances that fosters greater accountability relations among school and local actors as well as central administrators. The reforms proposed under the NEA are likely to remain incomplete until stronger accountability measures are adequately built in.

The NEA articulates a vision for free basic education during 9 years of compulsory education. In addition, it proposes ambitious targets on education service provision, including a student teacher ratio adjusted to 25:1, a new teacher compensation structure, increased and better integrated use of information technology, and additional funds to encourage more children to enroll in the system. These are worthy goals. But these commitments require substantial funding upfront, either from the public or the private sectors. Current spending is insufficient in fulfilling these commitments. A study estimating the costs associated with free basic education, based on several different scenarios, shows that an additional 188 to 229 billion Baht would be required (Thailand Development Research Institute 2000). Changes to the teacher compensation scheme, increased use of information technology and the cost to attract more children into the education system would need an additional 95 to 199 billion Baht. Raising the cost effectiveness and performance of the education sector will be imperative to enhance outcomes and contain costs. Without serious considerations to efficiency measures, many of the commitments promulgated under the NEA could remain elusive.

V.

ADDRESSING THE NEXT GENERATION OF CHALLENGES



The 1999 NEA addresses critical issues and challenges faced by Thailand with regards to secondary education. Subsequently, the National Education Plan 2002-2016 translates it into a plan, guiding education-related agencies towards reforming Thai educational administration and service delivery. This chapter provides an overview of current Government initiatives and policy recommendations to embrace MOE's vision for greater equitable access, better quality and more efficiency in its secondary education system.

INCREASING ACCESS AND EQUITY

Government's initial policies to expand secondary education focused on increasing the available infrastructure to accommodate classrooms beyond grade 6. The use of excess physical facilities and teachers in primary schools, resulting from the declining primary school-age population, helped promote a nearly universal transition rate for lower secondary education.

In recent years, secondary enrollment expansion efforts aptly shifted focus from supply- to demand-side constraints. The MOE introduced a variety of schemes to tackle the cost barriers associated with schooling participation so as to realize the commitment to "free" basic education provision inscribed in the NEA. The introduction of a variety of financial incentive schemes sought to reduce the cost burden on families. As described in Chapter 2, the effectiveness of these schemes could be enhanced through better targeting. However, a dearth of demand-side interventions remains at the lower-secondary level. In order to reach current excluded populations, the Government will need to embark on a concerted effort to address cost barriers faced by the poorest children at risk of dropping out.

The Education Provision Policy for Disadvantaged Children lays down a vision to bring into the formal education system traditionally disenfranchised groups, such as children with disabilities and ethnic minorities, through specifically-targeted programs. However, a clear blueprint to translate these ideals into a step-by-step implementation plan is missing. Key agencies responsible for assuming a leadership role in such programs should be identified and resources needed for implementation appropriately allocated.

Existing education guidelines regarding children living in Thailand without Thai citizenship need to translate into on-the-ground actions. Although non-Thai children are included as one of the 16 disadvantaged groups who can potentially benefit from existing education provision policies, actual practice is complex and unable to reach the majority of children outside the formal system. Currently, it is reported that approximately 45,000 non-Thai children are in school and benefiting from per capita budget allocations from the RTG. However, the out-of-school population is estimated to be considerably higher.

The role of alternative education service modalities can be strengthened. Existing programs, although encouraged by the NEA, are small and do not seem to satisfy the potential demand. Flexible education arrangements can play a key role in providing opportunities to disadvantaged children in accessing secondary education. Greater flexibility in terms of learning sites, class schedules and curriculum can provide a more suitable environment to fit the needs of children who cannot participate in traditional school settings, such as rural migrant workers. In order to ensure that alternative education enrollments contribute to reaching formal universal secondary education goals, systematic data should be collected.

At present, there is no available information of students between 12-17 years old attending non-traditional secondary programs.

Financial disparities between provinces and income groups should be minimized. Resource allocation formulae should factor in conditions and different level of needs across provinces and income groups. Policy action should be determined based on actual data, collected at operational levels (i.e. school or ESA) rather than from small sample groups. Resources could, therefore, be better targeted to those who are really in need.

More generally, in order to include the excluded and increase school participation, efficient data collection and analysis is a prerequisite. Data and management information systems should be able to timely estimate children outside the formal education system, enabling the design of suitable programs and providing strong evidence for policy decision making. For instance, although the gender gap in secondary education participation has been increasing, to the benefit of girls, there is a lack of clear understanding about the reasons that are driving this phenomenon and virtually no policy discussion as to how to redress this situation.

IMPROVING QUALITY

The heart of Thailand's education reform is to improve the human capital of Thai children by providing equal access to quality education. In reality, schools have varied degrees of readiness and resources to provide such education. Students' learning capacity also differs. Thus, the Government has emphasized the need both to ensure minimum quality standards for service provision for all, while establishing a "fast track" for those students that can cope with a more challenging program.

The so-called "five new school designs" program, overseen by the Bureau for Innovative Development in Education, has begun in late 2003 in a small number of pilot schools nationwide on a voluntary basis. Autonomous schools decentralize authority in academic, financial, personnel and general administrative activities. A participatory approach among involved parties is promoted through school committees. Buddhist Way Schools seek to apply teachings of "morality, meditative concentration and wisdom" in learners as well as in school management. Strategic Plans for Gifted Children emphasize science, music, sports and Thai performing arts for high-performing children. Bilingual schools administer English Programs and Mini English Programs through a language immersion curriculum. Schools can charge additional fees from their standard rates. The Information and Communication Technology (ICT) Schools integrate computers to teaching and learning, distance education and university-school linkages.

In addition, the MOE has launched a separate initiative, "One District One Lab School" to break away with the perception that most "quality" schools are in Bangkok and other large cities. The Lab Schools aim at establishing centers of educational quality in non-urban districts so as to reduce social disparities. Their methods will include learner-centered approaches as well as self-learning skills through the use of ICT.

All these pilot programs are commendable and can provide important insights about various methodologies and approaches to improve educational service provision, if properly evaluated. But these programs are all relatively small and, while they could clearly benefit certain groups of students, there are concerns as to how they can be implemented on a larger scale. There is also a question as to how these initiatives

link to other education reform efforts in Thailand and a need to avoid duplicating previous efforts. The bottom line is that, although these meritorious initiatives trial innovative approaches to education quality enhancement, they do not add up to a cohesive plan for educational quality enhancement and lack an overarching framework for systemic and progressive quality improvement.

Evidence gathered from international assessments indicate that there is a shortage of resources for learning in Thai schools and this is generally perceived as a constraint to higher student achievement. Greater investments in instructional resources and teaching aids may be warranted in order to endow schools with a minimum set of materials. The development of Local Learning Resource Centers can make an important contribution to expand availability of instructional resources. However, the supply of materials is not a sufficient condition to make a difference in student learning. Teaching aids need to be put to use effectively by teachers to support instructional content delivery.

It is widely accepted that teacher quality is among the most crucial factors contributing to student learning achievement. The Office of the Teacher Civil Service Commission has developed a strategic plan and put in place several efforts to enhance teacher quality including pre-service and in-service development. A major task has been to develop criteria and methods to upgrade teacher standards and quality through a "whole school approach," where capacity building for teachers and principals is tackled together. The Education Reform Program aims to provide in-depth understanding of education management, curricular change, child-centered teaching and classroom research. The MOE has espoused distance learning and computer

assisted instruction as possible media for capacity development and the creation of a master teacher network in order to exchange experiences with direct assistance from "mobile support teams," Rajabhat Universities and ESA staff.

These are innovative approaches to capacity development and the on-going pilots suggest promising results. Conventional teacher development approaches such as seminars or mass distance training have proven to be less effective as they do not respond to specific needs of teachers. Again, the challenge lies on the translation from vision to implementation of this strategic plan, so that it reaches a scale with tangible national results and goes beyond ad hoc small scale initiatives.

Internal and external quality assurance mechanisms have been established. However, the relevance and quality of such assessments themselves needs to be guaranteed. Internal or self-assessment is new to Thai culture, so it will take some time for schools to assimilate this process as an organic part of school development planning and turn into a meaningful reflective exercise. On going capacity building efforts at school and ESA levels will contribute to institutionalize this process.

The proposed approach for direct but constructive external assessment also has the potential to improve education quality. The MOE has adopted a cautious approach to manage the "stakes" of this assessment, in order to encourage school staff to approach it openly as an opportunity for self-improvement. Again, this type of formative review is unfamiliar to Thai administrators and educators. Thus, it will take time to de-mystify the process and assimilate it. On the one hand, recommendations made by external evaluators must be tangible and achievable. And the quality of external

independent evaluators itself needs to be monitored and evaluated for the process to be meaningful. On the other hand, school staff will need to demonstrate action to turn around ineffective practices in order to make a difference in student performance. Mechanisms to provide systematic rewards for improvements in academic or institutional outcomes could be weaved into the current system. Performance-based incentives could provide the necessary impetus to fuel administrative and instructional behavioral changes.

Enhancing accountability systems for school performance can also operate as a strong incentive to improve educational quality. The authority over curricula, personnel and finance will be decentralized to ESAs once they have met “readiness” criteria. Significant citizen participation is expected to take place in the management of ESAs. Additionally, pilot programs examining different types of school boards to explore ways to enhance the relevance and responsiveness of education service delivery to local needs are under way. Training modules for school boards and administrators have been developed and are being evaluated for possible implementation nationwide.

Step-by-step implementation plan for decentralization of education provision and management, however, needs to be reinforced. The transfer process has been slow to date. Teachers have been unwilling to renounce to the terms of employment as civil servants under the MOE for positions with local governments. Local bodies need to build their capacity. Existing technical assistance and institutional strengthening schemes have been ad hoc and uncoordinated. As administrative and service delivery functions are being devolved, a strong accountability system must be actively nurtured in order to foster a service-oriented culture that is responsive to local aspirations

and needs.

ASSURING EFFICIENCY

The government has adopted an ambitious organizational reform program to enhance the efficiency of the national education system. The NEA specifies that the financing system will be restructured by providing block grants to ESAs and schools on the basis of a standard capitation formula in addition to other per capita top ups according to poverty levels and other provisions for disadvantaged students.

In principle, the decentralization process is expected to produce administrative savings. Estimates prepared under the RTG-World Bank Country Development Partnership for Governance suggest that if all the functional decentralization targets of the Decentralization Action Plan are realized, a substantial share of central government apportionments to local boards could be potentially reallocated from administrative to service delivery purposes. In practice, a significant share of local expenditures is centrally mandated, such as personnel expenditures. These central directives could in fact lead to over-staffing and over-spending. Moreover, ESAs are not necessarily co-terminous with local government boundaries or responsibilities generating additional administrative demands. The current lack of clarity on specific duties to be conducted at different government levels also carry the risk of overlapping functions leading to resource waste. Overall, there has been reluctance in transferring functions, so central positions have not been eliminated; while local capacity to take on new functions and responsibilities has been slowly developing. Thus, at this stage, it is unclear to what extent decentralization will indeed materialize into a more efficient governmental administration.

Another possible avenue for raising efficiency could entail a careful review of student teacher ratios. The average student teacher ratio in secondary education is 28:1. Yet while student teacher ratio remains relatively low, class sizes are relatively large. The average secondary school class size is 43 students. The Thai government has sought in recent years to merge small rural schools together, wherever possible, in order to maximize efficiency. However, school consolidation efforts must be balanced by assurances that service delivery points will remain at a reasonable distance from children's homes and that incentives are provided to staff remote rural and other disadvantaged areas that face severe personnel shortages. A functional review of teacher deployment and school staffing arrangements may also contribute to distribute staffing resources more equitably across schools and alleviate staffing constraints in establishments with large overcrowded classrooms.

Another possibility to maximize systemic efficiency may entail reallocating resources from other educational levels, such as tertiary, to secondary education. The bottom line is that secondary education access and quality are not likely to experience notable improvements without an infusion of additional resources. ESAs will also be responsible for raising additional funding, but the level of local revenue generation is uncertain and, according to current estimates, likely to be low.

The private sector plays a small role in general secondary education, accounting for 11 percent of student enrollments in lower secondary and 20 percent in upper secondary education. Its overall share has either remained largely stagnant or diminished over the past decade. In terms of financial contributions, the private sector accounted for approximately 5 percent of overall domestic secondary education resources. Mobilizing private resources can be an important source of secondary education financing and could free up public resources for improved targeting to disadvantaged populations or service delivery quality enhancements. While the Government has sought to institutionalize formal channels to encourage funding from private firms, further promotion efforts are needed to increase the flow of private funds into secondary education.

Thailand has achieved remarkable improvements in education secondary provision and participation. Much has been accomplished in the last decade. The RTG has now embarked on finding solutions to the next generation of challenges: consolidating equitable access, improving quality and enhancing efficiency. An ambitious reform program is gathering momentum. Dedicated efforts and a continued focus in redressing existing systemic inefficiencies can realize the potential to fulfill the goal of a high quality universal secondary education for all Thai children.



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บทสรุปสำหรับผู้บริหาร

การมัธยมศึกษาที่มีศักยภาพในการเป็นวิถีทางเพื่อนำไปสู่ความก้าวหน้าของนักเรียน ทั้งนี้เพราะการศึกษาสามารถพัฒนาทักษะและผลิตแรงงานที่มีความเชี่ยวชาญซึ่งตรงตามความต้องการของตลาดแรงงาน ที่จริงแล้วการลงทุนในการมัธยมศึกษาจะเก็บเกี่ยวผลประโยชน์ได้มากเมื่อการมัธยมศึกษาทำหน้าที่เป็นตัวเชื่อมโยงที่สำคัญระหว่างการศึกษาขั้นพื้นฐาน การอุดมศึกษา กับตลาดแรงงาน อย่างไรก็ตามการมัศึกษายังอาจเป็นอุปสรรคสำคัญในการป้องกันการขยายโอกาสทางการศึกษาที่เท่าเทียมกัน การมัธยมศึกษาของประเทศไทยในปัจจุบันกำลังอยู่ระหว่างทางสองแพร่งระหว่างการมีศักยภาพในการปรับปรุงโอกาสสำหรับเยาวชน หรือการกลายเป็นข้อจำกัดผูกพันกับการพัฒนาความก้าวหน้าทางเศรษฐกิจและการแข่งขันของประเทศ ดังนั้นจึงเป็นโอกาสอันดีในการรวบรวมความสำเร็จที่เกิดขึ้นในช่วงระยะเวลาไม่นานนี้ในด้านความก้าวหน้าของการมัธยมศึกษาของประเทศไทย ตลอดจนพิจารณาถึงสิ่งท้าทายที่อยู่เบื้องหน้า

บทที่ ๑ กล่าวถึงภูมิหลังของการศึกษาในประเทศไทย ซึ่งประกอบด้วยบริบททางประวัติศาสตร์ของการปฏิรูป และแนวโน้มที่เกิดขึ้นในช่วงระยะเวลาไม่นานมานี้ของการประณตศึกษาและการอุดมศึกษา

บทที่ ๒ เป็นการทบทวนสภาพปัจจุบันของระบบการมัธยมศึกษาของประเทศไทยในภาพรวมและในกลุ่มประชากรต่างๆ นอกจากนี้ยังมีการเปรียบเทียบระหว่างภูมิภาคอีกด้วย จากผลลัพธ์เหล่านี้จึงได้มีการวิเคราะห์ด้านความต้องการของการมัธยมศึกษา เช่นผลของการตัดสินใจของครัวเรือนในการส่งบุตรหลานเข้าโรงเรียน

บทที่ ๓ พิจารณาประเด็นปัญหาด้านคุณภาพของการมัธยมศึกษาและเสนอทางเลือกที่เป็นไปได้ในการปรับปรุงคุณภาพของการบริการทางการศึกษาในประเทศไทย

บทที่ ๔ เป็นการสำรวจทางเลือกในการส่งเสริมประสิทธิภาพในการใช้ทรัพยากรทางการเงิน

บทที่ ๕ เป็นการให้ข้อเสนอแนะด้านนโยบายโดยพิจารณาถึงเป้าหมายของรัฐบาลและวิวัฒนาการทางประวัติศาสตร์ที่สำคัญของระบบการศึกษาไทย