

*Education Policy in the Republic of Korea:  
Building Block or Stumbling Block?*

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1818 H Street, N.W.  
Washington, D.C. 20433, U.S.A.

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2001. 27 pages. Stock No. 37164

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# *Education Policy in the Republic of Korea: Building Block or Stumbling Block?\**

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The Republic of Korea has experienced remarkably rapid and persistent economic growth in the last 40 years. Thanks to this the country was able to transform itself from an extremely poor rural economy into a bustling middle-income industrial (and service) economy. The transformation is especially noteworthy in that it was accompanied by improvement in social equity. How were the two able to take place simultaneously? It would be difficult to answer this question without a discussion of the role of human capital investment in high and equitable economic growth.

Investment in human capital has always been a top priority for Koreans. Thus even in the dire circumstances of the Korean War, the government and families never gave up on educating children. Likewise during the 1950s when the country was still in turmoil after the war's devastation, and during the 1960s when it was struggling to overcome the vicious circle of poverty, Korea kept on investing in human capital. This attitude toward education has never shown any tendency to weaken in recent years. Educational emphases have also gradually shifted from the elementary to secondary school-level, and to tertiary education. The result is an elementary school enrollment ratio of 100 percent, a secondary school enrollment ratio of over 90 percent, and a 61 percent enrollment ratio for tertiary schools in 1996.

Public and private sectors together have played important roles in education. In the earlier period (the 1950s and 1960s) the public sector played a more active role. As the average income level rose, though, the private sector gradually assumed a more prominent role. The public sector has played an especially important role in elementary and secondary education. It has been running most of the elementary schools, and likewise more than two-thirds of the secondary schools are public. In addition to this, the government has set up and operated at least one teachers' college in every province to produce elementary school teachers at a greatly subsidized cost to students. For secondary school teachers, public universities played important roles in earlier periods, though private universities have become equally important in recent years. The government has had a dual role in tertiary education: It has extensively regulated all aspects of higher education in return for substantial financial support for universities and colleges, more than 70 percent of which are private institutions. The government spends about 4 percent of the gross domestic product (GDP) on education.

As mentioned above, the private sector has also played an active role in education. In elementary and secondary education, it has had a dual role. In terms of formal schooling, its role has been in a supporting capacity. In terms of postschool education, however, the private sector has been the major player. Parents provide their kids with tutors and supplementary educational materials, and send them to preparatory

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\* Prepared for *Social Development in East Asia*, a research project of the Brain Trust Program at the World Bank Institute (WDI)/World Bank. I would like to thank the WDI/World Bank Workshop participants for their helpful comments and suggestions on earlier versions of this paper.

schools. Altogether the private sector spends about 7 percent of the GDP for education. This means that parents with school-age children spend close to 25 percent of their income on education.

There are indications that private- and public-sector educational efforts have been complementary and productive. Their joint efforts have undoubtedly contributed to improvements in productivity, and thus toward more rapid economic growth. As the opportunity for education has been given equally to all citizens regardless of sex, age, or regional background, education has contributed to a reduction in social inequality and an increase in upward mobility.

After more than 40 years of heavy investment in human capital, the over-eager attitude of Koreans toward education shows no signs of abatement. On the contrary, the country now seems to be overinvesting in education. In recent years the combined educational expenditure by public and private sectors has never fallen below 10 percent of the GDP. Some of this spending appears to be a wasting of resources. For instance, even with prolonged heavy investment domestically, the “importation” of education has been increasing rapidly in recent years; many parents now routinely send their children abroad for all levels of education. This is a far cry from the practice (that prevailed until the mid-1980s) in which more than 95 percent of those who went abroad for study were college graduates. In modern times Korea has always been a small-deficit country in educational trade, which makes this recent rapid deficit increase more striking.

These observations suggest a series of interesting issues. How and why has Korea invested so much in human capital formation? Have these investments been effective after all? How have they been implemented and delivered? Were they instrumental in achieving rapid and equitable economic growth? Was the investment a form of social insurance? If so, what factors have contributed to its success? Has everything been fine with education in Korea? If there are missteps, how can we possibly correct them? Can we learn useful lessons from the Korean experience?

This paper, composed of six sections including this introduction, attempts to provide answers to these questions. In this vein I will first take a look at the overall picture of education in the next section. Then in the third section I am going to investigate how much educational investment has contributed to economic and social development. In the fourth section, I will examine the current status of the education industry to determine whether “everything is fine” with Korean education. (We will see that there are quite a few problems.) Then in the fifth section, I will discuss several proposals for education reform. I regard those proposals as minimal measures to alleviate the problems identified in the preceding section. In the final section, I will conclude the paper by drawing lessons from the Korean experience.

## **The Characteristics of Korean Education**

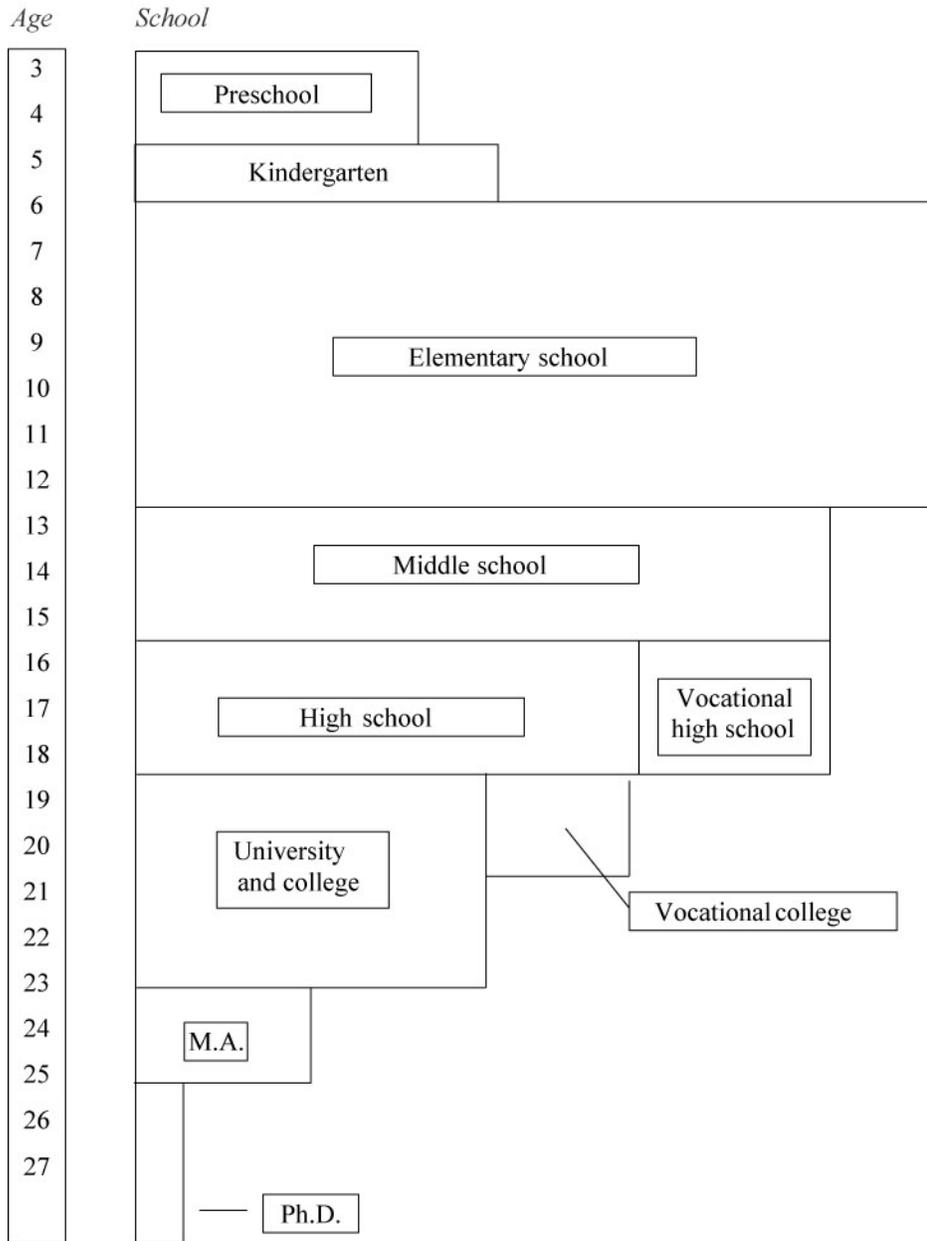
We will start this section with an overall look at the system, move on to an exploration of attitudes toward education, and finally examine the country’s expenditure on education.

### ***A Bird’s Eye View of the Education System***

A bird’s eye view of the school system is given in figure 1. The backbone of the Korean system is one year of kindergarten, six years of elementary school, three years of middle school, three years of high school, four years of college, two years of graduate school for masters (M.A.) students, and three years of graduate school for Doctor of Philosophy (Ph. D.) students. Variations of these are in several forms. First there are nursery schools. Some parents send their children to kindergarten for two years (ages 4 and 5). Elementary and middle schools are almost universal for all students. About 20 percent of middle school graduates move on to vocational high schools. About 50 percent of high school graduates move on to colleges and universities. These include not only four-year colleges, but also a large number of two-year

vocational colleges. For graduate studies, in addition to regular graduate programs, there are various professional schools.

**Figure 1.** The Korean School System



Source: Compiled from the Korean Ministry of Education web page ([www.moe.go.kr](http://www.moe.go.kr)).

Most nursery schools and kindergartens are private. They charge competitive prices and offer quality programs. Since there are choices, parents have few complaints about these preschools and kindergartens.

Most elementary schools are public. Public elementary schools do not charge tuition. Students usually attend a neighborhood school. Apart from the fact that classes tend to be crowded, parents do not have many complaints about elementary schools. One complaint they do have is that sometimes they have to

bribe teachers with gifts and under-the-table money. However, this complaint loses its justification to some extent, since parents have an option, admittedly somewhat limited, to send their kids to private schools. Private elementary schools charge market prices in return for better-quality education. Those who send their kids to public schools tend to supplement their children's education with several extracurricular classes. About 30 percent of those parents also hire private tutors to give their children a head start in college-bound competition.

Most middle schools are public, too. Students are assigned to a neighborhood school. The management of the middle schools is entirely in the hands of school administrators and teachers. Parents' involvement in school affairs is minimal. In many cases they just pay tuition, which is set by the government at a relatively low level. However, the parents' role at home becomes stronger once their kid enters middle school. They feel that middle school education is grossly inadequate. To supplement this perceived deficiency, they hire tutors for one or two subjects, send their children to preparatory schools, or they themselves become tutors for their kids. A few exceptional students do finish a middle school on their own without getting outside academic help. In all cases, parents spend a large portion of their income on supplementary educational materials.

There are a fair number of private high schools. However, these schools are not true private schools, since there is no room for competition among them. All high schools, whether they are public or private, charge the same tuition and offer the same curriculum, set by the government. No high school has control over admissions, either. Students are assigned randomly by a computer. Thus a student becomes a private school attendee, if a computer happens to assign her to a private school. Then why are there private schools? They exist because of their history. These schools used to be genuinely private. They could choose their students, offer diverse curricula once core course requirements were fulfilled, and charge a competitive tuition. This has been no longer true since the mid-1970s when such academic freedom was curtailed.

The two restrictions mentioned here—that schools and students cannot choose one another, and that private high schools cannot behave as truly private entities—have serious implications for high school education in Korea.

High schools are not in good shape. Parents' trust in and expectations of them are rather low. In a sense they send their children to high school for the acquirement of a diploma, which is needed for college admission. Perhaps they also send their kids to high schools because it is difficult for them to handle older teens all day at home. Other than that a high school does not offer much. The teachers have extremely low morale. They do not expect much, either. They know that better students are already learning outside the school what they have to learn at school. The poor ones that are left are in any case problematic and difficult to teach. All of this makes teachers shirk their duties; besides, better teachers save their energy for private tutoring. Most high school students then acquire knowledge from private tutors, in preparatory schools, and through self-education. A rough estimate of how much a student learns in and out of school would be 30 percent and 70 percent, respectively.

This sorry state of secondary education is a fundamental deficiency of Korean education. Unless Korea can correct the problem in the near future, further development is bound to be difficult. There have been attempts to redress the problem. However, these attempts have been rather halfhearted. For example, a few special schools have been created, with the right to select students through a competitive process. Likewise in some mid-size municipalities a few high schools (we may call them "free schools") have gone back to the old system of selecting students through entrance exams. The free schools have naturally become much better than the others. Equally naturally the competition to enter a free school has become extremely fierce. However, the number of free schools is too small to change the state of Korean secondary education.

The poor state of Korean high schools forces parents to spend a lot on private lessons and supplementary educational materials. Table 1, which summarizes information on private educational spending, shows that in 1994 parents' contribution toward education was 22.6 trillion Won (7.5 percent of

the GDP). Again this is in stark contrast to governmental education spending of 3.8 percent of the GDP in 1994. In-school and out-of-school expenses each claim about a half of private educational expenditure. This means that parents in Korea now take the responsibility of financing about a half of total in-school expenses. The out-of-school expenses can be further divided into expenses on private lessons and other expenses. The former is responsible for about 21 percent of total private educational expenses. This amounts to about 1.5 percent of the GDP.

**Table 1.** *Private Education Expenditure (Billion Won, percent)*

	1993		1994		Rate of change
	Amount	Composition	Amount	Composition	
In-school expenses	10,938	56.7	11,906	52.7	8.8
Private lessons	3,410	17.7	4,696	20.8	37.7
Others	4,928	25.6	6,004	26.6	21.8
Total	19,276	100.0	22,606	100.0	17.3

*Source:* Dae Woo Economic Institute (1995).

If the 1950s were a decade of elementary education, the 1960s a decade of middle school education, and the 1970s a decade of high school education, then the 1980s was the first decade during which higher education became important. In the latter half of the 1980s college enrollments increased sharply as existing colleges and universities raised the number of admissions by 30 percent and many institutions of higher learning were established. The enrollment ratio for colleges and universities, which broke the 40 percent barrier in the late 1980s, continued to rise—reaching the 60 percent level in 1995. This is indeed a very high number. If current college enrollment figures (number of admissions) are maintained, the total number of high school graduates will fall short of the former. In theory every high school graduate could enter a college or a university. The rise in college enrollment figures was a response to the sharp increase in the demand for college graduates in the job market. The latter was in turn in a response to the transformation of the economy—which occurred in the 1980s—from a capital-intensive structure toward a technology- and knowledge-intensive structure.

The majority of colleges and universities are private institutions. Private universities charge competitive tuition, while public universities charge subsidized (and therefore lower) tuition. The government finances about 68 percent of the expenses of public higher education institutions, while the private sector finances about 72 percent of the expenses of the private higher education institutions. Thus currently the private sector finances more than 60 percent of total higher education expenditure. If we include educational expenditures spent directly by parents and students, which amount to approximately 70 percent of the spending made through schools, the share of private spending rises to 76 percent.

Science and engineering dominate in higher education. In terms of enrollment the ratio between science and engineering and other subjects is 6 to 4. However, in terms of spending, the ratio is nearly 8 to 2. This is the result of a government policy that has emphasized practical subjects from the beginning.

The lack of meaningful competition among higher education institutions has been a major problem. Thanks to chronic excess demand for higher education, colleges and universities have never had any incentive to compete. The government has tightly regulated almost all aspects of higher education—the number of new admissions and tuition and fees, in particular. The result is that, according to certain authorities, no Korean university ranks in the world's Top 100. Another result is the heavy reliance on other countries for graduate education. For example, most professors and researchers in better universities

or research institutes have advanced degrees from the United States, Japan, or one of several Western European countries.

Another feature that stifles higher education is the pay structure of the professors. The pay scheme is a strict seniority system across all disciplines. The length of employment is the only criteria and the “marketability” of a professor does not count. Of course, this encourages professors to engage in activities circumventing the regulations—and those who can sell their services routinely do so at the expense of teaching and research.

This picture of higher education is rapidly changing as a result of demographic changes and deregulation. Soon the number of applicants to colleges and universities will exceed the number of total enrollments, creating an excess-supply situation. Already many colleges and universities are scrambling for survival. Deregulation measures being introduced would also contribute to enhanced competition. With these the easy life of administrators and professors in higher education will be approaching its end at a galloping speed. The result should be better-quality education at the tertiary level.

### *Attitudes toward Education*

Koreans are obsessed with education. The process begins early. Even before a child is born, pregnant mothers routinely subject themselves to classical music, English, and whatnot for the unborn baby’s education. When a child is three or four years old, he or she begins the long and painful race to a university. Her parents enroll her in preschool programs, which blend into one or two years of kindergarten. After finishing kindergarten, she enters an elementary school, where the race toward a university becomes earnest and serious. As she advances in grades, her life is influenced progressively more by peer competition. Toward the latter years in elementary school, she usually has a tutor or attends preparatory schools (or both) for at least two subjects. When she moves on to middle and high schools, the race becomes tougher and tougher.

Table 2, which depicts the daily routine of a typical high school student is a vivid portrait of what being a student in Korea is like.

Parents of school-age children do participate in the race, too, usually as coactors. Overeager mothers, however, often take the main stage of the unfolding drama. Parents are more than willing to move into districts with better schools, even though that means paying a hefty premium for housing. They compete to choose the best tutors, preparatory schools, and supplementary educational materials for their children. Mothers regularly visit their kids’ teachers with nice gifts. Likewise, family members other than those who are preparing for college entrance exams are often treated like second-class citizens.

Social life is heavily influenced by education, too. It is an implicit rule not to ask parents how their kids are doing in school, especially when it is a question about which college has granted admission to one’s child. If a child enters a respectful school, everyone congratulates his parent. However, if he fails, the parents behave like repenting sinners. Mass media routinely add fuel to this blazing competition process. Throughout the year, all the major newspapers carry special sections devoted to college exams. Television channels are no exception. They regularly program special coverage on college entrance exam issues. During the peak period of college entrance exams, all media become practically hysterical.

Universities are not immune to this rat race. All faculty members of Korean universities spend on average about 10 full-time days for preparing exam problems, proctoring exams, grading tests, and interviewing and selecting the members of the incoming class. Thus precious winter breaks are usually used up in this manner. As yet no university has an American-style professional team specializing in admissions. Most administrators regard faculty time during the winter break as free goods.

This obsession with education does not end even after a child enters a college. A college student might enjoy relative freedom for two years without worrying too much about the outside world. When the

**Table 2.** *The Daily Routine of a Typical High School Student (the Four-Pass, Five-Fail Strategy)*

<i>Interval</i>	<i>Activity</i>
05:30–06:30	Gets up and studies for an hour or so.
06:30–07:30	Has a quick bite and goes to school. Commuting usually takes more than 30 minutes on a crammed public transportation system.
07:30–17:30	Daily school life. Takes about 7 different subjects every day. Takes about 18 different subjects altogether in a year.
17:30–19:00	Comes home and has dinner. Or, stays in school and has dinner there.
19:00–22:00	Studies alone or with visiting private tutors at home. Or, participates in the study programs held at school. Or, attends private preparatory schools to take extra lessons in at least two subjects. Or, goes to tutor's place to get private lessons. The tutor(s) may or may not be the student's school teacher(s). Typically a student combines some of each component.
22:00–01:00	Those who come home directly after school continue with home study. Those who remain at school return home and study more. Those who go to preparatory schools or private tutors come home and continue with home study. All go to bed at about 1 a.m. Some portion of the home study may be done in commercially run reading rooms.

*Source:* Compiled by the author using student surveys.

student becomes a junior, however, reality begins to set in and he or she faces severe competition once more. First, there is a competition to get good grades. Then there are numerous tests to take. To become a ranking bureaucrat or lawyer, for example, a student must pass a series of nationally administered tests. Likewise, to practice as a medical doctor, a nurse, an accountant, and so on, a student has to pass several tests. In order to pass the coveted national exams, students usually prepare for more than two years. Entering graduate schools, domestic or foreign, is not easy, either. Students spend on average a year and a half to gain admission. Entering a firm, while not as difficult as the others, is still very difficult. Of course, life after getting a job is another long process of competition and people continue to invest in themselves.

Table 3 shows the results of a survey asking parents to define the purpose of educating children. Parents say that getting a good job and cultivating good character are the two most important goals for sending their sons to school, while cultivating good character and gaining an advantage in the marriage market are more important for daughters.

Table 4 depicts the aspiration levels of children's schooling of parents classified by the latter's education level. It is remarkable that 86.5 percent of all parents (64.5 plus 21.9 from last data column; see table) expect their sons to have at least a college-level education. Equally remarkable is the figure for daughters—79.4 percent (64.8 plus 14.6 from last data column; see table). Among parents who have gone to college (and beyond) these figures rise to 99.2 percent and 98.0 percent, respectively, for sons and daughters. In short, when parents themselves have had higher education, nearly 100 percent of them expect their children to have the same or higher education.

**Table 3.** *Purposes of Educating Children*  
(percent)

<i>Parents' education</i>	<i>Children's sex</i>	<i>Purpose</i>			
		<i>Cultivating character</i>	<i>Getting good jobs</i>	<i>Advantage in marriage</i>	<i>Others</i>
Primary school	Son	29.1	51.4	7.0	12.6
	Daughter	33.4	22.1	32.5	12.0
Middle school	Son	39.2	41.0	8.6	11.1
	Daughter	45.1	15.4	29.2	9.8
High school	Son	51.5	34.0	9.9	4.6
	Daughter	9.2	11.6	25.2	3.9
College and beyond	Son	63.0	27.8	7.9	1.3
	Daughter	61.1	8.2	19.3	1.4

*Source:* Bureau of Statistics (Korea) (1994).

**Table 4.** *Aspiration Levels of Children's Schooling*  
(percent)

<i>Parents' Education</i>		<i>Expectations regarding children's education</i>				
		<i>Primary and under</i>	<i>Middle school</i>	<i>High school</i>	<i>College and over</i>	<i>All parents</i>
Middle school	Son	5.4	0.4	0.1	0.0	1.4
	Daughter	11.3	1.0	0.1	0.2	3.0
High school	Son	35.1	10.6	3.7	1.0	12.1
	Daughter	45.0	18.7	7.5	1.8	17.6
University	Son	55.0	75.6	71.6	53.5	64.6
	Daughter	42.0	72.8	76.1	64.2	64.8
Graduate school	Son	4.5	13.4	24.7	45.7	21.9
	Daughter	1.8	7.5	16.3	33.8	14.6

*Note:* The header row indicates parents' education levels. Each data column thus shows expectations of parents in one education-level group. The data column on the right shows the percentages of parents' expectations based on the entire sample parent pool.

*Source:* Bureau of Statistics (1994).

### ***Korea's Excessive Education Spending***

Korea spends more than 10 percent of its GDP on education. This is a sum of government spending on education and private educational spending by households. If spending by firms on their employees'

training were included, the figure would go up to 14 percent. This is indeed a large number. Table 5, which shows the share of public educational expenditure in the GDP, indicates that Korea's share of 5.5 percent is similar to the Organisation for Economic Co-operation and Development (OECD) countries' average of 5.8 percent.

**Table 5.** *In-School Expenses as a Share of the GDP (OECD Countries, 1992)*  
(percent)

	<i>Paid by Government</i>	<i>Paid by Households</i>
Austria	5.8	—
Australia	5.5	0.7
Belgium	6.0	—
Denmark	7.6	0.2
Finland	8.3	—
France	5.5	0.4
Germany, Fed. Rep. of	4.1	—
Ireland	5.6	0.4
Italy	5.1	—
Japan	3.6	1.1
Netherlands	5.6	—
New Zealand	6.5	—
Spain	4.6	0.7
Sweden	7.7	0.1
Switzerland	5.7	—
United Kingdom	5.2	—
United States	5.4	1.6
OECD average	5.8	—
Korea (1995)	4.0	1.5

— . Not available.

*Source:* OECD (1995); Korea: Dae Woo Economic Institute(1995).

Public education expenditures are financed jointly by the government and the private sector. In 1996, the government financed 84.1 percent of public school expenditures, while the private sector financed 65.8 percent of private school expenditures. Compared with the relevant figures for 1985, which show government contributions toward public and private school expenditures of 74.4 percent and 23.7 percent, respectively, the 1996 figures show that the role of government as a financier has become more important over this period.

The private sector's share of educational expenditure, which is about 7.0 percent of the GDP, is indeed very large. The large share reflects several factors. First, it reflects how strongly Korean parents feel toward their children's education. Second, it reflects how high the effective rate of return on educational investment is. (The rate of return would be even higher if we were able to quantify and include the social status value.) Third, it could be an indication that Korean parents view investment in children as old-age insurance. Fourth, it reflects a perception by parents that the government's involvement in education is not adequate. Ironically it may also reflect the strong feeling of frustration that most parents have for the government's role in education.

In terms of public educational spending per student, Korea is a country that spends less than what its per capita GDP would imply. The country spends about \$1,000 per student in a year, whereas the comparable figures for most advanced countries are above \$5,000. The contrast is sharper for higher

education. Korea's \$375 per student is dismally low compared with more than \$10,000 in many advanced countries. A regression of per student educational expenditure on per capita income shows the following result (Park and Ahn 1996):

$$\ln E = -2.5477 + 1.1218 \ln Y$$

(-4.823) (18.321).

Here  $E$  is equal to the education expenditure per student by the public sector and  $Y$  is equal to per capita income.

Table 6 compares Korea's actual educational spending with the values predicted using the above regression results. They show that Korea's position is far below the regression line. In order for Korea to be merely *on* the regression line, its public educational spending per student has to go up to \$1,443, a 44 percent increase.

**Table 6.** *Actual and Predicted In-School Expenditure per Student (1991)*  
(percent)

	<i>Whole</i>	<i>Elementary</i>	<i>Secondary</i>	<i>Higher</i>
Predicted	1,443	992	1,241	2,971
Actual	1,021	841	794	375
Gap per student	422	151	447	2,596
Number of students	10,978,771	4,758,505	4,458,490	1,761,775
Amounts needed <sup>a</sup>	3,525	719	1,993	4,574

a. In millions of U.S. dollars.

Source: Park and Ahn (1996).

Now if we include private spending on education, which is about 7 percent of the GDP and which amounts to 184 percent of public educational spending, educational spending per student increases to about \$2,840. This is clearly much bigger than the predicted value of \$1,443. Thus when we include private spending, Korea spends much more than what a country with comparable per capita income would spend on education. The figure \$2,840 indicates that even though Korea's per capita income is only about \$7,000 (in 1991), it spends on education like one with more than \$12,000 (in 1991).

From these observations we can conclude that while Korea's educational spending per student is still rather small compared with those of advanced countries, it spends comparatively a lot judging by its per capita income level. Based on the same observations we can state that in Korea the private sector's share of educational spending is about 60 percent of the whole.

### **Exploring Whether the Heavy Educational Investment Has Made Any Difference**

We will examine this issue in four subsections. The first two will adopt, respectively, quantitative and qualitative points of view; the final two will look at educational spending in terms of its contributions to economic development and social equity.

## Quantity

In terms of quantity, Korean education has succeeded remarkably. It now educates about 90 percent of all children up to 12th grade. The above-mentioned 40 percent enrollment rate for higher education is an achievement that is almost second to none in the world.

From table 7, which contains comparative educational indicators, we can gauge where Korea stands in education. In terms of the enrollment ratio, Korea resembles an advanced country. The ratios of 100 percent for elementary schools, 90 percent for secondary schools, and 41 percent for higher education are better than those of most OECD countries. The 1996 figures for Korea—kindergarten (41.9 percent), primary school (100.0 percent), middle school (102.9 percent), high school (90.0 percent), and college and universities (61.8 percent)—are even more impressive. However, in terms of the student-teacher ratio, Korea's percentages of 31.2 for elementary schools, 23.1 for secondary schools, and 33.9 for tertiary schools are very much like those of an underdeveloped country.

**Table 7.** *Key Education Indicators of Countries (1991)*  
(percent and number)

Country categories	Enrollment ratio		Students per teacher		Number of school-age children per teacher	
	Secondary	Higher	Secondary	Higher	Secondary	Higher
Advanced	92.1	39.9	14.6	16.3	15.9	40.9
Upper-middle-income	66.1	22.2	15.5	14.3	23.4	64.4
Lower-middle-income	55.3	17.1	22.0	16.1	41.3	94.2
Developing country	36.4	4.9	22.0	20.8	60.4	424.5
Korea	90.0	41.0	23.1	33.9	26.3	84.8

*Source:* Korea Education Development Institute (1994).

Another set of indicators may be found in table 8, which presents an international comparison of educational attainment. This indicator is calculated as the ratio of graduates of each school level to the total number of people over 25 years of age. In 1995, 43.3 percent of adult Koreans had an education level of middle school and under, 37.5 percent had finished high school, and 19.1 percent was classified as college and beyond. This is very similar to OECD figures, which are 41.0 percent, 39.0 percent, and 20.0 percent, respectively. However, there is a long way to go before Korea can catch up with such advanced countries as the United States, where 85 percent of grownups have an education level of high school and beyond. It may take up to two decades for Korea to quantitatively catch up with the United States in education.

Table 9 contains data on the rate of return on educational expenditure reported by several researchers. According to Kong and Baek (1994), Korea's rate of return on educational investment is rather low. For a high school graduate the figures are 8.1 percent and 11.6 percent, respectively, for male and female students. These are much lower than 14 percent for advanced countries and 20 percent for middle-income countries. Likewise the figures for college graduates—6.9 percent and 7.0 percent, respectively, for male and female students—are much lower than the 12 percent and 17 percent reported, respectively for males and females, in advanced and middle-income countries.

How can we explain this apparently low rate of return? The most probable explanation is that the figure is greatly underestimated. The underestimation could be a result of several factors. First, educational expenditure in Korea, especially private spending, tends to be overestimated. Second, the benefits do not include social gains, because the latter are difficult to quantify. Third, for such a rapidly growing country

as Korea, using a cross-sectional income differential as a proxy for lifetime income differentials for persons with different levels of education would introduce a serious downward bias when estimating benefits.

**Table 8.** *International Comparison of Educational Attainment*  
(percent)

<i>Classification</i>	<i>Middle school and under</i>	<i>High School</i>	<i>College and beyond</i>
Korea, 1995	43.3	37.5	19.1
France, 1994	33.0	50.0	17.0
United States, 1994	15.0	53.0	32.0
United Kingdom, 1994	26.0	54.0	21.0
Germany, 1994	16.0	62.0	23.0
OECD average, 1994	41.0	39.0	20.0

*Source:* Bureau of Statistics (Korea) (1996); OECD (1996).

**Table 9.** *Rate of Return on Educational Investment*  
(percent)

<i>Source</i>	<i>Park (1982)</i>		<i>Kim and Kong (1983)</i>		<i>Kong, Kang, and Hahn (1985)</i>		<i>Kong and Baek (1994)</i>	
<i>Rate of return</i>	<i>Social</i>	<i>Private</i>	<i>Social</i>	<i>Private</i>	<i>Social</i>	<i>Private</i>	<i>Social</i>	<i>Private</i>
Middle school								
Male	2.9	3.2	9.5	8.5	11.2	12.9	—	—
Female	-12.9	-14.4	11.1	6.9	0.8	2.2	—	—
High school								
Male	8.1	8.1	12.3	12.5	7.6	7.6	7.3	8.1
Female	5.5	5.5	11.5	11.4	9.0	9.5	6.8	11.6
Vocational college								
Male	10.1	10.2	12.9	13.7	13.2	14.1	5.5	5.1
Female	12.0	12.7	13.3	14.2	14.9	16.2	9.4	9.4
University								
Male	11.7	12.1	13.0	13.7	14.5	14.8	7.2	6.9
Female	7.3	8.0	10.0	10.5	11.0	11.6	6.8	7.0

—, Not available.

*Sources:* Park (1982); Kim and Kong (1983), Kong, Kang, and Hahn (1985); Kong and Baek (1994).

There are three more reasons for underestimation. First, Korea is a country where connections (or personal relations) are extremely important. A better-educated person tends to have more of this kind of capital, hence she would have larger life-time earnings compared with those who do not have good connections or personal contacts. This kind of benefit is hard to capture. Second, Korea is also a country where the learned are held in esteem, which leads to their being paid more than they would have based on an objective assessment of their qualifications alone. This type of benefit is hard to quantify, and it tends to be heavily discounted. Third, a college graduate has a much better chance of

marrying someone whose income potential is above average. Therefore, the income gap between a household whose adult members have a college-level education and a household whose adult members have only a high school education is much wider than the income gap between a college graduate and a high school graduate.

### ***Quality***

In terms of quality, Korean education presents an interesting but disturbing (for Koreans) picture. According to available reports, up to about the ninth grade (in other words, at the elementary and junior high school levels) student performance—measured by standard test results—indicates that Korean students are among the best in the world. However, this bright picture deteriorates quickly as we move on to senior high schools and higher education.

### ***A Mixed Bag of Academic Performance***

Several international test results clearly demonstrate Korean students' excellent performance at earlier ages. Keeves (1992) shows that among 10-year-old elementary school students from 19 different countries, Korean students belong at the top in terms of academic performance. The same is true for 14-year-old middle school students.

This outcome is reconfirmed by a recent study released in November 1996. The study—dubbed the TIMSS (Third International Mathematics and Science Study)—is the largest, most comprehensive, and most rigorous international comparison of education ever undertaken. Its rich data on eighth grade students' academic performance allows us to compare achievements of students from different countries. According to this Korean eighth graders ranked first in the world in math and third in science. Korea was one of the few nations whose students scored higher than those from the United States in these two fields (see table 10).

However, Keeves (1992) shows also that among 18 year-old high school students, Korean students are the lowest-ranked group among students from 19 countries. Another indicator for educational achievement, Test of English as a Foreign Language (TOEFL), also depicts a gloomy picture. Among the 30 countries where 5,000 or more students took the test during 1992–94, Korea ranks 25th. This is despite more than seven years of compulsory English classes. Finally, in terms of articles published in international academic journals Korea ranks 27th in the world. Similarly in terms of patents, Korea ranks 28th.

### ***Poor Academic Environment***

According to an extensive survey of students by Kim (1994) only 30.5 percent of all students indicate that they are satisfied with school education. The same survey indicates that only 31 percent of teachers are satisfied with their jobs. About two-thirds of students and teachers alike are not satisfied with education. This dissatisfaction with in-school education pushes students toward out-of-school solutions. As of September 1995, 71.1 percent of elementary school students in Seoul report that they take lessons in preparatory schools.

In a survey conducted by the Korea Education Development Institute (1994) parents listed various complaints they had on the in-school education system. Their complaints, in descending order, cite inadequate school facilities (30.4 percent), poor quality of teachers (23.05), ineffective teaching methods

**Table 10.** *International Comparison of Math and Science Test Results*

<i>Country</i>	<i>Mathematics</i>		<i>Science</i>	
	<i>Mean</i>	<i>Standard error</i>	<i>Mean</i>	<i>Standard error</i>
Korea	607(1)	2.4	565(3)	1.9
Japan	605(2)	1.9	571(2)	1.6
Belgium	565(3)	5.7	550(8)	4.2
Czech Rep.	564(4)	4.9	574(1)	4.3
Switzerland	545(5)	2.8	522(18)	2.5
Netherlands	541(6)	6.7	560(4)	5.0
Austria	539(7)	3.0	558(5)	3.7
France	538(8)	2.9	498(21)	2.5
Hungary	537(9)	3.2	554(6)	2.8
Russia	536(10)	5.3	538(10)	4.0
United States	500(21)	4.6	534(13)	4.7

*Note:* Numbers in parentheses indicate rank.

*Source:* OECD (1996).

(19.1 percent), excessive school size (11.4 percent), dissatisfaction with the curriculum (8.8 percent), and inefficient school administrations (7.2 percent). This shows that more than 60 percent of parents' complaints are on aspects of teaching: the quality of teachers, methods of teaching, or contents of teaching.

Despite ongoing large educational spending, school facilities have become outdated. For example, 11.6 percent of the special classrooms (labs, music rooms, drawing rooms, and so on) in elementary schools are in need of major repair or rebuilding. Recommended facilities (gyms, auditoriums, dining rooms, and so forth) are in even worse condition: 15 percent are in need of major repairs or rebuilding.

The number of students per classroom, though this indicator has been improving over time, is still unacceptably large (table 11 contains the relevant data). Among other things the table shows that a typical secondary school class has almost 50 students. Another peculiar aspect of this issue is that in private schools the class size is larger. Not only do classes have a large number of students, overall school size is also very large. In 1993 about 19 percent of elementary schools had more than 37 classes (slightly more than 6 classes per grade) and 34 percent of middle schools and 54 percent of high schools had more than 24 classes (8 classes per grade). Thus students are packed in overcrowded classrooms in oversized schools.

**Table 11.** *Number of Students per Classroom*

	<i>Elementary schools</i>		<i>Middle schools</i>		<i>High schools</i>	
	<i>Public</i>	<i>Private</i>	<i>Public</i>	<i>Private</i>	<i>Public</i>	<i>Private</i>
1970	62.2	53.8	61.4	62.7	58.2	59.7
1975	56.8	54.8	63.4	66.0	58.6	59.5
1980	51.4	58.0	64.7	66.8	59.8	60.0
1985	44.5	55.1	61.1	63.1	56.9	58.0
1990	41.3	48.1	49.7	51.5	52.8	53.8
1994	37.9	44.4	48.6	49.7	45.8	48.0

*Source:* Korea Education Development Institute (1994).

Perhaps I have been too harsh on the poor qualitative achievement of Korean education. Let me point out one aspect that we may regard as positive. In Korea most people strongly believe that a

student's foremost duty is studying. Parents, teachers, politicians, policymakers, businessmen, workers, and religious leaders all believe in the importance of education. But most importantly students themselves have a similar conviction. This strong sense of social expectation has made Korean youngsters study almost habitually. Perhaps that is why these children have a strong will to excel. Regrettably, though, even this seemingly positive aspect may one day become a liability. Many people already blame the system for the lack of diversity, creativity, and originality among high school graduates. Besides, more and more youngsters may be revolting against such a rat race and turning into "problem" children. It is alarming to witness a dramatic increase in teenage crimes in the last few years.

### ***Contribution to Economic development***

Education has contributed to economic development through various channels. First, education has made it possible for Korea to have a steady stream of labor. When the country first launched an economic development process in the early 1960s, its work force was practically the only resource it had. This was a large group formed by people who were extremely poor and who had had little formal schooling. However, being a nation whose people had experienced harsh colonial rule and the devastation of the Korean War, Koreans at that time had no fear of hardship and had a strong conviction to do anything to improve their lot in life. Thus when economic freedom was given, they quickly snatched the opportunity and began a long process of transformation.

From the beginning people realized that without education they would not have a bright future. They knew that simple manual labor would take them only so far. Thus they stressed education. Policymakers were on the same page. The result was an extensive revamping of the elementary education system. The government made elementary education compulsory, too. As a result more and more school-age children were brought to schools. By the mid 1960s almost all children were able to go to elementary schools.

It was clear, however, that not everyone would be able to afford further education at that stage. Consequently families chose the most able youngsters in the family and provided them with an opportunity to get secondary and tertiary education. In this process most sisters and some brothers from poor families became factory workers to support their more able brothers' education. This practice began to change in the mid 1970s when most families were able to send more boys and girls to secondary schools. Though most people thought that the family, not government, was primarily responsible for financing secondary and higher education, government had already begun to channel more resources into secondary education.

The boys and girls who became workers after finishing elementary school had a very strong desire to get further education, too. To meet this demand, many secondary schools offered evening programs. Firms that hired a large number of teenage workers had also set up middle and high schools to satisfy their aspiring workers' desire to get an education. When these worker-students finished secondary education, they were able to move up the occupational ladder. Of course, at that point businesses needed workers with more education, too.

By the mid-1980s secondary schooling had become almost universal. All school-age teenagers who wished to go to school were able to do so. "How much" education was no longer an issue: "What to teach and what to learn" was more important. Existing vocational high schools were spruced up and many new ones were set up to meet the educational demand of those who did not plan to move on to college. There were three types of vocational high schools: agricultural, commercial, and engineering. Naturally the mix has evolved over time. Earlier there were many agricultural high schools, but only a few engineering high schools; now the makeup is the other way around.

By the mid 1980s close to 50 percent of high school graduates were able to go to college. Two developments enabled this to happen. First, at that point more families were able to afford college tuition (and fees); and second, existing colleges started enrolling more students and new colleges were established. The rate of return on college education has always been very high in Korea. It must still be high judging by the fierce competition to get into colleges. A new development in the 1990s is the expansion in graduate programs. An M.A. degree has now become the equivalent of a Bachelor of Arts (B.A.) degree of the old days.

As I mentioned before, what to teach has been as important as how much to teach. Korea has always emphasized practical curricula such as engineering, medicine, and business management. In terms of enrollment figures, the ratio of engineering and natural sciences versus humanities and social sciences is 7 to 3. In terms of financial resources allocated, however, the ratio is close to 9 to 1. The idea has been that college education should above all serve economic development. Engineering gained most and humanities suffered most from this philosophy. Economics and business management, no doubt perceived as somewhat “useful,” were able to avoid the humanities’ fate.

Empirical studies investigating how much the accumulation of human capital has contributed toward economic growth in Korea are rather rare. One such study is Pyo (1995). Pyo’s basic empirical finding can be summarized by the following estimation result.

$$\ln GDP = -0.153 + 0.381 \ln K + 0.399 \ln H + 0.199 \ln L$$

(0.1642)            (3.4018)            (2.9776)            (1.5191).

Here K is the physical capital stock, H is the human capital stock, and L is the total hours of work. The result shows that human capital accumulation has been as important as physical capital accumulation in explaining economic growth. This finding confirms the hypothesis that rapid accumulation in human capital has been instrumental in the overall economic growth process of Korea.

### ***Contribution to Social Equity***

It is evident that education has helped improve social equity in Korea. It has done so primarily by offering everyone an opportunity to get an education. From the beginning elementary education was made compulsory for all. There was no discrimination based on gender, age, family standing, or regional background. If anything, there was a slight bias that favored rural areas.

Since the government was paying for elementary education to a great extent, family wealth did not count much at this level. In addition, Korea has had for a long time a tradition of respect toward learned individuals and contempt toward rich people who are not properly educated. If a kid from a poor family appeared to be exceptionally bright and promising, the entire community would lend him or her moral and financial support. Teachers were also used to picking out promising kids from poor backgrounds and mobilizing financial support for them.

Table 12 provides some information on how Korea uses financial aid as a tool to fight inequity. The figures refer to the ratio of aid recipients out of total students for each school level. It is interesting to note that vocational high schools granted financial aid to 16.4 percent of their students in 1996. The next highest number is 7.3 percent for colleges and universities. Another interesting fact is that financial aid recipient ratios are bigger for schools in provincial areas than in cities. In some of the provinces more than one-third of vocational high school students received financial aid in 1996. This indicates that a cross-regional subsidy program is in place.

**Table 12.** *Financial Aid Recipient Ratios*  
(percent)

<i>Year</i>	<i>Middle school</i>	<i>General high school</i>	<i>Vocational high school</i>	<i>Junior college</i>	<i>College and university</i>
1970	3.0	4.1	5.3	0.9	4.0
1975	2.8	4.7	5.9	3.5	3.8
1980	2.7	3.8	6.5	4.5	6.4
1985	3.6	3.6	5.6	3.2	4.5
1990	6.0	4.4	12.6	2.3	6.1
1995	4.0	5.8	15.4	1.9	7.7
1996	4.0	4.8	16.4	1.9	7.3

*Ratio by province, 1996*

Seoul	5.8	3.5	7.9	—	—
Pusan	2.4	6.8	6.8	—	—
Taegu	2.0	2.5	12.2	—	—
Inchon	1.8	6.0	12.7	—	—
Kwangju	3.1	2.8	15.9	—	—
Daejon	2.8	2.7	25.2	—	—
Kyungki	1.9	3.6	9.3	—	—
Kangwon	6.0	13.5	27.8	—	—
Chungbuk	4.5	3.9	21.5	—	—
Chungnam	3.8	5.8	19.1	—	—
Jeonbuk	3.4	4.4	35.8	—	—
Jeonnam	3.2	5.6	14.1	—	—
Kyungbuk	7.4	6.5	31.1	—	—
Kyungnam	4.8	6.9	28.7	—	—
Cheju	7.3	6.0	33.5	—	—

—, Not available.

*Source:* Compiled from the Korea Education Development Institute web site ([www.kedi.re.kr](http://www.kedi.re.kr)).

When the country entered its modern economic development period in the early 1960s, Korean society consisted of a handful of extremely rich people and a mass of very poor people. There was no middle class. By participating in the economic development process, most poor people have turned themselves into members of the middle class. (Most of today's middle-class citizens over 40 are from very poor families.) Education has hastened this process by providing the educated with better economic opportunities. It is also the case that most high-ranking bureaucrats, businessmen, generals, professors, and lawyers are from poor families.

Education has made society more mobile as well. Many talented young men from poor families have successfully climbed up the social ladder through education. These people have become well-paid professionals, and have also had a better chance of marrying into a rich family. The best examples for this are high-ranking bureaucrats and lawyers. They are selected solely through an open examination process: family background and connections do not count. As a result smart youngsters from poor families fiercely compete to pass the exam. Once they clear the hurdle, they immediately become members of the "ruling" class and, as mentioned above, highly eligible candidates for a rich spouse-to-be.

Education has contributed thus toward reducing the absolute gap in income between the poor and the rich—and the creation of a middle class.

It is questionable, however, whether education is still contributing to social equity. It is my conjecture that the current education system is no longer bringing us closer to this end. Over the past 15 years, as in-school secondary education has rapidly deteriorated, education has progressively become more expensive. The private educational expenditure in Korea is about 7.0 percent of the GDP—a very large amount. If one in every three families has school-age children, this means that families with school-age children use about 22 percent of their income for private education. Obviously not all families can afford this. Therefore, unless a family is already well-off, it cannot afford educational expenditures needed to send a child all the way up to college. The result seems to be familiar refrain: “The rich get richer and the poor get poorer.”

There is a bit of data supporting this conjecture. Hong (1997) studies how such factors as years of education for a head of household and household income influence the amount of that household’s educational spending. Her empirical results indicate that households whose heads are more educated and who have more income spend more on the education of their children. When the rate of return on education is high, this spending pattern would be expected to intensify the income disparity between rich and poor families.

When the capital market is imperfect, families do face liquidity constraints. The rapid increase in out-of-school private educational expenditure makes the liquidity constraint binding for an increasing number of families. A piece of evidence, admittedly somewhat crude, is the systematic shift in family backgrounds among new entrants to my university. In the past a majority of them were from poor families, usually in rural areas. Not any more. Now the majority is from the middle and upper classes. It is natural for a rapidly growing economy to have more college entrants from families wealthier than it used to. However, what is new is that these students are from wealthier families not only in an absolute sense, but also in a relative sense (in terms of income distribution).

This deterioration in wealth distribution does not seem to be happening because of a deficiency in the education system per se. Rather it seems to be more attributable to a particular problem that the Korean education system has. The failure of the secondary in-school education and the resulting reliance on out-of-school private education appears to be the key factor behind education’s making social equity worse. If only those kids from middle and upper classes—whose parents can afford costly private education—are able to attend decent colleges, it gets more and more difficult for kids from poor families to catch up with the former. When graduates from decent colleges can command hefty premiums in the labor market, the situation becomes worse.

Even the marriage pool seems to contribute to this process. When Korea was relatively poor, families sent their sons to colleges first. With only a few exceptions, therefore, female college graduates in the past were from wealthier families. These girls wanted to choose their spouses from among college graduates, but most male college students were from poor families. The result was an interclass marriage, which contributed to social equity. When Korea became a middle-income country, the female enrollment ratio in colleges went up sharply. As is now the case with boys, a majority of the girls who graduate from college belong to middle and upper classes, and their college-educated potential spouses are no longer from poor families. As a result, marriages are now mostly intraclass.

### **Grading Korean Education: Is Everything “Fine”?**

Despite the remarkable contributions education has made toward economic development and social equity, not everything is fine with education in Korea. This section outlines some of the more serious problems.

#### ***An Industry That Is Unable to End the Dominance of Importation Even after 40 Years of Protection and Support***

Were education an industry that produced automobiles or electronic equipment, it should have become a world-class export industry after 40 years of protection and support. Unfortunately, it still is an import

industry. In fact, education remains not only an import industry, but the dependence on imported education seems to get heavier. More students and parents now turn to foreign schools. The deregulation allowing families to do so has undoubtedly promoted this phenomenon. But more important, this is a manifestation of failure in the country's domestic education system. By sending their kids overseas for education, parents can get better education at a lower cost. Overseas education in Western countries often costs less than domestic education, when we take private educational expenditure into account.

In such a closely knit society as Korea, graduates from the same college tend to help each other out throughout their lives. Most of them, especially those from better colleges, form inner circles to solidify their relationships. In this environment getting an education in a foreign country often carries with it a stigma. Graduates from foreign colleges, for example, have a hard time getting into these inner circles. Despite this handicap many parents are willing to send their kids overseas for education, which is another indication that domestic education is in serious trouble.

### ***The Inefficient Use of Meaningful Competition Owing to Lack of Resources***

Secondary education is in deep trouble in Korea. Most high schools, for example, have almost given up their role of properly educating students. Many do not even pretend to offer quality education. Teachers routinely tell students to study on their own. Many high schools are like halfway houses where potentially explosive youngsters are kept.

The main source for the trouble is the lack of meaningful competition in secondary education. The industry as a whole is heavily regulated. First of all, students or parents do not have the basic right to choose a school. Middle school graduates who meet a minimum qualification are randomly allocated to high schools. This makes all high schools evenly mediocre.

By the same token, schools do not have the right to choose students. They have to accept whatever student the computer assigns. The result is a student body whose ability is too widely distributed for a school to offer a targeted education. The teaching level, thus, is too easy for the brighter students, and too difficult for those at the other end of the spectrum.

There is no selection mechanism for teachers, either. Teachers of public high schools are regularly rotated across different schools every three to five years. The trouble is that this rotation has nothing to do with a teacher's performance. It is entirely based on one's seniority at one school.

The curricula and tuition are set by the government, too. All schools have to teach the same subjects using essentially the same textbooks. Similarly all schools have to charge the same tuition. Price competition is a foreign word to Korean elementary and secondary education.

There is no free market. The only competition among high schools is in the number of students they can send to colleges. Many high schools then resort to Spartan training to prepare a selected group of students for college entrance exams. They often target the upper 10 to 15 percent of students; the education of the remaining 85 to 90 percent becomes in effect a responsibility of those students' parents. Parents who can afford it then offer private education as a substitute for in-school education. Students who do not belong to the upper 10–15 percent and whose parents cannot afford private education are then left out in the cold.

With more than 11 percent of the GDP being spent on education, the results are dismal. It is evident that resources are going to waste, which is a natural result of the lack of meaningful competition. A fierce competition does exist, as we have seen, but it is rather pointless, and grossly inefficient.

### ***Lack of Diversity***

What Korean education churns out differs little from one case to another. Everything is judged by whether a student enters a college successfully, and then which college that happens to be. This latter is determined

almost entirely by test scores. Often this is a test that determines how much a student can memorize. The essence of winning in the competition is to cram as many facts across as many fields. Such monolithic education thus acts like an industry that produces a commodity for mass consumption—and obviously does not promote diversity.

This adherence to mass education has played an important role in economic development. When Korea first launched its economic development process in the early 1960s, what it needed was a steady supply of hard-working but relatively unskilled workers. At that stage of industrial development, the country had a comparative advantage in low-technology, light manufacturing industries. There was already a huge labor force whose members had at least an elementary school education as a result of the compulsory education system introduced in 1948.

As Korea graduated from low- to mid-technology manufacturing, producing goods for mass markets in the late 1960s, it needed a good supply of skilled workers who were willing to work many hours on factory floors. This was a new challenge for the education system, which it met by strengthening secondary education, vocational training, and on-the-job training.

In the 1970s Korea actively sought to create heavy and chemical industries such as automobiles, shipbuilding, steel, and petrochemicals. These industries needed highly skilled and experienced workers. To this challenge Korean education system responded by strengthening secondary education further, establishing new technical schools, and encouraging the growth of tertiary education.

By the middle of the 1980s Korea's industrial structure had evolved further. While solidifying gains in the heavy and chemical industries, firms were rapidly moving into high-technology industries such as computers, integrated chips, and communication equipment. This was another challenge to which Korean education system responded by expanding college enrollment and by strengthening ties between industries and universities. The expansion in college education occurred mainly in the areas of engineering and science. Many new two-year technical colleges opened as well. Most large firms, however, felt that the expansion in tertiary education was too late and inadequate. To make up for the deficiency, they had to start numerous in-house training programs.

The twenty-first century poses an entirely new challenge for Korean education. The challenge is to transform the current education system, which has been designed for mass production, into a system that is more suitable for the postindustrial society. What is important at this point is to promote diversity, creativity, and originality—traits that the system has spectacularly failed to cultivate. Unless meaningful competition is brought back into in-school education, Korea will continue to produce mediocrity.

### ***The Looming Danger of Ever-Greater Societal Inequity***

So long as the education industry remains inefficient, families will have to continue spending a large portion of their income for their children's education. That is, unless the system is reformed, education will remain prohibitively expensive. The high rate of return on educational investment might justify this. However, when liquidity constraints are binding, the poor cannot afford this investment. When society as a whole has a bias in favor of the educated, and when only the relatively well-off can afford higher education, the chance for a kid from a poor family to move up the social ladder through education is bound to be severely limited. In this case, education, rather than being a mechanism of promoting social equity could end up as one that blocks social mobility.

### **Proposals for Educational Reform**

This section explores specific proposals to improve the sad state of affairs in Korean education.

### ***Bringing Back Constructive Competition***

Competition should be brought back into secondary education by allowing students (along with their parents) and schools to choose one another. This could be done by making existing private schools truly private and by allowing new private schools to open. Another important task would be to privatize public schools. There are many entrepreneurs who want to establish private schools, if only they can choose students and charge a competitive tuition in return for quality education. Likewise there are many parents who are only too happy to pay competitive tuition, if that means quality education that eliminates a need for out-of-school education. This way about 40 percent of students who would be in public schools would be able to attend private schools of their choice.

Public schools would thus be responsible for the remaining 60 percent of students. If the government maintains its spending for education at the current level and if it spends all of it for public education, then roughly a 60 percent increase in per student educational expenditure would be possible. With this increased budget, public schools can offer much better education.

Another important innovation would be the introduction of a voucher system. For example, if the government's goal is to spend 5 percent of the GDP on education, it can divide this by the number of school-age students, and distribute the resulting amount as educational vouchers to parents. Parents are then allowed to send their children to whichever school they choose, using the vouchers to meet educational expenses. The voucher system would promote competition among schools by allowing parents to choose better schools. The system would surely encourage schools to increase productivity.

### ***Promoting Diversification***

Education should be deregulated. Currently it is one of the two most tightly regulated industries in Korea. (The other is the financial services industry, though it is already being liberalized rapidly.) Reform in education still seems remote. This is a pity when one considers that aside from the common core, every aspect of education can be profitably deregulated.

One important reason why secondary education has been paralyzed has to do with a serious defect in the current higher education system. Universities and colleges, which have been heavily regulated until recently, are rather monolithic. Again diversity is a relatively new concept when we are talking about university education. All universities are judged based on a single criterion, which promotes unnecessarily severe competition among high school graduates to get into the best colleges. To alleviate the problem, universities and colleges should be liberated from the tight grip of government. Most of all, they should be allowed to choose students using multidimensional criteria.

There is already a new development in this respect. More and more firms now select their employees based on numerous criteria. This is an improvement on the previous criteria of selection based on which college a person is from. Colleges have become much more competitive as a result of recent deregulation. Private universities have begun selecting entering students based on various criteria. For example, students who do exceptionally well in one or two subjects can be approved by the selection process even though their overall score might be low. Total test scores, which used to be the sole criterion, are now only a part of the criteria in many cases.

### ***Improving Teachers' Quality***

The official salary paid to school teachers is too low—judging by the fact that their quality has steadily declined in the last 40 years. More able teachers have moved to noneducation sectors, and new entrants are

not as qualified as they used to be. Many remaining teachers resort to side payments or moonlighting to supplement their official salary.

Another deficiency is the lack of an incentive mechanism in the current compensation scheme for teachers. Currently compensation is almost entirely determined by seniority; it is not linked in any meaningful way to a teacher's performance. This promotes shirking. Thus it is essential to introduce a performance-based compensation scheme.

By allowing freer operation of private schools, teachers' compensation can easily be increased. First, if private schools were allowed to offer quality education in return for competitive tuition, parents who are currently resorting to various forms of out-of-school education would surely send their children to private schools. This would strengthen private schools financially and enable them to offer higher salaries for qualified teachers. It would in effect turn a large number of public school teachers into employees of private firms. Second, if many students select private schools, the government can offer quality education to the remaining public school students. The government can then, among other things, increase teachers' salaries substantially and improve facilities.

Teacher quality is a different matter. Here we have to adopt a long-term view. The privatization of secondary education could in the short run only alter the distribution of qualified teachers (in favor of private schools, naturally). Of course, with an increase in teacher salaries and freedom of movement, those currently outside the school system may decide to come back. For example, many private preparatory school teachers would become teachers in public schools, raising average quality where they go. However, this alone would not be enough. What we should aim for is a long-term improvement in teacher quality. Educational reforms bringing a substantial jump in the compensation of existing teachers would be signals for better-quality students to go to those teachers' colleges and universities. In time this would raise the average quality of teachers.

### ***Decentralizing and Simplifying the Administration of the Education System***

Korea's education system has a long history of centralized administration. At the top is the Ministry of Education, which exerts control on all aspects of education. This centralization is a manifestation of the long history of centralization in all branches of government in Korea. When the country was small and less populous, the present system of administration could have served the country well. Not any more.

Though geographically small, the Republic of Korea has a population of 45 million. This is a fairly large population and it needs a decentralized system of administration—the need is particularly strong for education. The country needs an increasingly more diversified work force that can think and act originally and creatively. In order to foster an education system that would promote individual freedom, originality, creativity, and diversity in general, more freedom should be injected into the education system. Students, parents, teachers, school administrators, employers, and other interested parties should be able to freely choose whatever they want regarding education. This kind of freer choice can only be possible when the administration of the school system is deeply decentralized.

The current system is akin to a huge monopoly, which could have been justified based on economies of scale alone when the market was small. At this point there is a great need to break this monopoly into smaller units. Korea has recently introduced an ambitious plan to decentralize the entire government apparatus. Some measures of the plan have already been implemented. With the decentralization of the overall administrative apparatus, the educational administration system is also being decentralized. As yet, however, the process has not really begun. To be effective, the way education is financed should be altered so that the decentralized units could have more say in the way things are run.

## Lessons and Conclusions

There are several tentative conclusions one can draw out of this discussion. Some of these could be valuable lessons for other countries.

First, Korea's experience clearly indicates that education, or more generally human capital accumulation, is indeed extremely important for rapid economic development. Rapid accumulation of human capital is a necessary condition for fast and sustained economic development.

Second, as the kind of human capital needed for economic development changes over time, it is essential for the educational system to be able to meet this shifting demand. To summarize the turning points in the Korean case, initially the need was for a moderately educated work force that could read and write, and was disciplined enough to work hard reliably. The education system was able to supply such a work force through universal elementary education (and out-of-school education for adults). When the need for a better-educated and moderately skilled work force arose as the industrial structure developed, the education system was ready to meet the demand as it had already moved into extensive secondary education and vocational training programs. Finally, in anticipation of the need for a highly educated, skilled work force suitable for high-technology industries, the education system had prepared for this by aggressively expanding higher education.

Third, it is important to point out that the private sector has been financing more than half of the cost of education. That is, education beyond the elementary level has never been "free." Parents have always had to bear the costs. Even elementary education has never been entirely free. This cost-sharing arrangement seems to have prevented the education system from falling too far behind.

Fourth, education seems to have been the most effective mechanism to improve equity among citizens. Education has been mostly nondiscriminatory as the opportunity to be educated was given equally to all. In the earlier period, the government had assumed a larger share of the cost, thereby ensuring a fair chance for students from poor families to get an education. The government and Korean society as a whole rightly believed that for the alleviation of poverty it was much more important to provide education to children from poor families than simply give them aid.

There are problems and mistakes in this picture, too. The most serious one is the lack of constructive competition among schools, especially at the secondary level. It is interesting to note that Korea resorted to a system of random assignment of students to schools on the ground that it would eliminate the fierce competition that was then customary among students to get into junior and senior high schools. To be sure, the random assignment has substantially weakened the competitive pressure among middle school students and, by extension, among elementary school students.

Of course, high school graduates must compete to get into a university. Since the rate of return on college education is high and the total enrollment for universities and colleges is controlled, there is tremendous excess demand for college education. As a result the competition to get into a college is extremely fierce.

This competition is bound to create problems, and it does. It seems to ruin secondary education by making it a de facto preparatory school for college entrance exams. As high schools were not able to meet this demand efficiently, out-of-school education has mushroomed to fill the void. This out-of-school education tends to be very expensive and more and more of the poor cannot afford it, which stacks the deck against this group. If left as it is, the current system of secondary education may turn into a mechanism to widen income disparities.

The problem is just one example of the many ill effects created by the overly strong government regulation and control of the education system. There is a great need, therefore, to turn the system into a more liberated, decentralized one by allowing more active private sector involvement. Fully opening up the education markets to foreign players is another important step that Korea must take at this point.

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