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Considering Equity in Basic Education Reform in Japan From the Perspective of Private Costs of Education

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It is widely acknowledged that the private costs of education occupy a substantial part of the overall education cost and thus they have implications for quality and equity in education. The case of Japan demonstrates that access to basic education at junior high school level is unequal and inequitable when considering private costs of education borne within and outside the school system. It was also found that household spending on supplementary education in public schools is likely to be determined by local implementation of education reforms. Current education reform with its absence of financial and technical support to schools under the guise of deregulation does not seem to generate good levels of choice nor does it seem to sustain quality and equity in education.

Key words: private costs of education, education reform, equity, *yutori* education, supplementary education

Introduction

It is widely acknowledged that the private costs of education occupy a substantial part of the overall education cost and thus they have implications for quality and equity of education (Tsang, 2002). Likewise, the importance of incorporating private resources in general and household behavior in particular in educational research on decentralization is noted since educational policies and household behaviors interact to determine educational outcomes (Behrman and King, 2001). Private costs of education also have important implications for potential tensions between productive efficiency and equity as well as between freedom of choice and social cohesion in the education system (Levin, 2002). If parents choose to spend more on their children's education within and outside the school system, such additional investment in education is likely to increase productive efficiency and freedom of choice in the education system as a whole. On the other hand, private spending on education within and outside schooling can potentially cause inequality and less social cohesion if parental socio-economic status limits their freedom of choice and hinders overall common educational experiences.

When considering the importance of the private costs of education in the education system as a whole, the recent Japanese education reform is worth noting as a viable case study. The Ministry of Education, Culture, Sports, Science and Technology (MEXT) reduced approximately 30 percent of subject content in the Course of Study for public elementary and junior high school in April 2002. The official view of MEXT regards this extensive reduction in the Course of Study as a form of deregulation by limiting the role of MEXT to oversee the fulfillment of the 'minimum' requirement of subject content taught at school (Terawaki, 2002). In addition to a reduction of school time (the complete five-school-day-a-week system) , 15-20 percent of time that used to be allocated for major academic subjects such as mathematics and English is now dedicated to so-called 'comprehensive learning' for which each public school can

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choose the content that deals with more general and cross disciplinary issues such as international exchange and information technology (Namikawa, 2001). This education reform is based on the notion known as '*yutori* education,' which denotes that students need "a liberal, flexible, and comfortable school life" to develop their individuality (MEXT, 2000).

The education reform initiative under the name of *yutori* education in 2002, however, has created some degree of controversy not only in the policy sphere but also among the general Japanese public. While the proponents of this education reform claim that this is a preferable sign of decentralization and a measure aimed at increasing efficiency (Miyazaki, 2002; Terawaki, 2002), the opponents argue that *yutori* education will worsen the disparity among the population in terms of private spending on education as well as incentives for study (Saito, 2002; Kariya, 2002; Nishimura, 2003; Sato, 2000; Kariya, et al., 2002). If *yutori* education encourages parents to favor private schooling and demands more of their resources outside school, it implies that family financing of education and the socio-economic and cultural backgrounds of parents will increase in importance. Consequently, with respect to equity, issues of further disparity would be unavoidable since the economic burden on families would vary tremendously, based on families' socio-economic background and available resources.

The availability of literature, however, that links the issue of private spending on education, socio-economic background, and the current education reforms in Japan, is sorely lacking. Against this background, this article aims to examine the private costs of education in Japan and discuss the equity of the current education reform.

Historical and Theoretical background to the issue of Private Costs of Education in Japan

Historical Background of the Japanese Education Reform

Yutori education emerged in the 1980s as the antithesis to overheated competition at school entrance exams and the workaholic attitudes in the labor market, both of which characterized Japanese industrialization in the 1960s and 1970s (Yano, 2001). The direction of the current education reform in Japan is based on the recognition that children's lives are extremely hectic and aims to create a liberal, flexible, and comfortable school life; something that is seen to be urgently required. This is not only a domestic view but also has long been supported by an international view that Japanese education is distorted by overheated competition at entrance exams and credentialism in the society (Dore, 1976; OECD, 1978).

So-called "compressed educational modernization" which increased elementary school enrollment from little less than 10 percent in 1870 to over 90 percent in 1890 is characterized by freedom of competition, tied-in with industrialization, centralized bureaucratic control, intense nationalism against western modernization and colonization, and an immaturity in "public" education (Sato, 2000). These historical characteristics are important when considering why *yutori* education became necessary in general, and why Japanese parents are so eager to spend large sums on their children's education in particular for two reasons. First, the aim of education in Japan has been the prosperity of the nation-state and the social mobility of individuals through competition. Nationalism shaped around national interest and selfish individual competition were two wheels of "compressed educational modernization." Public education in this process is immature, because society, which is placed between the state and individual, and association, by which independent individuals cooperate with each other, have not fully developed around educating children. Thus, pubic awareness of education has been connected to individualistic and egoistic notions while "public" education belongs to the government: the separation between individual (private) and the government (public) may explain some individualistic parental aspirations for their children's education (Sato, 2000).

Second, national education in Japan had a clear goal of economic growth in the modernization era, and the growth of education was in response to the needs that arose during the process of industrialization. Today Japan is confronted with the new goals in the post-industrialization period in which the past characteristics of the Japanese education system seem to be outdated. While noting that the remnant of the industrialization period, overheated competition in education, is unfavorable, *yutori* education attempts to establish a new direction of Japanese education in the post-industrialization period, and has in the process created much controversy.

However, it is important to note that there is a gap between the MEXT's and OECD's perceptions of the state of students and that of numerous researchers. Empirical studies show that students have consistently reduced their study time throughout the post-war period in contrast with the image of "hard-working" Japanese children presented by the OECD (1978) and the Central Council for Education (1996) (Kariya,

2002; NHK Hoso-bunka Kenkyu-jo, 1995; Tokyo Metropolitan Government, various series). Just to compare with the international average, Japanese students reported 2.3 hours of daily study outside the school for eighth graders in 1995. This ranked Japan the thirtieth out of thirty-nine countries as compared to the average of 3 hours (IEA, 1995).

Along with the decline in the number of hours devoted to supplementary education in the post-war era, there has also been concern about an increasing disparity between the advantaged and the disadvantaged in eagerness and effort to learn as well as actual academic performance (Kariya, 2001). In light of the impact of cram school attendance on the disparity in academic achievement, Kariya and his colleagues (2002) find that students who go to cram school and those who do not go to cram school have substantial differences in test scores. More importantly, these disparities have become evident particularly after the introduction of the idea of *yutori* education in the late 1980s.

Private Costs of Education and Equity in Basic Education

There are numerous studies that examine private costs of education in the international literature. Empirical evidence shows that the magnitude of private resources to public schooling is generally large in developing countries (Tsang, 2002; World Bank, 2002; Kitaev, 2001: 53). This phenomenon is explained by "the excess demand" model (James, 1987; James, 1995) that describes the role of the private sector to fill the gap between the small capacity of the public sector, relative to the size of the age cohort, and excessive demands for education. Excess-demand-driven private schools often face low quality of education (Bray, M. and Lillis, K., 1988; Bray, M. and Lillis, K., 1994). It is partly because of the insufficiency of public schools, but is also caused by the substantial private costs of public education even under "free" primary education policies (Tsang and Kidchanapanish, 1992; Tsang and Taoklam, 1992; Tsang, 1994; Tsang, 2002.

Contrary to the case of developing countries, the issue in developed countries seems more to do with differentiated tastes about the kind of education to be consumed. Distinguished from the excess demand model, this model is called "the differentiated demand model" (James, 1987; James, 1995). This model hypothesizes that important taste differences about education stem from religious and linguistic differences as well as academic quality. In the case of East Asia in general and South Korea and Japan[2] in particular, taste means sending children to the most prestigious private schools and more peculiarly, the making use of additional, supplementary education outside schooling.

Numerous studies have shown that private resources have implications for quality and equity of education in Asia (Tsang and Kidchanapanish, 1992; Chen, 1992 quoted in Tsang, 1994; Yi, 2002; Bray and Kwok, 2003). In the case of Japan, there is a considerable difference in the amount of educational expenditure by income and occupation (MPHPT, 2002). There is also a study that shows that father's education is significantly correlated with parental commitment to their children's education as well as children's academic achievement (Nakamura, et al., 2002). Another study finds that there has been a difference in student's experience with supplementary education by father's occupation throughout the post-war period but that there is a statistically significant relationship between supplementary education and entrance to high performing high schools, regardless of the father's occupation (Aramaki, 2000).

In sum, although there is no existing literature that reveals the pattern of parental behavior as a reaction to policy change, the available literature shows that there is some difference in parental commitment to children's education by socio-economic background. Thus, it can be inferred that educational policies and household behaviors interact to determine educational outcomes in the context of Japan as well as many other countries.

Conceptual Framework and Data

Conceptual Framework

As an analytical framework, the study applies concepts derived from the literature on private costs of education and school choice as well as existing sociological literature on *yutori* education. As Tsang and Kidchanapanish (1992) and Tsang and Taoklam (1992) note, the private cost of education is divided into three components, namely: the direct private cost of schooling, household contribution, and indirect private costs. Direct private costs of schooling are expenditures by parents on their children's education, such on school fees (tuition and other school fees), textbooks and supplementary study guides, writing supplies, uniforms, school bags and transportation. Household contributions to schooling are contributions, in cash or kind, from families to schools and/or school personnel. Indirect private costs of schooling refer to the economic value of the opportunities forgone as a result of schooling. In the context of Japan, direct costs of schooling

will also include those for supplementary education, such as cram schools and tutoring. There is also no opportunity cost since Japan has maintained its compulsory education system of elementary (6 years) and junior high school (3 years) since 1947 and the cost of child labor is not applicable since child labor is neither permitted nor socially acceptable. Thus, indirect costs are excluded from the analysis.

There is a considerable gap between public and private schools in Japan in the amount of direct cost and household contribution. However, more than the dichotomy between these two types of schools is required to understand individual variation, since supplementary education outside school is quite common. An analysis of the variability of private costs within the same type of school, in this case, private schools, will enable us to further understand potential equality and equity in education under the current system.

With regard to socio-economic and cultural background, some sociologists have already shown these to influence student participation in supplementary school (Aramaki, 2000), attitudes toward learning, and behavior (Kariya, 2001; Kariya, et al., 2002). Furthermore, the available descriptive statistical data show significant differences in the absolute amount of education spending by household income level and occupation of the household head, as discussed earlier. Thus, it is reasonable to assume that students' socio-economic background affects the private cost of their education.

The effect of the current school choice system on private financing of education would also need to be incorporated in the analysis. Within the dominant public sector, the school of attendance in Japan has long been regulated by the school districts which assign children to a school based on location of residence. However, since 2000 there have been several attempts to introduce choice into the Tokyo metropolitan area public schools. In these public school choice systems, students can apply to a school regardless of their place of residence. When the number of applicants exceeds the number of seats available in a school, a lottery is used. Since *yutori* education has increased the school mandate to run "comprehensive learning periods," the range of parental choice was expected to expand under this initiative. In this sense, James' "differentiated model" (James, 1987 and 1995) seems to be more applicable to the Japanese education system than before. Since sample parents are those who chose private schools among various options, the differentiated model applies even more strongly.

To analyze the unique effect of *yutori* education on private financing on the education of private school parents, I use a comprehensive framework presented by Levin (2002). Underlying this approach is the assumption that education systems face tradeoffs in values, and these values can be examined for each education system. Productive efficiency refers to the relationship between the resources provided for schooling and their educational impact. Equity refers to issues of fairness in access, resources, and outcomes of education by category of student. All issues of fairness have subjective or judgment elements in terms of categories of students and criteria. A central concern of equity is distribution of goods and services among populations. Freedom of choice places heavy emphasis on the private benefits of education and on the liberty to ensure that the schools chosen are compatible with the child-rearing practices of the families. Lastly, social cohesion denotes a common educational experience that will orient all students to grow to adulthood as full participants in the social, political, and economic institutions of their society. This is generally interpreted as requiring common elements with regard to curriculum, values, goals, language, and political orientation.

Using this comprehensive framework in relation to the education system, it can be usefully employed to help clarifying whether parental perceptions of *yutori* education and local education policies within this framework affect their behavior with respect to financing beyond socio-economic status and school factors.

Data

The data for this study came from three sources: 1) the National Survey on Learning Expenditure of Households (NSLEH) (1994, 1996, 1998, 2000, and 2002); 2) the National Household Expenditure Survey (NHES) (1984-2003); and 3) the original data of private school parents and local education committees collected in September-November 2004. NSLEH and NHES are both administered by the government of Japan and hold nationally represented samples of households and schools respectively.

The original data was collected from 9 private schools in 6 central wards in Tokyo and from 76 ward or city level education committees. The Sampling method used was criterion and convenience sampling. The criterion sampling is applied to parents of the ninth graders because ninth graders have made the decision of school choice when the *yutori* education initiative was undertaken in 2002. The convenience sampling was unintentionally adopted because it was difficult to obtain cooperation from the schools. All public school head teachers who were contacted refused to participate in the study for such reasons as busy schedules, absence of a

mandate, the sensitivity of questions (e.g. socio-economic background and education cost outside of school), and simple lack of interest in the topic. There were only 9 schools out of 137 (the participation rate of 6.6%) that agreed to participate in the study. Thus, 9 sample schools are convenience samples that generated access to the targeted population in question.

In order to maintain generalizability for the Tokyo metropolitan area (23 wards), the spread in the location of schools in various areas in Tokyo and the sample size needs to be statistically justified. Using the random sampling calculator, I calculated the number of sample students to be surveyed, set a tolerance level of error at 5 percent and confidence level at 95 percent, which generated the minimum sample of 377 students. I obtained 477 completed questionnaires out of 1,429. The overall response rate was 33.4 percent. As for the education committee, I obtained complete questionnaires from 76 committees at the overall response rate of 77.6 percent.

Trends and Determinants of Private Costs of Education in Japan

National Trends in Private Spending on Education

The NHES data shows a clear upward trend of education expenditure per child over the last two decades as shown in Figure 1. In concrete terms, while the total household expenditure on education increased by 190 percent between 1984 and 2003, the number of children decreased by 5.5 percent during the same period. When looking at before and after the introduction of the education reform in 2002, total household expenditure on education has increased by 4.7 percent while the number of children per household has declined by 1.1 percent. Thus, it can be said that household expenditure on education has increased per child after the education reform.

The main contribution to the increase of household expenditure on education is due to school fees. Supplementary education increased dramatically in the late 1980s and the early 1990s as opposed to the number of children per

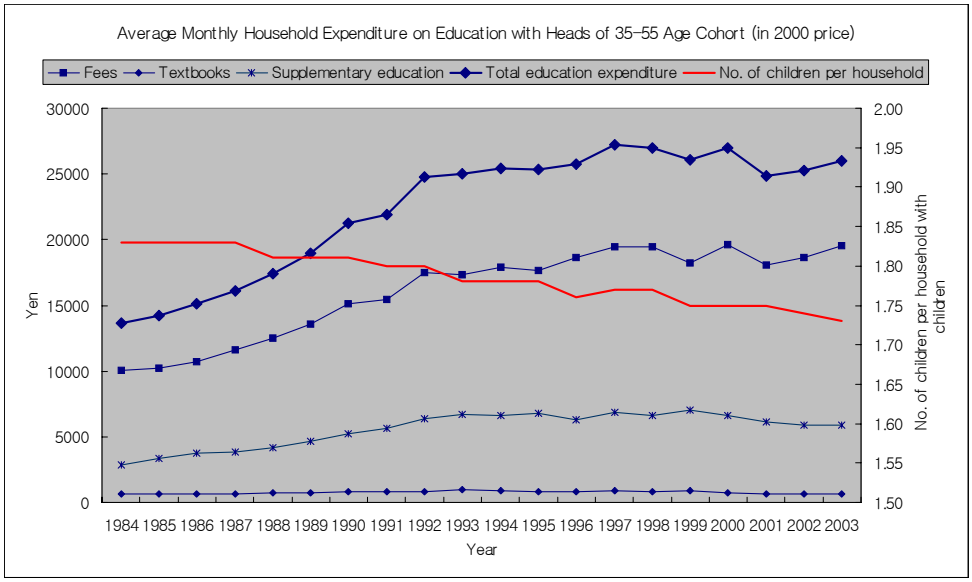

Figure 1. Trend of Household Expenditure on Education (in 2000 price) and the Average Number of Children per Household with Children

Note. The household expenditure on education was obtained by calculating the average of household whose head is within the 25-55 age groups from the aggregated data by age group of 25-29, 30-34, 35-39, 40-44, and 45-50. Children are defined as those who are under 18 and not married.

Source: Ministry of Pubic Management, Home Affairs, Posts and Telecommunications (MPHPT), National Household Expenditure Survey (NHES), various years and Ministry of Health, Labor, and Welfare (MHLW), Survey on Health and Welfare (SHW), various years.

household that showed a constant decline. It should be noted that 1989 was the year when the idea of a reduction in the content of the course of study was first initiated. Interestingly, as the quantity of content in the course of study was reduced from public education, parents reacted to it by spending more on supplementary education. However, this upward trend of supplementary education has been stagnant since the late 1990s. Thus, the drastic reduction of quantity in content in the course of study in 2002 has not yet resulted in an increase of average expenditure on supplementary education unlike in the late 1980s and the early 1990s.

It should also be noted that the economic burden of education, which denotes the proportion of education expenditure in total household expenditure, also shows an inverse trend with the number of children per household as shown in Figure 2. That is, the economic burden of per-child expenditure on education has increased over the last two decades. The economic burden of education experienced a sharp increase in the early 1990s, just after the first introduction of a reduction in quantity of content in the course of study. When looking at the current reform in 2002 and 2003, there is a significant upward shift again. The economic burden of education jumped from 7.13 percent in 2002 to 7.93 percent in 2003 while the number of children per household decreased from 1.75 to 1.73 between the same years. Although a mere comparison between the two years is insufficient to conclude the impact of *yutori* education on household expenditure on education, it can be inferred that parents reacted to the education reform by bearing a heavier economic burden than before, in the same way as in the early 1990s.

National data on education expenditure per student outlined in NSLEH shows a distinctive difference in the trends between public and private school costs over the last ten years and its composition of each cost category as shown in Figures 3 and 4. Taking up the case of grade 8 students, whose parents spend the most on supplementary education in Japan, the data shows that the total cost of education for grade 8 students has gradually decreased for public schools between 1994 and 2002, while that for private schools has steadily increased during the same period. In particular, school cost for private school has increased constantly while supplementary education costs have stagnated since 2000. Both school cost and supplementary education costs for public school have decreased at a similar pace. As a result, the public-private gap in education cost has increased between 1994 and 2002. Education costs for private schools exceeds that for public schools in all cost categories in all years. It is particularly noticeable that private school costs have increased from nearly 5 times as much as public school cost in 1994 to 6 times in 2002. In sum, although there is no acute increase in private cost of education both in public and private schools before and after the *yutori* education initiative in 2002 in absolute terms, there is a long-lasting trend of the cost gap between public and private schools widening over the last 10 years and it is still expanding under the current education reform.

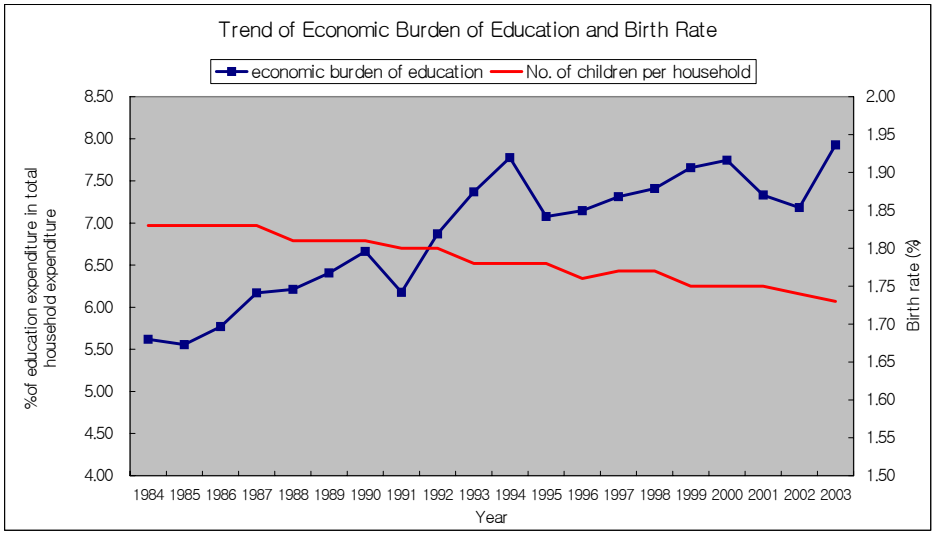

Figure 2. The trend of Economic Burden of Education and the Average Number of Children per Household with Children
Source: MPHPT, NHES, various years and MHLW, SHW, various years.

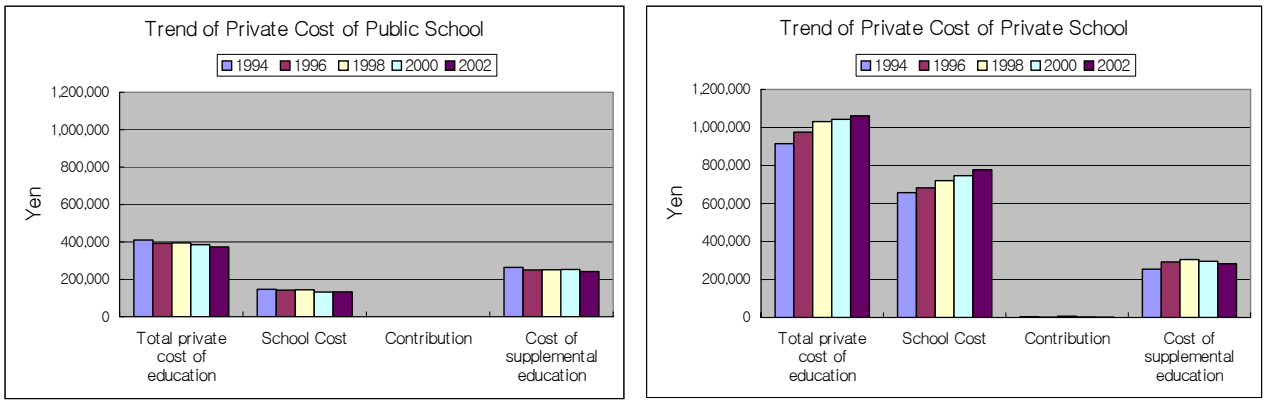

Figure 3. The trend of Private Cost of Public and Private School for Grade 8 Student

Note. School cost includes tuition, excursion fees, student board fees, PTA fees, other school fees, textbooks and other books, learning materials, extracurricular activities, transportation, uniforms, school lunches, and other school learning costs. Household contribution is defined as in-cash contribution to school. Cost of supplementary education includes home learning, tutoring, cram school and other education that includes costs for community and cultural activities as well as lesson fees.

Source: MEXT. National Survey on Learning Expenditure of Households (NSLEH), various years.

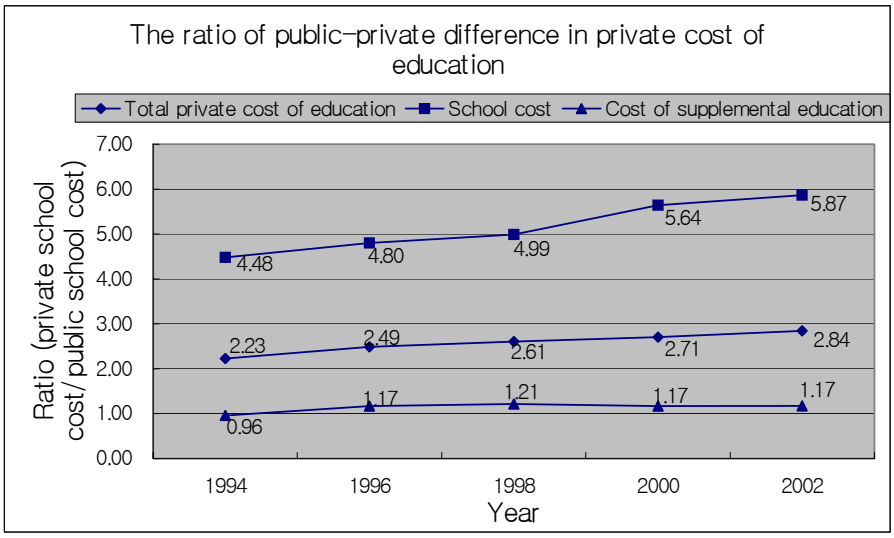

Figure 4. The Ratio of Private School Cost to Public School Cost by Category of Private Education Cost for Grade 8 Students

Source: MEXT, NSLEH, various years.

Determinants of Private Cost of Education

On average, a sample household in the original data spends 903,300 yen on school costs, 11,400 yen on contribution to school, and 288,100 yen for learning costs for a year for a junior secondary student in private schools. This makes the economic burden of monthly education expenditure per child as high as 15.57 percent on average.

Among these education costs, Table 1 shows the results of OLS regression models that explain school costs and monthly education costs and the economic burdens they carry with them. Determinant factors of school cost are household expenditure, the father's occupation, the location of residence, the size of school, and parental satisfaction with the school program. Holding other variables constant, households with higher expenditure levels, fathers being in public office work,

Table 1. *The socio-Economic and School-Related Determinants of Private Costs of Education*

	School cost (FY03/4)				Monthly education expenditure (FY03/04)			
	Per child expenditure (10,000 yen)		% share in total household expenditure		Per child expenditure (10,000 yen)		% share in total household expenditure	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Income	.717		-.737**		.344		-.436*	
	(.947)		(-3.541)		(1.300)		(-2.416)	
Expenditure		.143**		-.083**		.160**		-.023*
		(3.471)		(-8.256)		(23.654)		(-2.588)
Father's occupation: Individual	.535	.520	-1.237	-1.165	1.484	-.563	-.824	-1.150
Proprietor/Manager	(.126)	(.125)	(-1.064)	(-1.158)	(.984)	(-.756)	(-.797)	(-1.152)
Private office worker	1.488	.806	-.086	.153	-.242	-.080	-1.127	-1.322
	(.439)	(.240)	(-.092)	(.188)	(-.187)	(-.123)	(-1.276)	(-1.517)
Public office worker	11.711*	11.404*	2.382†	2.216†	-.323	.497	1.216	.891
	(2.302)	(2.295)	(1.733)	(1.838)	(-.184)	(.561)	(1.014)	(.750)
Mother's education	.025	-.288	-.183	-.195	.079	.020	.132	.046
(years of education)	(.028)	(-.339)	(-.752)	(-.947)	(.246)	(.127)	(.610)	(.219)
Location of residence	-7.299*	-6.190*	-1.537	-2.114**	-.812	-.806	-.918	-.955
(23 wards=1)	(-2.467)	(-2.113)	(-1.897)	(-2.976)	(-.749)	(-1.467)	(-1.233)	(-1.298)
Number of children in household	1.076	.580	-1.230*	-1.045*	-.343	-1.456**	-2.344**	-2.258**
	(.564)	(.309)	(-2.373)	(-2.297)	(-.465)	(-3.890)	(-4.681)	(-4.505)
Hensachi Score of school	-.009	.130	-.028	-.075	-.016	-.055	.008	.0006
	(-.040)	(.550)	(-.423)	(-1.319)	(-.176)	(-1.223)	(.133)	(.010)
Size of school (Levels 1-4)	7.469**	6.645**	.964	1.207*	.192	-.412	-.854	-.844
	(2.949)	(2.674)	(1.402)	(2.001)	(.208)	(-.892)	(-1.369)	(-1.365)
Parental satisfaction with school	2.181*	1.792†	.148	.383	.329	.115	.181	.287
program (Levels 1-8)	(2.190)	(1.866)	(.551)	(1.643)	(.900)	(.629)	(.735)	(1.172)
Parental time contributed to	.009	.012	.017†	.014	-.005	.005	.008	.008
school (hours)	(.263)	(.378)	(1.839)	(1.775)	(-.385)	(.794)	(.859)	(.933)
Constant	55.571**	54.146**	22.345**	23.906**	5.102	4.945†	21.449**	21.715**
	(3.793)	(3.781)	(5.633)	(6.882)	(.939)	(1.817)	(5.824)	(5.956)
R square	.159	.206	.183	.363	.025	.708	.137	.143
N	204	197	195	197	263	252	249	251
Model fit	Sig.	Sig.	Sig.	Sig.	Insig.	Sig.	Sig.	Sig.

† p<.10. *p< .05. **p<.01.

Note. Numbers in parenthesis are t-value. Control group of father's occupation includes no occupation (only 1 person in this category), non-office worker (both temporary and permanent), merchants and artisans. While the classification of occupation was adopted from the National Household Expenditure Survey (NHES) data, the income quintile could not be used from the same source. This is mainly because the pilot data revealed that the income level of households that have a junior high school student in private schools in Tokyo has higher income levels than the national average and the income quintile of national average that includes households without children or all age groups..Hensachi-score is a deviation value of school drawn from the pre-entrance examination organized and publicized by one of the largest cram schools in Japan.

Table 2. The possibility of Parental Investment in Supplementary Education in Public School

	Think of supplementary education (Levels 1-8) due to:			
	Academic concern		Time concern	
	(1)	(2)	(3)	(4)
Income	.003		.015	
	(.099)		(.438)	
Expenditure		-.0005		-.0001
		(-.248)		(-.048)
Father's occupation:	.400*	.514**	.102	.284
Individual Proprietor/Manager	(2.179)	(2.783)	(.494)	(1.378)
Private office worker	.150	.182	-.029	.014
	(.974)	(1.132)	(-.169)	(.077)
Public office worker	-.074	.058	-.202	.027
	(-.354)	(.269)	(-.860)	(.110)
Mother's education (years of education)	-.012	.007	-.011	-.008
	(-.301)	(.183)	(-.243)	(-.175)
Number of children in household	.047	.081	.005	.048
	(.523)	(.838)	(.046)	(.445)
Hensachi Score of school	.020†	.016	.013	.013
	(1.833)	(1.419)	(1.076)	(1.009)
Size of school	.118	.080	.119	.104
	(1.077)	(.701)	(.971)	(.811)
Parental Perception on *yutori* Education on:	.004	-.0007	.027	.020
Freedom of choice (evaluation points 3-24)	(.188)	(-.036)	(1.235)	(.841)
Efficiency (evaluation points 3-24)	-.040*	-.043*	-.074**	-.082**
	(-2.178)	(-2.222)	(-3.660)	(-3.772)
Equity (evaluation points 3-24)	-.058**	-.065**	-.039	-.052*
	(-3.245)	(-3.305)	(-1.949)	(-2.379)
Social cohesion (evaluation points 3-24)	-.054*	-.046†	-.032	-.030
	(-2.241)	(-1.845)	(-1.199)	(-1.091)
Local Education Policy on:	.109	.165**	.105	.164*
Public school choice (existing in 2002=1)	(1.881)	(2.666)	(1.617)	(2.374)
Efficiency (priority points 1-8)	.012	.006	-.001	-.020
	(.353)	(.175)	(-.030)	(-.487)
Equity (priority points 1-8)	.020	.026	-.015	-.002
	(.347)	(.428)	(-.233)	(-.304)
Social cohesion (priority points 1-8)	.041	.006	.016	.078
	(.555)	(.810)	(.198)	(.904)
Students in assigned public school (%)	.007	.008†	.011	.011
	(1.466)	(1.655)	(1.920)	(1.949)
Constant	6.229**	5.857**	6.388**	6.147**
	(5.706)	(5.070)	(5.226)	(4.768)
R square	.206	.220	.171	.206
N	352	308	352	308
Model fit	Sig.	Sig.	Sig.	Sig.

† p<.10. *p< .05. **p<.01.

Note. Numbers in parenthesis are t-value.

the household living outside the 23 central wards in Tokyo, or the student being in a larger school will bear higher school costs. On the other hand, the economic burden of school cost is determined by household income, expenditure, location of residence, the number of children in the household, and the size of the school. When controlling other variables, households with lower income or expenditure levels, the household living outside the 23 central wards, households with fewer children or the student in a larger school will result in a higher economic burden of school cost.

As for monthly education expenditure, the determinant factors are only household expenditure and the number of children in the household. Holding other variables constant, with an increase of 10,000 yen in household monthly expenditure, the monthly education expenditure per child will increase by 1,600 yen. Additionally, when controlling other variables, with one more child in the household, the household will reduce their monthly education expenditure per child by approximately 14,560 yen. The economic burden of monthly education expenditure is also determined by household economic level and the number of children. In particular, the number of children is a strong determinant factor: when holding other variables constant, with one more child in the household, the household will reduce the economic burden of monthly education expenditure per child by approximately 2 percent.

These results indicate that even among private school students, how much parents spend on school costs, learning costs, and monthly education expenditure vary to a great extent and that variability is in fact explained partially by socio-economic factors. In particular, household wealth, measured by household income and expenditure, is a powerful determinant of private spending on education. That is, only parents who have higher incomes and expenditure levels can send their children to private schools that have higher school fees, holding other variables constant. As predicted by Osano (2003), it can be said that students from wealthier family tend to be in private schools with higher school costs which are less restricted by *yutori* education and spend more on learning costs outside school in what is an apparent attempt to prepare for high-level universities since they are in junior high school. Thus, the education system is not entirely equitable in the sense that opportunities of going to private schools with high school fees or receiving supplementary education are relatively restricted to students from wealthy families.

What about the disparity in public schools? What factors determine the supplementary education cost of public school students? Since supplementary education cost occupies approximately 60 percent of the total private cost of education for grade 8 students in public schools, it can be said to influence the quality and the equity of education (MEXT, various years). As an assumptive question, sample parents of private school students were asked how much they thought it necessary to increase their participation in supplementary education, were their child in public school. Upon the recognition that parental behavior would be influenced by local education policies and parental perceptions of *yutori* education, these policy variables were added to the regression models as shown in Table 2.

The determinant factors of how much parents thought of increasing supplementary education due to academic concerns in relation to public school are father's occupation, parental perceptions of *yutori* education, and the degree of public school choice in locality. Holding other variables constant, the father being the individual proprietor or manager, parents perceiving *yutori* education as inefficient, inequitable, or socially less cohesive, or the household living in an area with a more open public school choice system are likely to increase supplementary education in public school. The influence of the father's occupation in managerial occupations is consistent with the existing literature (Aramaki, 2000). The influence of the public school choice system can be explained by the fact that people who live in the areas with more open public school choice systems are more eager to send their children to private school[5] and also that expected variety and improvement of quality of education has not yet been realized by school choice system, which deepens parental distrust of public schools.

On the other hand, the determinant factors of how much parents thought of increasing supplementary education due to time concerns are parental perceptions of *yutori* education, the degree of public school choice system, and the proportion of students being in assigned schools. Holding other variables constant, parents who perceive *yutori* education as inefficient, inequitable, or socially less cohesive, households which live in areas with a more open public school choice system or with more students in proportion in the assigned public school will think more of increasing supplementary education due to time concerns.

Thus, local education policies and parental perceptions of the current education reform seems to have more influence on parental behavior in terms of supplementary education in public school than socio-economic factors. In other words, the disparity between students who receive supplementary education and those who do not in public school is likely to be determined by the current education reform. The current

education reform may have exacerbated the disparity among students through private investment in supplementary education.

Conclusion

From the perspective of the demand side of education, equality of educational opportunities, quality of education and educational outcome is an issue in some considerable degree of flux and fluidity in many Asian and Pacific countries and the inequity of educational service among various groups is still prevalent in many parts of the world. As shown in the previous analyses, Japan is not an exceptional case in terms of these issues and is confronting the issue of equity under the current education reform.

The absence of financial support targeted to *yutori* education may be a principal reason why parents think that *yutori* education is inefficient. MEXT's emphasis on *yutori* education as "the minimum requirement" can be interpreted as "the minimum input," prompting parents to pay more for supplementary education in public schools. If a new approach to basic education is to be introduced, initial public financial support is necessary. If parents were to see further public investment in public education and good schooling, improving quality of education through comprehensive learning, the situation might change. Good choices would be widely available regardless of whether the school in question was a public or private school, and parents and students would be able to "choose" from various school programs regardless of their socio-economic status. The current education policy with its absence of financial support does not seem to generate good choices or to sustain quality and equity in education. If this situation continues, educational services that meet students' needs will be available only outside school. Since learning costs outside school are determined by household income and the number of children, as shown earlier, the consequences are that educational quality and choice will be controlled by family wealth and that the number of children per household will further decline as parents pursue quality education for each child.

Unquestionably there are parents who are in despair over the public school system but have no alternative but to send their child to an assigned public school due to the heavy economic burden of education. Even parents of private school students are not entirely happy with a cost of education that occupies 15.6 percent of their household expenditure on average per child. School finance in Japan leans heavily on the household economy, a phenomenon which seems to be accelerating under *yutori* education.

The Central Council for Education (2002) states that more involvement in education is required from the home and community. However, expected costs and the marginal private benefits from *yutori* education are unclear. The fact that in Japan there is no comprehensive study of cost by socio-economic status undermines the effects of decentralization. As Behrman and King (2001) note, information on expected values and marginal private costs and benefits is critical to successful decentralization. The lack of information creates severe parental anxiety about the public schools under *yutori* education. Sampled parents do not seem to see marginal private benefits from the education reform. They are more seriously concerned about the costs that they bear to "exit" the public school system due to *yutori* education. Improved quality in the public schools is the main requirement of parents, but the current education reform has no clear vision of how to secure education quality beyond the minimum standard set by the government.

In sum, decentralization can be retarded or offset if households decide to reduce their schooling investments in response to various costs, to increased demand on household time resources, and to other factors. In order to make decentralization more efficient under *yutori* education, it will be necessary for households to obtain proper information on expected values and marginal private costs and benefits and to have a greater voice in determining how schools evolve because of decentralization. The distrust parents have of public schools can be reduced only by strengthening the commitment of the state to education reform, not just through rhetoric but through financial and technical support to both public and private schools. In particular, to increase school choice in a genuine sense, measures that target education subsidies to households with lower incomes and expenditure levels and with larger numbers of children will be effective and equitable.

The private cost of education is a particularly important element of education finance in Asia where parental aspirations are known to be high and private costs of education occupy a substantial part of household economy, as shown in the previous studies (Tsang and Kidchanapanish, 1992; Chen, 1992 quoted in Tsang, 1994; Yi, 2002; Bray and Kwok, 2003). In these countries, educational policy makers need to incorporate the aspect of private costs of education into their analysis on equality and equity of education in general and the impact of education reform on these issues in particular. In this respect, Japan presents a good example to

contemplate the equality and equity of basic education after achieving the fundamental goal of education for all (EFA).

Notes

1. In comparison to the international standard, Japan has 787 hours of class per annum for grade 8 students, which ranks Japan 14th out of 15 surveyed countries and regions under the current system (Watanabe, et. al., 2003).

2. James (1987) classifies the expansion of private education in Japan as "the excess demand model." However, the post-industrialization period (1980-) in Japan experienced more characteristics of the differentiated demand model in that those students who pursue entrance to high level universities go to private schools (Aramaki, 2000). This trend has been accelerating even more due to a recent sharp decrease in the birth rate.

3. According to the data collected by 76 local education committees, private school students occupy approximately 24.3 percent of all students in ward or city with a complete public school choice system in 2002, while private school students account for 9.2 percent to 18 percent in the areas with a less open choice system.

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