Human Resource Development Issues in Thailand: An International View

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Preliminary Draft

HUMAN RESOURCE DEVELOPMENT ISSUES IN THAILAND: AN INTERNATIONAL VIEW

By

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Human Resource Development Issues in Thailand: An International View

In this paper I deal with four issues in human resource development. These issues are: education quality, the transition from school to work, worker training, and research and development.

These issues seem particularly important in countries with (relatively) open, market economies competing internationally in the export of manufactured goods and of services.

I shall leave the closed and command economies to the comforts of their isolation and ideology, and the primary products exporters to the discomforts of the commodity price cycle..

I will look instead at some higher income countries in Asia, Europe and North America. Some of these counties perform better than others in the international economy. They take different approaches to the four human resource development problems. The underlying hypothesis of the paper is that some of the variation in their economic performance and much of the variation in their sustained success is explained by how well they do in preparing and enhancing the productivity of their people.

None of the specific approaches seen in these countries would -- I think -- be directly transferable to Thailand. Differences in culture, economic structure and the accidents of history shape all things. But at a more general level I suspect there are lessons a plenty for the future of Thailand.

I begin with a discussion of the origin and importance of these issues in human resource development. I then summarize the contrasting approaches taken by these other counties to deal with each. And I conclude with some possible general lessons for Thailand

1. Origin and Importance

Why and when do education quality, the transition from school to work, worker training and research and development become critical for success in the international economy? The roots of the answer are in the demographic transition and in the structural change of economies competing in international markets. The two transitions affect the international competitiveness and behavior of firms, and the perceptions and expectations of households.

When labor is abundant, production mainly agricultural or requiring modest skill, none of these issues matters much -- except, of course, to middle and upper income households who demand education quality to satisfy high educational aspirations for their children. Demand for education by other households is modest; high quality may matter to some but not to most. Adequate is sufficient. Success is seen to depend more on other factors: transfer of farming skills, availability of land, personal effort, tenacity, luck; and outside agriculture the ability to learn in short training programs or on-the-job the modest skills of labor intensive manufacturing and services.

The transition from school to work is seamless in agriculture and simple in industry and services; beyond the returns to literacy and numeracy, schooling and school quality do not matter much to either transition. What matters most to employers about workers is their abundance, low price and willingness to work. Skills and experience may command a premium but rarely more than (if even) the cost of training replacements. Efficiency wage arguments -- except in their nutritional status/physical energy form -- seem hardly to apply in such circumstances.

Higher education and firms do little research and development. Universities train graduates primarily for the civil service. Industries exploit the huge backlog of (labor intensive) products, production methods and innovations developed elsewhere.

All this is changed sooner or later with the demographic transition, structural change in the economy and the consequences of competing in international markets. The demographic transition and the structural change of economies are both familiar patterns, long visible in Japan, Europe and the U.S. and more recently in the Asian NICs.

To varying degrees, all these countries faced tightening labor markets with upward pressures on real wages. Between 1975 and 1988, for example, real wages in the Asian NICs increased by 14 per cent per year. All thus depend for their comparative and competitive advantage in tradable goods on the quality, adaptability and productivity of their workers and managers, and

on new products, new production techniques and other innovations from, or accessed by research and development. All -- it should also be mentioned -- subsidize or protect agriculture in some fashion, though why they should do this is far from clear.

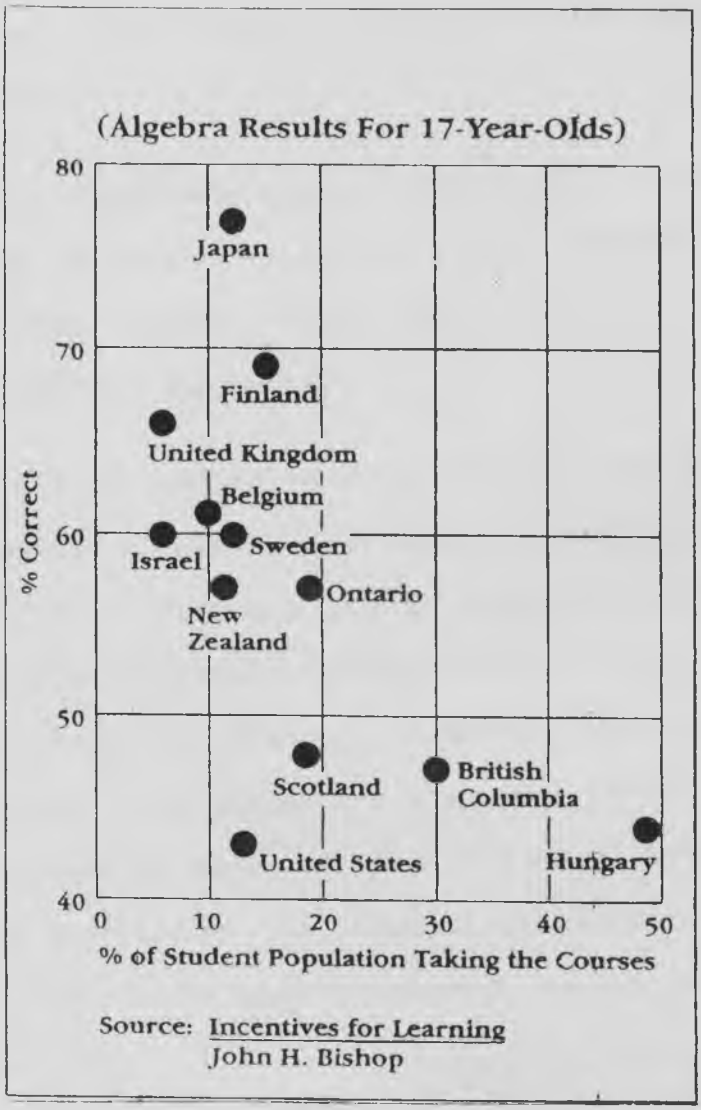
2. Education Quality

Quality of education and high educational attainment, always of interest to some urban households, have become in these countries the essential foundation for maintaining and increasing international competitiveness in tradables in industry and services (and, indeed, in agriculture in North America) and for sustaining and enhancing capacity in research and development which increases competitiveness further. Problems of education quality are thus a fundamental threat to competitiveness and ultimately to national standards of living -- though not necessarily to individual firms who can always chose to build capacity in other countries where workers are better educated or cheaper, or perhaps both.

All of these countries have long since passed the point where the critical issue in education is access and enrollment at the secondary level. The gross secondary enrollment ratios in the Asian NICs are in the 70 to 80 percent range and over 80 to nearly 100 percent in Korea, Japan, many Western European countries and in the U.S. What matters now for nations --and households -- is quality.

There are important and interesting variations in quality -- in how much students actually learn and what they learn in

school. The following graph shows the performance of 17 year olds on international algebra tests in selected countries. These results are a partial measure of the academic quality of secondary schools.



Similar results in international math tests are reported for thirteen year olds in 12 industrialized countries, with South Korean students performing highest and U.S. students lowest. These results are a partial measure of the academic quality of primary and middle schools.

Some U.S. primary and secondary schools which concentrate on preparing students for university are as good as any in the world. But the average performance of U.S. primary and secondary schools on academic subjects is shocking low. And U.S. students not going on to university learn little in school to facilitate their transition from school to work or to make them more productive workers.

In the U.K., there are large variations in school quality as well. Note the differences in the graph between England and Scotland. Average scores drop precipitously as a larger percentage of students is tested.

School quality variation also affects and is affected by household behavior. Middle and upper income households are extremely sensitive to the quality of education, particularly as enrollments at the secondary level reach 80 to 90 percent. In general terms, this concern is traceable to the demographic transition. Parents have fewer children and invest more in each. But demand for quality among middle and upper income households is to obtain admission of their children to prestigious universities. This is a near universal pattern of demand and a fierce demand it is.

Where school quality variations are already large, the consequence of this demand is to make the variations greater. In suburban areas of the U.S., for example, it is common for wealthy communities to support excellent school systems with real estate property taxes. Numerous studies show that the quality of the

schools is capitalized in the value of real estate in the community -- in effect increasing the "tuition" a new family must pay to gain admission to the system, reducing the number of students from low income households in the community's schools and reducing the tax rate necessary to sustain and further improve the school system. (And because of eccentricities of the U.S. federal income tax code, about one third of the cost of these high quality school systems is shifted to the entire tax paying population of the U.S.) Expenditures by wealthy communities may exceed $10,000 per student compared to $2,500 or less per student in poor communities. Where upper and middle income families in the U.S. cannot control the quality of public schools -- in big cities, for example -- they abandon them for private schools paying tuition costs at the primary and secondary levels nearly as high as the tuitions of private universities. This behavior is well described by tipping models in game theory.

Even in countries in which government plays a very strong role in reducing quality variations by expenditures to bring the quality of all schools up to the level of the best -- for example, in Japan and Korea -- household demand for "quality" is still strong but felt much more at the margin. Upper and middle income students are often enrolled in cram schools and get other special tutoring.

There are three characteristics associated with low quality variations and high quality school systems.

* a strong state role in improving low performance schools
* high performance expectations of all students
* clear national standards of performance

The state's role in improving low quality schools helps offset the effects of household demand. More important are the expectations of students. In Japan and Korea all students are expected to succeed, to meet high national standards. Effort not ability is seen as the determinant of achievement. In the U.S. and some European countries such as the U.K., ability more than effort is seen as the determinant of achievement. Little is expected of some students, little is offered and little is achieved. From others much is expected, much offered and much achieved. Students are "tracked" from the early grades across schools and within them.

Finally, countries with high quality schools have clear national performance standards reflected in the curriculum and related to success in the labor market as well as to success in university admission. Students not headed for university are expected to meet demanding academic standards and are rewarded for their achievement by, for example, admission to apprenticeship programs in Germany or to intensive company training programs in Japan. As a result, workers start their lifetime in the labor market with strong cognitive skills; the ability to understand written instructions, technical materials, designs, blue prints and specifications; the ability to benefit from continuous training and upgrading; the ability to interact with university trained engineers; the ability eventually to

contribute to enhancement of productivity and redesign of work. Where there is no connection between effort in school and success in the labor market for those not going to university -- and low expectation of their "ability" to meet high standards in school -- then their effort and motivation in schools are low and thus their performance is low as well.

3. Transition from School to Work

A critical component, then, of the transition from school to work is the creation of incentives for students to meet high standards in school before hand, thus enhancing school environment and school quality.

A second component is early provision of information about jobs, post-school training options, the labor market in general for those not going on to higher education. This is most extensively done with corporate cooperation in schools in European countries particularly Germany. It is done to a lesser extent in Japan and Korea where company networks, informal information networks and family networks are also important; and least of all in the U.S.

A third component is intensive occupational preparation which combines general education and work-site training and lasts several years before individuals are fully prepared for work. In Japan this is done within large companies at their expense for individuals who will become "lifetime" employees of the firms. In Germany and in other European countries where there is less of a

tradition of lifetime employment, formal apprentice programs of two to four years' duration are supported both by government and firms and enroll more than half of all youth age 15 or 16. The system in Germany is most extensive with 380 formal apprenticeship programs.

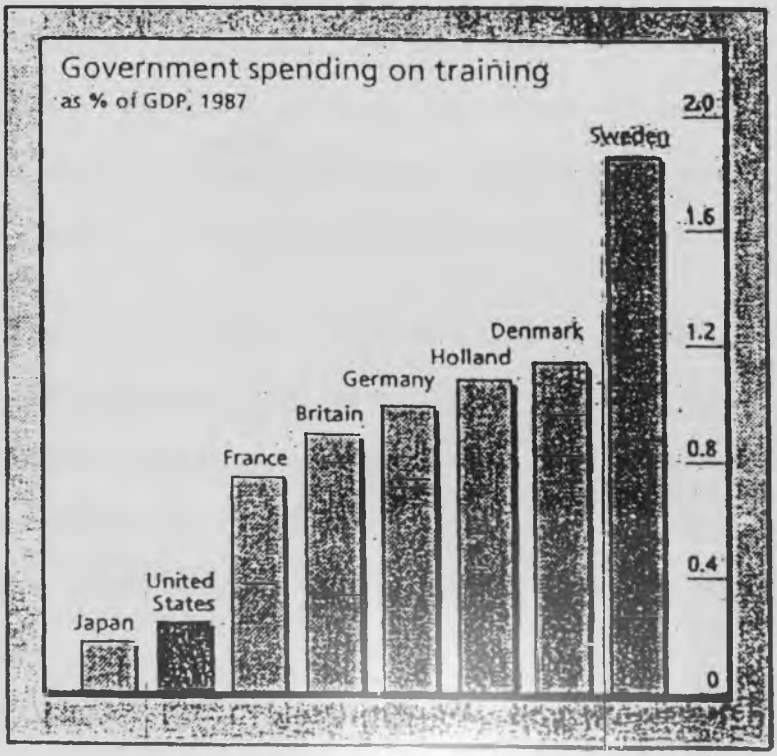
Common characteristics of the European systems include strong connections with schools, programs for a wide range of occupations in manufacturing and services, remedial preparation in academic subjects if needed, assessment of skills against national standards set by industry and other employers based on written examination and work-site demonstration, and award of certificates that enable those who earn them to enter various higher education programs later in their careers. Employers know that those completing the programs have the skills they want -- and the ability to learn new skills -- and are eager to hire them. Those enrolled in the programs see that there is a direct connection between effort and success in the labor market and are motivated to work hard and to learn.

In the U.S., a few firms follow the Japanese pattern, though more often for their "white collar" (university graduate) workers than their "blue collar" workers. There are also some nationally recognized apprenticeship programs for example in sheet metal working, CAD, CAM, and energy management technology. But these enroll no more than three percent of labor force entrants. (The U.S. armed forces also do an excellent job in the transition from school to work -- though the "work" for which recruits are trained has recently lost some of its appeal.) Otherwise there

are few programs to ease the transition from school to work and enhance the productivity and trainability of workers who do not go on to higher education after high school. The problem in the United States, a knowledgeable German executive observed, "is that there are too many people in (university) and not enough qualified workers. The United States has outstanding universities but is missing its middle. Too much training takes place on the job and therefore is too unsystematic."[1]

4. Post-Employment Training

The different patterns of transition from school to work are reflected as well in the different patterns of continuing training after workers have begun their careers. The following graph shows public expenditures on worker training as percent of GDP in 1987.



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Public expenditures are low in Japan because large firms pay for most training themselves. Lifetime employment patterns (though not in smaller firms and subcontractors who buffer the larger firms in recessions) and patterns of pay based on seniority assure firms that workers will not take their enhanced skills to another employer. In Europe, further training -- even degree training in higher education for workers who have completed the apprenticeship programs --are supported by payroll taxes on all firms, by large firms themselves and by groups of smaller firms who agree to cooperate to support such training. The payroll taxes and agreements among smaller firms reduce the problem of "free riding" by firms on training paid for by other firms in mobile labor markets.

Overall, larger firms in Japan and Europe spend up to 6 percent of payroll on near continuous training, retaining and upgrading of their workers. The average in the U.S. is one percent of payroll and most of this is spent by a small number of large firms and much of that on their university educated workers rather than on front line production workers.

In part these differences reflect labor market realties and legislation, differences in employers' views of labor and differences in the organization of work. In Germany and Japan, lay-offs of workers are difficult legally and are also seen as undesirable for the long term competitiveness of the firm. Highly skilled, retrainable workers are seen by the firms as their greatest asset. Efficiency wage arguments seem particularly to apply to this view of workers. The employers' response to a

"sunset" subsidiary is to retrain all workers for a sunrise alternative. Of course, German and Japanese firms may also relocate sunset activities to low wage countries -- to Thailand among others.

In the U.S., on the other hand, lay-offs of workers are legally easy, unions are weak, and some managers still regard production workers as a disposable resource rather than as a major asset. A sunset subsidiary may be relocated to Mexico, the U.S. plant closed and all its workers simply let go. With some exceptions in high tech and other internationally successful U.S. firms, there is less effort devoted to retaining of workers and the reorganization of work toward higher productivity activities. This may be why (along with the arrival in the labor market of the "baby boom" workers, higher female participation rates and continued high immigration to the U.S.) real wages in the U.S. have declined. (There have been recent cyclical declines by some measures in real wages in European countries as well but not to the same degree as in the U.S.)

5. Research and Development

The continuing international competitiveness of some sectors of the U.S. economy is due mainly, perhaps, to research and development. (And to German and Japanese-type patterns of labor training among firms in these sectors.) In basic research, the U.S. -- particularly in its first-rank universities -- is the world leader. The U.K. (on a per capita basis, the largest

participant) is also a strong contributor to basic research -- an activity which has many of the characteristics of an international public good.

Japan, recently convinced that its lag in basic research will hurt its international competitiveness has invested more in that activity. The U.S. and the U.K., long aware that they do less well in the development and commercialization of the findings of basic research have sought to strengthen these activities. Overall, the U.S., Japan, Germany and the U.K. spend between 2 and 3 percent of GNP on R&D. This expenditure reflects and reinforces the first rate universities developed in these countries, and their ability to train scientists and engineers of international quality. More of R&D in Japan is done in companies and less in universities, so the benefits to higher education of the activity are somewhat less in Japan.

The high R&D expenditures of high income countries are much noted by the NICs and other countries. And some, including Korea and India, have built impressive capacity of their own. But the arguments commonly made for R&D in the rich countries and in countries which aspire to become more competitive are a bit off the mark.

The fundamental importance of R&D to international competitiveness of any given country is not that R&D will lead to discontinuous new discoveries for that country. These are rare and not as associated with sustained increases in productivity as incremental changes. Rather it is that R&D gives a nation the

ability to adopt and adapt discoveries, technology and innovations developed everywhere else in the world. The most dramatic evidence for this view of R&D is that even in the 1950s and 1960s, less than 40 percent of economically significant scientific discoveries and technological developments originated in the U.S. But the U.S. was best prepared then in relative terms to make immediate use of discoveries and innovations wherever they originated. Now many rich countries have the capacity to do the same and the U.S. share of new discoveries has diminished as well. Thus the fundamental reason for building R&D capacity in middle income counties is that they will become increasingly able to access new discoveries and technologies, to adapt, to make the "small discoveries" that lead to sustained increases in productivity and international competitiveness.

Yet even this view of R&D has important implication for quality of higher education, particularly for the development of research scientists. "Without people who understand the principles on which a technology is based, the technology goes nowhere."[2]

6. Some Possible Implications for Thailand

Up to now I have argued that high education quality, an extensive and smooth transition from school to work, sustained worker training, retraining and upgrading, and development of R&D capacity are important for the economic success and international competitiveness of some of the higher income countries. If I am

right, then there are may be some important general implications for Thailand.

Due in part to the demographic transition, the labor market will soon become tight in Thailand. There will be upward pressure on real wages with a corresponding requirement that exports be more skill-intensive and technologically-intensive for Thailand to maintain its competitive advantage and its export-led growth.

There is a consensus that secondary education enrollment is too low and may threaten the country's ability both to compete internationally and to reduce inequities in income distribution. But if my analysis is correct, there is a double job to do -- not only to increase transition and enrollment ratios but to increase quality overall and to reduce quality variation among secondary schools as well. Current demand patterns, are making these variations greater. Indeed household demand and school response patterns in Thailand, particularly the "tea money" parallel market mechanisms and "privatization" of public schools are quite like the school district behavior of wealthy suburban communities in the U.S. Improved quality will also increase enrollment and retention of students. Thus the two tasks are mutually supportive. But the effort required is large.

There is a third job to do: to begin to develop with industry and other employers more extensive and systematic models for the transition from school to work. Thailand may also be "missing its middle," with lots of people in university (thought

not enough in some fields) and not enough highly qualified workers. The transition from school to work may be especially important if the secondary education problems take a while to solve, as they will. Can a German-type pattern, financed by payroll taxes in some industries be developed? How can vocational schools and other skill training institutions be brought closer to employers? Will employers, in fact, pay higher wages to retain skilled workers in a tight labor market or will the incentive still be to provide sub-optimal training -- as little as needed for adequate job performance and as little marketable as possible to other firms.

The broader question is whether employers faced with increasing labor costs will retrain workers, restructure work, upgrade products and export new products; or will they close plants, let Thai workers go, and move the sunset industries again to economies with still lower wages.

If the secondary school problems are solved and the transition from school to work enhances the productivity and trainability of workers, then the outlook would be more hopeful. It would be more hopeful still if employers' demand for engineers and other technical manpower could be met by the Thai university system. The fact that demand is high may signal efforts by firms to become more competitive in the products they export.

Finally, for long-term sustainability, it is not only engineers and technicians for industry that the universities and technical institutes must supply, they must also help build in

industry and in their own faculties an expanding capacity for R&D. With this expanding capacity, the country would have an increasing ability to draw upon and assimilate the world's scientific and technological resources, to support new industries and new exports and to upgrade the old. Structural constrains at the university level created by the subsidy of students and the pay structure of faculty probably need to be removed for these objectives to be met.

Notes

1. This quotation if from: "America's Choice: High Skills or Low wages," The report of the Commission on the Skills of the American Workforce, National Center on Education and the Economy, Rochester, New York, June 1990. This excellent analysis of America's current troubles has provided me much help and many insights in the writing of this paper.

2. The Economist, February 16, 1991, p. 15. This number contains an excellent survey of the state of science, the arguments for R&D and the relationships between scientific discoveries and technology.

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