

**INCOME INEQUALITY AND EDUCATIONAL STRATIFICATION: THE CASE OF
HONG KONG, 1991-2001**

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Paper to be presented at the Annual Conference of the Population Association of America,
Philadelphia, PA, USA

March 31st - April 2nd, 2005

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(ABSTRACT)

This paper examines the trends in the effects of family backgrounds on school enrollments and transitions in Hong Kong. Based on the 5 percent samples of the 1991 and 2001 population census data, I match the school-age children (6-19) to their parents' background information within the same households, and focus on the effects of father's occupation and income on children's educational outcomes. Results show that, over the decade, the effect of father's income on full-time enrollment has declined but the effect of father's occupation has increased. As to school transitions, the effects of father's occupation and income decline in transitions to higher levels of education beyond the compulsory level in 1991, but become even more important in progression to higher level of education (particularly to college) in 2001. The enlarged income inequality between 1991 and 2001 is partly owing to the rising inequality in education among the youth aged 20-29. Income inequality and educational stratification are mutually enhanced in Hong Kong.

INCOME INEQUALITY AND EDUCATIONAL STRATIFICATION: THE CASE OF HONG KONG, 1991-2001

INTRODUCTION

Education plays an important role in modern societies, both as an avenue of social mobility and as a tool for social reproduction. On the one hand, formal schooling can help children from disadvantaged backgrounds to change their fate; on the other hand, the schooling that individuals have received also depends on the advantages or disadvantages that their parents confer on them throughout childhood (Ishida, Muller and Ridge 1995). In other words, access to educational opportunities is not equally distributed among different social groups. The increasing importance of education, together with a long term growth in school enrollment in the process of economic development, has led some scholars to claim that individuals' educational achievement becomes more and more independent of their family backgrounds (Boudon 1974; Treiman 1970).

However, linear regression analyses of educational attainment reveal that the effect of family backgrounds have been stable over time in many industrialized countries (e. g. Featherman and Hauser 1978). Mare (1980) distinguished between the two processes - the expansion of the educational system and the allocation of students, and proposed a logit model of school transitions/progressions, which are determined by family backgrounds. The expansion of education and the distribution of educational opportunities are separate processes, and the former may not necessarily lead to a more equal access to education among different social groups.

Comparative studies of educational attainment in 13 industrialized societies have confirmed a general pattern of educational stratification (Shavit and Blossfeld 1993): (1) the logit effects of social origins on educational transitions tend to be stronger at the beginning of the educational career and then decline for subsequent transitions, namely, social selection is most

pronounced in the early stage of educational transitions (also see Mare 1980); (2) such patterns of association remain stable across cohorts, even in the context of a long-term educational expansion. Young pupils are dependent on the preferences of their parents and economic conditions of their families for school continuation decisions, but as they get older and advance to higher levels, they are increasingly able to decide on what they want and parental resources become less important. In many countries, children from disadvantaged backgrounds encounter very severe selection barriers in early stages of transition: only the brightest children from those backgrounds can make to the higher levels, whereas children from advantaged families progress into secondary and tertiary schools with great ease. Consequently, scholastic aptitude and other unobserved characteristics of students (e.g., motivations), which determine educational success, are less and less affected by family socioeconomic backgrounds. The expansion of the educational system in many countries, reinforced by the educational reforms in the 20th century, seems to have had little impact on role played by family backgrounds in children's educational attainment, suggesting that an ever expanded pie of educational opportunities is always sliced in the same proportions among different social strata. The mechanism of distributing educational opportunities remains largely intact.

Scholars argue that family influence can be analytically separated into at least three components: economic capital, social capital, and cultural capital (Boudier 1986; Coleman 1988). Educational inequalities partly result from the unequal distribution of these resources among different social strata. A constant relationship between family backgrounds and educational outcomes may reflect that mechanisms of redistributing those resources have remained more or less stable over time. Only radical institutional changes, such as the shift to state socialism, would yield visible impact on educational stratification, not only directly through the implementation of

educational policies that favor children from certain classes (e.g., Deng and Treiman 1997), but also indirectly through the redistribution of family resources that aid children's learning.

The second process is more subtle than the first. While the temporal trend of educational stratification is often approximated by cohort variations corresponding to periods when a particular educational policy is implemented, historical information on the changing distribution of family resources is barely available. Moreover, among three forms of family resources mentioned above, the measurement of the distribution of social capital and cultural capital at societal level is far from developed; only family's economic capital, approximated by income or wealth, has a clear and consistent measurement. Family income provides children not only school tuitions, but also materials to aid learning, a fixed place in the home for studying at home, as well as the financial resources that smooth family problems (Coleman 1988). The effect of income connoted in that of family socioeconomic status on school achievement has been well documented by sociologists and education researchers.

Just as income growth does not necessarily lead to more equal distribution of income, educational expansion has no intrinsic implication on the change in educational inequality. The analogy suggests that the distribution of educational opportunities may resemble more to the distribution of other scarce resources (e.g., income) that affect educational outcomes than to the change in educational opportunities per se. Therefore, an examination of the change in educational stratification in the era of rapidly rising income inequality can not only help us identify the existence of such linkages, but also provide an in-depth understanding of how income inequality leads to social reproduction across generations.

In this paper, I choose to investigate the change of educational stratification in Hong Kong from 1991 to 2001, a relatively short period of time during which substantial

socioeconomic and political transformations have been undertaken in the territory. Based on a 5 percent sample of both the 1991 and 2001 population census data, I match the school-age children (6-19) to their parents' background information within the same households, and focus on the change in the effects of father's income and occupation on children's school enrollment and transitions in the decade.

In the following, I first provide the background information on economic development and school expansion in Hong Kong in the past few decades, and explain how the decennial census data can be employed to address the temporal trend in educational inequality. I then demonstrate how family socioeconomic backgrounds, particularly father's income and occupation, have affected school-age children's educational outcomes, highlighting some unique features of Hong Kong educational stratification not found in other societies. I then further investigate how the change in income inequality is related to the change in educational inequality among young Hong Kong workers. Finally, I discuss the implications of the Hong Kong case for comparative studies of educational attainment.

ECONOMIC GROWTH AND INCOME INEQUALITY IN HONG KONG

The economy of Hong Kong has grown rapidly in the past few decades. From the 1960s to the 1980s, the former British colony has successfully transformed itself from an entrepôt to a manufacturing center and then to a regional hub of business services. As plotted in Figure 1, the GDP per capita increased from 49,075 HK\$ (1HK\$=0.128 US\$) in 1971 to 92,221 HK\$ in 1981, 151,969 HK\$ in 1991 (adjusted by the fixed prices in 2000), with annual growth rate of 5.8 percent. By 2001, despite the economic difficulties after the Asian financial crisis, the GDP per capita reached 192,465 HK\$, indisputably putting Hong Kong in list the advanced developed

economies (Census and Statistics Department 1992, 2002; Lui 1997). Indeed, the city is ranked the second richest in Asia only after Japan and 18th richest in the world; 87.9 percent of its GDP came from the service sector, 12 percent from the industrial sector, and only 0.1 percent from agricultural sector (www.nationmaster.com).

[FIGURE 1 ABOUT HERE]

Unlike the other newly industrialized economies (NIEs), including Singapore, South Korea, and Taiwan (also known as Asia's "little dragons"), Hong Kong's economic miracle is often attributed to its world-renowned *laissez-faire* capitalism. Government intervention in economy has been kept to a minimum level to help create a favorable business environment: the tax burdens of individuals and corporations remained very light by international standards, with the tax rate capped around 15%; Hong Kong people still work 44 hours a week, with neither comprehensive unemployment nor retirement benefits provided by the government. The ratio of Hong Kong government expenditure to GDP on social welfare is among the lowest in the world.

Not surprisingly, economic growth in Hong Kong has been always accompanied by increasing income inequality (Chow and Papanek 1981). This defies an inverted U-shaped relationship between economic growth and income distribution observed in many countries, namely, the growth of income level first leads to an increase and then, beyond a certain point to a decrease in income inequality (Kuznets 1955). As shown in Figure 1, the Gini coefficient, a common measure of income inequality, rose from 0.43 in 1971 to 0.45 in 1981 and further to 0.48 in 1991 (Census and Statistics Department 1992).

Since the 1990s income distribution has been exacerbated in Hong Kong. In the process of its economic restructuring, most manufacturing industries are relocated north to mainland China with low cost, leaving many unskilled manual workers unemployed (Zhao et. al. 2004).

The real estate bubbles and Asian financial crisis hit the Hong Kong's economy most. In the later 1990s after the end of British colonial rule and return to the People's Republic of China, Hong Kong experienced a serious economic recession. The unemployment rate jumped from 2.2 percent in 1997 to 6.2 percent in 1999, for the first time exceeding 4 percent in the past 3 decades, and reached the peak of 7.9 percent in 2003 after being stroke heavily by SARS (Zhao et al. 2004, p.89). Meanwhile, more and more immigrants from Mainland China are arriving in Hong Kong; most of these new immigrants are women, less educated than natives, and tend to be concentrated in unskilled and low-paid jobs. The inflow of the mainlanders is believed to contribute to the increase in income inequality (Lui 1997).

In the recent economic recession, Hong Kong's lowest paid workers have been working longer hour for steadily declining wage – by as much as 20 percent –since the handover in 1997. A Legislative Council motion that called on government to set a minimum wage and maximum working hours was shot down by the Liberal Party whose members mainly came from local business communities (Ng 2005). Moreover, facing the budget crisis, government has tried several rounds to cut the welfare payments. In the period of economic prosperity, the poor people was unable to maintain the same share in an enlarging pie; in the period of economic downturn, they get even less share in a shrinking one. The Hong Kong society is increasingly polarized.

All in all, the income gap between rich and poor has been widened in the 1990s. The Gini increased further to 0.518 in 1996 and 0.525 in 2001 (Census and Statistics Department 2002), putting Hong Kong among the most unequal economies in the world. Figure 2 plots the Gini coefficient against GDP per capita in various years for 108 countries/regions: in terms of income levels, Hong Kong was in the list of the richest, along with Australia, Canada, European countries, Japan, and the U.S.; in terms of income distribution, it was in the list of the most

unequal societies, along with many African and Latin American countries. Given such a sharp disparity, Hong Kong provides a unique case for sociologists to investigate the issue beyond the relationship between economic growth and income distribution – the social implications of enlarging income inequalities on intergenerational social reproduction and mobility.

[FIGURE 2 ABOUT HERE]

Indeed, the sharp income disparity between rich and poor has received wide concerns from the public, and to some extent triggered the current political crisis of legitimacy and governance. On July 1, 2003, more than half a million Hong Kong citizens took part in the historic demonstration to express their dissatisfaction with the HKSAR government, and to press for political reforms (Lee 2004). To win back the public support, Mr. Tung Chee-hwa, the Chief Executive has put poverty alleviation as a key theme in his 2005 annual policy address. The government has set up a new Commission on Poverty, chaired by the Financial Secretary, to tackle the problem.

Inter-generational transfer of poverty has been listed on the top of the Commission's policy agenda (Tang 2005). According to the Hong Kong Council of Social Service (2004), children between age 0 and 14 living under poverty has increased from 17.1 percent in 1991 to 25.9 percent in 2000. As education is known as an important avenue for an individual to get away with poverty, how the family economic resources affect children's school performance and educational outcomes has become a central issue that concerns academics and community and could yield a long-term impact on the evolution of social structure in Hong Kong. A study of intergenerational class mobility shows that the societal openness in the 1980s Hong Kong is no different from many European countries (Chan, Lui, and Wong 1995). In the context of the deterioration of income distribution, the change in the pattern of intergenerational mobility to a

much extent is contingent upon how the change in inequality affects children's educational opportunities.

EDUCATIONAL INEQUALITY IN AN EXPANDING SCHOOL SYSTEM

Education is seen as one of the most important determinants of income (Becker 1993).

Economic development and restructuring generate a demand for more educated workers.

Accompanied with rapid economic growth, education was expanded in many countries (Dore 1976; Ramirez and Ventresca 1992). Hong Kong is no exception. In the past 3 decades, education in Hong Kong has undergone two major changes, being transformed from an elite-oriented system and a mass-oriented system. The first is the implementation of 9 years of compulsory education in 1970s and 1980s, including 6 years of primary and 3 years of lower secondary education. The second is the expansion of higher education since the late 1980s.

In 1971, the government started providing free primary and also compulsory education for children aged 6 to 11 years old. Subsequently the policy was extended to the lower secondary level in 1978. Legislation on compulsory education has been enacted to prohibit children aged 14 or below from taking any form of employment in the labor market (Lui 1997; Post 1994). Before the 1980s, there were only two universities in Hong Kong (Hong Kong University and Chinese University of Hong Kong) that offer bachelor degrees. Each year only fewer than 2000 places were available for students who completed upper secondary school, representing less than 3 percent of the age cohort (Post 2003: 550). The expansion of secondary education puts higher pressure on local higher education in the 1980s, since only children from rich families can afford oversea tertiary education. In 1989, the government decided to triple the enrolments in higher education; in the 1990s tertiary institutions have been expanding rapidly – the Hong Kong

University of Science & Technology, established by the government to propel Hong Kong to a knowledge-based economy, was open in 1991. Several other local institutions were converted to degree-offering universities.

The trend of educational expansion is clearly reflected Figures 3 & 4, which plotted the means years of schooling, and the percentage of college graduates by cohorts and gender for adults (aged 20-69), based on the 5 percent samples from both 1991 and 2001 population census. Figure 3 shows that, in general, Hong Kong people are more educated over time. The oldest cohort (born between 1922 and 1926) received less than 4 years of schooling, whereas the two youngest cohorts (born between 1972 and 1981) received about 12 years of schooling. Interestingly, the recent educational expansion probably benefit women more than men –gender gap in education continues to shrink and becomes negligible for people born in the 1960s and 1970s. Figure 3 plots the trend in the attainment of a specific level –college education, and basically tells a similar story: younger cohorts, particularly those born after in the 1960s and 1970s, have much higher percentages of receiving a college degree than older cohorts. The gender gap has been narrowed recently and reached parity for the youngest cohort. There are some inconsistencies between the statistics from the two census data for those born after 1956. The percentage of college graduates in the same groups of people is higher in 2001 than in 1991, suggesting that some may go back school to get further education, or return to Hong Kong after completing college education overseas in the period. Nonetheless, the small group seems to have little impact on overall mean years of schooling of the general population, as previously evidenced in Figure 3.

[FIGURES 3 & 4 ABOUT HERE]

The expansion of education in such a short period of time would naturally lead to another related but yet separate question – has educational inequality declined over the past two decades? In particular, how the role of economic resources in educational attainment has changed in the expanding process along with increasing income inequality? If primary and lower secondary education is provided for free, family economic resources shall not have much impact on educational achievement. At the school level beyond compulsory education (Form 3), government provides some subsidies of upper secondary schools, but a nominal fee ranging from 5,000-8,000 HK dollars per year continue to be charged. At the end of Form 5, students need to take the Hong Kong Certificate of Education Examination, with the pass rate around 30 percent in recent years; successful students then enter Form 6 and Form 7 of secondary studies, which prepare them to take the Advanced Level examination for admission to university (Pong and Post 1991). A student's placement in a particular university and a particular academic program are contingent upon his/her examination scores. Students admitted to universities need to pay around 40,000-50, 000 HK dollars for tuitions, with the rest subsidized by the government. In 1996, the Hong Kong University Grants Committee (UGC) stated that “no qualified students should be denied access to tertiary education through lack of means.” Hence, it seems that the Chinese-style meritocratic examination system, together with a rapid expansion of educational opportunities, would reasonably wipe off to the effects of family economic resources on children's educational attainment, as found in other countries (e.g., the Netherlands, De Graaf 1986).

Up to date, few data collected in Hong Kong are suitable for studying social mobility and educational inequality in Hong Kong (except Chan, Lui & Wong 1995). Specifically, parents' background information when the respondent grew up is seldom asked in most surveys. Using a 1 percent sample of the micro data of the Hong Kong household censuses and by-censuses data

from various years, Pong and Post (1991) examined the educational attainment and transition for the 4 separate cohorts of youth aged 23-27, who have completed education but most still likely live with their parents thereby their parents' information can be identified. While linear regression results show that the effect of family backgrounds on educational attainment diminished over time, the effects of the same variables on the odds of educational transition *increase* at the higher levels. Their analysis suggests that the educational system in Hong Kong might have become more socially selective at the higher levels, a fact apparently at odds with the trend observed in most countries.

Pong and Post (1991)'s way of utilizing the census data to address the intergenerational transfer issue is innovative. However, as they acknowledged, for the group between 23 and 27, only about half lived home with their parents (Table 1, p.256), thus the representation of their samples is questionable. Secondly, the family information included in the analysis refers to the status when the persons were at age 23 to 27, rather than the status when they received, or decided on the continuation of education. Moreover, unlike most educational stratification literature, only three independent variables (gender, mother's education, either father's occupation or income, but not both) are included in the model. Finally, higher education in Hong Kong was expanded mainly in the late 1980s and early 1990s (Post 2003), while the analysis only covered the period of 15 years up to 1986.

Post (1994) used the same data sets to examine the impact of educational expansion (provision of free education) on school transitions at primary and secondary levels for youths aged 16-20. The effect of father's monthly income, as a measure of family available economic resources, has declined in the transition from Primary 6 to Form 1 for both boys and girls, but remained unchanged in the transition from Form 3 to Form 4. In a more recent article, Post (2004)

specifically analyzed the role of family resources in access to tertiary education for individuals aged 19-20 from 1971 to 2001, and reported a diminishing role of family resources (including income) in access to all levels of education. However, the trend is reversed at the post-secondary level from 1991 to 2001; access to university education becomes more dependent upon family resources.

The data and measurement used and age group analyzed in the series of articles by Pong and Post (1991) and Post (1994, 2004) are not consistent among themselves. For instance, the measure of family income varies in three analyses, ranging from father's predicted earnings based on the simple human capital model for men (Pong and Post 1991), father's monthly income (Post 1994), to parents income quartiles (Post 2004). Certain variables (such as father's education, occupation, and the number of siblings) commonly used in the study of the effect of family backgrounds on educational stratification are missing one way or the other. The age-groups analyzed are also varying from 23-27, to 16-20, and to 19-20. Hence one could hardly knit together a systematic picture of the trends in the effect of family backgrounds on educational attainment and transitions. Furthermore, in a methodological perspective, since the subset sample is drawn from the household sample, the individuals analyzed may be clustered in households, and those from big families are more likely to be selected. Appropriate methods for data weighting and standard errors adjustments are necessary to correct bias of estimates.

This paper is an update and improved analysis based on the works done previously by Pong and Post (1991) and Post (1994, 2004), with a focus put on the effect of family economic resources in children's educational outcomes in the context of increasing income inequality in Hong Kong in the 1990s. Rather than relying on cohort analysis, I analyze the 5 percent samples of population census data from 1991 and 2001 to address the temporal change in educational

stratification in recent decades. I restrict the analysis to the sample in school age between 6 and 19. In so doing, I would be able to obtain parents' information for most samples from the household records. Instead of analyzing those who have completed education, I investigate the change in the role of family backgrounds (measured by and father's income, occupation, education, mother's education) in children's enrollment status and odds of educational transitions at various levels, an ongoing process of educational attainment in an era of rapid socioeconomic and political change in Hong Kong.

DATA CONSTRUCTION, VARIABLES, AND STATSTICAL METHODS

Data

The population census, conducted every ten years in Hong Kong, and by-census, conducted in the middle year between two censuses, collects relatively detailed information on education, income, employment, and housing situations. Samples of the micro-data of population censuses are regularly made available to researchers by the Census and Statistics Department of Hong Kong Government. Prior to 1990, only 1 percent sample could be released to the public; since 1991, the sample has been increased to 5 percent.

This paper chooses to analyze a 5 percent sample of the two censuses in 1991 and 2001 for several reasons. First, the substantial socioeconomic changes and educational expansion have undertaken during the period, making it particularly interesting to link the changes in educational inequality to the changes in inequality in family resources. Temporal trends can be investigated without necessarily relying on cohort analysis. Second, the 5 percent sample greatly enhanced the utility of the census data in analysis targeting some specific age groups, for instance, the school-

age children in the case of this paper. Finally, within the ten years, the school system has been kept relatively stable, thus making education levels more comparable between two time points.

The 1991 census recorded individuals' education with two variables: school attendance, educational attainment, and field of education. School attendance refers to whether a person is studying, has completed or has withdrawn from the highest level of educational attainment claimed level and enrollment status. Educational attainment refers to the highest level of education ever attained by a person in school or other educational institution, regardless of whether he or she had completed the course. Only formal courses are counted as educational attainment. The levels listed include "No schooling," "Kindergarten," "Lower Primary (Primary 1 to 4)," "Upper Primary (Primary 5 and 6," "Form 1" to "Form 7," a variety of "sub-degrees" and "diplomas", "college," and "postgraduate" (22 categories in total). The education information collected by the 2001 census is basically comparable, but in more details. For example, "Lower Primary" is broken into "Primary 1" to "Primary 6." Educational level is measured separately by two indicators – highest level attended and highest level completed, in addition to school attendance status. This paper uses educational level and school attendance status to construct variables related to educational stratification.

The household census gathers no information on the respondent's family background when the respondent grew up (typically referring to the situation when he or she was at age 14), which is necessary for studying intergenerational inheritance and mobility. Certainly, one can match parents with adult children living in the same households (e.g., Deng and Treiman 1997), but the sample for the multi-generational households is hardly representative of the population in most modern societies in which nuclear family structure dominates. In Hong Kong, over half of the cohort aged 23-27 who have just completed their education do not live with their parents

(Pong and Post 1991, p 256), rendering the studying of educational attainment via analysis of census data problematic.

By slightly modifying the issue, this paper shifts to the focus on much younger cohorts - children aged from 6 to 19, who are more likely to live with their parents but also more likely to stay in school rather than complete education. Hence, on the one hand, one can not conduct analysis on educational attainment with such data; on the other hand, he or she can obtain a more representative sample of those who are currently receiving education, and the matched information of their parents is more suitable to address the effect of family backgrounds (when children receive education) on educational attainment.

In Hong Kong, children typically start schooling at age 6, and if proceeding smoothly, would enter university at age 19. This is confirmed in Table 1, which presents the age-specific enrollment rates in 1991 and 2001. In both years children under age 14 almost reached full enrollment, clearly reflecting the effective implementation of 9 years of compulsory education since the 1980s. Children aged 14 and below shall also be covered by the compulsory education, yet, there are still about 3 percent of them not in school in 1991. This is improved in 2001, with an attendance rate of 99.4 percent. The enrollment rate for children/youth aged 15 or above (beyond Secondary 3 or Form 3) has increased greatly between 1991 and 2001. The age was capped at 19 because we are interested in entry into university instead of completion of university education. Meanwhile, while extending the analysis to age 22 (typical age of completing college education) could include more college students in the sample, it also brings into those who have married and moved out in their parents houses. The minimum age for legal marriage is 18 years old in Hong Kong.

[TABLE 1 ABOUT HERE]

Unlike Pong and Post (1991) and Post (1994, 2004), who matched children to their household heads to obtain the measure of their family backgrounds, I adopt a far more sophisticated method to construct the data for analysis. In the first step, married couples within the same household are constructed based on each individual's relationship with other household members. In the second step, the individuals aged 6-19 are linked to one of his/her parents through the variable that identifies the serial number of household members; and based on identified parents and their spouses (married couples), we further label them as "father" or "mother" on the basis of gender. Through such data manipulations, we create a new data set containing individuals' educational information, matched with their parents' education, occupation and income. Certainly, some children do not live with both parents; still others do not live with their parents at all. In 1991, among 57,462 children aged between 6 and 19, 10,401 (or 18 percent) with at least one parent cannot be identified in the household, and 916 have not started school (aged 6). About 80 percent live with both parents and are included in the analysis. In 2001, among 59,929 children aged 6-19, 8,864 (or 15 percent) with at least one parent cannot be identified in the household and 1,144 children (or 2 percent) have not started school (aged 6); 83 percent live with both parents.

While how the absence of at least one parent affects children's educational achievement itself is an interesting and important topic, in this paper we focus on the majority of children who live under normal family environments and examine both fathers' and mothers' effects on children's education. Those not living with both parents are excluded from the analysis.

Variables

Most previous studies on educational attainment have used father's occupation and education to approximate family backgrounds (Shavit and Blossfeld 1991). In this paper I employ four variables related to economic, social, and cultural resources a family possesses to assist in its children's educational attainment. Economic resource is approximated by father's monthly income; social resource is measured by father's occupation, in presence of father's income; and father's education and mother's education, particularly the latter, capture family's cultural capital. Typically, family backgrounds when the respondent was at age 14 are employed to address the intergenerational transfer of educational attainment. Because this paper analyzes the school-age children between 6 and 19, using family's current backgrounds suits the need well.

Family economic resources may be measured by household income. However, for children after completing the compulsory education (older than 14), working to contribute to household income and continuing schooling are two incompatible options. Because men are major bread earners for families and females' labor market participation rate was lower than 60 per cent in Hong Kong (Lui 1997), I employ only father's current monthly income from employment (in Hong Kong dollars) directly measures family economic resource available for children's education. We take the logarithm of income in multivariate analysis.

Income information is unavailable in most previous studies on educational attainment for adults. Instead, father's occupation is used to measure family socioeconomic status by and large. Although occupational status is highly correlated with income, occupation also measures social status. Given the inclusion of income in the analysis, occupation is mainly seen as an indicator of social resources a family can utilize for its children's education. Father's occupation is coded into

6 categories: “manager/administrator,” “professional,” “self-employed” “non-manual worker,” “manual worker”, and “unemployed.”

In western social stratification literature, occupational socioeconomic status (SES) is constructed based on two major indicators: income and educational qualifications. In the presence of father’s occupation, father’s education mainly manifests the cultural capital in affecting children’s educational attainment, and so does the mother’s education. Both father’s education and mother’s education are continuous variables measured by years of schooling.

The available resources need to be distributed among all children in the family. Scholars have demonstrated that the number of siblings has a negative impact on educational attainment in western society (e.g., Mare and Chen 1986), probably because economic resources and parents’ attention need to be diverted to other children. The number of siblings is treated as a continuous variable in the models.

As Figures 3 and 4 have shown, gender educational inequality in Hong Kong has been greatly reduced, and recently the gap is even reversed. A dummy variable – gender (male=1) - is created and include in the multivariate analysis. Given the age range of restricted samples, it is impossible to conduct the analysis of linear regression on years of schooling completed. Instead, I examine the determination of school full-time enrollment for school age children. Based on the school attendance status, I create a dummy to indicate full-time enrollment (yes=1).

[TABLE 2 ABOUT HERE]

Table 2 present the descriptive statistics of the variables for both 1991 and 2001.to be included in the analysis. Noticeably, within the ten years, the overall enrollment rate increases from 89.3 percent to 91.6 percent, mostly due to the rising enrollments in higher levels of school. Father’s mean monthly income has almost doubled, increasing from 9,610 HK dollars in 1991 to

19,126 HK dollars in 2001 (price unadjusted). Meanwhile, the doubled standard deviation of income suggests the rising income inequality during the period. In 1991, 7.2 percent of fathers have no occupation, most of whom are presumably unemployed; in 2001, 13.6 percent have no occupation.

Both father's and mother's mean years of schooling have increased in the decade. Father's schooling has increased by 0.8 years, from 7.8 years in 1991 to 8.6 years in 2001. Mother's schooling has increased by 1.5 years, from 6.8 years in 1991 to 8.1 years in 2001. This change clearly reflects the expansion of education in Hong Kong since the 1970s, and particularly of women's education. As a result of decline in fertility, the average sibling number has decreased from 1.7 in 1991 to 1 in 2001.

Methods

The statistical analysis of this paper contains two major parts. First, I examine the effects of family backgrounds in school enrollments for school-age children. Since children aged 14 or below almost have reached full enrollments in schools, as stipulated by the compulsory education laws, I focus the analysis on children aged between 15 and 19 only. Second, I model school attainment as a series of transitions to secondary 1 given the completion of primary 6, to secondary 4 given the completion of secondary 3, to secondary 6 given the completion of secondary 5, and to university to given the completion of secondary 7 (Mare 1980). The former could be seen as a substitute for linear regression analysis of educational attainment, whereas the latter is school transition models for specific cohorts. I compare the coefficients between 1991 and 2001 rather than across cohort groups to address the temporal changes.

Binary logit models are employed in both analyses. In school enrollment models, the dependent variable is probability of being enrolled as full-time students; in each of the school transition models, the dependent variable is the probability of success in the transition from a particular level of education, given the completion of the previous level (Mare 1980). The transformed logits are linear determined by family background variables, including father's income, occupation, and education, and mother's education, as well as the number of sibling and gender.

Because the data analyzed are from household samples, two problems arise. First, individuals in the households of different size have unequal probability of being included in the analysis: those from large households are more likely to be in the selected samples. I create a weight variable, which equals the inverse of the household size, to remedy the problem. Second, siblings from the same households in the samples could cause the clustering problems, thus an adjustment of standard errors is needed in logistic regression analysis. All the models reported were estimated using Stata 8.0, with robust standard errors corrected for clustering effects (Stata Corporation. 2003).

RESULTS

The Effects of Family Backgrounds on School Enrollment

Table 3 presents the estimated coefficients for logistic regression predicting full-time school enrollment for children aged between 15 and 19 on selected variables in both 1991 and 2001. In Models 1a and 2a, I include only father's occupation but not income. In Models 1a and 2b, father's monthly income is added to the models. In this case, the unemployed fathers who have no regular income sources are dropped in the analysis.

[TABLE 3 ABOUT HERE]

Let's look at Models 1a and 2a first. Father's occupation has a significant effect on children's likelihood of being enrolled in school in both 1991 and 2001. In 1991, except for professionals' children, children whose fathers are self-employed, non-manual workers, manual worker, and unemployed, are all significantly less likely to be enrolled in schools than children whose fathers are administrators or managers. The net odds of school enrollment are only about 80 percent ($=e^{-0.230}$) for a self-employed worker's children, 77 percent ($=e^{-0.257}$) for a non-manual worker's children, 65 percent ($=e^{-0.431}$) for a manual worker's children, and 46 percent ($=e^{-0.784}$) for children whose father is unemployed, of the odds for a manager/administrator's children. In 2001 professionals' children enjoy a significant advantage over administrators/managers' children. The formers' net odds of being enrolled in school are 32 percent ($e^{0.281}-1$) higher than the latter's. Children whose fathers hold other occupations are less like to be enrolled in school than those whose fathers are administrators or managers. The odds of being enrolled in school are only 67 percent ($e^{-0.40}$) for children of the self-employed, 73 percent ($e^{-0.311}$) for children of non-manual workers, 61 percent ($e^{-0.492}$) for children of manual workers, and 63 percent ($e^{-0.457}$) for children of the unemployed, of the odds for children of administrators/managers, holding constant of others.

The father's occupation suggests that family socioeconomic status has significant effect on whether the children continue to be enrolled in school after the 9 years of compulsory education. I introduce a more direct measure of family's economic status – father's monthly income - in Model 1b for 1991 and Model 2b for 2001, respectively. Model 1b shows that father's monthly income positively affects the likelihood of school enrollment for children. For every 10 percent increase in father's monthly income, the children's net odds of being enrolled in

school increase by 2.8 percent ($10*[e^{0.401}-1]/[e-1]$), and such an effect is highly significant ($p<.001$). After controlling father's income, father's occupation seems to have little effect on school enrollment. Except for manual workers, neither professionals, nor the self-employed, nor manual workers differ from administrators/managers in the likelihood on their children's school enrollment. The evidence suggests that the role played by father's occupation in determining the likelihood of being enrolled in school for a child aged between 15 and 19 is largely due to the economic resources that his or her family can afford.

Such pattern has been changed in year of 2001. In Model 2b, I introduce the effect of father's income in the model. Every 10 percent increase in father's income brings about 1.2 percent ($10*[e^{0.192}-1]/100*[e-1]$) increase in the net odds of being enrolled in school. Although mitigated by father's income, the effect of father's occupation on children's likelihood of enrollment continues to be statistically significant. Professionals' children enjoy a significant advantage. Their odds of being enrolled in school are 29 percent ($e^{0.251}-1$) higher than administrators/managers' children. On the other hand, children of other backgrounds face significant disadvantages. Compared to those whose fathers are administrators or managers, the odds of being enrolled in school are only 81 percent ($e^{-0.216}$) for children of the self-employed, 83 percent ($e^{-0.192}$) for children of non-manual workers, 73 percent ($e^{-0.318}$) for children of manual workers, holding constant of the others.

In Models 1b and 2b, as in Model 1a and 2a, both father's and mother's education (years of schooling) positively affect children's likelihood of enrollment, and the effects are statistically significant. An additional year of father's schooling increases the net odds of enrollment in school by 3.0 percent ($e^{0.030}-1$) in 1991 and 5.3 percent ($e^{0.052}-1$) in 2001; a year increase in mother's schooling, on the other hand, brings about the increase of the net odds of school

enrollment by 7.3 percent ($e^{0.070}-1$) in 1991 and 7.5 ($e^{0.072}-1$) in 2001. The effect of mother's schooling is greater than that of father's schooling (more than doubled in 1991), suggesting that family cultural capital, particularly embodied in mother's education, is an important factor in addition to family socioeconomic backgrounds in determining school enrollment of children aged between 15 and 19.

Third, as expected, in regard to the effects of sib-ship size and gender, the more siblings a child has, the less likely he or she is enrolled in school; and boys are less likely to be enrolled in school than girls after age 14 (Models 1b and 2b). An additional brother or sister decreases the net odds of a child's school enrollment by 5.6 percent ($=e^{-0.058}-1$) in 1991 and by 9.8 ($=e^{-0.103}-1$) in 2001, since the more children a family has, the less resource it can spend on each child. However, this does not mean that girls are always sacrificed, as one would typically expect in a Chinese society. Indeed, girls enjoy a clear advantage over boys in school enrollment: the net odds of boys' school enrollment are only 71 percent ($=e^{-0.347}$) in 1991 and 73 percent ($=e^{-0.321}$) in 2001, of those for girls'. Previously, Figure 3 has demonstrated a trend of narrowing gender gap in educational attainment, and women have surpassed men in educational attainment among young cohorts. It seems that this reversed trend would continue, and women advantages over men in educational attainment are expected increase in the future.

Finally, one of the key concerns of this paper is to assess the change in the effect of family backgrounds in process of educational attainment. The results are mixed. As plotted in Figure 5, the comparisons of selected coefficients in two separate equations for 1991 and 2001 show that, while the effect of family economic backgrounds (father's income) on children's school enrollment have declined, the effect of family social backgrounds has increased at the same time.

[FIGURE 5 ABOUT HERE]

The Effects of Family Backgrounds on School Transitions

The effects of family backgrounds on school enrollment may differ by school levels. In this session I turn to analyze school transition ratios at selected levels, namely, transition to secondary 1 given the completion of primary 6; transition to secondary 4 given the completion of secondary 3; transition to secondary 6 given the completion of secondary 5; and transition to college given the completion of secondary 7, which are determined by a set of variables that measure family backgrounds. Table 4 presents the estimated coefficients for a series of logistic regression on school transition on the selected independent variables, the same as used in previous analysis.

[TABLE 4 ABOUT HERE]

Models 1a and Model 1b predict the transition to secondary 1 given the completion of primary 6 in 1991 and 2001 respectively. Since the primary and lower secondary education is compulsory, and has been almost saturated since the 1980s, neither father's occupation, nor his income, nor his education, nor the number of siblings, has significant effect on the likelihood of transition to secondary 1. Only mother's education, which may essentially capture the cultural capital of the family, matters in children's success in entering the level of secondary 1; and the effect is quite prominent. A year increase in mother's schooling brings about 18 percent ($e^{0.165}-1$) increase in the net odds of transition in 1991, and 14 percent ($e^{0.124}-1$) in 2001. Girls outperform boys in this every early stage of schooling. The net odds of entering secondary 1 given the completion of primary 5 for boys are only about 43 percent ($e^{-0.847}$) of those for girls in 1991, and 36 percent ($e^{-1.027}$) in 2001.

While the expansion of educational system does have alleviated the effect of family backgrounds on education at the compulsory levels, social selection starts playing its role beyond the lower secondary level. Model 2a and Model 2b show that, for the transition to secondary 4 given the completion of secondary 3, although the effect of father's occupation remains largely insignificant (except for manual workers in 1991), both father's income and schooling become the significant predictors of children's likelihood of school progression. A 10 percent increase in father's income increases the net odds of transition by about 3.4 percent ($10*[e^{0.456}-1]/100*[e-1]$) in 1991, and by about 2.9 percent ($10*[e^{0.409}-1]/100*[e-1]$) in 2001. A year increase in father's schooling brings about the increase in the net odds of transition to secondary 4 after completing secondary 3 by 5.3 percent ($e^{0.052}-1$) in 1991 and 5.4 percent ($e^{0.053}-1$) in 2001. In both years, the effect of mother's schooling remains statistically significant; gender difference in transition rate at this level persists; and sibling effect becomes significant at this level.

While the transition patterns to secondary 4 in 1991 and 2001 seem to be not much different, the patterns start diverging in the transitions to higher levels (Model 3a and Model 3b). In 1991, while father's income is still a strong predictor of success in transition to secondary 6, father's occupation and education have lost their significance; in contrast, in 2001, although the effect of father's income becomes smaller (0.263 vs. 0.403 in 1991), children whose father is a manual worker face significant disadvantages in transition to secondary 6, compared to children whose father's is an administrator/manager; father's schooling also plays a significant role. Moreover, boys regain an advantage over girls in transition to secondary 6 in 1996 – their odds are 36 percent ($e^{0.359}-1$) higher than girls'. But such advantage did not last long – the gender gap in transition to secondary 6 has been reversed in 2001: boys lost the advantage, and their net odds of transition are only 76 percent ($e^{-0.277}-1$) of girls'.

The divergent patterns become even more evident in transition to college given the completion of secondary 7. Model 4a shows that none of the selected independent variables has explanatory power on entry into college in 1991 (Model $\chi^2(9) = 5.44$), whereas Model 4b demonstrates the significant effect of father's income and occupation (non-manual workers and manual workers) on children's access to college education in 2001. For the latter, every 10 percent increase in father's income leads to 3.3 percent ($10 * [e^{0.453} - 1] / 100 * [e - 1]$) increase in the net odds of entry into college for those who have completed secondary 7. The effect is highly significant ($p < .001$). Net of the effect of father's income, father's occupation also makes a great difference in determining children's entry into college. Other things being equal, the odds of entry into college are 82 percent ($e^{-0.197}$) for professionals' children, 60 percent ($e^{-0.508}$) for children of the self-employed, 46 percent for non-manual workers' children ($e^{-0.776}$), and 41 percent ($e^{-0.893}$) for non-manual workers' children, of the odds for managers/administrators' children. The disadvantages of the last two groups (non-manual and manual workers) are statistically significant ($p < .05$). In addition, both mother's education and gender are significant predictors of entry into college.

Comparing the coefficients across transition models reveals an even more interesting shift in the patterns from 1991 to 2001. Beyond the compulsory education, while the effects of family backgrounds - father's income and occupation - decline in progression to higher levels of schools in 1991, they have indeed increased in 2001. In 1991, the coefficient of father's income declines from 0.456 for transition to secondary 4, to 0.403 for transition to secondary 6, and then to -0.106 for transition to college; and the last one becomes insignificant. In 2001, the coefficient of father's income declines from 0.409 for transition to secondary 4, to 0.263 for transition to secondary 6, but bounces back to an even high level of 0.453 for transition to college. In regard to

the effect of father's occupation, in 1991, children whose father is a manual worker face a significant disadvantage in transition to secondary 4; other than that, father's occupation has no impact on transition to higher levels of school. In contrast, in 2001, father's occupation has no significant effect on transition to secondary 4, manual workers' children become significantly more likely to than administrators/managers' children to enter secondary 6 given the completion of secondary 5 ($p < .001$), and to enter college given completion of secondary 7 ($p < .01$). Non-manual workers' children are also significantly disadvantaged in transition to college ($p < .05$). Figure 6a plots the change in coefficients of father's income across three transitions for 1991 and 2001, and Figure 6b plots the odds ratios between children of manual workers and children of administrators/managers.

[FIGURES 6A AND 6B ABOUT HERE]

Most previous studies of school transitions have demonstrated that severe social selection tend to occur at lower levels, and social backgrounds matter less and less in progression to higher levels of school (e.g. Mare 1980; Shavit and Blossfeld 1994). Scholars have proposed two explanations. The life course thesis argues that, as children get older and advance to higher levels, they become more independent in deciding on what they want and parental resources become less important. The differential selection thesis posits that severe selection barriers tend to occur in early stages of transition, and only those brightest children from disadvantaged backgrounds can make to the higher levels. Consequently, it is scholastic aptitude and other unobserved characteristics of students (e.g., motivations) that determine educational success in higher levels (Shavit and Blossfeld 1994). Hong Kong's situation in 1991 fits this pattern quietly well. However, the pattern in 2001 is shifted to a new one, which is certainly at odds with the common pattern of how family backgrounds affected educational transition at different levels. Family

resources become even more important in progression to higher level of education, particularly to college, in the era of rapid expansion of higher education.

IMPLICATIONS OF EDUCATIONAL INEQUALITY ON INCOME INEQUALITY: A SUPPLEMENTARY ANALYSIS

As education plays an increasingly important role in getting a better job and receiving more economic benefits in modern society, the question of “who gets educated” assumes a central place in stratification research. The worsening distribution of education could lead to enlarged income inequality, although the relationship is not definitive (Lam and Levison 1992). In this session, I restrict the analysis to the youth aged between 20 and 29 years old who have completed education. I conduct a further analysis on the relationship between the change in the distributions of income and the change in the distribution of education.

The left part of Table 5 presents means and standard deviations of logged monthly earnings and years of schooling in 1991 and 2001 for each age group between 20 and 29. Both the mean logged earnings and years of schooling in 2001 are greater than those in 1991 for each age group; so are the standard deviations. While the mean logged income has increased from 8.62 in 1991 to 9.16 in 2001, the standard deviation of logged earnings has also been enlarged from 0.51 to 0.60. While the mean years of school have increased by one year, from 11 in 1991 to 12 in 2001, its standard deviation has been enlarged from 2.45 to 2.85 correspondingly. If the standard deviation is seen as a measure of inequality, the evidence suggests that, the recent educational expansion has led to an increase in the mean years of schooling for the young generation, but also brought forth higher inequality in schooling distribution, just as income growth is accompanied by an increase in income inequality in the past decade.

[TABLE 5 ABOUT HERE]

Figure 7 plots the standard deviations of logged income and years of schooling for each age group in both 1991 and 2001. While the change in income inequality between the two years is similar across all age-groups, the change in educational inequality is more prominent for those aged 26 or younger, who completed their education in the later 1980s and 1990s thereby have been likely affected by the change in the educational system during the period. As a result, the increase in educational inequality for those aged between 20 and 26, consistent to that those aged between 6 and 19 analyzed before, may be attributed to the same source. The gap in the standard deviation of education becomes narrower in the late 20s.

[FIGURE 7 ABOUT HERE]

How the change in educational distribution affects the change in income distribution? In the right panel of Table 5, I report the regression coefficients (β) of Ordinary Least Square models of logged income on years of schooling, and coefficient of determination (R^2), for each age group and for all samples aged between 20 and 29. The regression coefficient β shows that Hong Kong youth of the same age enjoy higher returns to schooling in 2001 than in 1991. The coefficients of model determination (R^2) show that more variations in logged income can be explained by the variations in schooling in 2001 than in 1991. Overall, variations in schooling can explain 15.7 percent of the variations in earnings in 1991 and 18.9 percent in 2001. Figure 8 plots the R^2 of earnings equation for each age group. From 1991 to 2001, a greater change R^2 is observed in the age groups that have also experienced in greater change in educational inequality. For those in the later 20's, when the variation in education is reduced, the explanatory power of education on income also approaches a convergence.

[FIGURE 8 ABOUT HERE]

SUMMARY AND CONCLUSION

Based on analyses of a 5 percent sample of the 1991 and 2001 population census, this paper examined the trends in the effects of family backgrounds on educational outcomes in Hong Kong, focusing on the effects of father's occupation and income on school enrollments and transitions for children aged 6 -19. Results show that, over the decade, the effect of father's income on full-time enrollment has declined but the effect of father's occupation has increased. As to school transitions, the effects of father's occupation and income both decline in transitions to higher levels of education beyond the compulsory level in 1991, but become even more important in progression to higher level of education, particularly to college, in 2001.

The case of Hong Kong defies the general pattern of educational stratification previously found in many industrialized economies in three regards. First, while results of the linear regression shows a decline in the effect of all family backgrounds on educational attainment in those countries, the effect of family backgrounds (except for father's monthly income) on student enrollment has indeed increased in Hong Kong in the past decade. Second, while the logit effects of family background characteristics on educational attainment are found constant elsewhere, the effects of father's occupation on the likelihoods of transition to secondary 6 and to college are greater in 2001 than in 1991, and so is the effect of father's monthly income on the likelihood of transition to college. Third, while the effect of family backgrounds decline across the level of school transition in many countries as well as in Hong Kong in 1991, such an effect is strengthened rather than weakened in transition to school beyond the compulsory level in 2001.

The pattern of educational stratification in Hong Kong also echoes some findings from other countries. For instance, Smith and Cheung (1986) reported that, in Philippine, although the effects of father's education on educational transition decline over the stages of transitions, the

effect of fathers' occupation are among the highest for the transition to tertiary education and lowest for the transition to primary school. Gerber and Hout (1995) demonstrated that the effect of social origin on entering university in Soviet-era Russia increased after 1965, since higher education failed to keep pace with the rapid expansion of secondary education. The case of Hong Kong offers another case supporting the thesis of "maximally maintained inequality" (Raftery and Hout 1993), which argues that inequality in educational opportunity is maximally maintained, namely, in modern societies, the effect of social origin at all levels of education do not change, except when the enrollment of the advantaged groups is already so high at a given level that further expansion is only feasible by increasing the opportunity of disadvantaged groups to make the transitions.

The implications of my findings in this paper may go beyond the thesis of maximally maintained inequality. While the thesis predicts that educational expansion does not lead to *better* chances for disadvantaged groups to make transition and will not change the association between family backgrounds and the given level of school transitions, my analysis has demonstrated that the effects of family backgrounds have increased (rather than remained constant and decreased conditionally), and educational opportunities of the disadvantaged groups have been even squeezed in 2001. Duncan (1968) argues that, to study social change, one has to distinguish between change that occurs owing to change in the distribution of variables and structural change – change in the fundamental social process underlying the associations among variables. To seek for a better understanding of this pattern of educational stratification found in Hong Kong, I point to the change in broader socioeconomic contexts, particularly the worsening income inequalities in the 1990s.

While there is no direct evidence showing that the observed change in educational stratification is caused by increasing income inequality, given the existing strong impact of father's income in children's educational opportunities, the enlarged gap between rich and poor in the 1990s would certainly bring about higher educational inequalities. A further analysis for a successive cohort of Hong Kong youth (aged 20-29) indicates that the rising earnings inequality between 1991 and 2001 is partly due to the rising educational inequality among these young workers. Assuming that the labor market situations faced by the two successive cohorts (15-19 and 20-29) are not substantially different, one can reasonably foresee that the rising educational inequality among students of different socioeconomic backgrounds in the 1990s could lead to increasing earnings inequality after they complete education and enter the labor markets. In a long run, intergenerational transmission is enhanced; the role of education as an important channel for socioeconomic mobility weakened. The society becomes ever more polarized.

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Table 1: Age-Specific School Enrollment Rates in Hong Kong (6-24), 1991 and 2001

Age	1991		2000	
	Enrollment Rate%	N	Enrollment Rate%	N
6	100.00	2900	100.00	2844
7	99.98	4016	99.92	3720
8	99.98	4196	99.98	4046
9	99.91	4263	99.95	3911
10	99.95	4270	99.95	4192
11	99.98	4179	99.88	4254
12	99.15	4107	99.82	4530
13	99.48	4063	99.83	4220
14	97.12	4025	99.43	4356
15	90.76	3971	96.03	4438
16	83.01	4185	92.29	4357
17	67.41	4231	78.44	4685
18	50.89	4170	63.68	4692
19	34.11	3990	49.32	4550
20	23.89	3939	39.74	4663
21	16.16	3978	33.21	4610
22	11.49	4221	21.50	4637
23	6.11	4373	12.22	4500
24	3.10	4423	6.48	4673

Sources: 5 % micro-data of 1991 and 2001 population census

Table 2: Descriptive Statistics of School-Age Children (6-19) in Hong Kong

	1991	2001
Full-time enrolled in school	0.893	0.916
Highest school level attend:		
Lower primary	0.330	0.297
Higher primary	0.172	0.154
Secondary 1	0.085	0.081
Secondary 2	0.087	0.079
Secondary 3	0.096	0.089
Secondary 4	0.073	0.078
Secondary 5	0.103	0.119
Secondary 6/7	0.028	0.064
Vocational/non-degree	0.022	0.030
University degree or above	0.003	0.010
Age	12.38 (3.909)	13.17 (4.174)
Sex (male=1)	0.521	0.521
Father's total monthly income	9610 (10893)	19126 (21509)
Father's monthly income (logged)	8.896 (0.656)	9.558 (0.727)
Father occupation:		
Manager	0.133	0.129
Professional	0.080	0.101
Self-employed	0.095	0.090
Non-manual workers	0.137	0.137
Manual workers	0.484	0.408
No occupation (unemployed)	0.072	0.136
Father's schooling	7.837 (3.894)	8.550 (3.943)
Mother's schooling	6.752 (3.746)	8.072 (3.823)
Number of siblings	1.721 (1.158)	0.990 (0.873)
Number of cases used analysis	46165	49921
Number of Cases not used in analysis		
Any parent not identified	10401	8864
Pre-school children (age 6)	916	1144
Total # in Sample	57482	59929

Notes: Figures in parentheses are standard deviations for continuous variables.

Sources: 5 % micro-data of 1991 and 2001 censuses

Table 3: Logistic Regression Predicting Full-time School Enrollment for Children Aged 15-19, Hong Kong 1991-2001

	1991		2001	
	Model 1a	Model 1b	Model 2a	Model 2b
Father's occupation ^a				
Professional	0.009 (0.119)	-0.029 (0.121)	0.281 ** (0.124)	0.251 * (0.127)
Self-employed	-0.230 * (0.091)	-0.026 (0.099)	-0.400 *** (0.092)	-0.216 * (0.102)
Non-manual worker	-0.257 ** (0.084)	-0.093 (0.088)	-0.311 *** (0.090)	-0.192 * (0.095)
Manual worker	-0.431 *** (0.072)	-0.199 * (0.079)	-0.492 *** (0.078)	-0.318 *** (0.087)
No occupation	-0.784 *** (0.086)	-	-0.457 *** (0.088)	-
Father's income (logged)	-	0.401 *** (0.046)		0.192 *** (0.040)
Father schooling	0.036 *** (0.006)	0.030 *** (0.007)	0.046 *** (0.007)	0.052 *** (0.008)
Mother's schooling	0.077 *** (0.007)	0.070 *** (0.008)	0.073 *** (0.006)	0.072 *** (0.007)
Gender (male=1)	-0.328 *** (0.038)	-0.347 *** (0.042)	-0.313 *** (0.038)	-0.321 *** (0.036)
Sibling	-0.053 *** (0.016)	-0.058 ** (0.019)	-0.097 *** (0.021)	-0.103 *** (0.025)
Constant	0.824 *** (0.093)	-2.744 *** (0.419)	1.067 *** (0.107)	-0.896 * (0.401)
Wald χ^2	793.13	643.39	831.96	770.63
Degree of freedom	9	9	9	9
Pseudo R ²	0.054	0.055	0.049	0.055
Number of Cases	15546	13280	18389	15267

Notes: ^a the omitted category is "administrator/manager";

Figures in the parentheses are standard errors adjusted of clustering on households. Data are weighted by household size.

*** p<.001; ** p<.01; * p<.05 (two-sided tests)

Table 4: Logistic Regression of School Transitions Given the Completion of the Previous Level on Family Background Characteristics, Hong Kong Children and Youth Aged 6-19, 1991-2001

	Transition to Secondary 1 Given the Completion of Primary 6		Transition to Secondary 4 Given the Completion of Secondary 3		Transition to Secondary 6 Given the Completion of Secondary 5		Transition to College Given the Completion of Secondary 7	
	1991 Model 1a	2001 Model 1b	1991 Model 2a	2001 Model 2b	1991 Model 3a	2001 Model 3b	1991 Model 4a	2001 Model 4b
Father's occupation ^a								
Professional	0.292 (0.868)	-0.478 (0.623)	0.169 (0.291)	0.046 (0.256)	-0.090 (0.187)	0.108 (0.133)	-0.491 (0.535)	-0.197 (0.301)
Self-employed	-0.771 (0.555)	1.163 (0.827)	-0.063 (0.196)	0.129 (0.185)	0.038 (0.173)	-0.216 (0.124)	-0.253 (0.585)	-0.508 (0.325)
Non-manual worker	-0.354 (0.544)	0.600 (0.667)	-0.216 (0.185)	0.040 (0.200)	0.015 (0.152)	0.190 (0.113)	-0.453 (0.552)	-0.776* (0.299)
Manual worker	-0.531 (0.470)	0.460 (0.569)	-0.339* (0.166)	-0.185 (0.180)	-0.155 (0.135)	-0.411*** (0.105)	-0.247 (0.488)	-0.893** (0.278)
Father's income (logged)	0.433 (0.258)	0.091 (0.259)	0.456*** (0.079)	0.409*** (0.075)	0.403*** (0.076)	0.263*** (0.052)	-0.106 (0.254)	0.453*** (0.138)
Father schooling	0.003 (0.038)	0.032 (0.057)	0.052*** (0.014)	0.053*** (0.014)	0.017 (0.013)	0.074*** (0.010)	-0.027 (0.050)	0.031 (0.030)
Mother's schooling	0.165*** (0.047)	0.124*** (0.047)	0.063*** (0.015)	0.084*** (0.013)	0.055*** (0.013)	0.055*** (0.010)	0.027 (0.045)	0.079** (0.030)
Gender (male=1)	-0.847*** (0.210)	-1.027** (0.328)	-0.901*** (0.081)	-0.947*** (0.088)	0.359*** (0.076)	-0.277*** (0.056)	0.468 (0.313)	-0.380* (0.165)
Sibling	0.139 (0.106)	-0.045 (0.183)	-0.116*** (0.034)	-0.153** (0.049)	-0.096** (0.034)	-0.117*** (0.031)	0.136 (0.147)	0.070 (0.098)
Constant	1.337 (2.267)	4.596 (2.526)	-1.205 (0.740)	-1.067 (0.757)	-3.765*** (0.598)	-2.772*** (0.527)	1.394 (2.358)	-4.669*** (1.382)
Wald χ^2	65.54	27.31	373.22	331.24	188.12	541.10	5.44	116.98
Degree of Freedom	9	9	9	9	9	9	9	9
Pseudo R ²	0.062	0.037	0.078	0.078	0.050	0.077	0.022	0.127
Number of Cases	20812	23238	10406	12533	3479	6168	212	764

Notes: ^a the omitted category is "administrator/managers";

Figures in the parentheses are standard errors adjusted of clustering on households. Data are weighted by household size.

*** p<.001; ** p<.01; * p<.05 (two-sided tests).

Table 5: Monthly Earnings, Schooling Distribution By Age, and Age-Specific Earning Equations: Hong Kong Young Workers Aged 20-29 with Positive Earnings, 1991 and 2001

Age Group	Year	Sample size	Logged Monthly Earnings		Years of Schooling		Age-specific Earnings Equation	
			Logged	Std. Dev	Mean	Std. Dev.	β	R ²
20	1991	2176	8.345	0.366	10.52	1.631	0.029	0.017
	2001	1882	8.774	0.408	10.80	2.013	0.043	0.046
21	1991	2501	8.401	0.383	10.67	1.808	0.039	0.034
	2001	2702	8.849	0.445	10.99	2.094	0.048	0.050
22	1991	2785	8.481	0.398	10.84	2.079	0.054	0.078
	2001	2732	8.943	0.459	11.58	2.569	0.056	0.097
23	1991	3113	8.529	0.409	11.07	2.225	0.065	0.124
	2001	3001	9.040	0.486	12.12	2.767	0.064	0.133
24	1991	3308	8.595	0.434	11.15	2.328	0.071	0.145
	2001	3319	9.127	0.538	12.31	2.894	0.077	0.172
25	1991	3715	8.638	0.483	11.12	2.491	0.081	0.173
	2001	3375	9.196	0.554	12.33	2.905	0.079	0.172
26	1991	4081	8.677	0.500	11.17	2.540	0.078	0.157
	2001	3687	9.245	0.589	12.40	2.978	0.087	0.193
27	1991	4315	8.718	0.536	11.02	2.652	0.088	0.188
	2001	3782	9.308	0.616	12.47	2.993	0.095	0.215
28	1991	4251	8.738	0.566	10.88	2.792	0.097	0.231
	2001	3924	9.337	0.645	12.20	2.979	0.102	0.222
29	1991	3970	8.774	0.595	10.74	2.805	0.102	0.232
	2001	3720	9.399	0.679	12.21	3.005	0.110	0.235
20-29	1991	34215	8.618	0.505	10.94	2.446	0.082	0.157
	2001	31624	9.163	0.595	12.03	2.850	0.091	0.189

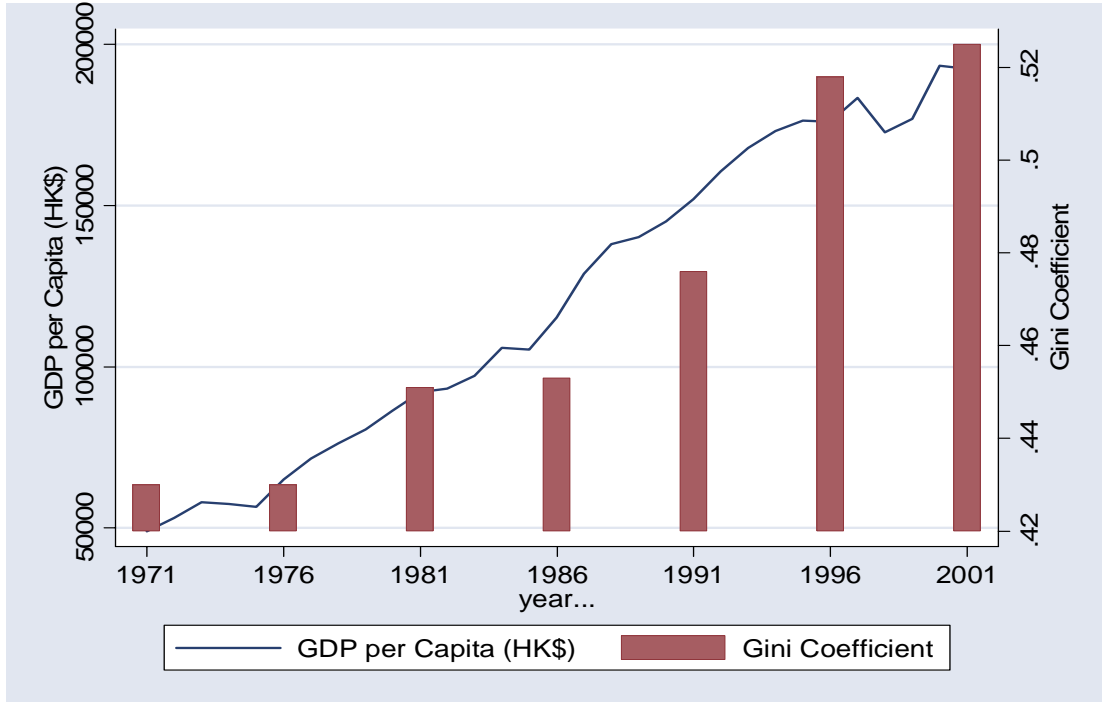


Figure 1. Growth of GDP Per Capita and Income Inequality in Hong Kong (1981-2001)

Note: GDP per capita is adjusted by the fixed price of 2000. Income inequality is measured by Gini index.

Data Source: Census and Statistics Department, Hong Kong SAR Government 1992, 2002

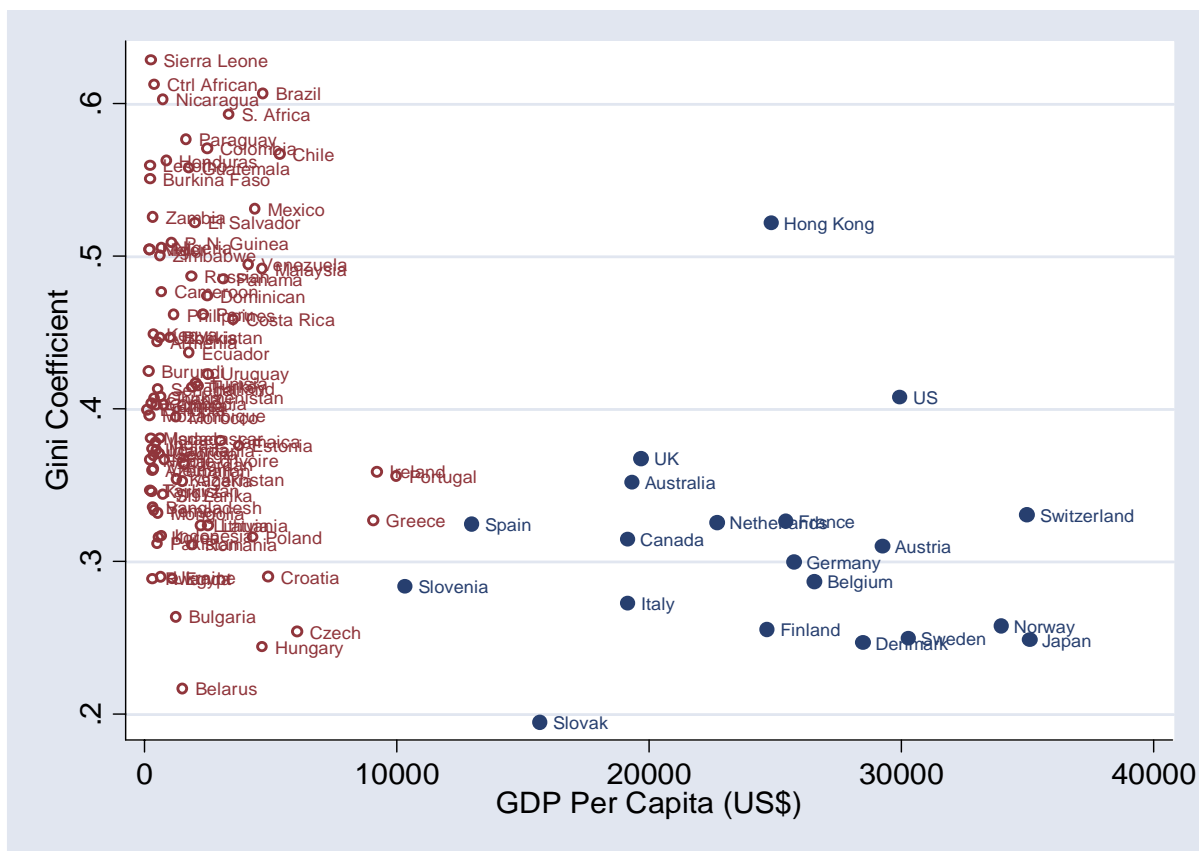


Figure 2. GDP Per Capita and Income Inequality (Gini Index) for 108 Countries

Notes: Gini index and GDP Per Capita are from different years for different countries, but mostly 1990-2000 (except for 5 countries).

Sources: World Bank 2003

<http://unstats.un.org/unsd/snaama/selectionbasicFast.asp>

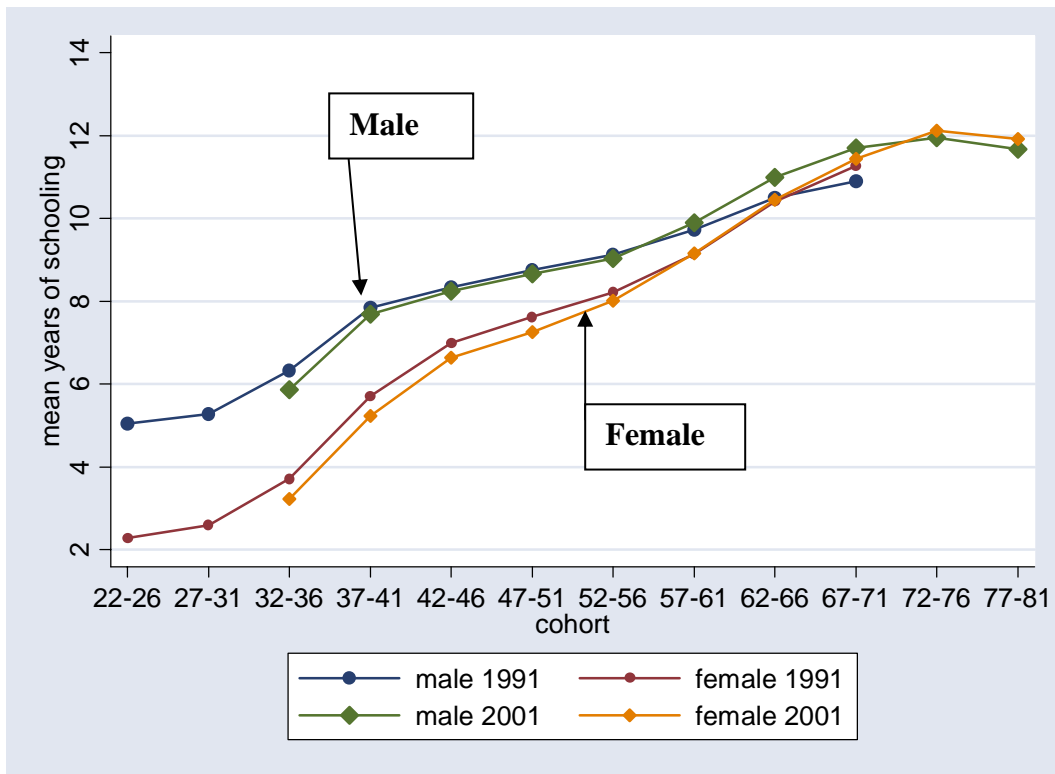


Figure 3: Mean Years of Schooling Completed by Cohorts, Hong Kong Adult Population (20-69) Based on 1991 and 2001 Data

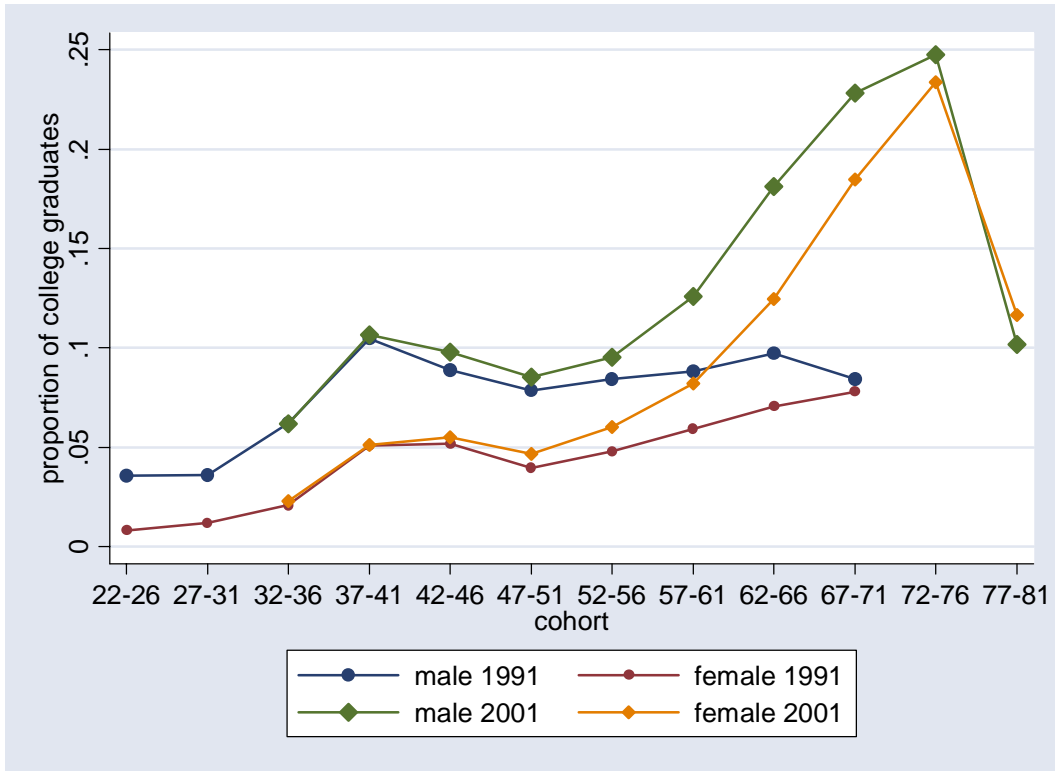


Figure 4: Proportion of College Graduates, Hong Kong Adult Population (20-69) Based on 1991 and 2001 Census Data

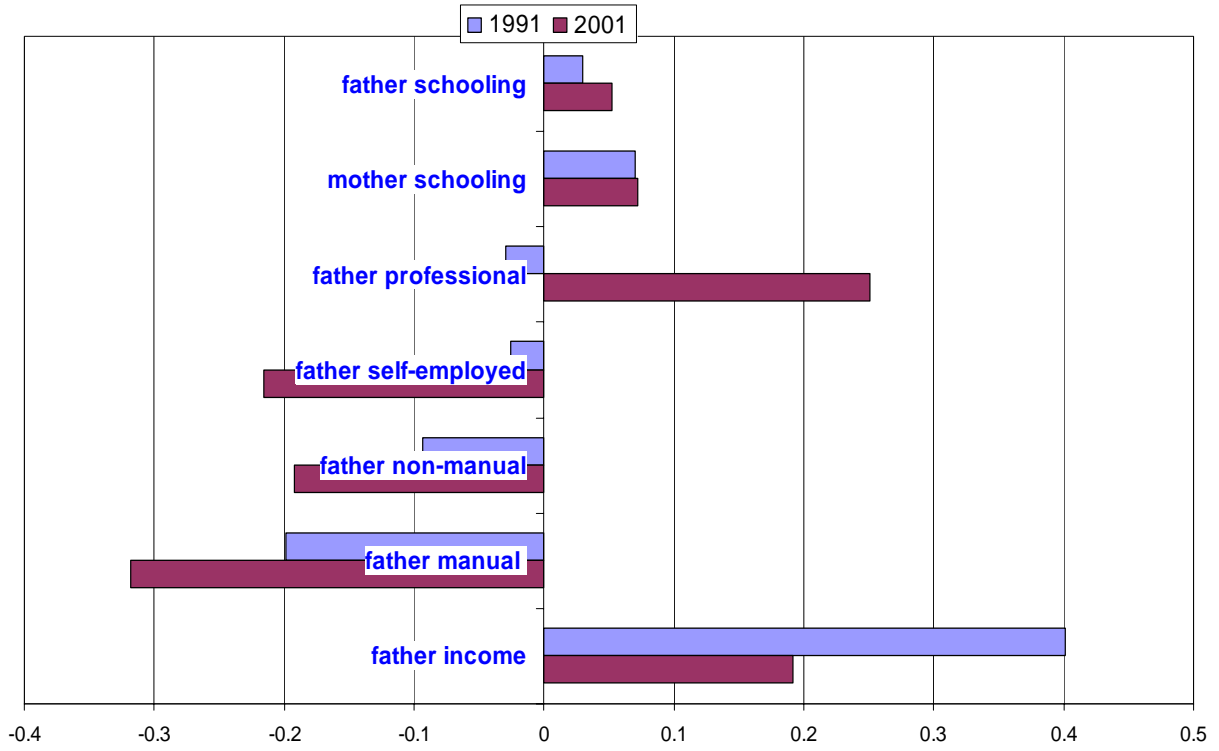
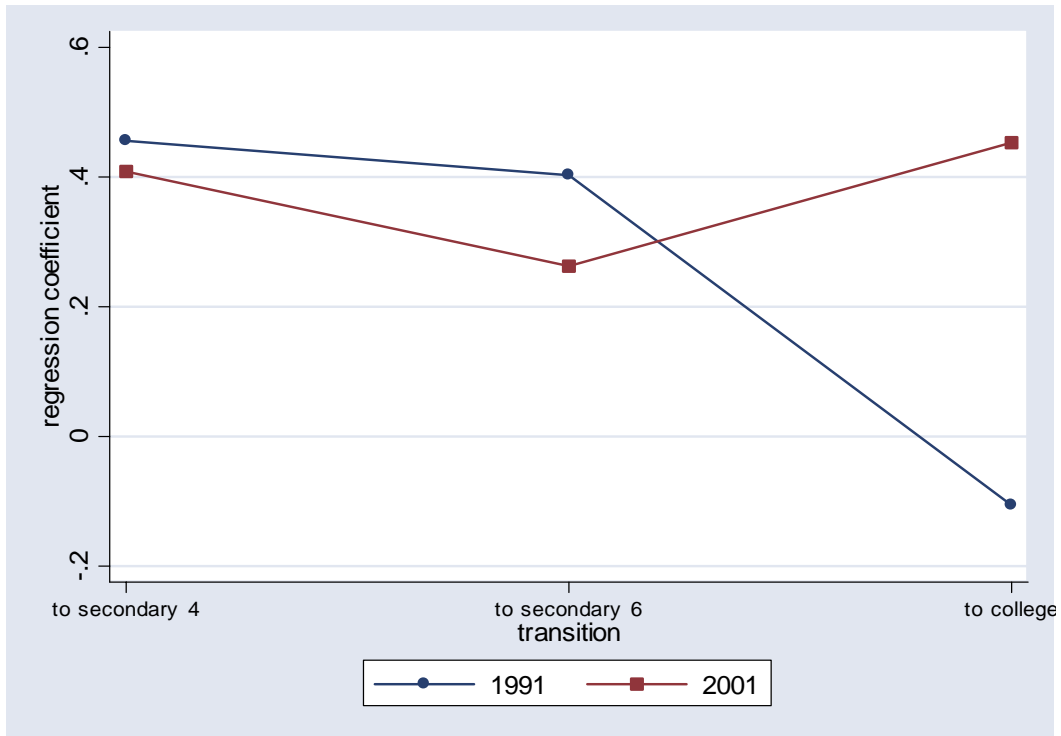


Figure 5: The Changing Effects of Selected Family Background Characteristics on School Enrollment for Hong Kong Children and Youth, 1991-2001



**Figure 6a: The Effect of Father's Monthly Income on Different Levels of School Transitions
Hong Kong School-Age Population (Age 6-19), 1991 & 2001**

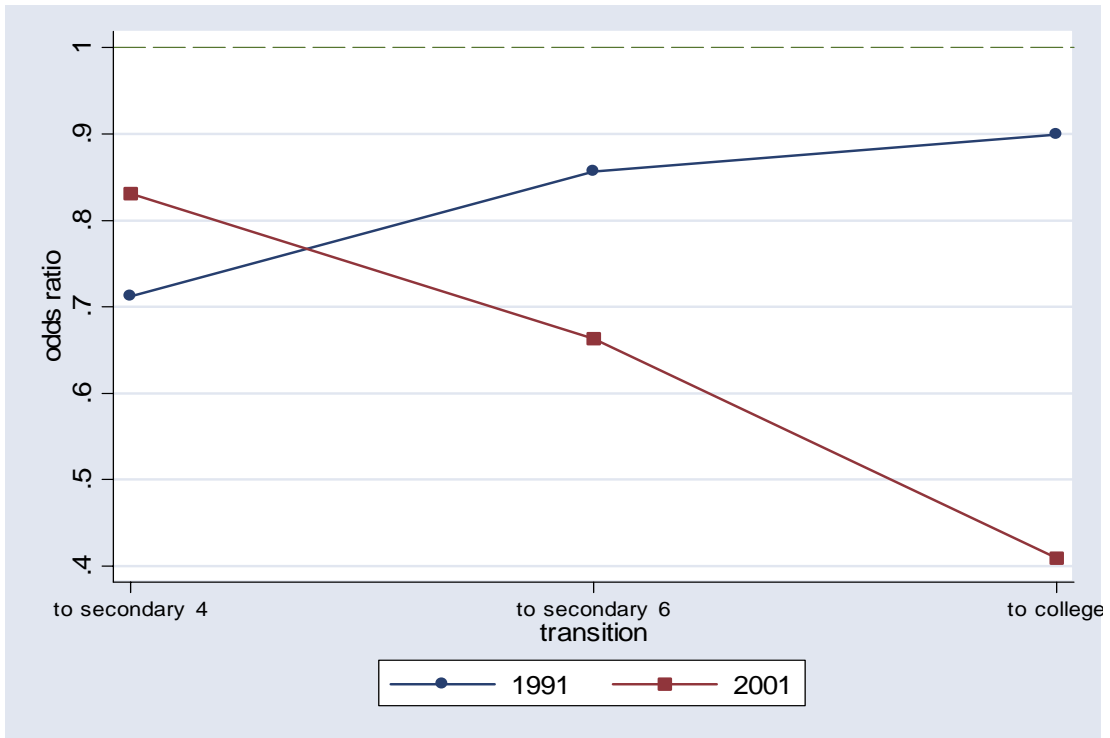


Figure 6b The Odds Ratio of Father Being Manual Workers vs. Father Being Administrators/Managers on Different Levels of School Transitions, Hong Kong School-Age Population (Age 6-19), 1991 & 2001

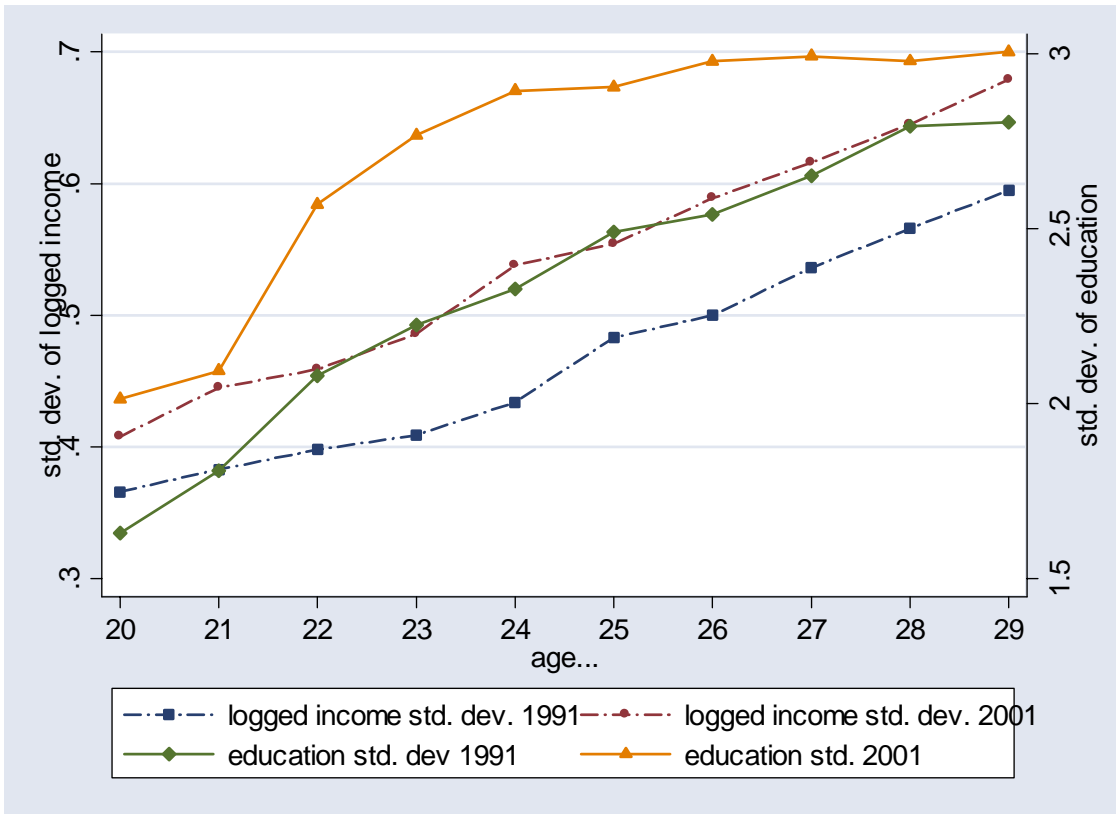


Figure 7. Age (20-29) Specific Distribution (Standard Deviation) of Income and Education, 1991 & 2001

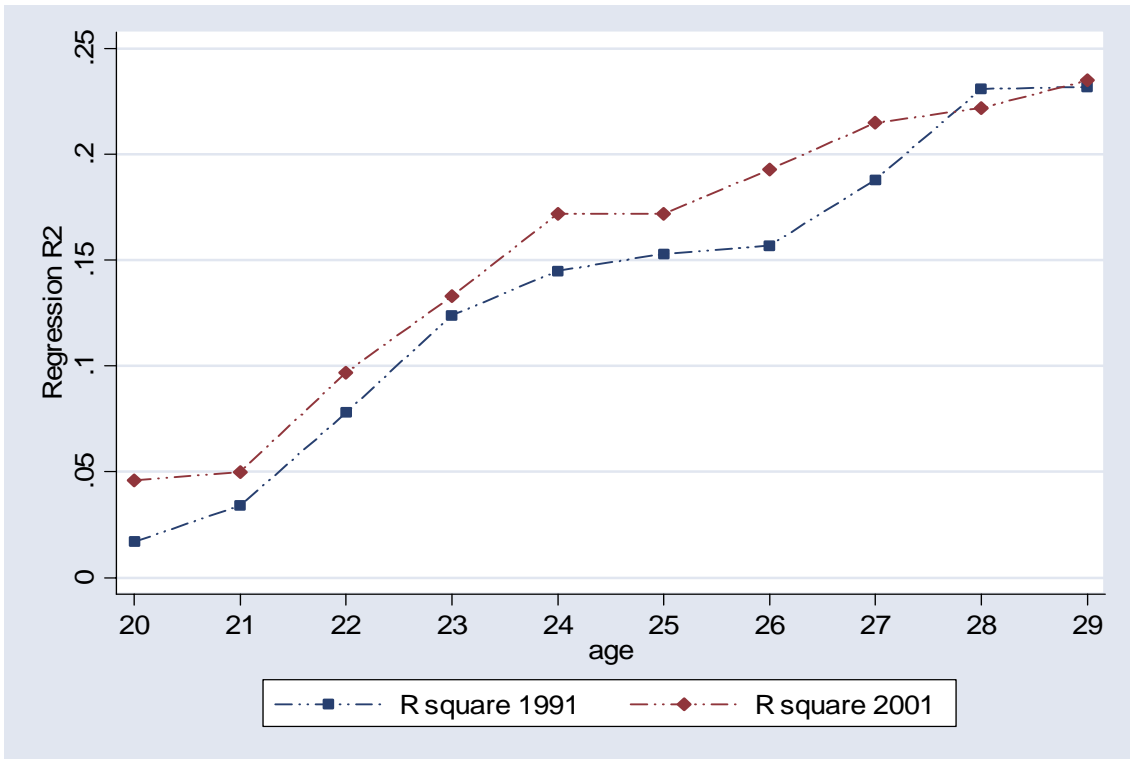


Figure 8. Age (20-29) Specific Variations in Income Explained by Variations in Education, 1991 & 2001