Does the Popular Trade-off Exist in the Education Sector in Thailand: An Analysis of Development in Education Sector through Education Possibility Frontier

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Abstract

In this paper we will look at a trade-off between quantity provision and quality improvement in the 'education sector'[1], specifically in the Thai's Education System. The education sector plays a very significant role in the transformation of any economy by securing economic and social progress and improving income distribution. It's a key to the development of all society and serves as an engine for economic development, centered on its quantity and quality. In the economic growth literature, human capital theory highlights the importance of education and training as the basic to participation in the Global Economy. In this Paper, we will look at the trade-off by using the four pillar argument; Economic, Social, Cultural and Political, so as to keep the analysis realistic and also to construct the proposition whether the trade-off argument hold or not in the case of Thai's Education system.

Keywords: Quantity, Quality, Efficiency, Trade-off, Merit goods

Introduction

Thailand has been trying to improve and reform its education system for decades. The results of such reforms are improvement in quantity of education and educational infrastructure. The current debate in the Thai education system is centered around the quantity verses quality trade-off. The purpose of this Paper is to look at one of the highly debatable issues in the Thai education system, which at first was centered on policy debates and later became a part of academic debate. *"Quality is at the heart of education. It influences what students learn, how well they learn and what benefits they draw from their education"* (UNESCO, 2005). Quality of education ensures that students achieve decent learning outcomes

[1] Education sector/industry consists of schools, colleges, universities and various private institutions.

and acquire values and skills that help them play a positive role in their societies. Focusing mostly on quantity reflect the political satisfaction of meeting demand in the economy, to meet education for all commitment. This study will specifically look into the quantity versus quality debate in the context of the Thai education system to explore the inefficiency and the resulting welfare loss that arises due to the failure of the policy in the education front. Apart from that, several measures and focus areas are looked at to improve the education system and make it as an effective instrument for people's empowerment in the globalized, competitive world. The task is to highlight the inefficiency issue associated with the four pillars; economic, social, cultural and political to look at the failure of the education policy framework.

The Economics of education is the study of economic issues relating to education, including the demand for education and the financing and provision of education.

Socio-cultural approaches emphasize the interdependence of social and individual processes in the co-construction of knowledge.

Political aspect looks at the stability of the policy aspect and determination aspect from policy front.

We have utilized this four pillar approach and constructed the Education possibility frontier for addressing the fallacy of a trade-off.

Quantity and quality; measurement and requirement for improvement

The question of "how much" resource to allocate between quantitative attainment and qualitative improvement is not easy to establish because for the first one, measurement and requirement criteria could be formed but for the latter, measurement and requirement criteria is difficult to frame. In fact, the requirement criteria for quality are accepted to be country specific.

Quality of education is a complex concept, UNESCO (2005). All over the world there is a growing agreement about the need to provide access to education of good quality, but there is much less agreement about what the term quality actually means in practice. The term "quality education" varies dramatically from country to country depending on cultural and economic priorities. This variability can make it challenging especially for developing nations when trying to set educational policies that provide necessary specificity and guidance for curricular and educational development. Despite the near universal agreement as to what cognitive skills comprise, they are not entirely culturally neutral (UNESCO, 2005). Also, the measurement criteria of quality are debatable on the grounds of rationality to standardize it internationally. In the context of Thai's education, to follow such standard quality criteria is still debatable on the ground of purposiveness. The requirement is that there should be large people participation and a long term action plan, given appropriate resource allocation.

The quantity models start with exclusive focus on inputs and outputs. The former is associated with infrastructure that includes education buildings, sport grounds, computers per student etc., as well as number of instructors, textbooks and other learning material availability. The latter part of model includes enrolment, retention rate, and completion of a qualification. The model then makes a gradual transition towards indicators such as gender ratios, age group, per capita cost, tuition fees, internet penetration, broadband access, and cost, et al. This is basically a movement towards the qualitative aspect of quantity. However, in our analysis we

focus only on the starting aspect of the quantity model, as it is sufficient for our purpose of analysis. The requirement criteria are financing and provision through resource allocation.

Theoretical consideration

In this section we have use one of the popular technique of economics to look at a trade-off aspect from the view of efficiency. Quantity is visualized only in terms of the input aspect, whereas Quality is assumed to be measurable as a proxy of average test score in the Standard test exams. The neoliberal discourse that Thailand adopted under the premise of education for all after the Jomtien declaration in 1990 also saw Thailand adopting some of the international assessment criteria like Trends in International Mathematics and Science Study (TIMSS) and Programme for International Student Assessment (PISA). TIMSS is an international assessment of the knowledge of the mathematics and Science for the age group of 9/10 and 13/14 years around the world. It is done to compare students' achievement across countries. On the other hand, PISA is a study conducted by Organization for Economic Co-operation and Development (OECD) to evaluate the performance of a 15-year-old student in reading, mathematics, and science.

Firstly, consider the debate from the efficiency front for a given resource allocation to look at the invalidity of a quality versus quantity trade-off. Let's hypothesize the education possibility frontier as the locus of combination of quality and quantity that is achievable for a given resource allocation, assuming that quality is too measurable.

Quality is measured in a relative sense. For example - Suppose this year, average student score is 5.5 out of 10 in standard tests. The government plan to enhance teaching skills during the vacation for next year students. Once such a program is finished, it will involve a certain cost (say 30 billion baht) for nationwide improvement in quality. For a given resource allocation in the education sector the remaining amount will goes for teacher's salary, administrative and maintenance costs. The difference between last year and this year is that, last year this amount was used to build schools and various infrastructure. This year they will use this amount to improve quality. Last year the economy is at point- A, Quantity is high but quality is low (Figure 1). This year, suppose test scores increases to 7.0 out of 10 and this test score is close to standard test scores across countries. So the economy moves to point B, i.e., for same quantity last year, also for same resource allocation, quality is high.

To say that for a given resource allocation in the education sector there is a trade-off implies that efficiency is achieve in terms of resource allocation. But, given the socio-cultural hierarchal emphasis and political development in Thailand it is safe to assume that such efficient allocation of resources in the education system is not achieved. As a result, for a given resource allocation assuming efficiency point-B would be optimal, but due to inefficiency the Thai education system in terms of quantity and quality achievement stands at point-A, (Figure 1). Thus, the extent of inefficiency in the Thai education system may lead us to conclude that the trade-off does not exist.

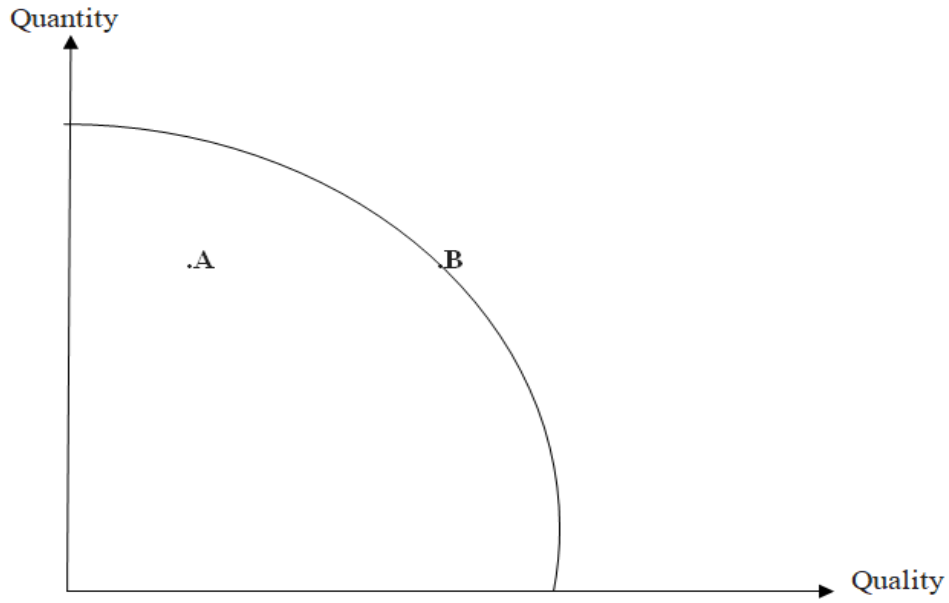

Figure 1 Hypothetical trade-off between quality and quantity of education

The argument that focuses largely on improving the education infrastructure and school enrollment, ultimately leads to less trade-off in terms of quality achievement and is again based on the argument that the education sector is on the frontier (Figure 2). But the large inefficiency negates such possibility on theoretical grounds also, in spite of our simple assumption where we assume quality to be measurable. Thus, to argue that for a given resource improving per unit quality in the education sector involves less opportunity cost and therefore involves less trade-off in terms of quantity turnout to be invalid arguments.

Let assume that the Education sector is on the frontier, arguing that once quantity is achieved sufficiently, we can achieve larger quality gain by sacrificing little on quantity, for a given resource and for an increase in resource we can gain larger quality gain per baht spent for the given sufficiently high quantity is fallacious. Education is not a private good, it is a merit good and with enhancement in resource, quantity factor will improve but this will not guarantee improvement in the quality. For improvement in quality its required participation from the point of view of socio-cultural aspect and has to be independent of political influence, in other words it required large participation, as well as long-term directional blue print for quality improvement.

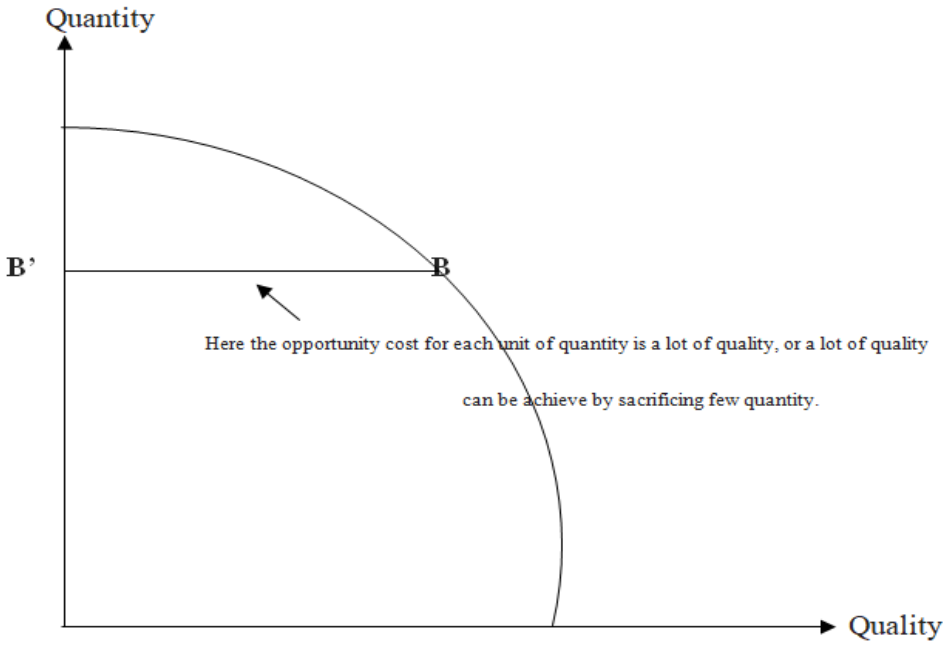

Figure 2 Hypothetical minimum opportunity cost fallacy

Secondly, consider the debate from the efficiency front in terms of marginal increase in resource allocation to invalidate the argument of quality versus quantity trade-off. For a baht increase in resource the trade-off between quality improvement and quantity attainment is 'not linear'[i]. This is because with enhancement in resource, quantity factor will improve but this will not guarantee improvement in the quality. As mentioned, the feasibility and affordability could be provided with resource enhancement but quality improvement is not guaranteed by such a mechanism. It requires participation from the point of view of a socio-cultural aspect and has to be independent of political influence. Thus, the incentive structure for such quality improvement requires 'large participation, as well as long-term blue print, combined together, it initially required more resource'[ii]; therefore, from the data front it might 'reduce the weightage of quantity achievement'[iii]. But this view assumes that resource was drawn from a pool of resource. However if we look at the allocated resource by the government to the education sector, in 2003 it was 140 billion baht, which jumped to 350 billion baht in 2009 and in 2012 reached nearly 460 billion baht (TDRI, 2013)[iv] and in 2017-2018 it's 510 million baht[v]. So, if something that could possibly hinder quantity achievement, given qualitative broader initial hypothetical requirement, than it had to do more with inefficiency arising out of over budget for some area including unnecessary expenditure.

Hypothetical evaluation of the lost opportunities year after year

The education budget allotment consists of teacher and staff salaries, administration cost, subsidies to both public and private school as well as various universities, free schooling and some miscellaneous. At a point in time major expenditure is given from this front, therefore taking school enrollment as an indicator for quantitative achievement, 100 percent being maximum, we draw figure - 3.Thus, for a unit increase in baht resource allocation at a point in time may increase expenditure but major expenditure is likely to remain same for a year or two.

Thus, the shift in the education possibility frontier may be biased towards quality, figure - 3. However, the persistence of inefficiency not only affects the possibility of improving quality but also raises the question for 'the viability to maintain school enrollment rate at sustained rate (Figure 4 and 5)'[vi].

Thus it is quite possible that, with the enhancement in resource, the yearly fluctuation when looked at a point in time shows achievement to fall from point-A to point-B. Combining this development years after years, where it reaches above, equal and sometime below point-A, the enhancement in resource doesn't even provide effective quantitative achievement.

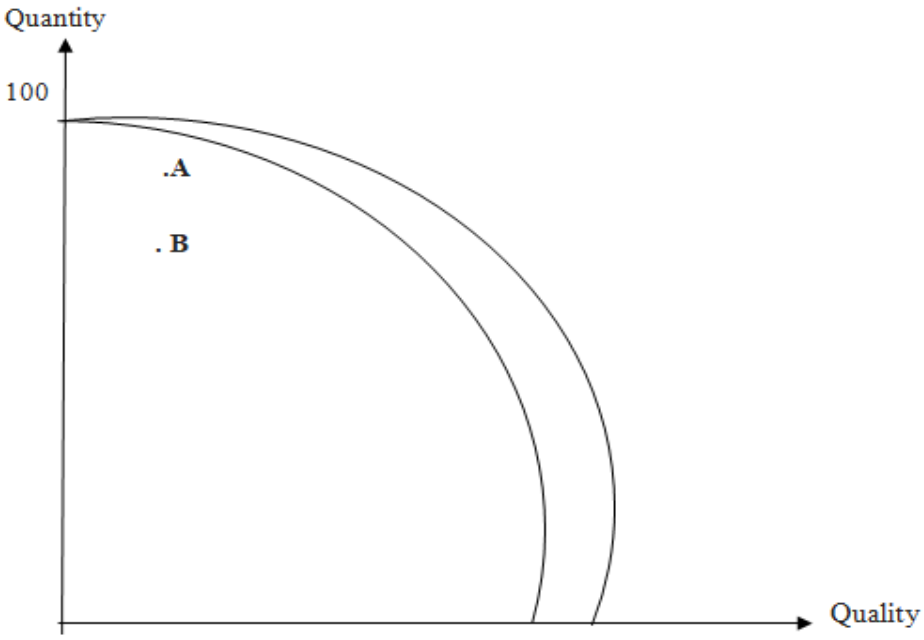

Figure 3 Hypothetical evaluations of the lost opportunities year after year

Rational for strong government support, large participation and long-term plan

Education is widely considered as a merit goods. In case of goods that come under this category, the 'net private benefit'[vii] to the consumer is hard to establish at the point of use. This is because, for example, pupils and students know the cost of study in terms of time spent but the private benefits in terms of good score at various education level, future job, earning, position and skills cannot possibly be accurately quantified. As a result, there is a failure of information in terms of likely private benefits. On the other hand, the social benefit that results from the consumption of education is not likely to be known at the point of consumption. For example, students study hard depending upon their motivation and aim without considering much about the external benefits that later others receive by one way or the other from him/her. Therefore, it's near to impossible to place value on these external benefits.

As discussed the consumption of merits goods, such as education, provides external benefits, which is hard to quantify by an individual. In a free market, individuals only consume quantity Q^P but the social optimal level is Q^S, (Figure 6). This implies that in a free market

merit goods would be under consumed because the consumer takes into account only benefits accruing to him and ignores the positive externalities of such consumption. Market equilibrium is at P and Q^P but the social optimal is at P^* and Q^S, resulting in welfare loss equivalent to area -W.

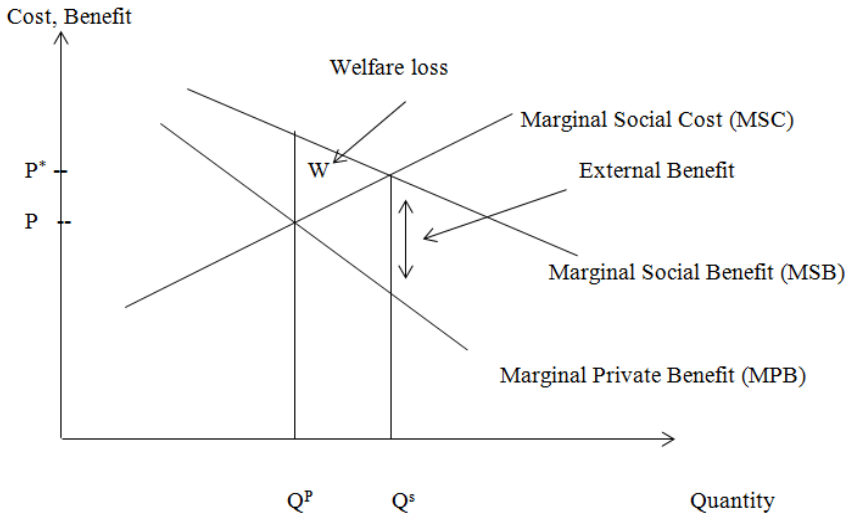

Figure 6 Merit goods; market determine outcome and welfare loss

Markets for merit goods frequently fail to allocate sufficient resources for the production, resulting in the under supply of merits goods which in turn lead to welfare loss. The basic understanding of economic suggests that, there are two remedies in this regard, increase the price or reduce the cost of supply. The first one can be ruled out because an increase in price improve supply but at the same time discourage demand. On the other hand, to reduce cost government can provide subsidies in the free market. It can help achieve socially desirable level of 'student's enrollment'[viii] at Q^S. The total subsidy required to achieve this is (S-S')* Q^S. Thus a subsidy of (S-S') per student will achieve Q^S where each student pay S' and the government pay (S-S')

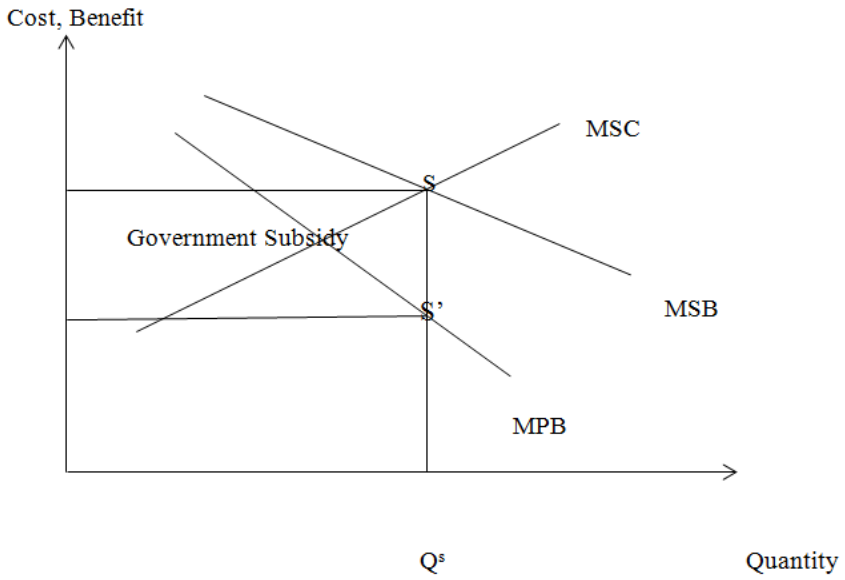

Figure 7 Government intervention in the merit goods market

Thinking beyond free market provision

Rather than providing subsidies, government should also take the responsibility of supplying the socially desirable level of merit goods. This has been the case in Thailand and many countries where government plays a strong role in providing affordable and feasible education, for example consider the formal school system of Thailand, at all levels the share of public institution is 81 percent in 2011 (Figure 8).

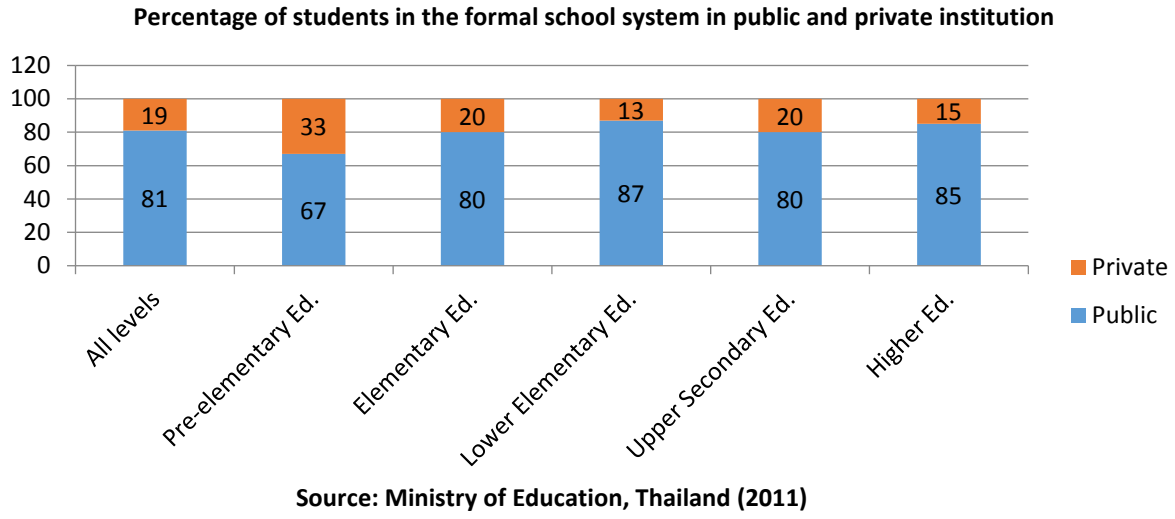

Figure 8 Percentage of Students in the Formal School System in Public and Private Institution

Also the strong role of government is essential to cover up the under supply aspect, especially in the rural areas. Although private institutions consists of only a 20 percent share in formal education in our example, but this is a substantial involvement in the education provision. Thus, providing subsidies to private schools or vouchers to parents of weaker sections thereby enabling the enrollment of students irrespective of their economic background turn out to be an essential requirement for harmonizing the society and individual interdependence from this front. This is not an easily said and done aspect as it requires comprehensive planning along with administration for its continuation on a sustained basis.

Rationale for strong government support

In the merit goods analysis, we explore the possibility very narrowly considering only a part of the quantity aspect of education. Here we look at incomplete information as the reason for welfare loss. However if we consider the inputs and outputs aspect of quantity entirely and incorporate the quality aspect of education then the inefficiency, that we discussed, combining with incomplete information from individual perspective leads to much higher welfare loss than depicted (Figure 6). In addition, the gender gap and other qualitative aspect of quantity lead to even more welfare loss because for example in case of gender gap, female education generates much higher external benefit than without it. This calls for an active role of the government to hedge the education sector from welfare loss that arises due to incomplete information and inefficiency. Apart from that, the rational for public funding of education is also associated with market failure, for equity, balance regional development, apart from already discussed aspects like accessibility and low cost provisions. As we had mentioned the presence of private institutions in the education sector is considerable and pointed out that subsidy or a voucher scheme could be followed. There is a good possibility of a public-private partnership that could incorporate the voucher scheme, student loan and scholarship, facility of infrastructure, private institutes with public management and public institutes with private management et al. But considering this policy has to be done in the later part of the long-term strategy because the first thing is to take care of inefficiency which in turn improves the expected private net benefit and thereby reduces the welfare loss.

Rational for large participation

As discussed, the socio-cultural aspect is equally important as other pillars for sustained quality improvement, but the way to incorporate it for education transformation must be through participation at large. This is the essential requirement of democracy also. Democracy is not merely a form of government. The saying “as the government, as the people” is more true and relevant democracy then any in forms of government. But unless people are vigilant, conscious of their rights and responsibilities, democracy has no meaning. Without an educated citizen, democracy cannot be success and will fail to give its rich dividend. In Thailand, democracy cannot take shape and spirit without a large participation and this is possible only when education is accordingly reformed and re-oriented.

Rational for long-term plan

For large participation, organization and management is essential to cover up the socio-cultural aspect thereby provide possibility to explore the interdependence of society and individual roles optimally, thus taking care of inefficiency, political influence, 'competition from the neighbor in the globalized world'[ix], social benefit, democracy rich dividend, market failure, equity, regional imbalanced and estimated private benefits too for individuals. For this long term plan is essential with prescribed roles for government, ministry, administrator, teachers, and students. This is not possible only through broad guidelines for 5-10 years as has been the case in Thailand, but the guideline should have proper understanding among stakeholders with complement effect rather than deteriorating effect. By complement effect we mean working mechanisms of all should be harmonious to each other and they should work towards reducing deteriorating effect on each other role. For example- many teachers complaint of over scrutiny on them to be unwarranted, therefore it is required to weaken the hierarchal set up in favor of regular training and various skill development program year after year for teachers so that they understand the requirement of education long-term goal in line with policy perspective. Apart from that, general awareness of policy framework is also required to utilize local wisdom, national wisdom and incorporates it to international knowledge. This and many other aspects are required to be considered for each level of education and sub levels too to make the education system an effective instrument for people's empowerment in the globalized competitive world.

Conclusions

In the context of the Thai education system the quality versus quantity debate is futile, the validity of which is also questionable on the backdrop of inefficiency. My co-author (Wachararasamee Saksuweemol Shaw) experience of attending one such meeting, about a decade back, where the main debate was on the prosperous side and the same old discussions related to deterioration of quality in terms of poor students performance both at national and international assessment remains the main concern on the quality front.

We have discussed in our paper that one of the main problems to develop education system is the stated and implemented differences in the objectives. The root cause of this problem is the conflicts of interest among various important stakeholders. In spite of resource allocation, which is considered sufficient to achieve education goals, the consequence of large inefficiency is the reason for the continuous worsening of Thai students' performance. To say quality is worsening by just looking at the students score and compare it across time will not leads us anywhere. The main cause is not only the tests pattern for such worsening performance, but also the development in the last two decades or so, in which a number of changes were made in the assessment of students without proper coordination for material coverage, lack of teachers exposure to changes et al leads to such worsening of performance. This possibility is not hard to visualize, but it remains far from academic and policy discussion!

References

Au, W. (2007). High-stakes testing and curricular control: A qualitative meta synthesis. *Educational Researcher, 36*(5), 258-267.

Bounlouane,D., Yujiro, H., & Yoshihisa, G. (2005). Education and natural resources in economic development: Thailand compared with Japan and Korea. *Journal of Asian Economics, 16*(2), 179-204.

Bunnag, S. (1997). *Poor academic performance of students blamed on rote system* (p. 2). Bangkok, Thailand: Bangkok Post.

Bunnag, S. (2000). *All schools set to scrap rote learning* (p. 5). Bangkok, Thailand: Bangkok Post.

Chanawongse, K. (2010). The next round of education reform by the Thai government and the four pillars of education. *Journal of Administration and Development, Mahasarakham University, 1*(2), 7-14.

Fry, G. W. (2002). *Synthesis report: From crisis to opportunity: The challenges of educational reform in Thailand*. Bangkok, Thailand: National Education Commission.

Hallinger, P., & Lee, M. (2000). Education in Thailand after the crisis: A balancing act between globalization and national self-contemplation. *International Journal of Educational Development, 20*(3), 223-245.

Hallinger, P., & Moosung, L. (2011). A decade of education reform in Thailand: broken promise or impossible dream? *Cambridge Journal of Education, 41*(2), 139-158.

Kiat, C. H. (2012). *Quality of education in Thailand: A conflict between policy and culture*. Education and International Development: Concepts, Theories and Issues, Eramus Special Course, University of Oulu.

Lathapipat, D.; & Sondergaard, L. M. (2015). Thailand-Wanted: A quality education for all. Washington, DC: World Bank Group.

Ministry of Education Report, Malaysia. (2012). *Malaysia Education Blueprint, 2013-2025*. Retrieved from http://www.moe.gov.my/userfiles/file/PPP/Preliminary-Blueprint-Eng.pdf

OECD. (2011). *Chapter-D: The learning environment and organization of schools*. Education at a Glance 2011: OECD Indicators.

ONEC. (1999). *Thailand's education reform: The national education act 1999*. Hope for a Better Thailand: Office of the National Education Commission.

Pennington, M. (1999). *Asia takes a crash course in education reform*. Retrieved from http://www.unesco.org/courier/1999_08/uk/apprend/txt1.htm

Pongwat, A., & Rupavijetra, P. (2014). *The problematique of quality education in Thailand.* Chiang Mai, Thailand: Chiang Mai University.

Prapphal, K. (2008). Issues and trends in language testing and assessment in Thailand. *Language Testing, 25*(1), 127-143.

Roberts, V. (2009). *Balancing quality and quantity in tertiary education: The Caribbean Challenge*. In Proceedings of the 6th Annual CANQATE Conference in Barbados.

Sandrine, M. (2015). Education in Thailand: When economic growth is no longer enough. *London Review of Education, 13*(3), 79-91.

Tableman, L. D. (2007). *The impact of structural adjustment policies on the education system of developing countries: A comparative study between Thailand and Malaysia after the Asian Financial Crisis* (Master's thesis). University of Oregon.

Tangkitvanich, S., & Sasiwuttiwat, S. (2012). *Revamping the Thai education system: Quality for all*. Bangkok, Thailand: Thailand Development Research Institute (TDRI).

Thailand's Unesco Report. (2002). Retrieved from http://www.ibe.unesco.org/International/ICE/natrap/Thailand.pdf

The Education System in Thailand, Ministry of Education. (2007). Retrieved from http://www.moe.go.th

The Nation. (1999). Retrieved from http://www.edthai.com/reform/nov28a.htm

The Nation. (2010). *Bold steps needed in education reform*. Retrieved from http://www.nationmultimedia.com/home/2010/03/31/opinion/Bold-stepsneeded-in education-reform-30125930.html

The Nation. (2012). *O-NET set for redesign as row rages over results*. Bangkok, Thailand.

The Nation. (2012). *Parents, teachers give 0-NET low marks*. Bangkok, Thailand.

The Nation. (2013). *NIETS needs to focus on quality, not quantity*. Bangkok, Thailand.

The Nation. (2013). *O-NET exams being ignored by students*. Bangkok, Thailand.

Towards a Learning Society in Thailand. (2007). *Ministry of Education (MoE) report*. Retrieved from http://www.bic.moe.go.th/fileadmin/BIC_Document/book/intro-ed08.pdf

UNESCO (2005). *Education for all: The quality imperative*. Retrieved from http://unesdoc.unesco.org/images/0013/001373/137333e.pdf

Vanichseni, S. (2012). *Thailand K-12 education system progress and failure*. Bangkok, Thailand.

World Bank Group. (2006-2007). *Thailand social monitor: Towards a competitive higher education system in a global economy*. World Bank Group.

Endnotes

[i] As evident in Figure 1 and Figure 2, but explanation is provided here.

[ii] The requirement of huge resource allocation initially is essential to provide organization management and structure for large participation, as well as to maintain such participation at sustain rate year after year. Also for long-term plan such as following a blue print, hedge too required against political uncertainty and its involvement. Thus, the requirement from this front involves extra resource but that can be partly done by reducing political unnecessary involvement and partly by allocating increase in resource in the education budget.

[iii] In fact, a major portion of quantity achievement is superfluous and mostly politically driven to gain popular vote.

[iv] http://tdri.or.th/en/tdri-insight/education-system-ills-setting-up-future-failure/

[v] https://www.bangkokpost.com/thailand/general/1316451/b2-9-trillion-budget-approved-for-fiscal-2018

[vi] After the NEA, 1999 there had been improvement in enrollment rate but it was not sustainable because of differences in stated and implemented objectives. Consider for example the school

enrollment rate, primary as well as secondary. The primary school enrollment show consecutive decline, though marginal for the period 2004-2009 (Figure 4). On the other hand, improvement in secondary school enrollment was marginal year after year (Figure 5).

Gross enrollment ratio is the ratio of total enrollment, **regardless of age**, to the population of the age group that officially corresponds to the level of education shown.

Net enrollment ratio is the ratio of children of **official school age** based on the International Standard Classification of Education 1997 who are enrolled in school to the population of the corresponding official school age.

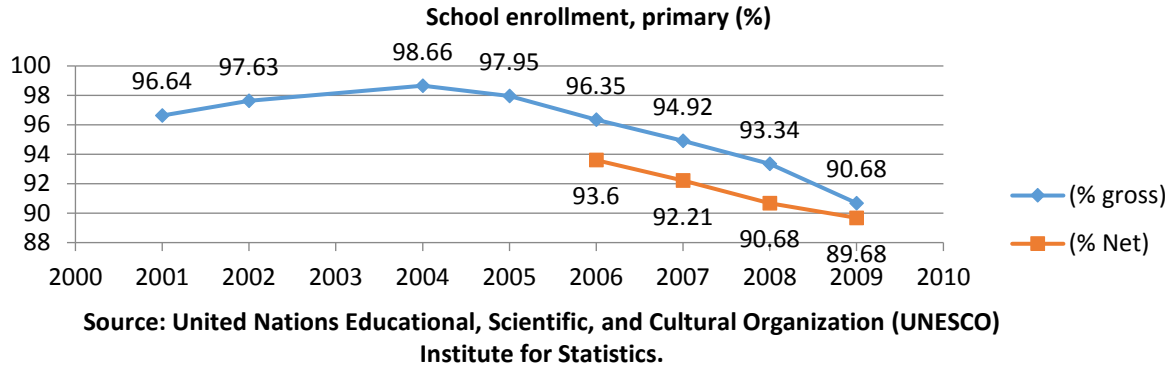

Figure 4 School enrollment, primary (%)

Primary education provides children with basic reading, writing, and mathematics skills along with an elementary understanding of such subjects as history, geography, natural science, social science, art, and music.

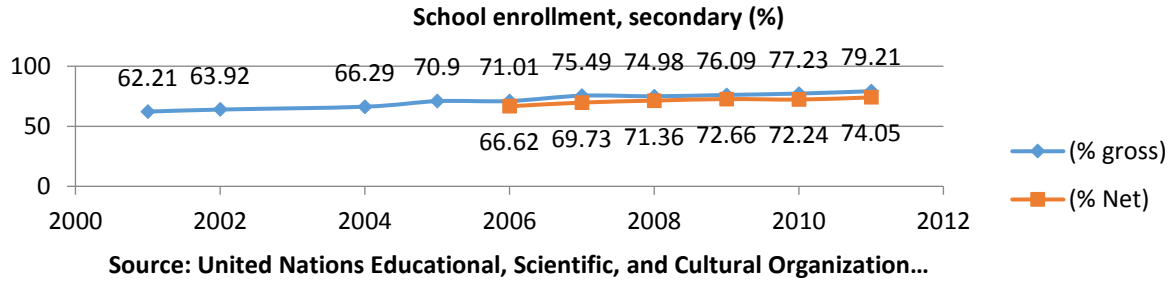

Figure 5 School enrollment, secondary (%)

Secondary education completes the provision of basic education that began at the primary level, and aims at laying the foundations for lifelong learning and human development, by offering more subject- or skill-oriented instruction using teachers that are more specialized.

In the primary education at least 1-3 percent school enrollment are accounted for over aged or under aged. In the secondary education at least 4-5 percent school enrollment are accounted

for over aged or under aged. This basically indicates that students retention rate for over-aged or under aged are higher.

[vii] Net private benefit is the difference between the utility gained from consumption and private cost.

[viii] As mentioned, at a point in time major expenditure is given, therefore considering school enrollment as an indicator for quantitative achievement we precede our analysis.

[ix] This aspect has not been discussed but it is an important consideration for revamping Thailand education system.