



*Education Vouchers and  
Education Subsidy  
in Hong Kong*

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HK\$15.00  
ISBN 962-441-054-2

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### Acknowledgements

This project is funded by a Direct Grant from The Chinese University of Hong Kong.

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ISBN 962-441-054-2

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## Education Vouchers and Education Subsidy in Hong Kong

### Abstract

This paper differentiates between public subsidy for education from public provision of education and argues that public subsidy through a voucher scheme is more efficient than public provision. The production efficiency, cost efficiency and allocative efficiency of the education voucher scheme are analysed. The paper concludes that the timing for adopting a voucher scheme in Hong Kong is getting better.

### Public Subsidy for Education

There are a number of reasons why government subsidises education. One of the reasons that has been put forward is that education has social external benefits which are not captured by the individuals themselves, and therefore when education is left to the private sector, the private sector tends to underinvest in education. One example of that type of benefits is crime reduction. It has been observed that individuals with more education tend to have a lower crime rate.

Another reason why government should subsidise education is that education, besides being a private good consumed by individuals, is also a public good. Education has a role in providing for common values and knowledge which are necessary for a democracy and economy to function effectively. As a public good, government should be involved in subsidising and providing it.

The third reason that has been put forward for government intervention in education is the issue of equity. If we accept equity as a social goal, then government will have a role in subsidising education so as to equalise educational opportunity amongst youngsters from different socioeconomic backgrounds. Schooling

provides the channel for upward mobility, especially when capital markets are so imperfect that individuals cannot borrow to finance their education. Government has a role in providing education opportunities for those from poor families.

Even though there is a rationale for government involvement in the education sector, it does not necessarily follow that there should be public provision or government control of education. Public provision and public subsidy are two separate issues — government can subsidise but does not necessarily have to be involved in the process of providing for education. However, from observed historical experience of countries over time, most governments decide on public provision. There are different theories why governments adopt the method of public provision instead of public subsidy through some sort of market mechanism.

One of the arguments put forward to explain why governments usually decide on public provision is the one by West (1965). He found that in the history of public education in England and the United States, public provision of education was a means of transferring wealth to educators. He indicated the primary force towards free and compulsory public schooling in these two countries was mainly from educators. The public school system expanded, and as a result school educators got higher pay and therefore more benefits.

Another view is by Lott (1987). He believes the reason why governments want to control education is that governments tend, through different policies, to transfer wealth and redistribute income. One way to lower the costs of making this transfer is to instill ideological beliefs, for example on the legitimacy of existing transfers, so that citizens will believe that their government is fair and legitimate. Government control of education facilitates that type of role.

## Public Education in Hong Kong

The experience of other countries notwithstanding, the educational development of Hong Kong is rather unique. Technically speaking, public provision of education in Hong Kong is limited in scope. The government sector in education is very small. Recent figures indicate that only about 7 per cent of the primary students and 6 per cent of the secondary students are studying in government schools. A much larger sector is the aided sector which technically speaking is a private sector in the sense that schools are not owned or operated by the government even though they are subsidised by government. What is unique about this is that these subsidised "private" schools are heavily regulated by the government.

The extension of secondary and primary education in Hong Kong mainly followed the 1965 White Paper on Education Policy, in which the government made a commitment to universal free primary education. At that time, only about 18 per cent of students who completed primary school went on to subsidised or government schools in the secondary sector. The subsequent expansion was not achieved through public provision but through expansion of the aided sector. The reason for this approach was that at that time there was strong social demand to expand education opportunities and the cheapest and quickest way to do it was through the aided sector. This motive was made fairly clear in the 1963 Marsh and Sampson Report which was commissioned by the government. One of the briefs of the Marsh and Sampson Commission was to find ways and means of expanding education opportunities that were most economical and practicable and would not lead to an increase in taxation. In the 1965 White Paper, the government made explicit the policy of encouraging voluntary and private agencies to supplement government provision of education. Hence, the main motive behind expanding the education sector through the aided sector was cost saving. It was budgetary.

Having expanded the aided sector, the government has heavily regulated aided schools through the Education Regulations and the Code of Aid. Schools are so heavily regulated by the Education Regulations and the Code of Aid that they are really no different from government schools in operation. Under the Code of Aid, government imposes class size, teacher-student ratio and the number of classrooms in the school. It has a very detailed set of regulations on the number of teachers, their rank, and qualification, etc. In fact, the Code of Aid in education is so detailed that it specifies the number of toilets or urinals in each school, male and female. Why has not the government taken the approach of subsidising these essentially private schools and allowing them a great degree of freedom to develop? One of the arguments would be that, since tax-payers' money is involved, the government wants to have control to ensure that public money is well spent. The government is not aware, or not convinced, that central control in fact may bring inefficiency. This is a benevolent view of government control of education or government regulation of the aided sector. The less benevolent view, however, would be the hypothesis of West (1965). Control is a means of transferring wealth to the bureaucracy and the educators. West's hypothesis is based on the Buchanan theory of bureaucracy: bureaucrats would expand to squeeze out the consumer surplus from the individuals, and their income and power depend on the budget of the bureaucracy.

It requires, perhaps, a more careful historical study of why Hong Kong government in expanding the education sector in the 1960s and 1970s decided finally on subsidising the private sector and then heavily regulating it. The focus of this paper, however, is not on the historical development of education but on an alternative way of subsidising schools without heavily regulating them.

## Types of Education Vouchers

If we differentiate public subsidy and public provision, then one of the better ways of implementing public subsidisation of schooling is to use the voucher scheme. Economists have proposed several possible voucher schemes. The most influential proposal about the voucher scheme is that of Friedman (1955). Under the Friedman voucher scheme, parents of a school-age child are to be given a voucher which will be used to pay for tuition in any approved school. Schools become eligible to redeem vouchers for cash from the government if they meet certain minimal standards, such as safety standards or maybe some curriculum standards. Schools will compete for students, and therefore they will have incentives to meet the needs of the potential students, so as to retain and enlarge student enrolment. Parents will be able to choose schools that best meet the curriculum needs or other concerns of their children. The role of the government in the voucher scheme is (1) to provide funds in the form of a voucher, the value of which can be set at, say, the current unit cost of students in the subsidised sector, (2) to establish some minimum eligibility criteria for schools in receiving and redeeming vouchers, and (3) to ensure the education market place functions effectively, say, by establishing some mechanism to provide information on schools for the public, adjudicating conflicts between parents and schools, and ensuring that all children are enrolled. Schools, on the other hand, will have the freedom to set their own curriculum, select their own students, hire their own teachers, decide on how teaching should be conducted (for example, class size, teacher-student ratio, etc.) and, last but not the least, to decide upon the tuition fee.

Besides the Friedman voucher, there are other variants of the voucher scheme. The second form of voucher scheme is by Peacock and Wiseman (1964). Peacock and Wiseman argued that vouchers should not be of uniform value. Children from lower income families should receive vouchers of higher value. There are basically two ways to dispense vouchers to families of low

income. One way is to use a means test to classify families into income groups. Those in the low income group are to be given vouchers of the highest value. Another way proposed by Peacock and Wiseman is to subject the voucher value to taxation. Each family with school-age children are to be given a voucher for each child the value of which will be considered part of the family income and hence subject to income taxation. Under a progressive income taxation scheme, children from wealthy families will effectively have vouchers of lower value, and vice versa. The purpose of a Peacock-Wiseman voucher is to achieve greater equality in education opportunities through the voucher scheme. The total expenditure of government does not have to be more than under the present system because the voucher value can be manipulated within the present expenditure constraint. There is no need to raise additional taxes to get funds for the voucher scheme.

A third voucher design is a compulsory private scholarship voucher. It is a fixed value voucher to all families. Schools which participate in the scheme can charge whatever fees they decide on, but they are required to provide a sufficient number of scholarships for students from poor families. The resources of these families would be means tested.

A fourth voucher proposal is the Jencks voucher scheme (Jencks, 1970). This voucher scheme was in fact put into practice in the United States in an experiment in Alum Rock, a school district outside San Jose, California, in 1976. It is interesting to note that at that time, the voucher experiment had the support of both conservatives and liberals. On the one side of the political spectrum is Milton Friedman who is a conservative supporting the voucher idea. On the other side, is Jencks who is far from being a conservative. Jencks put this voucher scheme to experimentation after getting support from the school district and from the Office of Economic Opportunity of the United States government to fund the experiment. The Jencks voucher scheme was very restrictive. The scheme involved only public schools; private schools were not allowed to participate. The voucher value was the average cost of education. The Jencks scheme gave a second compensatory

voucher to low income families in addition to the normal voucher value. Schools did not charge tuition fees in the Jencks scheme. That meant that the voucher value was exactly the same as the tuition fee. Schools were obliged to accept students if there were vacancies. If demand exceeded the supply of places in the school, at least half of the places were to be allocated by lottery. Jencks was very concerned with the equity aspect of the voucher and the problem of racial segregation that might emerge. Therefore, he put a lot of restriction on schools which participated in the scheme.

### Efficiency of Voucher Scheme

Economic analysis in general would suggest that a competitive market is more efficient than a government monopoly in providing services. Is there evidence to support this analysis in the case of education? Is the voucher scheme more efficient than government provision in production of education? We can examine this proposition on the base of three types of efficiency. The first is production efficiency. Education is taken as a production process in which the output of education is measured by a number of variables, such as test scores, student attitude change, drop-out rate, school attendance rate, the rate of continuation into university, etc. It can be a variety of outputs. The inputs into this production process include the number of teachers, their experience, educational qualification and training level. Inputs from the family include socio-demographic characteristics of the family of the student, such as parental education and income, size of the family, etc. There are inputs from the individual, in this case mainly innate ability, and inputs from the school organisation, such as class size, facilities being provided, the size of the library, etc. There are also inputs of a community nature. This is important especially in the United States and Britain, where schooling is locally funded. A measure will be the average expenditure of the school district. Finally, it also includes inputs from the peers be-

cause peers may have an impact on the academic achievement of the children. This can be measured by some sort of socio-demographic characteristics of other students in the same school.

This relation between inputs and outputs, that is the level of output that can be derived from a given set of inputs, can be estimated by an education production function. Education production is efficient in the production sense if given the inputs, output is maximized or if given the output, inputs are being minimized. The question is whether education production is more likely to be efficient under public provision or under a voucher scheme.

The conventional wisdom in the education production process is that the higher the educational qualification and the more training the teachers have, the higher will be the academic achievement of the students. If we provide more education and teacher training for our teachers, it should have an impact on the achievement of our students. Also, the smaller the class size, the better the learning of the students, and therefore the better the achievement. Hanushek (1986) surveyed 147 studies of the education production function of United States public schools. His survey found that conventional wisdom is wrong. Of the 112 studies which examined teacher-student ratio, only 23 studies showed that there is a statistically significant relation between this ratio and the education output (student achievement), and only 9 of them have the correct sign. Moreover, 106 of the studies have the teacher education variable, but only 6 of them have the correct sign showing that the better the training of the teacher, the better the academic achievement of the students. As regard teacher experience, of the 109 studies surveyed only 33 have the correct sign. What the survey tells us is that, under the present public school system, education production is not very efficient. In fact, teacher training and experience do not really matter that much, and class size in the existing range is irrelevant to academic achievement. This does not necessarily mean that if we reduce class size to, say, 1:10, it doesn't have an impact. It just means that, within the relevant range of class size that exists in the United States' public

schools, it does not have an impact. The class size of United States public schools is about 25, and that means at around this class size, a reduction of the size to say 22 or 23, which will be very expensive, is not likely to have an impact at all on academic achievement.

There is no study on education production in Hong Kong, but the very exhaustive survey of all the production function estimates done in the United States by Hanushek is not encouraging. It is not likely that the class size of 1:40 in Hong Kong schools is optimum. This teacher-student ratio is obviously not based on efficiency criteria. Nor is it likely that there is already an optimum mix of school inputs in Hong Kong's school system.

Under a voucher system, schools are to be allowed to innovate and experiment. They will be able to find the most efficient mix of inputs because they are subject to very minimal regulations. Schools may find that for some classes it is effective to have large class size and save costs, for example, history class. Perhaps it is better to teach history in a class of 60 because increasing from 40 to 60 is not likely to affect academic achievement anyway. However, in the study of languages like English, it may be better to reduce the class size to 15 because it improves the academic achievement outcome. Under the voucher system, schools will be free to experiment to find the most efficient combination of inputs whereas, in the present situation, the combination of inputs is completely mandated by the government and the government does not really have any education production estimates to support whether a class size of 40 is optimal or not.

The second point is cost efficiency. Hanushek's survey implies that teachers are rewarded for the wrong things. Teachers are typically rewarded with salary increments as their experience lengthens and those who have more training are given a higher pay, but all these variables on which salary and remuneration are based are irrelevant to the academic achievement of the students. In fact, Hanushek (1981) stated rather strongly that "under the present public school system there is no point throwing money at the schools. It does not solve problems." What Hanushek and

some of the other researchers find is that teaching is in fact a very idiosyncratic and personal type of activity. It is very hard to determine an objective set of characteristics that characterise a good or effective teacher. Teacher effectiveness above a certain minimum level of experience has nothing to do with experience, and very little to do with further qualification. It has everything to do with individual motivation and personal characteristics that are often not measurable. The only objective and measurable characteristic that Hanushek finds that has a strong bearing on student achievement is the verbal ability of the teacher.

Another study indicates that school principals can readily identify good teachers even though they cannot be characterised by objective characteristics. Usually, school principals can readily tell who are the good teachers, and these good teachers do have, in fact, a significant impact on the academic achievement of their students. If a school operates under a voucher scheme, the school principal will be free to determine the reward of the teachers. Presumably, he/she will be able to identify the good teachers and give them higher reward. He/She does not have to follow a rigid incremental scale.

Some studies show that private schools are more cost efficient than public schools. Despite common belief, on average public schools are in fact more costly than private schools. The ratio of average recurrent expenditure of public schools to private schools in the United States is about 2. That is, public schools are on average twice as expensive in educating a student as private schools. Many private schools in the United States are Catholic schools which have clergymen providing teaching at zero or minimum costs. However, even after adjusting for inputs by the Church which are not paid for, the ratio is still 1:1.8. The per student expenditure of public schools is still 80 per cent higher than private schools.

Besides cost, we should compare the education outcome between private schools and public schools. Studies in this area are just beginning. Coleman et al. (1982) compared 58,000 students in 1,015 high schools, both private and public. They showed that

private school students in general scored about 10-20 per cent of a standard deviation higher in reading, vocabulary and mathematics. This comparison has a problem because there is no control for the students themselves. Private schools tend to attract the better students who may start off at a higher level and therefore score higher. One has to adjust for this selectivity bias. The best approach is to use the so-called value-added approach which looks at only the value added, say, an increase in test scores over a period of time. Having adjusted for this bias, they still showed that private school students' test scores were 10 per cent of a standard deviation higher.

The study of Cox and Jimenez (1987) on Colombia and Tanzania also showed that private school students scored higher. Another interesting study by Jimenez et al. (1988), on Thailand, focussed on the value added to students in mathematics. Students in both private and public schools were actually given mathematics tests before and after a period of study in mathematics. They found that private school students scored a larger gain. An average student almost doubled the score in mathematics achievement test if he/she attended a private school instead of a public school. Yet, in Thailand the average unit cost of private schools was much lower than public schools.

The third aspect of efficiency is allocative efficiency. The provision of education is efficient in the allocative sense if the system can supply the level and the type of educational services at a price that the consumers, that means the parents, are willing to pay. Under public provision, there is unsatisfied demand for education in Hong Kong. Parents are willing to pay more, but they cannot buy extra educational services in schools because supply is regulated by government. Government has mandated that the unit cost of a subsidised place in Hong Kong should be at a certain level and all children receive the same level of educational service. If parents want their children to have a higher level of educational service and are willing to pay for it, they will have to go outside the school system, such as hiring private tutors. But, private tutors are not perfect substitutes for formal schooling.



In Britain, Harris and Seldon (1987) showed that across all social economic groups there is a willingness to pay more for educational services under the British free schooling system. Preliminary evidence from the 1984 and 1985 Household Expenditure Survey in Hong Kong indicates that all income groups, including the very lowest income group, are spending 1-2 per cent of their income on tuition fees over and above the formal school fees. This is an indication that parents in Hong Kong, like those in Britain, are willing to pay more for tuition fees for better educational services.

A second aspect of allocative efficiency is not concerned with the level but the type and variety of education that the schooling system is providing. There could be diversity in the variety of schooling in terms of curriculum, pedagogical approach, class size, etc. At present the mainstream school system in Hong Kong, being uniform, obviously does not meet the diverse needs of the parents. Under the voucher scheme, there will be more consumer sovereignty and accountability. Different types of schools should emerge to cater for different segments of the market as they become more responsive to parents' and students' needs. So, on both counts of allocative efficiency, a voucher scheme will be more efficient than public provision of education.

### Introducing a Voucher Scheme in Hong Kong

Hong Kong has some advantages over other countries in adopting a voucher scheme. First, Hong Kong is densely populated and compact. Schools are geographically close to each other, and therefore locational monopoly can be prevented. As students have a choice of several schools within the same district, no school can monopolise a geographical area. That is one advantage over Britain and the United States where the school districts can be very spread out and where students really have no choice because the alternative is to travel for about two hours on a school bus. In that case, a voucher scheme is not likely to work very well. A second

point is that the economy of Hong Kong is very competitive. The idea of efficiency through competition probably would be politically more acceptable in Hong Kong than, say, in the United States or Britain. A third point is that the Hong Kong society is homogeneous and integrated in terms of race and social class. There is less concern with racial segregation in schools, which is one of the main arguments against adopting a voucher scheme in the United States. The fear is that under a voucher scheme there will be racial segregation of white and black schools in the United States.

The timing is getting better and better for adopting a voucher scheme in Hong Kong. First, by 1991 over 90 per cent of young students in the relevant age cohort had subsidised secondary level places. This means that virtually any secondary three student who wishes to continue to secondary four will be able to find a subsidised place. There is no excess demand for subsidised places from primary one all the way to secondary five. For competition to work under a voucher scheme, there must be no excess demand for if there is excess demand and therefore a shortage of school places, it is very easy for all schools to fill their places without having to compete and to improve quality. Since 1991, there has been an equilibrium between demand and supply for school places in Hong Kong. The time is therefore ripe for implementing a voucher scheme to promote competition among the schools in Hong Kong.

Second, the rapid expansion of tertiary education leading up to 1995 has taken a lot of pressure away from the secondary school students competing for university admission. First degree places increased from 7,000 in 1990 to 14,500 in 1995. By 1995, 18 per cent of the age cohort of 17-20 have degree places while 25 per cent are in tertiary studies. With lessened examination pressures, schools have more room to manoeuvre, to experiment and to innovate. Parents will begin to place greater value on diversity in curriculum and in pedagogical approach, instead of their previous overriding concern with getting their children into a university.

The third factor regarding the timing for introducing the voucher scheme is the diversified educational plans that parents

have for their children. The demand of parents has become increasingly diversified, as evidenced by the oversubscription of school places in international schools. In the past, Chinese parents sent their children almost exclusively to the mainstream curriculum to prepare them for local universities. Now, more and more Chinese parents are sending their children to different types of international schools which offer different curricula, like the Chinese International School, German-Swiss School, and schools of the English School Foundation (ESF). The reason for that is, of course, 1997. Before the introduction of the Direct Subsidy Scheme in 1991, these schools, with the exception of ESF schools, were not subsidised. A voucher scheme will cope with this diversified demand very easily because all students under the scheme will receive a voucher of a value that they can redeem at a local or international school. A voucher scheme will likely stimulate the emergence of more international schools to meet the demand. It will also make them more accessible to students from middle and lower-middle income families. At the moment, mostly children in upper-middle and upper income families attend international schools.

The fourth factor which favours the implementation of a voucher scheme is expansion. In the past, government had been very occupied with the expansion of school places. During a period of expansion, a social institution is seldom being challenged. It does not have to justify its existence because it is expanding and there are resources allocated for the expansion. As the social institution reaches a steady state, such as our school system, when all students are offered school places, it is time for the institution to be more concerned with internal efficiency and effectiveness, to look within itself whether it can improve its efficiency.

The last factor concerning timing has to do with the trend towards privatisation. In the last few years government has been privatising a number of government services, including the Kowloon-Canton Railway, the Housing Authority and the Hospital Authority. It is also time to consider deregulating the school system. The term "privatisation" of the school system may not be

appropriate because technically most of the schools in Hong Kong are already private schools. They are just subsidised and over-regulated. A voucher scheme will open the way for deregulation of the school system.

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## 學券方案與香港的教育資助

廖柏偉

(中文摘要)

本文區分政府資助教育及政府提供教育，以論據說明以學券方案資助教育比政府提供教育更有效率。文章分析學券方案的生產效率、成本效率及調配效率，並指出在香港採用學券方案資助教育的時機日漸成熟。