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A Roadmap towards More Competitive Education System in Korea:
Educational Decentralization and Local Governance
in Primary and Secondary School System*

by

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I. Introduction

There are two major forces working in the future world economy. The first is the continuing force of the globalization. The trade among nations has been increasing dramatically since the end of the World War II. World financial markets are more and more integrated. The sweeping globalization force does not stop in the economic arena. Cultural and political integration has been taking place as well. World citizens are more and more exposed to the foreign films, songs, and foods. The political integration is occurring beyond the free trade agreements. More countries are joining regional super-state such as European Union (EU), and regional common currencies are now often discussed other parts of the world.

The second force that is shaping the future world economy is the dominance of the knowledge-based output. In most developed economies, service sector output generated through professional labor force is the biggest element of gross national output (GNP). The share of manufacturing has been dropping for more than twenty years in the U.S. and more advanced European economies. Even in manufacturing sector, larger and larger share of the industrialized nations is from the sector which requires a high level of sophistication in technology and accumulated scientific and engineering knowledge.

As the economy of the developed countries become more and more knowledge based, the importance of education cannot be stressed too much. In the twenty-first century, the larger portion of national product would be derived from knowledge intensive economic activities, and the quality of education is crucial in developing qualified human resources. Moreover, more globalized economic environment creates a larger marketplace in which high-quality products can claim a larger market share with higher premium. In such environment, national and sub-national economies are forced to think about to improve the competitiveness of educational sector.

Korea has experienced a spectacular expansion of education during the last five decades. In 1945, when Korea was liberated from Japanese colonial rule educational resources in Korea was grossly inadequate. Only 65% of primary school aged children were enrolled in schools. The situation in secondary schools was much worse. As colonial Japanese government had not encouraged secondary educations to Koreans, the enrollment rate for the secondary school was less than 20%. However, as of now, Korea has practically achieved universal primary education, and the secondary education is virtually universal. Moreover, massification of higher education that has been occurring for the last two decades in Korea makes the country that has one of the

highest enrollment rates in higher education in the world.

Consequently, measured in the percentage of GDP, the education expenditure in Korea is one of the highest in the world. In addition to the substantial amount of expenditure spent by the government, Korean households spend very large amount of money in private tutoring. Although Korea ranks high in international comparisons of test scores measuring educational performances, there has been strong criticism about the efficiency and effectiveness of Korean educational system. First, the disproportionate amount of money spent in private tutoring overestimates the efficiency of the system. Second, the Korean education system emphasizes rote memorization and test-taking ability while it does not encourage critical thinking and problem solving skills that are necessary in the knowledge-based economy. The lack of competitiveness in Korean education system is now evidenced by the growing number of primary and secondary students who seek better economic opportunities abroad.

In this report, I attempt to provide a roadmap to make the current Korean education system more globally competitive. Specifically, I focus on the structure of educational governance. The fundamental question is how to develop a educational system that are more decentralized which is couched in a democratic principle of civil governance structure. Recently, there has been an international recognition that decentralized educational governance structure will provide not only more efficient educational system, but a more accessible one. It evaluates various theoretical and institutional consideration so in the context of current Korean system.

The report is structured as follows. In the next section, changing paradigms of decentralized education policies is described, after which experiences of several countries are introduced. In the third section, benefits of education are explained as well as the most important traits of human capital in coming globalized, knowledge-based economy are described. Then, in the next section, key objectives and evaluation criteria of public school system are described. The final two sections are for Korean system. In the first one, the Korean experiences are explained from a historical perspective. In the final section, roadmaps for more competitive education system for Korea are discussed.

II. Changing paradigm in education

A. Background

The primary and secondary education system differs a great deal across countries. For example, the U.S. has the system that is highly decentralized, whereas France has a very centralized system. In some countries such as Germany and Canada, most of schooling is provided by the government, whereas in some other countries such as in Thailand and Korea, there is a substantial portion of private providers. In most developed countries, twelve years of schooling is mandatory and freely provided, whereas in many developing countries, years of universal education is substantially shorter. In some countries, a significant portion of public expenditure (say more than 30% of the government's total expenditure or 4% GDP) is spent in primary and secondary education, whereas in other countries the spending is substantially smaller.

Despite of very diverse educational system, there has been a clear shift in paradigm in education policies in many countries. For the past two decades, many countries are adopting education reforms that are more decentralized, deregulated, allowing more choices, and introducing more privatization. Instead of strong bureaucratic control over educational inputs, many countries are adopting more "market based system" utilizing more output related performance measures in the resource allocation.

Several educational theorists (e.g., Daun and Siminou, 2005) refer to this change as the paradigm shift of the world education model. Figure 1 illustrates the shifts of the three main types of education model over time. In the middle of the Figure is the "Old World Model", which gives away to the "New World Model" recently. The "Old World Model" is a successor of more dis-organized education system.

Figure 1 Changing paradigms in education system

The "Old World Model" refers to the accepted model of setting up the national educational system for primary and secondary schools. The Model has been used extensively in many countries (despite significant variances) in many continents with different levels of income and development stages. By and large, the Model adopts a bureaucratic model of state provision of education. It is typically highly centralized, i.e., most of the key decision regarding the delivery of education is centralized, typically in the hand of ministry of education. The qualification of teachers, their salaries, promotion and other related personnel decisions are in the central education ministry. Curriculum is centralized so that teachers are required to teach a given set of subjects and material in those subjects. The central government controls the resources delivered to each school according to the internal standards set by the ministry.

Typically, the school system is highly regulated: the establishment and/or operation of schools need to be approved by the government, if they are allowed at all. In most cases, the state is the key provider of education, if it is not the only one. The fundamental value that drives the system is the equality of the provision of state-funded-and-state-supplied education.

Although the Old World Model is relatively new (say, less than 100 years even in the most developed nations), such Model was accepted in most developing countries as well. Before the most advanced nations accepted the “Old World Model,” education had been limited to the small number of the privileged social class. They are the ones that are rich enough to hire tutors for their children. By and large, education service was provided by private providers, and the state did not have much to do with the provision of education.

Modernization and the development of nation states were instrumental in the making of the Old model. As the society become more urbanized and industrialized, basic education of all citizens was necessary in order to run more sophisticated urban societies. For example, the volume of common knowledge, ranging from the need to know that red light means stop on crossroad to casting a vote to elect the president in a responsible manner, had increased substantially. As the demand for education increased for the majority of population, the state find it economical to provide basic education (reading, writing, arithmetic, and social studies) to all children. Clearly, there was increasing returns to scale in the provision of basic education, and state is well situated to provide it. Since the additional cost to teach one more child is far less than the average cost of teaching, teaching many students in the organized schools are much more economical than individual students are taught by tutors. Although such economies of scale had been exploited with the system of private schools in the earlier period, the state can effectively provide education services to a massive number of students.

Progressivism that prevailed in the earlier part of the twentieth century also encouraged the state’s involvement in education. For example, in the U.S., public education has been promoted by progressive scholars and policy makers as a fundamental social policy to deal with increasingly multi-ethnic and multi-lingual immigrants, because it provides them and their children with the same socio-cultural basis that are common to all citizens.

As the social movement to provide education to a larger and larger segment of citizens, education bureaucracy has increased accordingly. Universal education (mandatory and free education) has expanded from primary grades to high school

students. The critical reason for the expansion of public school system is the successful economic growth in most developed countries throughout the twentieth century. The industrialization and advancement of science and technology increase labor demand for more educated workers. The effect of demand pull is supplemented by the increasing size of state's financial resources. Throughout the late nineteenth and twentieth century, modern nation states have increased their taxing authorities. More taxes are developed and higher tax rates have been introduced over the time period. The increased public resources make the states to provide more extensive public school system.

Another noteworthy trend during this period was the professionalization of teachers. In the earlier period, there was no formal requirement to become a teacher. However, as the Old Model becomes established, teachers are trained with specific curriculum, and the state approved their qualifications through a rigid certification process. Since teachers gone through similar training, the common perspectives and interests emerge within the profession, and with the advancement of trade unions, teachers in most countries are organized into trade unions. Now, teachers comprised a substantial portion of public employees in most countries. Moreover, they are the single largest group of workers who share similar training and value among the them, creating common purposes and solidarity. The professionalization and organization of teachers also contributed to make the education enterprise from decentralized, limited voluntary market activities of the small privileged class to a large state-run bureaucracy by advocating the expansion of publicly funded educational system. At the same time, the development of welfare states in the West during the twentieth century made education as the "social right."

Among the social services provided by the welfare state, such as health care, housing, unemployment insurance, and old-age pension, education is more universally recognized right. Education is future-oriented; it is geared to the potentiality of children. Also, it may generate higher yield as educated workers would be more productive and generate higher income streams in the future. Therefore, the best practice in education adopted by the most advanced nation, the Old Model, was appealing to even less developed countries that may not able to adopt other kinds of social services because of the governments' lack of fiscal ability. Consequently, since the end of World War II, the Model has been planted to virtually all developing nations.

Education, particularly, primary education has been put into high in the development agenda for most developing countries. Many developing countries launched ambitious universal, state-funded public school system and key international

donors, such as the World Bank, have supported their initiatives by citing that the returns to education is very high in those countries.

Given the goal of providing universal, state-funded education, the primary focus of the education system was production efficiency of education. In order to achieve it, the centralized educational governance system made sense. The central bureaucracy, who developed uniform curriculum and instruction method, was most appropriate to deliver education services. It eliminates any duplicative effort and economizes costs in the delivery of education.

At the same time, many newly created states lack social cohesion because of the language and cultural differences among the citizens. Universal education is an effective mechanism in promoting nationalism. The central government could utilize the public education system as a mechanism to convey new spirit of nationalism by putting emphasis on standard ideology, language, and history. In other words, the promotion of nationalism favors centralization that delivers standardized education throughout the nation rather than decentralized system.

However, during the last two decades, there has been a major shift in the paradigm in education throughout the world. Since education system differs substantially across nations, the exact nature of the education reform is different from country to country. But, a common theme arises. That is deregulation, decentralization, devolution, promotion of choices, privatization, and more emphasis in efficiency of delivery of education services. The New World Model, sometimes referred to as neo-liberalism, emerged.

There are several factors that drive this new trend. As depicted in Figure 1, we can think classify the major causes into internal factors and external factors depending on where such change is happening. First in internal factors, in some countries, there as a serious backlash toward national ideology that has been promoted. For instance, former communist countries such as Poland and Czech Republic, communism that has been taught through the state-run school system became mistrusted by the public, and they demand alternative provider of the delivery of education. In this environment, there developed a demand for decentralized, privatized provider that households can choose. In several non-communist countries, the demand for nationalism diminished. For example, in Spain there is a rising educational demand for regional language culture, as the dictatorial regime lost its grip, and multi-cultural tolerance within the nation prevails.

In many more developed welfare states, the most important pressure to adopt the New Model is the rising government fiscal strain. The slowdown of economic

growth, ageing of population, and moral hazard problem in those countries created rising gap between the fiscal demands to fulfill the entitlement programs and the tax revenue to finance them. The recognition that such fiscal constraint cannot be sustained put a greater pressure to improve the efficiency of social service delivery. In fact the root of neo-liberalism is to improve efficiency in the delivery of social services, not only education, but including health care, and other social services.

The rising tax rates have been the major culprit of welfare states. High tax rates and generous welfare payments to unemployed and university students reduce work incentives of workers. At the same time, high tax rates discourage firms to invest and increase employment. Transnational firms try to locate or relocate in other countries in which corporate tax rate is lower. In response to this rising fiscal pressure, many welfare states are forced to decrease public spending and privatize some of its functions.

Rising globalization enable transnational firms to move across national boundaries more easily. Reduction of trade barrier makes firms to produce goods in countries with lower production cost and ship them to the market, rather than producing in the country that the good is sold. Globalization also increases the mobility of workers, so they may be able to migrate to lower tax state from the high tax state.

The new round of trade talks under the auspicious of World Trade Organization (WTO) includes trade in service as the major negotiation item. The recent development in information and telecommunication technologies makes the delivery of remote education more accessible. Internet broadcasting and teleconferencing allow users to bi-directional real-time contact so that remote teaching can be much more effective compared to broadcasting education via radio and TV. Bi-lateral and regional trade agreement and the new rounds of trade negotiations would help to establish the new rules of the delivery of education across borders soon. At the same time, the world has been witnessing explosive growth of education, and the emerging for-profit education providers are effectively poised to enter this market threatening the state-funded schools which cannot meet the rising demand for education with dwindling fiscal resources.

The three internal and external forces discussed above (changing national ideology, rising government fiscal constraint, and the influence of globalization) exert many countries seriously reconsider the Old Model. Some countries may find it oppressive; some others find it too expensive or inefficient; some others think the existing national education system should be able to meet the challenge of the proliferation of for-profit education providers; and some countries find the current

uniform and low-quality education system does not produce labor force that would be competitive in the coming knowledge-based economy.

Notwithstanding those variances among nations, many are seeking a new alternative to meet the challenge of the future. The common objectives of the new system are:

- a. to deliver education more efficiently (i.e., higher education outcome with lower cost);
- b. to reduce the state's burden on taxation;
- c. to meet the demand for future economy by encouraging individual creativity;
- d. to meet the diverse demand of education across socio-economic status, ability level, and preference; and
- e. to educate the child as a productive member of global citizens as well as the member of the state with participatory democracy.

Several approaches have been adopted. First, decentralization was thought of one of the important policy directions. As the concept of decentralization can be regarded as a comprehensive but sometime ambiguous goal, it may be necessary to clarify the concept. In general, decentralization is a process in which power and responsibilities are shifting from the central authority to regional and/local authorities. In education, the power and responsibilities spans a wide spectrum of issues. The fiscal power and responsibility may include the authority to tax (i.e., determine the tax rates and amount) and authority to spend. For example, one of the most decentralized education system in the world, the U.S., local school district has the taxing and spending authority. In a highly centralized system, the central government collects the tax revenue needed for education and allocates the resources without any interference by local players.

Decentralization of fiscal resources has an advantage of reflecting local preference on education. For example, if local school districts are allowed to tax and spend freely based on local preference, the local residents may optimally decide how much to spend on their children's education. The smaller the local districts, the smaller the variance among the residents regarding the preference on education. Residents who have high demand for education would be willing to collect more taxes and spend more, and residents who have low demand for education do not have to pay a lot. In this regard, decentralization of fiscal power and ability would be in general increase efficiency.

However, as long as the local school districts are segmented across economic positions, local fiscal authority is likely to create inequality among school districts. The district with high income residents may be able to tax more and spend more, and the district with low income residents would not be able to spend a lot. Therefore, in order to achieve certain degree of equity, it may be necessary to create a mechanism of cross-subsidy, i.e., the way to transfer fiscal resources from rich districts to poor districts.

The fiscal decentralization may influence housing prices, if the eligibility of attending public schools is determined by the residency. If a district has highly regarded public schools, many households want to live in the district, thereby bidding up the housing prices. This capitalization effects creates extra barrier for low income group. Even if the low income household has high demand for education and would like to live in the school district, the high house prices may prevent them to live there. Therefore, local fiscal authority and residence requirement may generate educational stratification across income groups.

There are a couple of counter measures against the stratification. First, an active public policy to provide low income housing in high income districts may reduce stratification. Another policy is to remove the residency requirement. However, the removal would be difficult, because the residency requirement is the opposite side of the same coin of the local fiscal responsibility.

Besides the fiscal issues, the next important dimension in education system is the personnel decision. Who has the authority to hire, fire, promote, and decide salaries of teachers? Should those authorities be assigned to central education ministry, regional authority, local district, or school level? The Old Model usually accepts the norm that teacher personnel decisions are centralized. It has the advantage that teacher qualifications are uniformly achieved. However, there will be little incentive effects in the workplace of teachers. If the decision on salary, promotion, and other key personnel decisions are not decided by the local manger such as school principals, the teachers have very little incentive to be responsive to the managerial directions of the school principal. At the same time, if the appointment of school principals is determined by the central government, they would be insensitive to the demand for teachers, student, and parents of the school.

The third most important decision is how the students are assigned to each school or classes. Should the system allow students to choose the schools that they want to attend? If there is excess demand for seats at specific schools, what should be the allocation mechanism to resolve the excess demand: random allocation or selection

by the school? One of the key criticisms of the Old Model is the lack of choices given to students. If students are assigned to schools without choice, the state has a virtual monopoly of education. Even many accept the notion that school finance should be supported by the public, there is no compelling reason why education should be provided by the government. One of the key premises of the New Model is that even if the education is financed by the government, the supply of education can be done by private actors. The recent experiments with school voucher and charter schools are the key examples.

Another important power and responsibilities is the choice of curriculum. In the Old Model, there has been an emphasis on providing a uniform curriculum. The main rationale for the uniform curriculum is the promotion of national cohesion and nationalism as well as the efficiency gain of developing and delivering single curriculum.

Decentralization can be achieved either by de-concentration, delegation, or devolution. De-concentration simply means the central authority is divided into several regional authorities. The advantage of de-concentration is to preserve the administrative structure, but the regional authorities are located more closely to the local beneficiaries so that any information necessary to deliver effective education services can be collected more efficiently. However, as long as the resource allocation decisions do not reflect any informational advantage of de-concentration, the new scheme may simply maintain the status quo.

Delegation reflects that certain authorities of the central authority are handed down to regional or local authorities. In order to maintain accountability and control, the central authority may develop certain incentive system that gives the local/regional authority differential treatments based on some measurable criteria. Certainly, the degree of incentives and the criteria developed would be the key elements of such delegation mechanism. The main advantage of such mechanism is to promote local/regional initiatives and creativity in order to achieve broad policy objectives by relinquishing hands-on control on the local providers. The No Child Left Behind (NCLB) Act recently passed in the U.S. is a good example of delegation. The underlying rationale for delegation in education is that the policy objectives and the level of desired outcome should be under the central authority, but the design and implementation of the actual provision of educational services can be more effectively delivered by local/regional authorities. Therefore, delegation may accompany a more centralized control as well as decentralized decision-making.

Devolution is a more substantial transfer of authorities from the central to local/regional. In this case, the central authority gives up a significant portion of its

power and responsibilities, and transfers them to regional/local authorities. The basic rationale for this approach is the realization that the central authority is not the right body to implant the education, but the regional/local authority should be the one. Sometimes, devolution happens because of the inability to meet the stated objectives by the central authority. In many welfare states, the inability often is the lack of fiscal resources of the central authority. In this case, the central authority is relieved from the political responsibility of the failure to deliver the promised services. Now, local/regional authorities are given autonomy in return with such political responsibility. A recent decentralization scheme in Sweden would fit into this type.

Among traditionally delivered social services, education is relatively more difficult to privatize. For example, Germany successfully privatized Deutsche Telekom and Japan finally decided to privatize Japan Postal Services. Such public enterprises have revenue streams that are marketable in free market. Also, there are many examples of private companies in the world that provide equivalent or similar services, such as AT&T or FedEx. Also, workers in many of those successfully privatized companies may be able to find alternative jobs so that the political pressure to privatize those enterprises is relatively weaker. However, school teachers are relatively very homogeneous group of workers who share same interest and value. Also, they may not be able to find alternative jobs outside of school system. Thus, any change in school system can be a serious and direct threat to schoolteachers. In many countries, they are unionized and highly organized so that any attempt to restructure the school system would be faced with a very serious political challenge.

Clearly, the priority and ranking among the above-mentioned objectives varies among states. In the following, we describe recent decentralization experience in several countries.

B. Country experiences

1. U.S.A.

The U.S. K-12 education system is probably one of the most decentralized among advanced countries. Traditionally, local school districts, which are almost autonomous in terms of fiscal powers and personnel decision on teachers. Although, the districts are supervised by the state education departments in terms of basic governance structure, teacher qualification, and the standards for school facilities, they are given a great deal of freedom in determining size of the budget and their allocations, hiring and firing teachers, building new school buildings, designing their curricular, and

so on. The district typically is run by the local school board, whose members are directly elected by the residents. The board, then, appoints the executive, school superintendent, who in turn runs the system by hiring administrators (such as principals) and teachers. The budget is approved by the board, and most of its revenue relies on local property taxes.

Although US schools are free, they have strong residence requirement, i.e., in order to be able to enroll in a particular school, the student should verify his/her residence. Consequently, American public school system has a great deal of equity within the school district, but very large inequality across school districts. Some districts, typically rich ones, have more resources for students, and institutional capability to run the system effectively and efficiently, but others, typically poor ones, have neither resource nor institutional capability to deliver high quality education.

Another characteristic of American education is that the system is run by professionals with relatively little input from the general public. Under the local monopoly of public school system, the student is not allowed to choose school. Only credible way to exit the system is to move to different district or enroll in a private school that does not rely on public funding, consequently charges substantial tuition. Such complete local monopoly of K-12 education has been criticized by some scholars.

As a consequence, two major drawbacks of the US public school system have been pointed out. First despite of its vast resources devoted to K-12 education, US public school student performance has been steadily declining. The National Assessment in Education Progress (NAEP), which document student achievements since 1970, the average student performance has been decreasing steadily. Also, despite the fact that US spends the largest amount of money per pupil in the world, standardized international achievement tests reveal that U.S. students record mediocre scores. For example, according to the 2000 Program for International Student Assessment (PISA) for 15 year-old students, the U.S. ranked 15th in reading, 18th in mathematics, and 14th in science literacy among 27 OECD countries.

Second problem of the US public school system is the discrepancy of the quality of education across school districts. In particular, many large urban districts (e.g., Detroit, New York, Washington, D.C., and so on) whose residents are dominated by racial minorities such as black and Hispanic, the quality of education is dismal. Although there have been substantial efforts to improve the quality of urban school districts by massive subsidy to those districts and more stringent state control, the improvement has not been satisfactory.

With this backdrop, there has been a rising social demand that asks for more

accountability in public school system. First, inner-city residents ask for better quality education that is comparable to their suburban counterparts. Second, many feel that US public schools lacks rigor, and the standards for instruction had to be raised. Third, local monopoly robs students and parents of any school choice. These social demands call for three types of education reform in the U.S. (Kim, 2005)

The most well-publicized No Child Left Behind Act (NCLB) of 2002. Since the early 1990s, the US public school system has been pushing hard for a standard-driven accountability system. The system views the central authority should asks school administrators and teachers to deliver certain prescribe output measures. The NCLB stipulates that the remaining states to implement such an accountability system in order to receive federal aids under Title I of the Elementary and Secondary Education Act (ESEA). The ESEA of 1965 was the first major federal effort to improve the quality of the nation's primary and secondary education, which had been traditionally a local responsibility. By and large, the recent push for this top-down accountability system is a result of the politicization of education. The dissatisfaction over the mediocre performance in achievement mobilized the general public, and politicians responded to this "education crisis" by imposing top-down accountability systems borrowed from the business model.

The second approach is charter schools. Charter schools became very popular as they are favored by progressive educational professionals. According to the Center Education Reform in Washington, D.C., forty one states and the District of Columbia have some kind of charter school laws as of January 2004. Since the establishment of the first charter school in Minnesota in 1992, about 3,000 charter schools have come into existence, and more than 600,000 students are enrolled in charter schools nationwide.

Charter schools are based on the idea that many layers of educational bureaucracy (from the state department of public instruction, to local education districts, to an individual school) which relies on rules and regulation, is not effective in meeting the diverse education demands of students and parents of various social status and ethnicity. Charter school proponents argue that more flexible school, free of counter-productive regulation and superfluous layers of bureaucracy would be more effective in meeting the demands of education consumers.

The third reform is education voucher, government-issued certificate that can be redeemed to the schools that the student decided to attend. Under this plan, parents are allowed to choose a school, (in some cases private school can be chosen as well). The idea of voucher has been advocated by a strange coalition of inner city

activists who view inner city public schools are a failure and conservative that advocates freedom to choose. Although voucher has been implemented in some areas including Milwaukee, Cleveland, and Washington, D.C., its adoption has been very limited.

2. United Kingdom

Traditionally, the UK primary and secondary school system is quite decentralized. Before the reform that started in 1980s, 152 Local Education Authorities (LEAs) had financial responsibilities and hiring and firing of teachers. There existed a strong corporatism between LEAs and teachers unions at the local level. The pre-reform system is based on the principle that curriculum and teaching method should be decentralized and construction and maintenance of school building, furniture, and administration should be centralized (Turner, 2004) and that school system is basically run by education professionals.

The Conservatives who took the power in late 1970s viewed that this is an obstacle to school improvement. Consequently, since the 1980s, the system has been undergoing a dramatic shift (Daun, 2004). The new system basically stipulates that, while curriculum becomes nationalized, school administration becomes more decentralized by creating quasi-markets. In 1980, parents were given the ability to choose schools with the public system. In 1988, Education Reform Act stipulated that 1) Curriculum becomes nationalized; 2) Fiscal responsibilities and hiring and firing are moved to schools; and 3) The quasi-market mechanism is moderated by quangos (quasi-non-governmental organization). One quango (The Qualifications and Curriculum Authority, ACA) is responsible for regulating and developing national assessments and for ensuring common standards across different examination boards. Another quango (The Office for Standards in Education) is responsible to set appropriate standards against which operation of institutions could be assessed and evaluated. Her Majesty's Inspectors manage the inspection of LEAs and evaluate them. Yet another quango is responsible for publishing information relating to how each school performs in order to help education consumers to decide.

School governing bodies, which have existed for many years, were given a great deal of responsibility. The size of the school governing bodies varies from 9 to 20, depending on the size of the school. They make sure national curriculum is covered, prepare strategic planning and establish guidelines for schoolteacher evaluation. The governing bodies are composed by the head-teacher and parent representatives elected by the parents, LEA representatives, teachers, staff, and co-

opted governors who are appointed by the governing body at school. Since 2002, successful schools are given greater autonomy and freedom (Daun 2004)..

LEAs receive their funding from the central government as well as from the local authorities. LEA-maintained schools receive 100% of the funding, and voluntary-aided schools (some private schools run by religious organizations) receive operation cost. LEAs distribute the resources to schools based on student numbers (75%) and other needs such as special education. About 7% of students attend non-religious independent private schools. These schools do not receive any funds from the government, and basically run by tuition fees.

3. Canada

In Canada, K-12 schooling has been the responsibilities of provincial governments. In each province, local school authorities are organized. Under the welfare state model, education is regarded as a “social right” along with health care. However, the pressure to privatize social service has been increasing, as the federal government cut the transfer payments to provinces in order to reduce the rising government deficit. Categorical grants became unified into a block grant while the size of the total size decreases. As the amount of total transfer decreases, the provinces were given more freedom to be able to meet their specific fiscal needs.

When the Canada passed its constitution to form the union, minority language instruction is guaranteed to be publicly funded. Also, in some provinces, Roman Catholic schools are promised to be supported by the government. As the fiscal resources for education decreases, Quebec and Newfoundland amended their constitution so that the provinces no longer have that obligation. The decrease in resources in public education generally reduces the quality of instruction in public schools. Although the enrollment in private schools in Canada is still relatively low (less than 6%), the decline in the educational quality in public schools encourage upper income households to send their children enroll in private schools. Schools are forced to mobilize more private resources such as donations and school-supported fund raising activities. School boards are also forced to raise more funds from private sources ranging from leasing privately owned buildings to privatizing cafeteria services. Such movement toward supplementary private funding has been criticized by progressives that equal access and equity of education has been compromised (Davidson-Harden and Majhanovich, 2004).

There have been active public policy debates on more systematic privatization schemes such as vouchers and tax credits for private schools. However,

implementation of systematic privatization in K-12 education has been limited. Education, by and large, is still regarded as “social rights,” and the government is committed to provide universal and tuition-free education. But, more active privatization is occurring in higher education. Although most universities in Canada are public, their tuitions have been increasing quite rapidly for the last twenty years.

4. Sweden

Up until 1980s, the Swedish school public school system has been the most centralized in the world. Today, Swedish schools have more autonomy in teaching hours, instructional contents and methods, and class size when compared to schools in most other countries. Devolution, deregulation, market solution, and management by objective and results are the key words in such transformation (Lindahl, 2005). It is well known that modern Sweden has a strong welfare state in which the state has active roles in the provision of social services including education. Between 1940 and 1970, Sweden has expanded the ideal of social-democratic welfare regimes, characterized by universalistic welfare policies, high-level of economic transfers and social insurance. The educational system is one of the key elements of the welfare state model. Sweden has given top priority to equality of education regardless of socio-economic status, geography, ethnic background, and gender (Daun, 2004).

However, the economic slump in the 1970s put such welfare state model at risk. Unemployment rates became high and public expenditure swelled in the 1970s. In the 1980s, Sweden introduced three major policy initiatives: 1) decentralization of administrative bodies and transfer of decision making authority from state to municipalities; 2) privatization of public enterprises; and 3) reduction of public expenditures.

Such drastic policy shift also fundamentally affects the school system. The 1980 national curriculum guide illustrates the paradigm shift from management by detailed regulation to management by objectives and standards. In 1989, employment responsibilities of teachers and other school staff were transferred from the state to the municipalities. The decision was heavily opposed by teachers because they fear that the new employers (municipalities) would be ignorant to their needs. Previously, teacher’s employment contracts were negotiated between the state and the centralized teachers union. In current decentralized system, they are negotiated either by the collection of municipalities and centralized unions or individual municipality with the local teachers union. In 1993, state subsidies to municipalities are delivered as a block grant rather than categorical grants such that municipalities have much more freedom in

allocating public resources.

The state limits its responsibility to setting national goals and guidelines for the equality and equivalence of economic performance within the whole country. The state publishes national development plan as well as quality report after quality audits. Also, state allocates extra resources to “socially disadvantaged areas” in the cities. Municipalities now have responsibilities to carry out education with a great deal of autonomy based on their precondition. Schools are now given autonomy in deciding instructional goals, methods, and freedom to organize work. The teachers and schools are individually responsible for developing their teaching. Although initial training of teachers is done by the state, continuing education of teachers is provided by municipalities.

Such drastic change in the governance structure has been implemented without serious conflict. Many scholars explained that the major reason for the successful change is due to “a striking consensus that devolution and deregulation were inevitable and necessary.” Most stakeholders in education view that the detailed top-down governance was no longer perceived as possible in a rapidly changing society in which considerable local differences exist. (Lindahl, 2005)

The decentralization of authorities was accompanied by more stringent monitoring and results-driven accountability mechanism. Each municipality should have a plan for all its schools indicating how the national goals are to be achieved, and each school in the municipality should have a plan compatible to the municipality’s plan. Each year the municipality is required to deliver quality report to the National Agency for Education (the central education authority). The responsibility for evaluation, inspection, and development resides in municipality, but all students take national test in grades five and nine. (Daun and Siminou 2005)

5. Spain

Although Spain has been a unified kingdom in the sixteenth century, there has been linguistic and cultural fragmentation within the kingdom up until nineteenth century. Although Castilian has long been the official language of Spain, Galician, Basque or Euskera has been spoken in some parts of the country. Throughout nineteenth century, these regions, strongly unified by common language and culture, resisted the centralizing, unifying trend of the nation state. Over the last two centuries, such linguistic and cultural diversity has contributed political instability in Spain. The centralist secular government wanted to move toward modernization, industrialization, and democracy, checking the power of Roman Catholic church. On the other hand, the

social conservatives tend to support regional monarchy, and the church supports such regionalists.

The military government of Franco (1939–75) suppressed the regional movements, and installed tight centralized controls. Some areas, especially the three areas that have strongest cultural identity (Basque, Catalonia, and Galicia) resisted centralism. Basques are still continuing their resistance and armed struggle today. Even after the Franco's death, the centralists are associated with dictatorship and conservative repression, and regionalism is more associated with freedom and democracy. In any case, the 1978 Constitution deliberately moved away to calling Spain a federal state, but insisted on indissoluble unity, and called the nationalities as autonomies. (Luengo, et al., 2005).

Since the democratic Constitution, the shift from a centralist state to a quasi-federal one has resulted decentralization. However, it is more of a pluri-centralism in which some part of the power of the central government was transferred to autonomies, but at the same time within the autonomous communities [comunidades autónomas], the power has been centralized.

During the Franco's rule, the Spanish education system was highly centralized. Within this uniform centralist system, schools serve as an instrument of central power to indoctrinate new generation in the state's ideological values and to produce elites at the service of political and economic powers. After the death of Franco, the restoration of democracy meant the beginning of political and administrative decentralization to autonomous communities. The process was gradual and not all autonomous communities receive the delegated power at the same time, but the process is now complete. However, the decentralization of education has not gone down further than the autonomous communities (that is, to school districts, municipalities, and schools). The Ministry of Education at the central government maintains control of the overall planning of education, such as cycles, specialization of education, the number of years, the duration of compulsory education, and the requirements for each level. It also retains the power to regulate the education policy developed by the autonomous communities. It also maintains academic and professional certificates.

The autonomous communities execute, manage, and administer the education system. The sharing responsibilities between the state and autonomous communities are rather complex, and the Education Conference (Conferencia de Educación), which coordinate educational policies and exchange information. But, often the Conference is not able to resolve the power struggle between the state and the autonomous communities.

Decentralization with each autonomous community has been mixed. Depending on the political party and its ideology, the further decentralization went through various initiatives. For example, in 1985, the Socialist Party established a grand system of democratic governance in each school. The school council, democratically elected by all major stakeholders of the school, was given the authority to appoint principal, approve budget, general programming, and so on. This was a radical departure from the authoritarian, hierarchical model in which the school principal was the proxy of the central state. However, the idealistic system did not yield positive results partly because the lack of participation by parents and partly because the lack of cooperation by the teachers who did not want to share the power in the operation of schools.

In 1990, a new educational law requires decentralization of curriculum. However, many regarded the decentralization of curriculum as an imposition and extra work so that genuine improvement of pedagogical and curricular innovation was not common. In 2002, the conservative government shifted its policy to tighter monitoring and management by results. Now, in 2005, the weak socialist government wanted to abolish the conservative, neo-liberalist approach of outcome based management as well as against any attempt for the state to impose uniformity through tight regulation and bureaucracy. To summarize, Spanish education system has gone out of strong centralized uniform education of the Old Model, but it is not clear how the decentralization would end up as the political shift over educational policies have been continuing.

6. Poland

In the aftermath of the breakup of the Soviet Union and collapse of communism in 1990, Eastern European countries tried to search its new national identify. In Poland, which the trade union, “Solidarity” has led a large-scale protest against the communism, communism was particularly a dirty world. In the communist regime, Poland has a very centralized bureaucratic education system, which indoctrination of communism to students was the primary objective.

The fall of communism in Poland brought about two major changes in the education system (Bodine, 2005). The first was the devolution of public education. Most importantly, the central government delegated the major financing responsibilities to local governments. At first instance, it is a natural outcome of the fall of communism. Anything related to the central government is associated with the old repressive regime of communism. Education system, in particular, was at the heart of the oppressive state. Therefore, the progressives who took the power from the

communists wanted to transfer the system from the state to the local governments. When the nation is undergoing a great deal of reconstruction and capital investment, the rising fiscal need for local governments inevitably reduced the other municipal services. But the ironic thing is that the central government still controls personnel decisions of teachers and administrative staffs and curriculum. When the economy is going through a rapid transition, many workers feel the vulnerability of losing jobs, and schoolteachers do not want to go through the hardship of adjustment from a secure state job to lower-paying, insecure local jobs. Also, the tradition of the schools run by bureaucracy without much input from parents is difficult to change over night.

The lack of resources from local governments and inflexibility of teaching staffs brought about a “radical decentralization” (Bodine, 2005). The low quality of public education provided by the government made many citizens take the education in their own hands. A new breed of private schools, called “community schools (szkoła społeczna) emerged. Under the communist regime, all private schools operating in Poland were affiliated with Roman Catholic Church, and such schools are supported by the government partially. With the decay of the existing school system, the need for education with more personal caring exploded, and community schools emerged to meet such demand. They are typically run by individuals or a group of individuals, sometimes operating in one’s apartment or housing project. They can be regarded as overgrown home schooling.

The state passed the law to regulate community schools. However, the regulations are difficult to enforce, because the sheer number of the schools and the cost of enforcement is very high. Consequently, the community schools at this point are virtually unregulated. Although community schools are quite diverse, it is natural that parents with higher socio-economic status are more able to organize themselves. Some community schools are financed in part by the state or local municipalities. Therefore, there have been substantial criticisms that community schools became schools for the elite; and would not be a proper model for universal education, as they receive little oversight and accountability in exchange for the public subsidies.

“If community schools are in fact becoming class enclaves, as their critics suggest, this presents a central dilemma for the community school model of education: schools depend on strong autonomy and independence but must be adequately regulated to ensure that they promote public, not private interests in education. On the other hand, there is a danger that unchecked radical decentralization will encourage social exclusion and contribute to a more stratified educational system. On the other

hand, there is a danger of bureaucratization through excessive regulation. Heavy will undermine autonomy and threaten the fragile communities on which these schools rely. Both are valid fears. It can be argued that up to this time the community schools have evaded regulation because they have been able to evoke the latter fear with memories of the “monopoly of the state” not far below the surface of public consciousness. As memories of communism fade, however, community schools may be forced to make a stronger case for their public support and defend themselves more vigorously against charges of educational inequality and opportunism. The issue of whether these schools are sustainable in the long term speaks directly to the broader viability of community as a strategy for improving public schools.” (Bodine, 2005, pp. 99-100)

7. Mexico

Since the Mexican revolution, Mexican government was dominated by the Institutional Revolutionary Party (PRI), until the election of the current president, Vicente Fox of the center-right wing National Action Party (PAN) in 2000 for his six-year, single term. Fox made election as one of the biggest campaign promise such as including religious education, privatization and the elimination of the national textbook commission. After his election, his administration launched the Fox National Program of Education: 2001-2006. Despite its big rhetoric, the new Program did not seem to bring about any fundamental changes (Ornelas, 2004).

However, Fox’s educational policy was, in many respects, not very different from his predecessors, Salinas de Gortari (1988-1994) and Ernesto Zedillo (1994-2000). In the aftermath of Mexican economic crisis, Salina’s government has tried liberalize the economy by privatizing large public enterprises (telephone, railroads, and banks). In the educational sector, he wanted to improve the quality of education and to achieve more equitable education system.

Traditionally, Mexico has a large public education sector. The basic compulsory education is for nine years in addition to pre-schools. There are 30 million students (including students in higher education), a-million-and-a-half teachers, and a quarter of a million schools. In addition there are 300,000 people employed in administrative positions. The education system is highly centralized, and the federal Secretariat of Public Education (SEP) has a great deal of power. Most of the key positions in SEP are PRI members. The National Teachers Union (SNTE) also exerts a powerful influence in education policy.

One of the biggest issues addressed by Salinas’ administration was to eradicate the illiteracy. In 2000, there were more than 32 million people who had not

finished basic education, and six million of them were illiterate. There was a great deal of disparity between urban and rural areas as well as those between social groups. In order to improve the equality of education, the government has spend put a great deal of resources to compensatory programs (such as cash and grocery grants for poor children, provision of books and school supplies, new furniture and bonus for teachers in impoverished rural areas. The government's effort is well documented in the statistics. The drop-out rates decreased from 7.2% in 1988 to 1.5% in 2003 and the repetition rate decreased from 11.1% to 5.4% in the same period.

However, it costs dearly to the Mexican economy. Education expenditure grew from 3.4% of GNP in 1988 to 5.4% in 1994, 6.1% in 2000 to 6.8% in 2002. However, the quality of education did not improve much. During the Salinas administration, Mexico participated the Third International Mathematics and Sciences Study (TIMSS) while Zedillo was the Secretary of Education. Later, as a president, he refused the publication of the results in order to appease to his PRI constituency of SNTE. TIMMS published the overall report, but dropped the results of Mexico. Out of six tests, Mexico ranked last in four and next-to-last in other two. The dismal quality of Mexican education was no surprise to domestic experts, but the fact that the government hid the information was shocking to the general public. At the same time, teachers' incomes doubled in real terms (Ornelas, 2004).

Although the education reform of the three recent Mexican governments increased the overall spending in education, and provided some relief to poor households, the overall quality of education has not improved substantially. The ideological reform efforts by the government has been stifled by the programmatic political consideration to accommodate the powerful teachers union. The government's decentralization effort has been mostly a lip service, since the nation has not been experienced the educational bureaucracy that is responsive to the needs of students in any effective way.

8. Chile (nationwide voucher program)

School voucher has been one of the most radical alternatives for school reform. The idea was initially proposed by the University of Chicago economist, Milton Friedman, who is regarded as the strongest proponents of the market system. The fundamental idea of the voucher program is two-fold. First, there is no compelling reason that the government should provide education. Even if the government decides to fully finance the cost of education, there is no reason that the government is the supplier of the education. Second, the market mechanism based on consumer

sovereignty and the freedom of choice will create more efficient school system. Under this plan, each child is given a voucher (the certificate to bear certain amount of redeemable cash toward the purchase of education service). When the child decides to attend a school, the school receives the voucher from the student and asks to be reimbursed by the amount specified in the voucher to the government. By using the voucher mechanism, the government simply finances the expense of education, and let the market (composed of both private and public schools) provide education services.

While the idea has been accepted by the right wing conservatives and most deprived class within the public school system, it has been opposed by virtually all educational professionals, who believe in the Old Model. Chile has been one of the few countries that adopted the system. The voucher system in Chile started in 1981, and covers 90% of the school-age population. Any schools, public or private, secular or religious, are allowed to participate the program. Each school is allowed to select students, and participating private schools can charge additional tuition in addition to the amount specified in the voucher since 1998. The result was that there has been an exodus from public schools to private schools (Hsieh and Urquiola, 2003). In 1981, almost 80% of students were enrolled in public schools, while only 14% were in subsidized private ones. By 1996, the enrollment in public schools had decreased to about 60%, while that of voucher private schools had increased to 34% (meanwhile, enrollment in unsubsidized private schools remained around 5%). Secular schools seemed to attract more students than religious schools during the period.

The comparison of test scores among different types of schools revealed that non-voucher private schools at the top; voucher Catholic schools next; then at the bottom voucher-secular schools and public schools. The non-voucher private schools mostly cater students from high-income-high-demand-of-education class. Therefore, they will not be affected by the existence of voucher programs unless the amount on vouchers is substantial so that it can cover the tuition of such schools, which is not in Chile. While the students and parents are given school choices, they do not seem to have good information regarding the quality of schools.

Based on the Chilean example and empirical studies using Columbian and US data, the policy question regarding the effectiveness of voucher program has not been unequivocally decided. The questions such as: Does voucher improve student performance? Does it improve school quality? Does it create more segregation between socio-economic classes? Do vouchers impede the development of social cohesion and civic democratization? One of the reasons why there are no definitive answers to such questions is that the design of the program affects the outcome greatly.

The key elements of the voucher system include: How much money should be given in the voucher; Which schools (public, secular private, and religious private) can participate in the program; Do schools are allowed to select students; Are private schools allowed to charge in addition to the voucher amount; How much information is available regarding school quality; and so on.

9. South Africa

The 1994 election installed the first democratically elected government based on the universal suffrage in South Africa. The shift in political environment has led a decentralization effort in education. As usual, the decentralization of education has occurred primarily because of the changes in economic and political environment rather than educational needs, although the latter always received familiar rhetoric.

South Africa's decentralization of education is motivated by three factors: governance, democracy, and equity. The South African School Act (SASA) of 1994 and National Norms and Standards for School Funding Act (NNSSF) of 1998 stipulated a number of school reform. First, all public schools were required to create school governing boards (SGBs) composed of the principal and elected representatives of parents and teachers, non-teaching staff, and (in secondary schools) students. Much of the powers of governing the school was transferred to GSB, which includes the determination of admissions policy, recommendation to the province of teaching and non-teaching staff, financial management of the school, determination of school fees and additional fundraising. Under the Act, SGBs are juristic persons, and parents must be in the majority and chair of it. (Lewis and Motala, 2004)

The SGB expanded the earlier management solution proposed in the 1992 Education Renewal Strategy (ERS) that created an option, called Model C design, that gave a great deal of autonomy and power to the parents. Most of the white schools adopted the Model. Although the new government recognized the need of redress of school inequality, the state's funding was clearly inadequate. With SASA, the central government's role in education has been limited to provide minimum funding to all schools, and new targeted approach to funnel additional resources for capital expenditure to the areas that are behind the national norm. However, the central government created a fairer distribution of public funds across provinces and schools through intergovernmental revenue sharing.

The approach of directing resources to the schools in underprivileged areas and equal provision of inputs to all schools and leaving other major financial decisions to individual schools was the hallmark of South African policy. In general, many authors

view that South African reform policies made substantial improvement toward more equitable distribution of public funds in education. However, decentralization of fiscal resources will inherently create unequal distribution of resources.

Although good governance and democratic participation, the actual progress in these areas were more controversial. First, the participation of parents and better governance did not simply happen when the decision making authorities were decentralized. In more affluent communities, the decentralization seems to improve the governance and participation. However, in other areas, it simply means that the authority of the principals was enlarged. When the parents do not have ability to ask for right information and ability to discern it in order to make the system work collectively, the more authority may simply mean more dysfunctional governance system. There was also criticism that the decentralization simply move the conflict among stakeholders from a central political arena to local arenas.

10. Nigeria

Following the recommendation by the World Bank and International Monetary Fund, Nigeria introduced structural adjustment program since the mid-1980s. The new policy emphasized liberalization and delegation of central government's authority to state military governors. The military rule ended in 1999, and the country is making a progress toward democratization. During the period, considerable decentralization of administrative and fiscal responsibilities was instituted as well as mobilization of private resources of households and local communities.

Federal government expenditure in education decreased substantially. Spending on education as a share of federal government expenditure decreased from 24.7% in 1981 to 1.7% in 1988. (Geo-Jaja, 2004). While the central government's spending education is quite meager, its emphasis shifted away from primary education to tertiary education. In 1962, the share of the government's expenditure was 50% for primary education, 31 for secondary and 19% in tertiary education. On the other hand, the recent figures are 36, 29, and 35% respectively. The bottom line is that the central government has decreased its spending on education, particularly on primary education. It appears that the government almost abandoned its responsibility in primary education, and replaced it with the devolution to local governments and privatization.

The results are quite predictable. As the private share of the tuition fees rose for primary schools, the enrollment rates, particularly for low income families plummeted. The higher subsidy to the higher education actually made the number of college students rise substantially. Although the decentralization was made to suggest

to increase efficiency and higher quality of education, the inadequate public investment in education severely damaged the UN Millennium Objective of universal primary education by 2015. From the perspective of Nigeria, the rhetoric of decentralization is quite similar to those in other parts of the world, it seems quite unlikely it will bring out any commonly suggested goals and outcomes of decentralization.

11. Thailand

School based management (SBM) in Thailand began in 1997 as an education response to the financial crisis. The crisis exposed several structural weaknesses in Thai economy. In particular, a substantial blame was place on the low level of human capital stock in Thailand and the lack of competitiveness in the export sector. The basic reason for the low human capital level was attributed to and the low quality of Thai education. An attempt to create an educational system that produces the talents that are able to compete in the world economy.

Accordingly, the National Education Act of 1999 stipulated the SBM in an attempt to change the top-down bureaucratic educational system what are not responsive to socio-economic needs of the society. The process of decentralization seems to be very smooth without much political wrangling that were common in other countries. Gamage and Sooksomchitra (2004) reports that the overwhelming majority of the principals and board members believe that the new system is effective. Most principals view their roles as the coordinator of the school board, and they actively seek the board's advice in running the school. However, some board members do not seem to know how to contribute to the new system, and may require some prior training before they became the members of the board.

12. India – Kerala State

13. Indonesia

III. Benefits of education in the globalized, knowledge-based economy

A. Individual and social benefits of education

It is clear that education creates many benefits. First, it has been widely recognized and verified that more education results in more favorable labor market outcome to the individual who received it. The average earning of the more educated

is higher than that of the less educated. Figure 2 illustrates the point. In the Figure, the horizontal axis is the age, and the vertical axis is monetary units (i.e., earnings). Education requires time and cost (including any opportunity cost). However, when it is finished, the lifetime earning of the educated would be higher than the un-educated. Even though the period of earning is shortened because of the time invested, the higher lifetime earnings may make it worth the investment in time and money.

Figure 2 Benefits of Education

There are also non-pecuniary benefits. More educated tend to work in a more favorable working environment. They tend to work in less dangerous, less repetitive and more creative work places. Workers with higher education tend to work in positions that require less intensive monitoring by their supervisor. Besides the labor market outcome, higher education is known to be associated with better life-long decisions. For example, the ability to make better decisions leads to better health, and higher quality of life. The benefit of education including such non-pecuniary benefits is represented by the graph at the top. It includes the benefits of longevity because of better decision-making and health.

There have been numerous studies in estimating the return to schooling. As is seen in the Table 1, return to schooling is substantial. In general, returns to schooling are higher in primary education than in higher education. Also, they are higher in developing countries than in developed countries. Those facts are consistent with decreasing returns to schooling.

Table 1 Rates of Returns to Schooling

So far, we have discussed the benefit of education to an individual. However, there are social impacts of more education. Let us divide the labor market into two segments: high skilled (educated) workers and low skilled (educated) workers. The first round of the rising education is the increase in labor supply in highly educated (and skilled) workers, and the decrease in the labor supply of low skilled workers (Figure 3). The shift of workers, from the low skilled labor market to high skilled labor market, results in decreasing wages for high skilled workers and increasing wages for low skilled workers. In short, from an individual perspective, education increases wages, but education of many workers decreases the average of educated workers.

Figure 3 Aggregated Labor Market Effects of More Education

The narrowing the wages between the two labor markets may make the investment in education less rewarding. Investment in education may not yield great returns as before. Education may yield return lower than the investment in physical capital. In some cases, it may even become negative.

The adverse short run effect of rising investment for many workers may be overcome by the general increase. Employers may invest in technologies to utilize the abundant skilled workers, which was not possible when there were not enough skilled workers. Such new technology shifts the labor demand curve for skilled workers. Therefore, the depressed wages for the skilled workers would bounce back in the long run. (Acemoglu, 1996)

The aggregated economy-wide effect of education is summarized in the growth literature emphasizing human capital. In order for an economy grow faster, human capital accumulation (i.e., more economy-wide education) is as important as physical capital accumulation. Barro and Sala-I-Martin (1995) find a one standard deviation increase in ratio of public education spending to GDP (1965-75) would have raised the average growth rate by 0.3 percentage points. Several other authors find that higher education investment results in faster economic growth.

More educated society has non-economic benefits as well. Political stability, more advanced civic involvement, lessening income inequality, rule of law, advancement of democracy, and less crime are all associated with the general increase of education in the society.

B. Educational goals for the twenty first century

Education is future-oriented by its nature. Therefore, it is necessary to think about the essential skills and attitudes that are most crucial in the future, when we are designing the present curricular and school system. As was indicated before, there are two major external global factors operating in the twenty-first century. The first is the continuing globalization, and the second is knowledge-based economy.

First, globalization implies that international skills would be of high value in the future. Being able to communicate in foreign languages, and understand other countries' culture, history, and politics would be important. Foreign understanding would be important in mobilizing international resources and exploiting opportunities that may arise in the global market place. Second, globalization imposes changes that

may not be hospitable to everyone involved. Therefore, being able to adopt the changes quickly and successfully would be more important in the future.

The importance of knowledge in the economy would imply several educational goals as well. First, there is a need for more education, because education is the most cost-effective way to transfer knowledge to younger generations. Second, since there would be more information readily accessible, being able to select necessary and important information in order to meet the users' need would be important. The value of "know more" would decline, because most will have a quick access to large information base. Rather, it is more important to "know better". It is no longer important to accumulate encyclopedic knowledge of information, but intelligent consumption of accumulated knowledge would be more important. Third, holding information is not as important as producing information. Therefore, the extra value of research and development for new ideas and innovation would be much greater than simply transferring old knowledge. Fourth, in order to facilitate learning, research, and development, it would be more important to learn quicker and learn how to learn than learn more. An effective future citizen should be able to learn new things without much help from others. This implies that it is important to teach self-motivation and self-learning. Education is not simply to teach new things to those who do not know, but to transfer the ways in which the student learn quicker and better by themselves. Fifth, the future will continue to be more specialized. As majority of people are highly specialized, there would be high premium to the ability to synthesize different subjects creatively. Therefore, subjects in humanities that cultivate intuition, history, and emotion would be as important as the analytical subjects such as science and engineering. Finally, with the advancement of technology and instant access for more information makes individual contribution in an intellectual product more difficult. So, there are more opportunities to cheat and perform intellectual misconduct. Therefore, it is more important to teach student ethical standards and make them abide with the rules in the future.

IV. Objectives and Evaluation Criteria for School System

There are multiple objectives in the school system. Although there may be substantial differences in education system across countries depending on their history and social context, the two objectives of the school system and the criteria in evaluating them may be summarized by efficiency and equity. We shall discuss them in more detail in the following.

A. Efficiency

Efficiency is one of the major criteria that any school systems should be evaluated. However, efficiency is often abused term. The fundamental reason why such common confusion is the term efficiency may contain several dimensions, and often such different dimensions are not clearly stated when the term is used.

1. Production efficiency

The idea of production efficiency refers to the condition that the school system delivers educational service with the lowest possible cost. For example, if two different school systems (A and B) deliver identical level of educational services, but A costs less than B, we may say B is less efficient than A. If there is no other educational system that delivers the same service level as in A while costing less than A, we say the system A possess the characteristic of production efficiency.

The first condition for the production efficiency is whether all the factors of production in education are fully utilized. When the equipments purchased are not properly utilized because of the lack of properly trained personnel, the production efficiency is not reached. When teachers do not fully exert their energy in teaching and shirk from their jobs, production efficiency is not achieved.

When all the factors of production are fully utilized, production efficiency is determined whether the choice of the combination of inputs is optimally chosen. The amount of factors used should reflect the true resource cost (shadow price) of the factors. For example, let us consider the case in which education service can be produced by the use of teachers and equipment. When teachers are relatively more expensive compared to equipment, it is optimal to use less teachers and more equipment by substituting more expensive teachers with less expensive equipment.

In Figure 5, there are two straight lines reflecting the budget constraint of the education provider (say, a school). The steep line reflects the case in which relative price of teacher is higher than that of equipment. In this case, production efficiency asks the education provider to use more equipment and less teachers. The flatter line, on the other hand, represents the case when relative price of equipment is higher than that of teachers. In that case, optimal choice of input combination requires more teachers with less equipment. In fact, the standard micro-economics text would tell that the efficient optimal input choice requires that marginal product per unit of money spent on every factor inputs be equalized.

Figure 5 Optimal Input Choice

The production efficiency cannot be reached when one of the two conditions (full utilization and the marginality condition) described above are not satisfied. For example, a bad management practice may decrease the rate of utilization of paid factors of production. Education, by its nature, is very labor intensive. As the economy develops, wages increase, and it is natural to substitute labor with more capital. However, a strong teachers union would be resistant to such movement and may force the input combination towards excessive amount of teachers with less physical capital (such as better buildings, equipment, and so on).

It is not clear whether a centralized education system tends to be more production efficient compared to a decentralized one. On one hand, the centralized system may be able to economize in developing uniform curriculum and train teachers at a cheaper cost. On the other hand, the provision of centralized input without considering local conditions may generate less than full utilization of delivered resources and inefficient input combinations.

2. Consumption efficiency (Delivery efficiency)

The second criterion of efficiency deals with the question whether willing and able education consumers can actually be able to receive the education. In other words, if all the students who are able to pay the required expenses and finish the program successfully are not able to enroll the program, the education system is not consumption efficient. In short if the school system does not meet the education demand of the consumers, it is not consumption efficient.

Since education demand may be quite diverse across individual students with different abilities, aspiration, and family background, bureaucratically oriented central provision of education may not meet the demand of the diverse demands. For example, high ability students with high aspiration may not be satisfied with the low quality educational services provided by the government. Students with special needs (e.g., learning disability, physical handicap, and so on) may have non-traditional education needs that may not be satisfied by the conventional schools.

It is not difficult to understand why centralized education system tends to be less responsive to diverse education demand, and therefore, will not be consumption efficient. The centralized system tends to provide uniform services across different regions with different culture and languages, across different socio-economic statuses

that may demand very different types of education, and across different abilities. Decentralized system has a definite advantage in meeting such diverse education demands. In particular, for-profit private education providers would be much more sensitive to the unmet market demands for special education needs.

3. Investment efficiency

Investment efficiency refers to the question whether the benefit of education warrants the cost of providing it. This concept of efficiency determines whether or not there is too much or too little investment in education. In the discussion of investment efficiency, it is critical to consider the difference between the private return on education and the social return on education. Private return on education is the benefit of education attributable to the individual who received the education, whereas social return on education includes the indirect benefits accrued to other members of the society as well as. In almost all cases, private cost of education differs from social cost of education, because the government typically provides subsidy. In this case, private cost refers to the out-of-pocket cost paid directly by the individual, whereas social cost includes the government subsidy as well.

One can divide investment efficiency into two different aspects. The first is the decision over investment in education versus investment in other productive activities, say, physical capital. If the current return in education investment is greater than the return on physical capital, the investment in education needs to be increased. In other words, education is under-invested. On the other hand, if the return in education is lower than other productive activities, there is an over-investment in education.

The second criterion for investment efficiency deals with the allocation of resources within the education sector, i.e., primary education, secondary education, higher education, and adult education. The investment efficiency within the education sector implies that the returns to education investment in the sub-sectors must be equal to one another. For example, if the return on education in primary education is greater than the return on in higher education, resources must be shifted from the low return higher education to the high return primary education sector in order to achieve the within education sector investment efficiency criterion.

B. Equity

Equity is another primary concern in education system. In many cases,

substantial government initiatives in funding and provision of education are justified on the basis of equity. However, as in the case of efficiency, discussion on equity in education is often confused, because there are multiple commonly used concepts of equity in education.

1. Equal opportunity

One of the most common notions of equity is the concept of equal opportunity. As the primary theoretical construct, it appears to be both satisfactory to conservatives as well as progressives. However, there may be serious confusion regarding what constitutes the equal opportunity. For the conservatives and the libertarians, the doctrine seems to put the emphasis on individual responsibility. Given the opportunity, it is you (the student) who should be responsible to take advantage of the opportunities provided by the school system. In an extreme conservative version, equal opportunity can be understood as the *lassies-faire*. In a more modest version, equal opportunity may mean equal access to a given educational system. For example, if the education system has a selective entrance examination for elite universities. The entrance examination is open to any students. In that respect, it has “equal opportunity.” However, better prepared, academically stronger students, a greater portion come from high socio-economic status families, have much higher chance of being admitted to the universities. This may not be regarded “equal opportunities” to the progressives.

For the progressives, equal opportunity means that equal capability by all. In other words, everyone in the society should be given an equal level of preparedness of all students before they compete in the society. Since education is a vital element of one’s human capital, the notion of equal opportunity for the most progressives is similar to the state’s guarantee to equal educational outcome.

2. Equal provision of resources

The first notion is equality. Although the concept of equality is simple, it is not quite clear what should be equalized in education. From the perspective of the government, one plausible option is to provide equal support to all students. However, equal provision of government support may be subject to the criticism that it may not provide enough help to the most vulnerable groups of the society. For example, in the U.S., schools in the community populated by residents of higher socio-economic status may be able to spend more on education than the schools in lower socio-economic status neighborhoods, because school financing mainly depends on local property taxes. Since the rich communities have larger tax base, they would be able to generate more

tax revenues per student, even with a lower tax rate, than the poor communities. Such unequal tax base has across local school districts have been a thorny issues in the U.S. public school system. There has been numerous law suits challenging that such practice is a violation of “equal protection” clause in state and federal constitution. Consequently, many states adopt some sort of redistribution scheme transferring some resources from rich districts to poor districts. In some other states, such as California and Michigan, school financing has been shifted from local property tax base to state distribution to ensure equal distribution of resources across school districts.

Even school financing is distributed by the higher level of government (say, state government or national government) so that the resource available for all schools are equalized, students from high socio-economic status would be able to command bigger education resources. It is well known that education output is determined not only by educational resources provided through school system, but also by parental inputs. The most common form is private tutoring by rich households. They would be more effectively supplement state-provided education with private tutoring so that the resulting education outcome would be very much favorable to rich households.

Moreover, non-pecuniary parental and family inputs such as parental supervision and guidance play very important roles in child’s educational outcome. Therefore, even if the same amount of resources are provided to each student via school system, it would be very likely that children from higher socio-economic status would achieve better educational outcome.

3. Equal education output

A more ambitious equity notion is to provide equal education outcome to all children. The fundamental departure for this concept is the understanding that equal provision of educational input will not be enough to overcome the barrier of socio-economic status of the children’s parents. Therefore, it has been argued that the children from lower socio-economic status should be given a priority in the distribution of educational resources. For example, the US Head Start program that provides pre-kindergarten education to the children from poor household aims to provide early state intervention in order to counterbalance the disadvantage of the poor household’s children. However, such government intervention has been proven to be far inadequate. No country in the world, even the most progressive welfare state such as Scandinavian countries has been able to provide equal education outcome for all children, as the demand for the government’s fiscal resources becomes unsustainable.

4. Equal increments

Formal schooling goes through a series of grades and institutions. Therefore, it would be difficult to enforce a equal output to the education provider, while the provider is only responsible for only a limited time period of a child's education. For example, even if a school (or a teacher) does a good job of educating a badly prepared student, the student's education outcome may be less than satisfactory at the end of the school (or grade). In this case, a question arises. Does the school provide a low quality education just because the student was ill prepared when the student entered the school? On the contrary, shouldn't the school be complimented because it did provide an excellent education to a challenging student? Based on the above argument, the criterion should be the equal incremental education outcome for each providers rather than the level of student outcomes at the end of school should be the major policy goal. The implementation of the equal incremental education service critically depends on the ability to evaluate the students before and after the educational treatment. Since proper evaluation of students is both expensive and inaccurate, the criterion of equal increment is likely to create a great deal of bureaucratic control.

The push for equality in education creates two operational difficulties. First, although equality in abstract can be accepted rather easily, actual implementation of such policy objective is difficult to operationalize as was described above. Equality to one group may mean totally different thing to that to the other group. Second, the policy drive to equality inevitably creates exits of the more privileged class. For example, the school finance equalization scheme in California that equalizes school expenditure within the state creates massive exodus of middle and upper income households from public to private schools. As the support for public schools by middle class wanes, the amount of fiscal resources committed to public school system decreases. Consequently, the quality of public school deteriorated significantly.

5. Minimum standards

Another viable equity goal in education is the state's commitment to guarantee minimum standards to all children. Compared to the goal of equality, the goal of minimum standards has a few operational advantages. First, minimum standards can be defined relatively easily without much room for theoretical ambiguities as in the case of equality. The goal that the state is required to provide some minimum level of educational outcome to all children can be easily understood to all relevant parties. Second, the relationship between the goal and the cost to achieve the goal can be more easily understood so that the trade-off between the cost and the benefit can be

compared more easily. When the policy goal is to provide equality in providing education, it is not clear that how much resource is required to fulfill that goal. Therefore, the policy trade-off between the level of equality and the amount of public expenditure to obtain the level will not be clearly presented. However, in the case when the policy goal is to achieve certain level of minimum standards, a lower minimum standard would be associated with lower cost and the higher the minimum standard, the higher the cost to achieve the goal. Therefore, the policy goal can be framed relatively easily in the context of public resource required.

A more difficult issue in pursuing the policy of minimum standards, however, is how and what to measure the educational outcome. Standardized test scores are often used as the key indicators of education outcome. However, the test scores are criticized as legitimate outcome measure, because the scores may not be able to capture more important aspects of cognitive development. The social and emotional development of children, which are certainly of utmost importance, cannot be measured with standardized test.

There is another criticism of using the test as the key measure of educational success. Many argued that “teaching for test” can serious distort curricular, that is to say, if the emphasis is placed on high test scores, teachers deliberately design teaching methods and material for the improvement of test scores rather than the fundamental learning of the material. Also, high-stake tests may encourage corruption and misconduct in the operation of the tests. Teachers may coach illegally and leak the questions before the test.

V. Critical issues in Korean education system¹

A. Historical background

As is well known, Korea has transformed herself from a backward agrarian economy to a fledgling advanced economy for a relatively short time period. It is heralded as a successful example of a government-led industrialization policy that uses export as an engine of growth. During the same time, there has been a tremendous expansion of education in the country as well, and the government has played an active role in the expansion. Overall, Korean education sector has been very effective in fueling the rapid economic development by hurriedly supplying human resources with

¹ This section is heavily drawn from Kim and Lee (2003).

moderate government expenditure. Currently, the macro indicators in Korean economic sector are quite impressive in the world's standards: nine-year public schooling is free and mandatory; high school education is virtually universal with modest tuitions; and the percentage of high school graduates who advance to higher education exceeds 80%, one of the highest in the world. Also, achievement test scores seem quite high compared to other OECD countries (U.S. Department of Education, 2001).² Compared with the dire situation immediately after the liberation from Japan in 1945 and the devastating Korean War in 1953, the current education environment is only little short of a miracle.

Despite of her remarkable success in the quantity expansion, there is a widespread and growing dissatisfaction about the current Korean educational system. The government, teacher's unions, parents and students, and education specialists all have expressed strong needs for education reform. Education policy has been on top of the agenda for the past several administrations. A series of reform measures were announced, and some of them have been implemented. However, the past experience of the reform has been not only unsuccessful but also frustrating for all parties involved. What are the reasons for this lack of progress?

Following successful achievement of universal primary school education in the early 1960s, South Korea was faced with growing demand for secondary schools. As much of the government resources had been invested for primary school education, the capacity of public secondary schools had not been enlarged very much. Consequently, competition to enter high quality public schools became very intense. The practice of private tutoring increased dramatically, and many students repeated in the sixth grade in order to prepare for the next year's examinations. In order to reduce the competitive pressure for the entrance examinations for secondary schools, the government implemented equalization policies. Under this policy, the competitive entrance exams were substituted with random allocation of students through lottery. Also, the government subsidized private schools so that their teachers' salaries are equal to those in public schools. This virtual socialization of private schools contributed to the remarkable expansion of secondary school enrollments. However, competition for better quality schools and private tutoring have not gone away, but delayed to the following grades. At the same time, the lack of diversity and

² According to the study, Korea ranks the second in mathematics literacy, the first in science literacy, and the sixth in the combined reading literacy score among 27 OECD countries.

competition among secondary schools created very little incentives for schools (public or private) to respond the need of students and their parents.

B. The consequence of rapid expansion of primary education

In 1945, when Korea was liberated from Japanese colonial rule, Korea's educational system was in a poor situation. Only 65% of primary school aged children were enrolled in schools. The enrollment rate was less than 20% in secondary schools, and less than 2% in higher education. Moreover, the Japanese teachers, who consist of more than 40% of all primary school teachers and 70% of secondary school teachers, returned to Japan soon after the liberation. Consequently, the country had to face with a sudden and severe shortage of teachers (Korea Ministry of Education, 1998; McGinn et al., 1980).

Despite the inadequate educational resources, the Rhee Sung-man government wanted to establish universal primary school education as soon as possible. In 1946, the interim government (even before the independence and the formation of the state in 1948) announced an ambitious plan for making primary schooling universal and compulsory by 1951. However, the implementation of the plan had to be hampered by the unexpected outbreak of the Korean War in 1950. When the War was over three years later, the government immediately resumed the policy. However, there were several major challenges to overcome. First, the school facilities inherited from the Japanese occupation was grossly inadequate to supply universal primary schooling. Moreover, out of 34,294 classrooms available in 1950, 23,700 were destroyed or damaged by the War (Adams and Gottlieb, 1993, p. 24). Second, the baby boom after the War rapidly increased elementary school aged children. Third, there were severe shortages of teachers.

In order to achieve the rapid universal primary school education, the government had to sacrifice quality of schooling. Though several teachers' colleges were established in order to produce primary school teachers quickly, the supply could not keep up with the ballooning demand. In early years, teacher's certificates were granted to high school graduates with only six months of training. The average student teacher ratio for elementary school was over 60 during this period, and class sizes often exceeded 80 (see Table 2). Though the government started aggressive construction campaign by building more than 5,000 classrooms per year starting in 1954, it was inevitable that a single classroom had to be shared by two or three different classes.

Table 2 Student-Teacher Ratio

The rapidly growing demand for primary school education created financial strain to the government. Parents were asked to share a significant portion of educational expenses such as textbooks, supplies, activity fees and so on. Starting salaries for teachers were substantially lower than comparable workers in other sectors. In order to attract and keep teachers with low salary, the government had to backload the compensation with higher job security, higher pay increase, and better pension benefits.

Overall, the strong commitment for the expansion of primary education by Rhee administration has resulted in a remarkable quantity expansion. The enrollment rate for elementary school rose steadily (see Table 3) from 60% in 1953 to more than 90% in 1965. Primary school enrollment increased from 1.37 million in 1945 to 2.27 million in 1947 to 4.94 million in 1965. The number of teachers increased from 20,000 in 1945 to 79,000 in 1965. Although the goal of universal primary education had been achieved before 1970, primary school enrollments continually rose until 1971 because of the continuing growth of the number of primary school age children. Finally, during the 1970s primary school enrollments were stabilized as the children of the baby boom generation after Korean War graduated from elementary schools, and it started to decrease gradually since 1980.

Table 3 Enrollment Rates and Advancement Rates

As the government had been focusing on the policy objective of the achievement of universal primary schooling as soon as possible, the capacity for public secondary schools did not increased very much. Since the public provision of secondary schooling did not catch up with the demand, the gap was naturally filled up by a growing number of private schools.³ The prominent role of private schools in secondary education sharply contrasts with almost non-existent private elementary school.⁴ It would be safe to assume that many new private schools brought into existence by profit

³ In 1969, when the equalization policy started to be implemented, the proportion of students enrolled in middle school was 50.2% compared to 33.5% in 1952. In the same year, 53.7% of high school students were enrolled in private schools compared to 20.3% in 1952.

⁴ The proportion of students enrolled in private elementary school has never exceeded 2% of the total elementary school students over the last forty years.

motive. However, as for-profit schools were not permitted in secondary schools, many of the owners of private schools had strong incentives to be engaged in an illegal transfer of funds. Furthermore, amount of tuition that can be charged by private schools are under government regulation. Therefore, private schools had in general weaker financial supports and inferior facilities than public schools. Also, most of the private secondary schools were less prestigious because of the lack of long tradition.

Meanwhile, the expansion of elementary schooling created a strong surge in the demand for secondary education in the sixties. Up until late 1960s, each middle school and high school, regardless of public or private, chose students through a competitive entrance examination. The complete school choice secondary schools created rankings among middle schools and high schools. Consequently fierce competition for better secondary schools emerged. The situation was commonly called as *ipsi-jiok* (entrance examination hell). Education policy makers recognized several problems with such fierce competition. First, it was pointed out that the heavy stress of preparing for the entrance exam hinders the healthy (physical as well as psychological) growth of eleven-year old children. Second, schooling in the elementary schools, particularly in the grade 6, was geared too much for the preparation of the exam. Therefore, teaching “normal” curriculum was difficult. Third, a substantial amount of household expenditure was spent for private tutoring to prepare their children for the exam. Fourth, the quality of middle school education differed very much from school to school, and students and their parents were obsessed with the most prestigious schools, commonly known as, *illyubyung* (the disease obsessed with the first class). Many students who failed to get in to the school of their choice repeated the sixth grade in order to prepare for the next year's entrance exam. Also, many parents desired to send their children to an elementary school that is more successful in sending its graduates to more prestigious middle schools. This created unbalanced demand for elementary school student allocations across school districts.

When General Park took over the power by a bloodless coup d'etat in 1961, his primary policy objective was to promote rapid economic growth through export promotion. In order to achieve the goal, the government started a series of five-year economic development plans with strong government initiatives. The plans entailed subsidized capital accumulation for industrialists particularly in export businesses while suppressing the wage in order to make the domestic product more competitive in the world market. The economic planning exercise has been proven to be very effective, and Korean economy started to grow very rapidly under Park's leadership. The rising income along with the expansion of primary schools created a growing frustration over

entrance examination to secondary schools. The government's answer to this problem was the secondary school equalization policy.

C. Secondary school equalization policies

Under the equalization policy, all schools, public or private, had to give up their rights to select new students and are required to take all students assigned by the Ministry of Education through district-wide lottery.⁵ It also made levels of tuition and salaries of teachers of private schools equal to those of the public schools. Any financial deficiency in operating costs, but not the capital costs, of private schools was guaranteed to be subsidized by the government. Accordingly, private schools became almost public in terms of the accessibility to the students, contents of the learning, and the quality of teachers. The only meaningful difference between private and public school remained in the governance structure. Owners of private schools were allowed to maintain certain rights over the school governance, such as personnel matter or capital improvement of school facilities. But even those things were also under the supervision of the government. However, participation by teachers and parents in the governance was almost non-existent in private schools as well as in public schools. As of 2000, all middle school students and about 60% of high school students are under this policy. Major metropolitan cities are required to adopt the policy, but smaller cities and rural school districts are allowed to have a choice on whether or not to adopt the policy.

In response to the growing pressure on middle school entrance examinations, the government announced the equalization policy for middle schools in 1969. The stated objectives of the policy was: 1) to promote normal development of children; 2) to shun primary school education from the preparation of middle school entrance examinations; 3) to discourage private tutoring practice; 4) to narrow the gap among middle schools; and 5) to reduce the burden of households due to the middle school entrance exam. The policy was first implemented for Seoul (the capital of and the largest city in Korea) in 1969, for major cities in 1970, and throughout the country in the following year.⁶

⁵ There had been several changes in the format of secondary school admission procedures. In some years, only the entrance examination scores administered once a year were used. In other years, records of previous schools were used as well. In some years, individual schools administer separate exams, and in other years jointly administered tests were used. Whatever the format of the admission procedure, the right to select students was basically possessed by the principal of the school.

⁶ In order to suppress the parents' desire to send their children to best-known schools by moving to the school district in which they are located, many prestigious schools

Interestingly enough, the equalization policy for the middle schools did not meet any strong opposition. Several reasons may account for this lack of organized opposition. First of all, such heavy-handed regulation was quite common during Park's administration, and any dissenting opinions would have not been very effective. Moreover, as the rapid economic development plan with strong government involvement resulted in quite tangible improvement in the standard of living, the general public was more willing to accept strong government initiatives in other areas as well. Second, many parents, particularly those with children whose chances of being admitted to prestigious schools were not high, supported the elimination of such competition. Finally, most private secondary schools welcome the policy, because the policy provided them with not only the financial subsidy but also better quality students.

The policy quickly reduced the quality difference of students across middle schools. Although there were differences in school facilities and teachers, they were not of any serious concern compared to the quality differences in students. Also, it had been reported that physical development of children was improved due to the elimination of their examination burdens. Although it eliminated the competition for middle school, the competition for better high schools continued. Moreover, the practice of private tutoring did not slow down at all (more discussion on tutoring in the next section), even though it was one of the primary objectives of the policy. In fact, the policy provided reasons for more private tutoring. Because of the equalization policy, the quality difference among students within schools became much greater than before. As students' preparation differ very much, teachers were forced to adjust their teaching methods. This situation was particularly bad for high achieving students who were hoping to get into prestigious high schools. In order to prepare the high school entrance examinations, they relied on more private tutoring. At the same time, the lack of competitive entrance examinations encouraged more students advanced to middle schools than before. The entrance examinations hell moved to the high school level.

The high school equalization policy was first adopted for Seoul and Pusan (the second largest city in Korea) in 1974 and was gradually expanded to several major cities until 1980. The government stated the following policy objectives: 1) to normalize the middle school curricular; 2) to reduce the quality differences among high schools; 3) to promote vocational education; 4) to promote balanced educational development across regions; 5) to reduce private tutoring; and 6) to reduce the urban concentration of high school students. In addition to the elimination of competition among high schools and reduction of private tutoring, which are identical to those of the middle

were eliminated.

school equalization policy, the high school equalization policy includes industrial policy statement and regional planning statement. In order to supply the labor for rapid industrialization, the Park administration wanted to increase the number of graduates from vocational schools. Hence, the vocational schools were excluded from the policy so that they can recruit more able students.

The high school equalization policy was also used as a regional policy that promotes equality between urban areas and rural areas. Since late 1960s, the Park's regime was losing public support. In particular, urban middle class started turn away from the regime as it became politically oppressive. With the rapid expansion of secondary education, most of the prestigious high schools are located in large cities, particularly Seoul. Also, there had been massive rural-to-urban migration accompanying rapid industrialization. Correctly or incorrectly, the government believed that one of the reasons of the migration was to pursue better children's education in large cities. By equalizing the high schools, the government tried to reduce the incentive of migration.

It is important to ask why such drastic secondary education policy took place under the regime of strong developmental state of Park. Our view is that such policy shift is due to the political economy of the military regime. Under the developmental state sponsored by the military dictatorship, there was a growing demand for skilled labor for factories in order to carry out rapid industrialization and export promotion. The industrialists were the major beneficiary and the sponsor of the regime, and they greatly benefited from the increased supply of secondary school graduates. Fierce competition for secondary school admissions discouraged primary school graduates who were not interested or not capable of passing the examination. More importantly, the winners under the competitive admissions were the children of urban middle class professionals. This group has been the most critical of the dictatorial regime. On the other hand, the losers of the secondary school competition were farmers and urban working class. For them, the equalization policy was the major instrument for furthering their children's education. As soon as civilian governments emerged during the 1990s, the equalization policy for high schools lost its momentum, and the government slowed down its implementation, and in some cases, reversed the policy.

Although the equalization policy did not have an explicit objective of achieving universal secondary education, it was undoubtedly closely related to the dramatic increase in the enrollment of the secondary schools during the 1970s and 1980s. In 1956-57, only 44.8% of primary school graduates advanced to middle schools and 64.6% of middle school graduates advanced to high schools. By 1970, 66% of primary

school graduates entered middle schools, and 70% of middle school students to high schools. By 1980, 96% of primary school graduates advanced to middle schools, and 85% of middle school students to high schools. In that decade, the enrollment in middle schools increased more than 100%. A similar phenomenon can be observed for high school enrollments only a few years later. Part of this increase is due to the growth of the elementary school graduates, but a substantial portion is due to the fact that a higher percentage of elementary school graduates advanced to middle school. Many students failed to be admitted to the schools that they wanted to attend under the previous system of entrance examinations. Substantial portion of these students repeated the grade one or more years in order to try their chances in the following year. Under the new equalization policy, these students have no incentives to repeat the grade in order to try their chances one year later. Also, the total number of students accepted for secondary schools by the nation-wide qualification examinations gradually increased.

Despite the government's effort to increase public expenditure in primary and secondary education, the public education input per pupil had not increased until 1965. During the 1960s the student teacher ratio in elementary school was higher than 60. Since then, it has continuously declined to below 30 in 1995, which is OECD. Middle schools and high schools follow a similar pattern with a lag of about fifteen years, i.e., the ratios in middle school and high school increased until 1980 and started to decrease since then. Table 4 shows the increase in per pupil government expenditure for various levels of education. The government's real expenditure per student during 1975 and 1999 has increased about seven times in primary education but less than two times in higher education.

Table 4 Per Pupil Government Expenditure

It is important to note that the higher the level of education is, the lower the rate of increase in government expenditure. Since the government has emphasized primary education first, then secondary education, the education system has to rely heavily on private sector for higher education. Moreover, since Park administration, the government has maintained strong regulations over higher education. Park created a system of admission quota. In 1961, the total number of university students was set to 70,000. His administration wanted to clean up several sub-standard private universities that had sprung up under Rhee administration, as many of them were regarded as illegal and corrupt mechanisms for wealth accumulation for their owners.

At the same time, the administration wanted to use the university quota as a tool for human resource planning in order to supply labor forces in accomplishing the rapid industrialization. In addition to the number of students that a university can admit, the government regulated virtually all aspects of higher education including the amount of tuition charged, the personnel policies on professors (tenure, reappointment, retirement age etc.), and the student admission procedure.

The equalization policies rapidly narrow the gap between the schools that had been the key characteristics when individual schools are allowed to select students. Strong regulations and controls by the government have almost eliminated the competition among secondary schools, but definitely not among students. At the same time, the policy increased the accessibility of secondary schools, and consequently produced more and more high school graduates. Although the quota had been adjusted from time to time, it has not increased very much up until 1980.⁷ As the number of high school graduates started to grow very rapidly following the implementation of secondary school equalization policy, the fierce competition for college entrance examinations and prevalence of private tutoring became a serious social problem. The college entrance examination becomes more competitive, and many households relied on private tutoring for their children's preparation for the exams. Many students felt that the schooling provided in their high school was not adequate enough for them to prepare for university entrance examinations because school or teachers do not effectively teach the students, since the academic background for the students in a typical high school class are very diverse and teachers cannot effectively teach students with such diverse backgrounds. Also in the absence of competitive pressure, schools have not been very responsive to such needs of the students and their parents. The equalization policy, which intended to reduce private tutoring, ironically has made private tutoring more popular. In 1980, it was estimated that more than 30% of high school students adopted private tutoring, and the total expenditure spent on tutoring was estimated about 30% of government expenditure on secondary schools.

Organized efforts against the equalization policy started to grow during the 1970s, particularly among owners and teachers of established private secondary schools. Chun Doo-hwan administration (1980-1987) slowed down the implementation of high school equalization during the 1980s, and in some cases reversed the policy for high schools somewhat. Some small and medium sized cities and rural school districts

⁷ In 1980, the quota was 150,000 including technical colleges. Comparing with the number of graduating high school students of around 800,000 in that year, one can imagine the difficulty of getting into a university.

are allowed to keep the old system. Also, several types of high schools for gifted children in arts, foreign languages, music, sports, and sciences had been established through the country. The establishment of special high schools for foreign languages and for sciences in 1980s was clearly the single most important deviation from the equalization policy, as these schools attracted most academically gifted students who had to pass the entrance examination in order to be admitted. It is widely recognized that they are the best preparatory schools that send their graduates to the most prestigious universities.

D. Private tutoring

The mushrooming of private tutoring has been the most unwelcome development in the 1970s, as one of the primary goals of the equalization policy was to eliminate private tutoring. In 1980, the military junta led by General Chun took the power through a military coup in a power vacuum created by the unexpected assassination of President Park in 1979. One of the first significant social policy of the military junta was the education reform policy announce in 1980. His major policy objective was to deal with increasing competition in college entrance examination. First, it switched from the system of admission quota to that of graduation quota. In 1981, colleges are allowed to admit up to 130% of the graduation quota, and the following year it can admit 150%. This policy was aimed to reduce the competition in college entrance examinations and to encourage college students, who are known to shirk during the college years, to study hard. However, the graduation quota became extremely unpopular by students and college administrators alike, and the government was forced to switch back to the admission quota in 1988. In essence, the policy just increased the allotted quota of university students. Second, the government took a draconian measure toward private tutoring. It banned all schoolteachers and college professors from providing private tutoring. Full time students were still allowed to give lessons. Private tutoring was only allowed in *hakwon*, a private for-profit learning institution by *hakwon* teachers. The government has prohibited all the other forms of the private tutoring including the private instruction by schoolteachers outside the school, the private instruction by *hakwon* instructors outside *hakwon*, and the private instruction through the mail, phones, and TVs. Third, universities are not allowed to conduct a separate entrance examinations. The criteria for admissions had to reflect the score of the nationally conducted achievement test for 12th grade students with more than 50% and the high school record with more than 20%. The intention of the government was to encourage universities weigh more heavily on high school records and reduce the

weight of one-time test results.

The ban on private tutoring was obviously difficult to enforce, and the government was forced to relax the regulation on private tutoring gradually. Private tutoring has continuously increased. In 1997, more than 70 percent of elementary school students and about half of middle and high school students are reported to take private tutoring. Many studies show that private tutoring in Korea is not limited to the wealthy population, and wide spread across groups with different incomes or consumption levels. Korea Education Development Institute (1999) showed that private tutoring expenses were about nine percent of incomes of the households for all income groups except for the fifth (highest income) group with the spending of 7.4 percent of their incomes on private tutoring. Lee and Woo (1998) estimates that Koreans spent 12.4% of GDP per capita per elementary student on private tutoring in 1997, compared to 3.9% for Japanese in 1994.

In 1998, Korean households spend 2.9% of GDP in tutoring, and the amount spent on private tutoring is as large as the total government expenditure on schooling (see Table 5). The out-of-pocket payment by parents for the schooling of their children has been gradually reduced from 1.6% of GDP in 1977 to 0.8% of GDP in 1998. However, the escalating expenditure on private tutoring far more offset the reduction of out-of-pocket payment for schooling.⁸ Since the Kim Young-sam administration's education reform in 1995, there has been a drastic increase in government spending on schools, reflected in the jump in government spending from 2.7% of GDP in 1994 to 3.4% in 1998. However, escalating expenditure on private tutoring despite the big increase in government spending indicates that the mere increase in public spending on education might not be sufficient to contain private tutoring without an overhaul of the education system deeply rooted in the legacy of developmental state. Finally, the ban on private tutoring was declared unconstitutional by the Constitutional Court in April of 1999.

Table 5 Primary and Secondary Education Expenditure to GDP

Even after the apparent failure of the outright ban on the private tutoring in 1980, the government has maintained the strict legal regulations on private tutoring. Those who want to establish a *hakwon* should acquire a permit from the government. Instructors at *hakwon* have to have the certain required academic qualifications, and

⁸ It is highly probable that the expenditure on private tutoring had been underreported in early 1980s because of the ban on most of the private tutoring.

lecture rooms should satisfy the requirement regarding size and environment. Also instruction fees should be kept below the guidelines set by the committee headed by the superintendents at the local education authority. Under this regulatory environment, the number of *hakwons* has increased tremendously from 381 in 1980 to 14,043 in 2000, and the number of students enrolled at *hakwons* has increased from 118,000 in 1980 to 1,388,000 in 2000. The strong regulation on *hakwon* by government is a sharp contrast to the laissez-faire approaches of Japan on *juku* (the Japanese counterpart to *hakwon*). The Japanese government has treated *jukus* like the other small businesses, and accordingly the Ministry of Education in Japan does not regulate *jukus*. Accordingly, compared to *jukus* that encompasses a variety of forms of private instruction and meets the educational demands with flexibility, *hakwon* is a more narrowly defined form and is made to be more like schools. In effect, the Korean government has been trying to confine the private tutoring to *hakwon*, which is easily put under the tight control of the government.

There is a wide spectrum of views on private tutoring. Some view competitive and flexible private tutoring market is a good supplement for rigid formal schooling, and any government control or regulation over private tutoring is counterproductive. Others argue that the wasteful competition among students to enter better secondary schools and ultimately better universities increases the demand for private tutoring and distorts the learning in the classroom. This concern over wasteful competition provides a backdrop to the school equalization policy and the tight control over student selections of universities. Recent calls for the equalizing of university quality among some educational theorists in Korea are based on the same lines of thoughts. Moreover, the policy makers in the military regimes believed that private tutoring would be eliminated by banning the practice or would be properly contained by the direct regulation. Korean government has tried and failed. It turned out that private tutoring has flourished with or without the strict regulation on private tutoring.

The teachers' union argues that the low level of inputs to schooling, such as high student teachers ratio and out-of-dated school facilities as the major reasons why schools are losing competitiveness vis-à-vis private tutoring. Hence, they call for more public investment in education. However, their argument does not square well with the historical experience. As we have seen in the previous section, inputs for public school have increased rather drastically. Despite this, increasing number of parents and students opt for private tutoring despite the increasing levels of inputs to schools.

Kim and Lee (2001) argue that private tutoring is a natural market response to

the uniform low quality provision of publicly provided schooling. Therefore, any attempts to directly control or regulate private tutoring activities would be futile. When there is a substantial consumption externality in education, i.e., households care not only the absolute amount of educational service, but the relative amount as well, private tutoring may be an inefficient and inequitable way to provide educational service. When the government imposes rigid university admission procedures and when the admission to a prestigious university is regarded very valuable to households, they have a great deal of incentive to spend money on private tutoring unless the positional concerns are well addressed by formal schooling.

Private tutoring is not only financially burdensome for households, but it displaces regular schooling preventing schools from providing a balanced curriculum. Teachers and students lose enthusiasm and interest in the classroom because private tutors had already covered most of the contents taught in classes. The access to private tutoring is purely based on the ability to pay by parents and students, and all the financial burdens of private tutoring fall directly on the shoulders of individual parent and student. The wide variations of the quality and the existence of huge financial burdens of private tutoring has overshadowed the equalized quality across schools and the open access to schools, which were major outcomes of the equalization policy. Also the efficiency of education, which has been highly rated by many authors of Korean education, should be also put into question when the huge costs of private tutoring are added to the public funds on schooling. Korea is spending more than 7% of GDP in primary and secondary education, which is much higher portion of GDP compared with other countries.

E. College entrance examination policies and frustrated reform efforts

In contrast to the equalized secondary schools, Korean higher education system has evolved into a well-established ranking over the years. The rising demand for higher education inevitably increased the competition for better universities. Since 1980, the government has used various measures regarding college admissions in order to reduce competition for better universities and private tutoring and to “normalize” high school education.⁹ However, these measures created more controversy and undesirable side effects rather than achieved the goals. The following is the partial list of measures that government has tried in one time or another.¹⁰

⁹ The government had announced several times that admission policy will be totally unregulated in the future, but it has never been realized.

The elimination of entrance examinations by individual colleges has been tried in various times. The main justification for the elimination was that the commonly administered subjects, such as Korean language arts, mathematics, and English, often distort the incentive of students so that they concentrated studying those subjects and ignored other subjects. Also, the preparation for fewer subjects was criticized that there were greater incentives for private tutoring. Hence in some years, more subjects were demanded to encourage students study widely. Ironically, the requirement for more subjects increased the demand for private tutoring as students have more subjects to prepare. The scholarly aptitude test, administered by the government sponsored testing agency once a year, was meant to be a qualification test to test whether a student is prepared to do the college level work. However, as the universities are not allowed to conduct the individual college entrance examinations, the aptitude test became the major test for college entrance.

Secondly, in addition to the test results, the government mandated that the student's high school records be considered in the admission decision. The justification was that one time entrance examination does not properly measure the student's true ability, and students were guided to study for the examinations rather than to follow the intellectual development. However, because of the relative high student-teacher ratios in Korean high schools, the evaluation cannot be done carefully. Most teachers used the class ranking as the key indicators of high school records, which was the most widely acceptable method to students and to teachers who had been using the test results in determining their school choices for many years. The ranking students for each class created even more competition and stress among students. As such problems were recognized, the government forced high schools to consider non-academic aspects, such as leadership, group behavior, etc., as well. Such subjective measurements were criticized as many parents bribed teachers to make their children seem more favorable to the teachers.

Furthermore, even under equalization policy, there were significant differences across schools depending on socio-economic backgrounds of students of schools. In order to reinforce the equalization policy, government prohibited colleges from weighing the differences in high school quality in student selection procedures. Any information regarding the quality differences among schools is not disclosed, and the evaluation of an applicant's academic performance in high school is restricted to only relative position of the applicant in school. The relative position of student in school without information on the quality of school cannot convey much about the true academic capability of the student. Therefore, universities rely more heavily on

entrance examinations in student selection. In 1997 when the policy that forces the relative evaluation only were implemented, the majority of students of the special purpose schools whose academic credentials were highest in the nation resigned from the school.

There were several occasions that the government tweaked with the format of the nationwide tests. In order to make students to learn widely rather than to focus on specific subjects, the test was grouped in three major areas (such as language arts, critical thinking, quantitative methods) rather than traditional subjects (such as English, mathematics, biology, and so on). Such transformation did not do the trick to reduce the competition among students. In 1998, there was a conscientious effort to make the test easier, but the competition did not go away. Meanwhile, there was a strong public criticism that the easy test cannot discriminate the student's ability well, and many thought that it was unfair. The next year, the test was made more difficult, and there was an outcry from the public that it was too difficult. The government also pressured to adopt essay questions for the entrance examinations, as the nationwide test is completely in multiple-choice format. Typically, students are required to write essays of length about 1500 words within 120 to 150 minutes. Currently, many schools adopt such open-ended essays with 3-10% of the total weight.

A major shift in education policy-making process began during Kim Young-sam administration (1992-1997), the first civilian president since the military coup in 1961. During the military governments of Park and Chun, it was common that major policies had been decided on the top without soliciting much input from general public. As Korea become more democraticized, such process became no longer viable. It became much more open and pluralistic. In 1994, President Kim commissioned a blue ribbon advisory council in order to make the education system more responsive to changing domestic and international environment. For the next three years, the council had proposed a series of comprehensive reform packages including more than 100 reform measures. In essence, the reform packages called for the following objectives: 1) to make the education system more flexible so that it can accommodate non-traditional students more easily; 2) to make primary and secondary schools more responsive to the local needs of students and parents; 3) to create curricular that encourages creativity rather than memorization; 4) to develop a college admission procedure that requires less private tutoring; 5) to create evaluation system for teachers, professors, and universities; and 6) to increase public expenditure on education to the level of 5% of GDP. Clearly, some of the policy measures were clearly not possible to obtain during the Kim administration, and were intended as the future guidelines. Others were about

the changes in regulations and were relatively easy to implement.

The Kim Young-sam administration wanted to create a more decentralized school governance system. Some of administrative powers of the Ministry of Education were delegated to local and regional school boards. Also, the school operation committees for each primary and secondary schools, composed of parent, teachers, and school administrators, so that inputs from parents are reflected in the operation of the school. However, the locally responsive, democratic governance system has not been established as the policy makers had envisioned. The inertia of top-down decision-making prevailed the Ministry, school boards, and individual schools.

Kim Dae-jung government (1998-2002) continued the education reform efforts by making it as one of the highest priorities. The first policy issue that the new administration tackled was the college entrance examination policy. The government continuously tried to ease the stress of the examination and the burden of private tutoring by changing the college admission policies. As was discussed earlier, such tweaking did not achieve the intended purposes. Rather it created more confusion and disorientation. The second policy issue was to lower the mandatory retirement age of the teachers. The earlier administrations have made the schoolteachers' salary structure heavily back-loaded in order to reduce their financial burden. As the teachers age, their salary continues to rise until it reaches the highest when reaches the retirement age of 65. The earlier cohort of teachers were also least educated as they were hired when the demand for teachers were the greatest. Consequently, the compensation structure was not consistent with teachers' abilities and efforts, but automatically determined with their tenure on the job. Against the strong opposition by the teachers' unions, the government managed to decreased the mandatory retirement age to 62. The third major policy initiative was to adopt an evaluation procedure and merit-based system of salary for teachers. This initiative also was enormously unpopular among teachers. When the merit portion of the pay was distributed among teachers, teachers unions reallocated the money among themselves so as to completely negate the merit pay system that the government had tried to implement.

The reform exercise during the past two administrations has been quite frustrating for the government as well as for teachers, students and parents. Although some of the reform measures were quite progressive in making the educational system more responsive to education consumers, many of the intended objectives have not been met. The difficulty of education reform is not unique to Korea, and has been observed in many countries. As many political economists pointed out, the amount of benefit by the reform for each beneficiary would be small, although there are a large

number of beneficiaries. On the other hand, cost of reform would befall to a small number of interested groups, and each would have a substantial cost. Therefore, the losing group is more likely to participate in the policy making process so that their interests are protected. Moreover, it is difficult to measure the output of an education system, unlike other economic reform efforts where the benefit of reform is more tangible, such as unemployment rate or growth of income level, and so on. Under this situation, it is unlikely that any group would like to act as a reform entrepreneur creating free-rider problems. Also, in education reform, there is no established and internationally acceptable reform program that a country can borrow from. Therefore, each country has to develop its own reform program that is most appropriate for its specific environment.

Besides these general reasons of there are several reasons specific to Korea. First, public discussion on education reforms has been focused on eradicating the symptoms of the education ill rather than eliminating the root causes. For example, the main goals for the equalization policies have been the elimination of private tutoring and reduction of competition for entrance exams. Not only these goals are not necessarily desirable, but also they cannot be obtained without major structural changes in the secondary schools. Ironically, while the policies did not achieved the intended goals, they created a rapid expansion of secondary education and the decline of quality of secondary schools, which in turn create more demand for private tutoring.

Second, as the government has relied on quick fixes in order to eliminate the symptoms, there has been a great deal of sudden policy changes. The sudden policy changes confused the public, and reduced the credibility of government's reform agenda. The government had tried to ban the private tutoring. However, the repeated trials in banning the private tutoring stopped with the decision of Supreme Court that the ban is against the Constitution of Korea. For another example, the introduction of special purpose schools, which select students with high achievements in math, science, or language arts have created serious conflicts with the equalization policy. Under the equalization policy, the grades in every high school are reported to universities through the uniform rules regulated by the Ministry of Education. According to the rules, a student who ranked 10th, for instance, should be given the same scores as any student who ranked 10th in any high school in entering universities, as far as grades in high schools are concerned. Arguing that their students become handicapped in the university entrance exams because of the rules, the new special schools ask the Ministry of Education that their students should be treated differently with other students. This recreated the fierce controversies among parents. Another example of

sudden government policy change can be seen in the standardized test. In an attempt to reduce the pressure for college entrance examinations, the government made the test easy in 2000. As the criticism that easy examinations could not discriminate students very well arise, the government made it much harder in the next year.

Third, although the top-down approach of the dictatorial government was no longer effective in pluralistic participatory democratic system, the government often made policy initiatives without much public consensus. Clearly, the benefits of reform naturally spread over many education consumers such as students and parents, while the cost may be concentrated to relatively few education suppliers, notably teachers, school administrators, and the government bureaucrats. Consequently, the groups that have more vested interests mobilize themselves in order to protect their interests. Since the installation of democratic government, the teachers' unions have gained substantial political power. Also, parents started to organized several non-governmental organizations, which start to voice their opinions. When the government tried to implement unpopular policies, the parties with opposite view blocked them in public arena creating public discourse and discontent. Kim Dae-jung government' policy of reducing the mandatory retirement age completely alienated the teachers, and they tried to block any other reform measures by the government. In 2001, the government implemented merit-based salary system in order to create incentives for better teaching. However, the teachers' union effectively blocked the proposed system by returning the merit-pay portion of the salary and redistribute among the teachers. Certainly, this kind of public display of conflict and mistrust would not help. In the education sector in which output is difficult to measure, building a public consensus has been a daunting task.

Fourth, though the reform agenda of Kim Young-sam and Kim Dae-jung administrations contained several comprehensive and progressive ideas, the government's unwise choice of priorities and sequencing often antagonized other players in the education sector. For example, the government's efforts to promote autonomy of individual schools have not been very effective, as the top-down administration and school governance structure had not been changed. Similarly, the policies promoting accountability such as merit pay and school operation committee should have been preceded with the disclosure of individual school information.

Finally, in addition to those general reasons, the Korean Ministry of Education, which plays the most important role in leading the reform effort have gone through very frequent leadership changes. The average tenure of the Minister is about a year since

1988.¹¹ It has been virtually impossible for the Minister to be able to pursue a reform policy with certain degree of confidence and persistence.

VI. Roadmaps to More Competitive Korean Education System

Given the history of frustrating education reform, what are the key areas of reform in Korean school system that needs to be pursued? The following tries to answer the question in two ways. First, what should be the broad policy objectives that should be followed over time? They are the general directions that the system should be heading in order to meet the challenge of future knowledge-based global market place. Second, we would like to point out specific policy recommendations that are important as the key impediments in the current system. Certainly, actual design and implementation of policy changes requires much more detailed planning and coordination between all the parties involved. Therefore, the suggestions listed below should be regarded as the very first step of such process.

A. Broad objectives

1. Deregulation

The first policy objective should be de-regulation. Much of the Korea's educational malaise can be overcome by removing the government's grip on education system. There seems to be two major reasons why the current Korean education system is so much under government control. The first is the inertia of statist paradigm that has been successful in the developmental period. Statist paradigm is government-led development initiatives in order to generate the fastest growth by playing catch-up more advanced economies. In this paradigm, the state has deeply involved in allocating credit allocation, subsidizing certain industries, sometimes certain firms, to target limited resources. Similar successful government intervention in education has resulted in rapid expansion of education during 1960. Even when the quantitative expansion is no longer the major policy objective, the government has maintained strong regulative paradigm.

The second reason for strong government regulation may be due to the need to

¹¹ The short tenure of the minister level positions in Korea has been pointed out as one of the key factors that government-led reform effort has not been successful. The situation in the Ministry of Education has been particularly bad.

control quality and transparency in governance in private providers. As a major tool for rapid expansion of education, Korea had to rely on private sector. Currently, about one third of middle schools and two thirds of high schools are private schools. Such large presence of private providers made the government use regulation in maintaining quality control in instruction and transparency in governance.

However, it appears that the Korea's successful Old Model of uniform delivery of education through heavy regulation. It is no longer suitable for the future education goal in the globalized knowledge-based economy, the uniformity through regulation creates serious side effects. Too much regulation stifles innovation. It removes any incentives from local educational providers, such as principals and school teachers, to adopt the local needs by parents and teachers. The local provider's principle accountability is to the central bureaucracy. The uniform education does not serve diverse education demands of the future generation.

The primary force that the education reform should rely on must be the individual incentives rather than regulatory bureaucracy. It has been found over and over that the overly stringent regulation that goes against individual incentives of the key players have been ineffective resulting in more complicated and opaque operations, often beating the intent of the regulation completely. Regulation inevitably creates socially wasteful rents. Although anybody who receives rent may be benefited privately, the rent-seeking activities among stakeholders would generate inefficient resource allocation. First, there is a cost associated with rent-seeking, and the stakeholders have to use resources in order to obtain rents. Second, the existence of rents distorts the incentive structure of the stakeholders so that resources are devoted to socially wrong signals.

2. Decentralization

Since 1995 reform initiatives, Korean school system has been somewhat decentralized. However, much of the power rests on central authority. Most importantly, financial arrangements are strictly under central control. Curricular are also strictly centralized. Because of the centralized curriculum, teachers are not allowed to encourage students for alternative thinking and diverse perspectives.

Although personnel decisions are somewhat decentralized, teacher qualifications and salary determination are fundamentally determined by the central authority. Such centralization does not provide regional/local administrators enough effective mechanism to manage local resources in order to meet the local demand. Such divergence between the demand and incentive system is not effective in meeting

the local demand.

One of the key aspects of the design of the better system is how to align the incentives of key educational providers. As long as their salary is determined by the number of years served without much consideration of performance, teachers will not be responsive to any changes. An alternative is to give such authority to those who can observe their performance better.

As was seen in the experience of many other countries, decentralization is a tedious process that involves several mistakes on the way. From the perspective of the central authority, it is a risky process that gives up a working plan, that may be inefficient and inequitable, but none-the-less working. From the perspective of local/regional authority, it is a new, never tried, additional burden. Therefore, in order for the decentralization be successful, it must accompany that the success of decentralization should be rewarded to local/regional players.

3. Allowing more heterogeneity across schools and expanding school choice by students

Since the equalization policies, secondary schools are strictly under government control. Even the private schools are under strict government regulation in return to the financial subsidy given by the government. It would be desirable to create more diverse school supply system. While maintaining fairly good control of the system, the central authority should provide more freedom in their operation while reducing or eliminating government subsidies.

Certainly not all private schools are prepared to take the initiative. Therefore, the government may want to limit the expansion of the independent schools to only schools that would like to pursue the initiative, while maintaining the current subsidy to the other private schools that would like to remain in the current system of subsidy with more regulation.

At the same time, students should be given more school choice. Although, students and parents may influence the operation of the school through the school steering committee or the parents association, individual influence of the student or his/her parent would be infinitesimal. Only major way to improve the situation of the student who is not satisfied with the current school is to withdraw from the school and seek for an alternative.

At this point, the only viable exit option is go abroad. However, it is an expensive and risky option to many students. The domestic school system should be able to absorb the bulk of such demand, if the schools and students were given more

choice. There are limited school choices for specialized schools, such as language, math and science, sport, and arts schools. However, there is no reason why such choice be expanded.

B. Specific recommendation

1. Autonomous college admission policy

The Korean educational policy makers have tried very hard to reduce private tutoring by tweaking the college admission policy. However, such attempts are not only ineffective but not necessary. Some have argued that the stable ranking among Korean universities is a sign that credentialism. Credentialism is the idea that the purpose of education is to obtain credentials for job markets and other socio-economic activities rather than the accumulation of human capital that increases productivity of the educated. Therefore, according to credentialism, educational investment is likely to be inefficient. Although the credentialism is an accepted theoretical construct, the evidence in empirical studies in education supports human capital theory much more strongly than credentialism (Belfield, 2000, chap. 2).

In any case, college ranking is the predicted theoretical outcome in the competitive education market in which private schools are mixed with public schools in the supply of education. Moreover, Epple and Romano (1998) find that such equilibrium is in general efficient. Therefore, the stable ranking is by any means a definitive evidence for credentialism and inefficiency of education market. On the contrary, stable ranking is a result of well functioning competition in the college entrance market.

Based on the three decades of experience and theoretical prediction, it is very clear that private tutoring will not be prevented or reduced by changing college admission policies. The frequent change in the policies just adds confusion and frustration of students and parents. The heavy reliance on private sector for its higher education sector, it is not practical for Korea to implement equalized public university system such as in Germany. Also, most countries that have exclusive public university system have hierarchies of their institutions. It is inevitable to have the hierarchy in the university system, and it should be regarded as the sign of healthy competition in the pursuit of excellence.

2. Teacher's personnel decision needs to be decentralized.

One of the most important resources in public school system is teachers. They

are the front runners of delivering instruction, and the first interface with parents. They are the primary feedback mechanism between education policy makers and students. Therefore, it is crucial for an effective educational governance system that the incentive of teachers should be aligned to the better delivery of education. However, in the current personnel management system of teachers in Korea, there is very little feedback mechanism that negative behavior and performance of teachers are sanctioned and positive behavior and performance are rewarded.

It is unfortunate that teachers have been the major target of various reform measures without explicit expectation of their job descriptions. The nationwide personnel management system in which the state is the trainer, certifier, and employer of teachers will be never be compatible to the idea of decentralized accountability. The employer of teachers should be local school districts. The contract negotiation between teachers and their employers should be settled at the local level, not at the national level. The nationwide contract negotiation has to be necessarily political, and any kinds of dispute between the state and the national teachers union would create a large scale interruption of the school system.

The current evaluation system proposed by the Korean Ministry of Education and Human Resources will not create a proper incentive mechanism for the excellence in teaching. The key question is whether the teachers need to be evaluated, but who evaluate the teachers, and how much the evaluation affects the teachers' compensation, possibility of promotion, and job security. Unless the school administrators who supervise the teachers have such authority, any kinds of evaluations would be a waste of energy.

3. Expand school choice

The secondary school equalization policies introduced in the 1970s effectively eliminated student school choice and heterogeneity of schools. Although the government has introduced several special purpose schools and alternative schools, they are a very small faction of secondary schools. Although the equalization policies have contributed greatly in expanding the provision of secondary education, the total elimination of competition in entering high schools did not eliminate competition for better schools. It simply pushed the competition to the college level. Moreover, as the because of the inability of choose students by high schools, the natural tracking of students by abilities across schools were eliminated. Naturally, the student body in each school became very diverse, and the school needs to deal with the great diversity without much preparation.

At this point, it would be not be very wise to return to the old system. Such idea would be politically quite controversial, and the conflict will not be resolved very easily. However, relaxation of equalization policies would decrease educational costs both to the government and households. Schools should be able to provide more effective curriculum depending on students' abilities and motivations. By doing so, instructions in schools will be made more beneficial to the students. At the same time, if effective schooling is provided through the school system, the need for private tutoring would be diminished.

More specifically, any students no matter where they live should have a reasonable set of selective schools. To the author's estimation, that means more than 20% of schools (private and public) should be free to select students. The government may not want to provide financial subsidy to those private schools that select students. In essence, they would be more or less free of government regulation in return with own fiscal responsibility.

As was seen the example of Mexico, Chile, and the U.K., the quality information regarding different schools play important roles in effectiveness of school choice program. On one hand, if the students and parents are ignorant of school quality differentials, the school choice program would not create any substantial impacts. On the other hand, if they are very sensitive to the quality differentials, it may create severe imbalance between student applications and school capacities. Therefore, two points need to be considered. First, enough choice schools should be available, and student selections should also be diversified so that some schools may want to use entrance exams, while others may use random assignment. Second, the location of more desirable and selective schools should be determined so that all students in the district have reasonable access to those schools.

4. Decentralize curriculum choice

Expanded school choice and selective schools should be accompanied with decentralized curriculum choice. Since some students are going to be segregated according to their abilities and motivations, it would be necessary at least such schools should be allowed to choose their own curricular depending on the students needs.

However, curriculum decentralization is not an easy task as it sounds. When teachers are used to deliver standard educational material and the development of new pedagogical material takes extra effort, not all teachers may be motivated to develop new curriculum. Therefore, decentralized curriculum choice needs to be coupled with proper incentive system that provides positive encouragement to those who are willing

to take initiative to develop new curriculum in order to meet the demands of students.

5. Indirect election of regional superintendent should be changed

One of the basic premises of the Old Model is the professionalization of teachers. In other words, the teachers who are trained as teachers are best qualified to not only teaching of students but running the educational administration. This idea creates corporatism between the government and teachers. Since the employer of the teachers is the government, but the task of teaching is mainly by teachers, the cooperation between the government and teachers is fundamentally important in public school system. The danger of such corporatism is that students and parents have very little input to the system. More importantly, in the Korean context, there has been no other viable alternative to choose from for the dis-satisfied students. Opting out of the Korean educational system and go abroad become a popular option for upper middle classes. Such option is not only expensive but also stressful to the family life.

The current Korean election methods for the regional superintendent illustrates how such corporatism can create a system that are controlled by the professionals and not being responsive to the students' needs. If the executive of the regional school authorities is elected by a electoral colleagues of teachers, administrator, and some inside parents, the process will become very political. The elected official needs to cater the needs of the ones who elected the official to the office. Therefore, the welfare of the system, particularly the needs of the students, becomes the top priority. Such system will create faction, and politically charged election process, and rent-seeking activities among stakeholders through the election process.

An alternative is to elect the superintendent directly by voters. Although this system clearly will make the superintendent accountable to the voters, it will make the decision making by the superintendents too much politically motivated. Another drawback of the system is that the voters may not have enough information regarding the candidates' technical qualifications to be able to decide the vote.

In my view, the best alternative is to elect the members of the regional education board, and the board appoints the superintendent. This system will make the superintendent accountable to the local residents, as the board members are directly elected by them. At the same time, the board should be able to determine the individual qualifications by more in-depth interviews of the superintendent. Therefore, the superintendent may have some independence in running the school system.

6. Streamline the education bureaucracy

The sheer number of government workers and the depth of layers in educational bureaucracy has been one of the major problems in Korea. The relative strength of the government bureaucracy has been the hallmark of the statist government during the developmental period in which the Old Model prevailed. In order to create and implement detailed regulations, it is necessary to have a large number of bureaucrats. However, the large number of bureaucrats may create unnecessary further activities simply to show that the bureaucracy works hard, without much effort to effort of evaluating whether such activities are indeed necessary. Streamlining the educational bureaucracy will certainly reduce the financial burden of the government. Decentralization implies that the innovative energy should come from below where the actual delivery of instruction occurs, not from above. Heavy regulation also makes the market value of the retired bureaucrats, as they can be used as an effective lobbying channel by private schools.

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Figure 1 Changing paradigms in education system

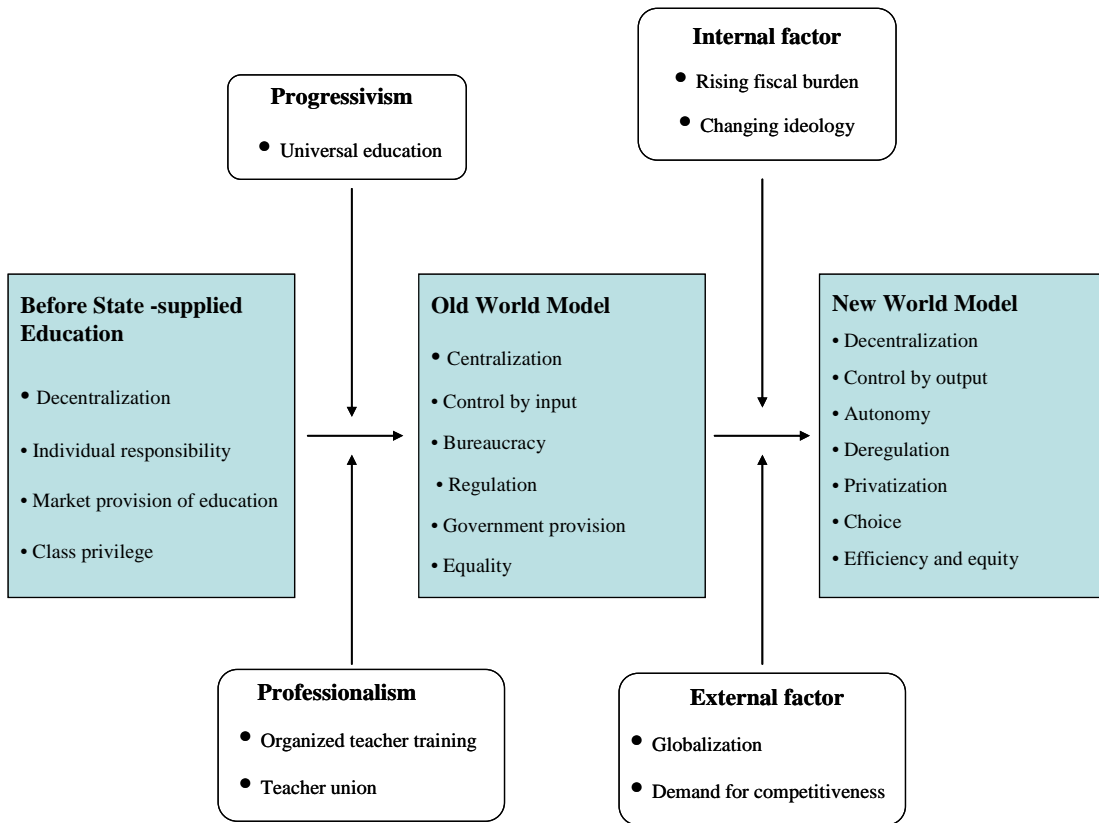


Figure 2 Benefits of Education

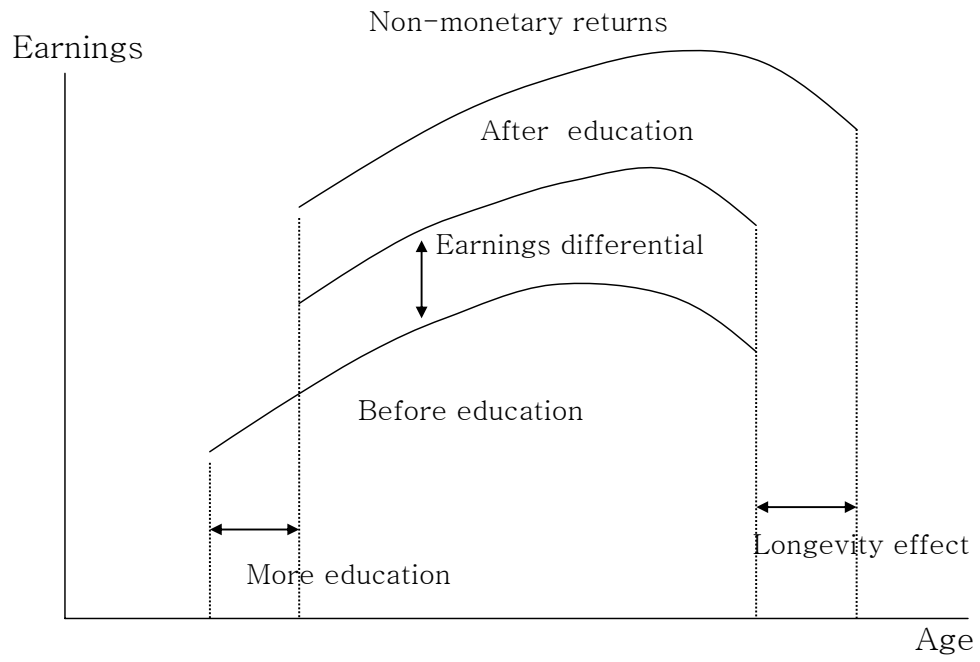


Figure 3 Aggregated Effects of More Education in Segmented Labor Markets

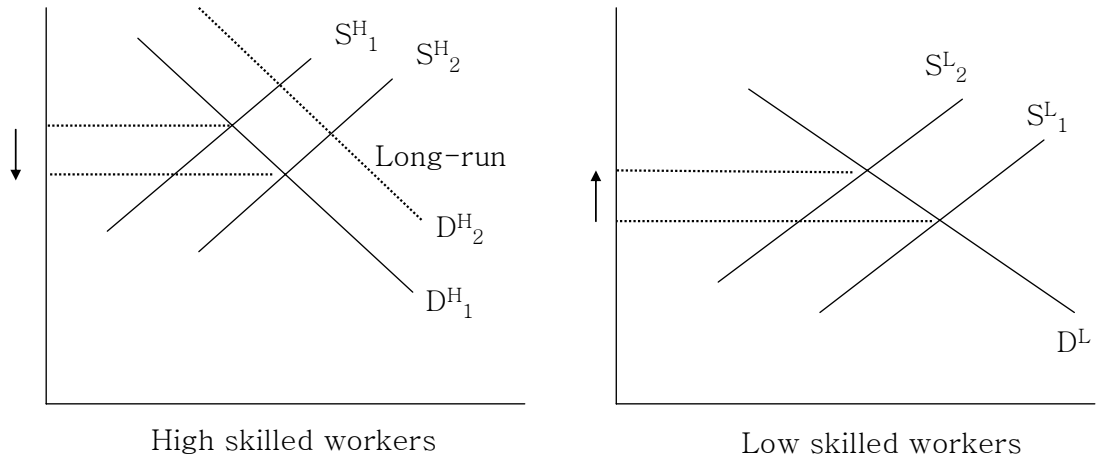


Figure 4 Optimal choice among inputs

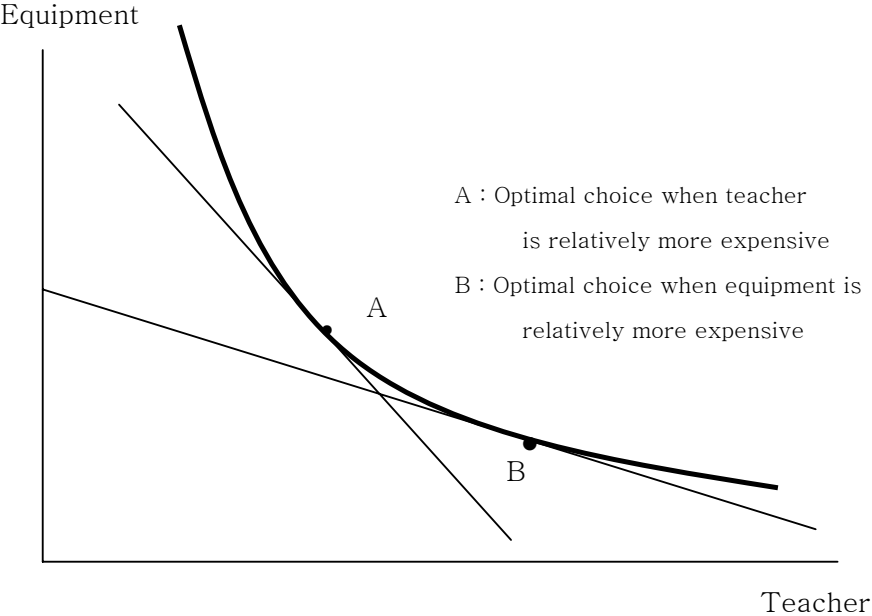


Table 1 Rates of Returns to Schooling

Country	Rate of return to Schooling (%)
Italy	2.3
Japan	4.47.7-13.2
Denmark	4.8
Sweden	5.0
Norway	5.4
Netherlands	5.7
Finland	7.3
Germany	7.7
Australia	8.0
U.S.A.	8.4-17.9
Canada	8.9-11.5
France	10.0
United Kingdom	15.3
Mexico	16.1

Source: Cohn and Addison (1998)

Table 2 Student-Teacher Ratio

	Elementary School	Middle School	High School
1945	69.3	-	25.9
1952	66.5	37.4	27.3
1956	61.2	44.8	38.1
1960	58.6	40.7	27.2
1965	62.4	39.3	30.2
1970	56.9	42.3	29.8
1975	51.8	43.2	31.4
1980	47.5	41.2	33.9
1985	38.3	40.0	31.6
1990	35.6	25.4	25.4
1995	28.2	24.8	22.1
1997	27.3	22.3	22.9
1999	28.6	20.3	22.2

Source: MOE, Statistical Yearbook of Education, various years

Table 3 Enrollment Rates (ER) and Advancement Rates (AR)

	Kinder garten	Elementary School		Middle School		High School		
	ER	ER	AR	ER	AR	ER	AR- Academic	AR- Vocational
1953	-	59.6	-	21.1	-	12.4	-	-
1955	-	77.4	44.8 ¹	30.9 ¹	64.6 ¹	17.8	-	-
1960	-	86.2	39.7 ²	33.3 ²	73.3 ²	19.9	-	-
1965	-	91.6	45.4 ³	39.4 ³	75.1 ³	27.0	-	-
1970	1.3	100.7	66.1	51.2	70.1	28.1	40.2	9.6
1975	1.7	105.0	77.2	71.9	74.7	41.0	41.5	8.8
1980	4.1	102.9	95.8	95.1	84.5	63.5	39.2	11.4
1985	18.9	99.9	99.2	100.1	90.7	79.5	53.8	13.3
1990	31.6	101.7	99.8	98.2	95.7	88.0	47.2	8.3
1995	39.9	100.1	99.9	101.6	98.5	91.8	72.8	19.2
1999	37.3	98.6	99.9	98.8	99.4	97.3	84.5	38.5

Source: Data before 1970 are from McGinn (1980), and other data are from MOE (1998).

Notes:

ER = percentage of students enrolled out of corresponding school-aged children

AR = percentage of the students who advance to the next level school

¹ 1956-57

² 1959-60

³ 1954-65

Table 4 Per Pupil Public Expenditure (in constant thousand 1995 Won)

	Primary School	Middle School	High School	Technical College	Teachers College	University
1975	214	324	590	1,758	3,567	2,523
1980	360	478	455	2,152	3,386	3,150
1985	657	618	820	1,764	3,221	2,494
1990	834	1,030	1,159	1,583	4,441	2,806
1995	1,412	1,380	1,785	2,538	4,226	4,227
1999	1,585	2,079	1,950	3,562*	5,409	4,602

Source: MOE, Statistical Yearbook of Education, various years

Note: * for the year 1998

Table 5 Primary and Secondary Education Expenditure to GDP

	Total	Publicly Paid on Schooling	Privately Paid on Schooling	Privately Paid on Private Tutoring
1977	4.6 (100)	2.3 (50.5)	1.6 (34.4)	0.7 (15.1)
1982	4.8 (100)	2.7 (56.5)	1.7 (34.7)	0.4 (8.8)
1985	4.9 (100)	2.6 (53.2)	1.4 (28.5)	0.9 (18.3)
1990	4.7 (100)	2.5 (52.9)	1.0 (20.9)	1.2 (26.2)
1994	5.2 (100)	2.7 (52.1)	0.7 (14.4)	1.8 (33.6)
1998	7.1 (100)	3.4 (47.3)	0.8 (11.8)	2.9 (40.9)

Source: Survey on Educational Expenditures, KEDI, various years.

Note: The numbers in the parentheses are the ratios to the total expenditure.

The End