Quality of Thai workforce: evidence, and linkages between schools and the labor market

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Abstract

• Despite the rapid expansion of tertiary education enrollment in the last ten years, the private sector still has difficulty recruiting college and university graduates with adequate skills. College and university graduates with adequate skills and required quality. As a result, many companies and the industrial associations have decided to establish their own colleges/universities. Some companies have cooperated with the public vocational colleges in creating the work-based learning programs. This study identifies the common threads of the success of 5 colleges and universities. It also describes the factors that account for the failure of colleges and universities. It also describes the factors that account for the failure of colleges and universities in producing quality graduates to serve the employers in the formal sector. Finally, some policy implications on the new skill agenda for Thailand are discussed.
Focus of my discussion

• Since the Thai private sector has actively engaged in education provision at the tertiary level in order to produce the workforce with quality and skills required by the industry, my discussion will focus on the quality of workforce at the tertiary education level and the role of private sector in providing education

• I believe that the private sector can become the leading force in influencing the new skill agenda
Topics of discussion

• Thailand’s concern is not “quantity” of human capital but its “quality”
  — Impact of education quality on economic growth and equity
  — Some evidence of quality of Thai workforce

• Why schools fail to produce quality education and required skills demanded by the labor market?

• The role of the private sector in education
1. Quality of human capital as the new engine of growth

• Thailand’s success economic development success has depended mainly on cheap labor, excessive exploitation of natural resource and rapid capital expansion.

• To avoid the middle income country trap, Thailand will have to rely upon the quality of human capital as the engine of inclusive growth

• But currently, the growth contribution from human capital is very small

• Moreover, declining quality of HC has become more serious concern as Thailand is facing the “nut-cracker” pressure from both the cheap labor countries and the more technological advance economies
Quality of education and economic growth

Declining education quality

Lower GDP growth

Declining rank of education quality (WEF)

- Basic education: 2010 - 73, 1981 - 85
- Education system: 2010 - 66, 1981 - 77
- Educ management: 2010 - 58, 1981 - 73

HC contributes 7-10 % of GDP growth

Education is a source of growth

- Recent study shows that “quality of education” is much more important than “years of schooling” (Hanuchek 2004)
- After controlling for quality, the growth contribution of schooling is very small for Thailand
Years of Schooling and Economic Growth

coef = 0.581, se = 0.095, t = 6.10
Quantity of Schooling

Without quality control
+2.4% growth

With quality control
+0.6% growth
Inequality in education access has improved at upper secondary education, but still a large gap at the college level: Reproduction of the poor class
Inequality in education access

• Differences in long-run family factors account for much of the gaps in college enrolment (Lathapipat, 2012)
  
  — Short run interventions: student loan, tuition subsidy, income support to poor families
  
  — Long run factors: family background and environmental characteristics, quality of early and basic education, and all factors that shape abilities during formative years

• Inclusive growth will be impossible without appropriate policy measures to deal with the long-run factors affecting the poor students
  
  — This is another topic of future research
Family Background vs. Achievement

- Huge disparity in academic performance between schools and socio-economic status of parents

* ESCS (economic, social and cultural status) index: Captures parents’ education and occupation, family wealth and cultural possessions
2. Thailand’s concern is not “quantity” but “quality” of human capital: some evidence of quality of Thai workforce

- The expansion of tertiary education enrollment coincided with rapid economic growth
- Evidence on the declining quality of education and quality of Thai workforce
- Abundant supplies of educated labor with inadequate skills
  - High unemployment rate of graduates in some fields
  - Complaints by employers
2.1 The expansion of tertiary education enrollment coincided with rapid economic growth

- The government has begun to increase the enrollment of secondary education in the early 1990s, and tertiary education in the 2000s
- Puzzle: despite the rapid increase in the supply of university workforce relative to the high school workers, the wage premium of the former relative to the latter has increased!!

- Why??
Relative supply and wage premium between college and high school workforce

Source: Revised from Dilaka, 2011.
• Increase in the relative demand for college workers dominated the increase in relative supply of college workers relative to that of high school workers

Source: Revised from Dilaka, 2011.
The expansion of tertiary education enrollment coincided with rapid economic growth (cont)

- Two possible causes of the increase in demand for labor:
  (1) skilled-biased technological change; (2) changes in factor prices and demand for high valued services/products
- **Implications (1):** further research on causes of change will determine the new skills agenda
- **Implication (2):** Rapid economic growth in the early 1990 and 2000 was partly made possible the rapid expansion of tertiary education enrollment
2.2 Evidence on the declining quality of education and Thai workforce

- But the bad news is the increasing gap of quality of Thai workforce
- Direct evidence is the lower PISA and TIMSS test scores and very low V-Net test scores of vocational students
- Indirect evidences: measuring quality of college workforce from the unexplained variation in wages among college workers (i.e., variance of the error terms of the wage regression)
Declining test scores of High School Students

TIMSS

O-NET Grade 12

PISA

Sciences

Mathematics

Reading

Thai

English

Mathematics

Reading

TIMSS

O-NET Grade 12

PISA
Larger gap in quality of college workforce: Wage premium of the 90th percentile relative to those in the lower wage percentiles (10th and 50th percentiles) has increased.

Growth of real wages of college graduates in 3 wage groups

Wage gap between the 90th percentile and the 10th percentile wage groups

Source: revised from Dilaka, 2011.
2.3 Abundant supplies of educated labor with inadequate skills

- Unemployment data at disaggregated fields of study are not reliable
  - NSO survey contains small sample size
  - College surveys of employment status of graduates have different dates of survey
- Yet the data show high unemployment rates of graduates in the fields that have high labor demand, i.e., technical vocational graduates;
  - Social sciences and business administration 30%
  - Humanities and arts 28%
  - Agriculture 25%
  - Engineer 24%
- Implications: poor quality of graduates
Higher unemployment rate for Technical education than commercial graduates

unemployment rates of newly graduates with vocational diploma

Unemployment rates for all vocational graduates

Source: NSO, Labor Force Survey.
High college unemployment rates for social sciences, business and engineerer

Newly graduated unemployment rates

Unemployment rates for all university graduates

Source: NSO, Labor Force Survey.
Employers reported shortage of skilled labor, especially cognitive skills

- Inadequate cognitive skills: English, IT, mathematics and communication
- Also inadequate specific technical skills
- Industries with serious shortage: furniture, electrical & electronics, auto-parts and automobile, garment, and food processing
English proficiency and IT skills remain weak for skilled local production workers

Source: Xubei Luo, World Bank 2008
3. Why colleges fail to produce graduates with adequate skills for the labor market?

• Accountability of the colleges and teachers
• Accountability of regulating agencies
• Capacity and incentive
3. Why colleges fail to produce graduates with adequate skills for the labor market?

• Accountability of college administrators/professors: no need to be responsible for the quality and employment of graduates
  
  — No disclosure of information on graduation rates and unemployment rates for individual college. Employers do not have up-to-date information on number of graduates by fields of study
  
  — No incentive to provide active advising services for future career and employment placement for students
  
  — Budget depends on political bargaining power rather than output and outcome of the universities
  
  — Almost impossible to sanction or fire professors
  
  — Selection and appointment of rector and deans are political process
3. Why colleges fail to produce graduates with adequate skills for the labor market?

- Accountability and capability of the regulating agencies
  - No disclosure of up-to-date information on number of graduates and employment status for all universities and colleges.....consequently employers do not have adequate labor market information
  - Budget allocation does not depend on output and outcome of education
  - Quality Assurance is meaningless and has no teeth
  - Etc.
3. Why colleges fail to produce graduates with adequate skills for the labor market? (cont)

- Capability constraints: incentive problem and rigidities in management
  - Lack of pressure and no incentive to change curriculum
  - Teacher-centered teaching approach
  - Professors have to moonlight
  - The recently upgraded universities have small number of professors with PHD and professorship
  - Too much regulations and rigidities in management, particularly in vocational schools
  - High turnover of teachers in private vocational schools
  - Promotion and transfer of teachers and administrators at vocational college are not merit-based, etc.
4. How the private sector respond to the problems of quality and skills?

- Some have established their own “corporate” colleges and universities, others have cooperated with public universities to set up new curriculum.
- Their approach is “work-based learning”
- Examples of vocational colleges: Panyapiwat Techno Business, Mabtapud Colleges in petrochemicals, Nakorn Srithammarat College of ship-building & shipping, etc.
- Universities include Panyapiwat Institute of Management, Institute of Thai-Japanese Technology, etc.
4. How the private sector respond to the problems of quality and skills?

- Enabling environment allowing the private sector to provide education services
  - 1999 National Education Act
  - National Education Plan 2006-2016
  - 2007 Private School Act
  - 2008 Vocational School Act
  - Most important is the tax law allowing tax exemption in 2004
4. How the private sector respond to the problems of quality and skills?

• Common threads of success

  — Innovative “Curriculum” to serve the needs of employers: forecast of labor demand

  — Work-based learning: more hours of training; teachers have practical experience by working in the companies; companies send staff to teach and supervise training; and competency-based tests
• **Common threads of success (cont.)**

  — No problems of accountability to the private sector: schools must train students to have skills required by the companies
    
    - Accountable to parents: 100% employment and high salary after graduation

  — High capability: (1) high incentives for teachers

  — (2) efficient decision making, e.g., 3 months to approve new curriculum; and able to get rid of unpopular curriculum, etc.
Some lessons and implications

• Specific skills are good for employment at the beginning of the career but older technicians have difficulty adjusting to new technology
  
  — How to train students for “life learning ability”

• Argument against the private sector: students as cheap labor

• But if college priority “general skills”, there is no incentive for the employers to bear the cost of education

• Quality education is expensive: high investment cost and high coordination costs borne by both the private and the public sectors
5. Policy implications

- Imposing the accountability measures on public schools will significantly improve test scores (TDRI 2012)
  - Introducing the exit exams in the primary and secondary schools as measures to monitor teachers and schools.
  - Introducing the competency tests in vocational schools and departments offering professional degrees
  - Public disclosure of information on test scores, and employment status of graduates: an effective means to monitor schools and teachers
5. Policy implications (cont.)

• Transfer some public colleges to be managed by the private sector: semi-privatization of colleges
  —Promotion measures like a BOI privileges: help reducing coordination cost and investment cost
  —Innovation of new skills development will emerge

• De-regulation of school management and capacity building measures
Thank you

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