Gender Inequality in Urban China: Education and Employment

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Gender Inequality in Urban China

Education and Employment

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The examination of gender inequality in China is particularly interesting because of the seemingly contradictory effects of gender stratification on two phases of that society's history. Traditional, primarily Confucian attitudes and norms supported and reflected a strong hierarchy, both within and outside the family, based on gender and age. In this system, women were subordinate to men, and young women occupied the lowest strata of the hierarchy. In many ways, recent developments, especially the efforts by the Communist government since 1949, have challenged this hierarchy. One of the promises made by the revolutionaries who established the People's Republic in 1949 was to raise the status of women, and since then the government has instituted a series of measures that have affected the role of women. The entry of women into the labor force was deemed especially important because of the belief of Chinese and other Marxists that women's participation was the key to the liberation of women (Landes, 1989). Indeed, Chinese women are now participating in the paid labor force to an extent that has exceeded that in most other modern societies. Efforts were also directed at changing the role of women in the family by implementing marriage laws in 1950 and 1980

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which prohibited arranged marriage, raised the legal age at marriage, and gave women and men equal rights to divorce.

In spite of these efforts and changes, four decades after the founding of the People's Republic, gender inequality persists in China. Women's lower position in the gender hierarchy is reflected in the continued preference for sons in most of China (Arnold and Liu, 1986), in women's "double burden" of full-time paid work and major responsibilities for child care and housework (Bian, 1987; Wang and Li, 1982), in the lack of representation of women in political affairs (Whyte, 1984), in violence against women in the form of infanticide and wife battering (Honig and Hershatter, 1988: 273ff), and attitudes about the proper qualities of husbands and wives (She, 1986).

In this article, we present further documentation of the relative position of women and men in urban Chinese society. Although the government has been quite successful at increasing women's participation in the paid labor force, our research supports arguments (Andors, 1983; Stacey, 1983; Johnson, 1983; Wolf, 1985) that participation alone will not ensure equality between women and men nor will their participation necessarily upset the traditional "sex-gender system" (Rubin, 1975). Rather, a close examination of women in education and the labor force in China reveals continuing, perhaps even entrenched, gender stratification.

As such, our research supports that of other scholars who have examined gender in modern China. The "unfinished liberation" of women (Andors, 1983) that we see has been linked by several scholars to the implicit patriarchal values and practices embedded in social, economic, and political policies since 1949. These scholars argue that Chinese peasant family structure and gender ideology were not only influenced by but also actually helped shape those policies (Stacey, 1983). In many respects, the gender inequality found in the Chinese labor force resembles that found in the West (for descriptions and analysis of gender stratification in the labor force in Western countries, see Bradley, 1989; Reskin and Hartman, 1986; Roos and Reskin, 1984). However, as will be shown, China's labor force is also unique in many ways.

We chose to study gender inequality in education and employment not only because these two life course events are among the most

important for individual women as well as men in a modern society but because they are interrelated. Educational attainment is not only an indicator of social status itself, it is also linked to employment opportunities and occupational status.

DATA AND DEFINITIONS

Until the 1980s, empirical support for arguments about gender stratification in education and in the labor force in China was primarily limited to anecdotal and nonrepresentative data. With the recent availability of national-level surveys, we are now able to examine empirically some aspects of women's status in modern China. Our analyses in this article use data from the 1987 One Percent Population Survey to examine the presence and pervasiveness of the gender gap in education, employment, and occupational attainment.[1]

Gender inequality exists in both urban and rural areas. However, urban and rural China are so different that each requires its own careful analysis. We decided to focus on urban areas for two reasons. First, urban China has a much more complex occupational composition than rural areas due to its economic structure, and second, many of the government efforts to raise women's status have focused on urban women because they involved increasing female participation in the paid labor force. These efforts were more visible and effective in areas with industrial opportunities.

What constitutes "urban" has critical consequences for our discussions in this study. The definition of urban in Chinese survey data and statistics varies greatly: urban could be as narrowly defined as to mean only those who hold an urban household registration booklet (*chengshi hukou*) that entitles these residents to food and shelter subsidies and, for a long time before the economic reform of the 1980s, guaranteed employment. This narrow definition accounted for only about 18% of the population in 1987. A more relaxed but much wider definition means the population living in areas that satisfy the recently revised official definition of urban. An area is urban if the majority of employment is nonagricultural.[2] The latter definition stipulates that residents of both cities and suburbs are urban, although many of those

residing in suburbs are farmers. According to this wider definition, 46% of the Chinese population in 1987 were urban.

In the analyses that follows we use two different definitions of urban for the two different parts of the article. For analysis of education, the broader urban definition is used to denote people not only in cities but in suburbs. (We should note that educational improvements in the more narrowly defined urban areas may have even been more impressive than what we present here.) In our analyses of occupational composition and attainment, however, we adopt the narrower, more political definition of urban by dropping the agricultural population from our sample in the belief that it is the residents with urban household registrations who have enjoyed more privileges provided by the state. State policies of gender equality are expected to have a greater impact on these people because their employment is, in most cases, directly provided by the state.

In the following, we document the change in female education and labor force participation in urban China and report the extent to which gender inequality still exists. We then examine occupational differences between men and women in urban China after their entry into the labor force. We find that women's disadvantage is most evident in their severe underrepresentation in the more powerful, political, positions. This is the case not only because women generally receive less education. Even after controlling for education and experience, men are more likely to occupy more important positions in urban China. We argue that the enormous increase in the level of female labor force participation has not necessarily been accompanied by gender equality.

EDUCATION

The past four decades have witnessed remarkable improvement in education in China. Cohort differences reflect the sharp decline in illiteracy among both males and females. According to the results of the One Percent Population Survey in 1987, 48% of males aged 45 and above in rural areas were illiterate, but the proportion of 15- to 19-year-old males who were illiterate was only 6%. For females, the proportion illiterate declined from 88% to 15% between these cohorts.

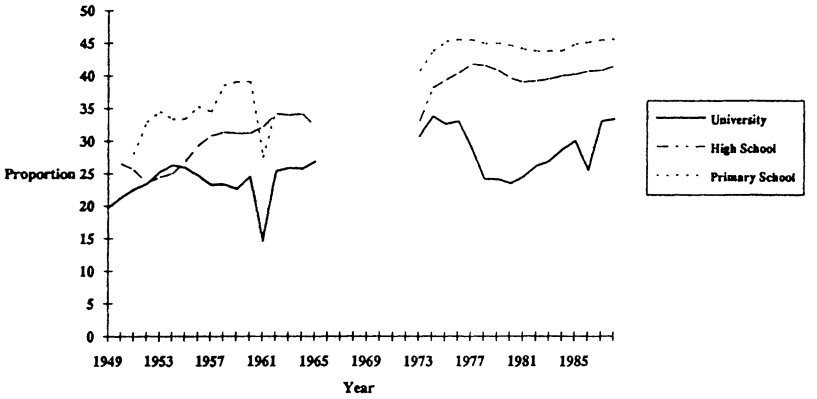

Figure 1: Female Proportion of Total Students, China, 1949-1988
SOURCES: Guojia jiaoyu weiyuanhui jihua caiwu ju (1981); Guojia tongji ju (1984-1988).

In urban areas, of the older cohort, 29% of the males and 67% of the females were illiterate, but only 2.3% of the younger men and 6% of the younger women were illiterate. These numbers indicate an extremely impressive improvement in education, on one hand, but persistent urban-rural and male-female differences, on the other. In this section, we examine gender differences in educational trends and the factors that determine these differences.

CHANGES IN ENROLLMENT AND ATTAINMENT, BY GENDER

Figure 1 presents the female proportion of total students enrolled in universities and colleges, high schools (junior and senior), and primary schools between 1949 and 1988 for all China, urban and rural areas combined. There are no reported statistics from 1966 to 1972, probably due to the closing of statistical offices as well as schools and universities during the Cultural Revolution.

Between 1949 and 1981, the proportions of female students in primary and secondary schools increased steadily, with the exception of a sudden drop in 1961 as female primary school enrollment suffered more than that of males during the famine. The proportion of female primary school students rose from about 30% in the early 1950s to

almost 40% in the late 1950s. It climbed from 40% to 45% in the late 1970s, where it remained in the 1980s. The female proportion in high school followed a similar trend, increasing from 25% to 40% between 1949 and 1981.

By contrast, the enrollment of female students in universities and colleges fluctuated dramatically. The proportion of females grew from 20% in 1949 to 25% in 1953, declined marginally to 22% by 1958, and then recovered. The proportion of female undergraduates increased sharply during the later years of the Cultural Revolution when universities were reopened and reformed to narrow gaps between mental and manual labor, between urban and rural, and between workers and peasants. University admissions were based on recommendations by the work unit (factory or rural commune) rather than by examination scores. There was also an ideological emphasis on gender equality during those years. As a result, female students accounted for about a third of all undergraduate students by the mid-1970s. After 1977, when the educational policy of the Cultural Revolution was abandoned and when national examinations for university entrance were reinstated, the proportion of female students dropped suddenly to below one quarter, but by the 1980s, it gradually rebounded to the level of the mid-1970s. Women may have found it easier to matriculate in part because of the relatively large expansion in total university enrollments from 1983 to 1987.[3]

We complement the enrollment analysis with an examination of educational attainment data collected by the 1987 One Percent Population Survey. Table 1 and Figure 2 show the sex ratios of the urban population by educational attainment and by age. Notice that we use urban population in different age groups at the time of the survey rather than the actual urban population in past years to estimate these time trends in educational attainments. Due to migration in and out of urban areas, the actual urban population at different points in the past may be different from what the 1987 survey suggests. If this migration were substantial and selective with respect to gender and education, our inferences could be altered. However, due to a strict state policy on rural-urban migration during past decades, very few people changed their residence from rural to urban areas. We believe our results should not be affected in any significant way by migration.[4]

TABLE 1: Education Attainment, by Sex: Urban China, 1987 (in hundreds)

Age	*Male*	*Female*	*Ratio (M/F)*
University			
15-19	18	85	0.21
20-24	5,580	3,383	1.65
25-29	5,595	2,699	2.07
30-34	6,777	2,966	2.28
35-39	5,573	2,240	2.49
40-44	5,436	2,273	2.39
45+	18,368	6,245	2.94
Senior high			
15-19	41,603	38,103	1.09
20-24	59,462	56,277	1.06
25-29	58,550	51,572	1.14
30-34	39,678	28,395	1.40
35-39	16,002	10,187	1.57
40-44	12,979	9,690	1.34
45+	34,926	14,199	2.46
Junior high			
15-19	116,984	101,631	1.15
20-24	115,387	102,866	1.12
25-29	65,717	51,969	1.26
30-34	80,247	60,062	1.34
35-39	56,605	38,954	1.45
40-44	35,417	22,640	1.56
45+	78,984	29,359	2.69
Primary			
15-19	55,676	63,644	0.87
20-24	39,482	47,342	0.83
25-29	24,543	32,058	0.77
30-34	50,295	53,497	0.94
35-39	56,483	52,886	1.07
40-44	43,296	36,793	1.18
45+	177,300	91,069	1.95
Illiterate			
15-19	5,016	12,459	0.40
20-24	4,524	15,821	0.29
25-29	4,766	18,569	0.26
30-34	9,407	35,431	0.27
35-39	9,427	31,411	0.30
40-44	8,937	27,159	0.33
45+	126,208	286,999	0.44

SOURCE: 1987 One Percent Population Survey.

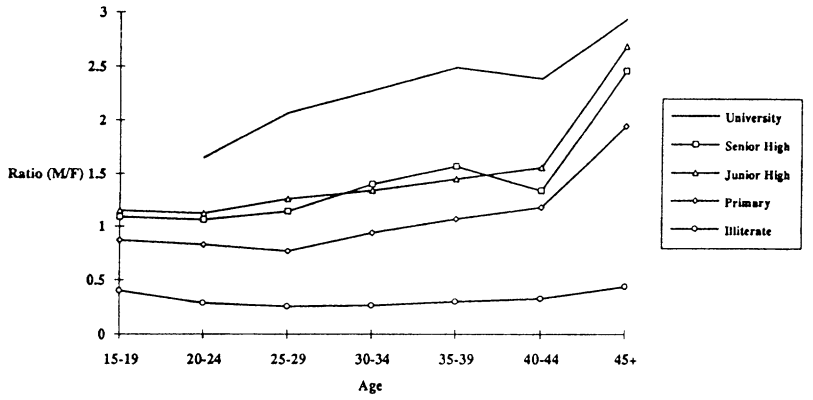

Figure 2: Sex Ratio of Urban Population at Various Educational Levels, 1987
SOURCE: 1987 One Percent Population Survey.

Overall, we see a decline in sex ratios at different attainment levels from the older to younger age groups, which indicates that while the gender gap in educational attainment among urban Chinese still exists, it has narrowed over time. This is especially true for primary and secondary education. Among 15 to 19 year olds, the number of men and women with junior and senior high school degrees is about the same (the ratios are close to 1). The gender gap, however, remains much larger at the highest educational level. The ratio of men to women with university degrees has become smaller, but among the youngest age group, it is still 1.65. Though illiteracy has declined substantially for both sexes, women are still more likely to be illiterate than men, as shown by the sex ratios under 1 for all ages. Moreover, the elimination of illiteracy among males occurred earlier and faster than it did for females. The peculiar pattern of lower sex ratios among the middle-aged, illiterate population reflects the fact that during the process of eliminating illiteracy in the 1950s and 1960s, fewer school-aged females than males went to schools.

The simple sex ratios for educational attainment at primary and secondary level can be misleading, however, because more males than females continue to higher educational levels. To avoid this problem, we calculated, by gender, the proportion completing the next highest level of education (e.g., the proportion of elementary students who

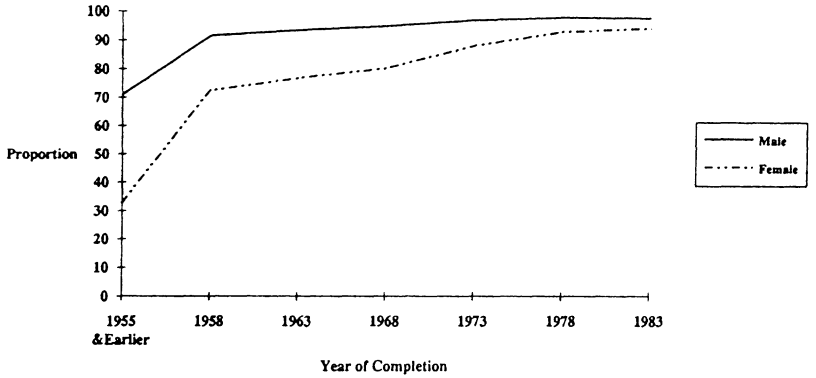

Figure 3: Proportion of Urban Population Completing Primary Education, by Sex
SOURCE: 1987 One Percent Population Survey.

continue to junior high, junior high graduates who complete senior high, and so on). We present these proportions by years in Figures 3 through 6. Figure 3 shows that nearly universal primary education for men and women has been achieved in urban China. The proportion of men completing primary school increased from 70% before 1955 to nearly 98% by 1983. Gains for women are even more impressive, increasing from around 30% to 94%. Much of the gain for men and women and much of the narrowing of the gender differential occurred before 1960. The gender gap in these rates also narrowed significantly from around 1968 to 1978, during the Cultural Revolution.[5]

Figure 4 shows the trend in the continuation from primary to junior high school. The proportion of men and women completing junior high increased substantially, peaking in the late 1970s. However, the gender gap has been much more persistent here than for primary education. By the early 1980s, 77% of women with primary education continued to complete junior high school, as compared to 82% of men.[6] During the 1980s, there was a slight decline in the proportion of men and women continuing to junior high school.

The proportion of students who continue from junior to senior high has fluctuated dramatically, but differences by gender have been consistently small (Figure 5). As of the mid-1980s, only a small proportion of all junior high students, roughly 36%, continued to

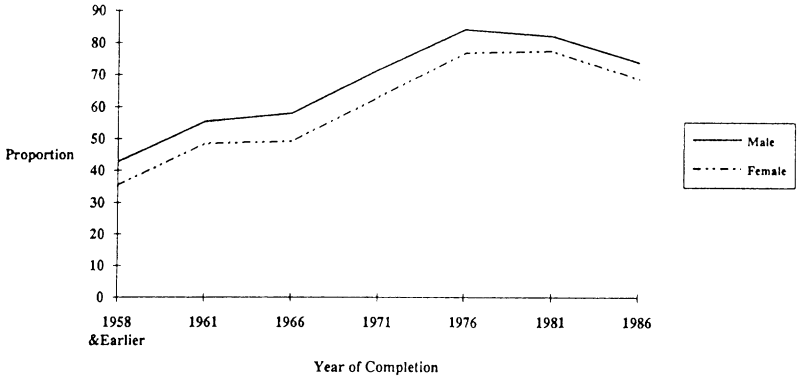

Figure 4: Proportion of Urban Population with Primary Education Completing Junior High School Education, by Sex
SOURCE: 1987 One Percent Population Survey.

senior high. Before the 1960s, secondary education was not prevalent, and a large proportion of those who entered junior high continued to senior high and eventually completed university, becoming the educated elites. After 1960, secondary enrollments expanded, but more so at the junior high than senior high level, lowering continuation rates. The development and promotion of professional and technical schools from 1960 to 1966 also contributed to the decline in the proportion attending senior high school. During most of the Cultural Revolution, from 1966 to 1972, most senior high schools no longer accepted students. Junior high graduates were sent to the countryside to receive "re-education from farmers." An apparently substantial increase in the proportion continuing to senior high occurred during the last years of the Cultural Revolution (1973-1976) when the educational system went through drastic changes. Curricula in junior and senior high schools were combined into a four-year secondary system, which was considered a "senior" high school education. Overnight, junior high schools were elevated to the status of senior high schools. The policy change resulted in a dramatic rise in the continuation rates during the 1970s. After the Cultural Revolution, the system returned to the three-year junior high and three-year senior high system, and the proportion continuing to senior high returned to earlier levels. After

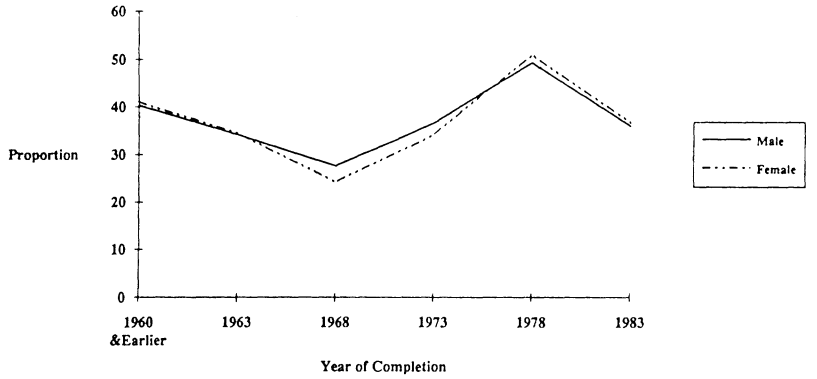

Figure 5: Proportion of Urban Population with Junior High Education Completing Senior High Education, by Sex
SOURCE: 1987 One Percent Population Survey.

the reforms in 1978, the government decided it was not prudent to permit all junior high graduates to continue to senior high because most could not eventually attend university. Because of this decision, and to provide more job-related training, professional and technical schools were promoted once again. Many senior high schools were converted to technical schools, and many new technical and professional schools were established.

Among senior high graduates, women again have a smaller chance of entering university (Figure 6). In the 1980s, about 9% of male and 5% of female senior high graduates continued to university. Moreover, the gender gap has not narrowed significantly since the early 1970s. The gap was especially wide for those graduating around 1965, again the result of the 1959-1961 famine. An important and interesting inference from Figure 6 is that even though university enrollments have increased over time, the expansion has not kept pace with the increase in the number of senior high school students. The chances of entering university, therefore, have declined, and competition has no doubt become more intense. Before 1964, over a third of all senior high school graduates could continue to college; by the early 1980s, the percentage dropped to less than 10%.

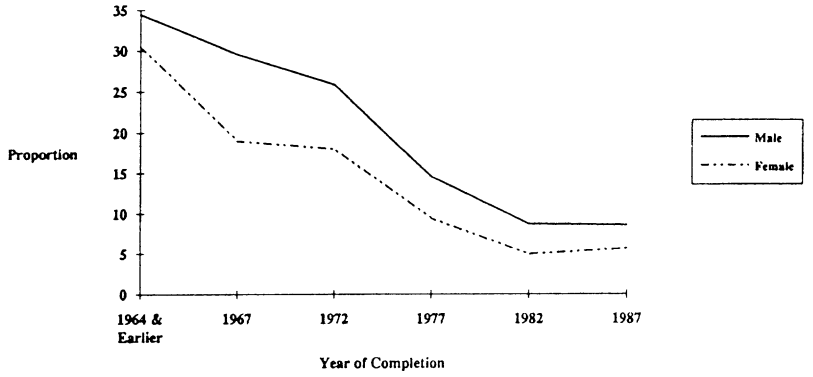

Figure 6: Proportion of Urban Population with Senior High School Education Completing University, by Sex
SOURCE: 1987 One Percent Population Survey.

CAUSES OF GENDER DIFFERENTIALS IN CURRENT ENROLLMENT

The gender gaps in educational attainment led us to search for factors that contribute to these differences. Because enrollment above junior high school in urban China is largely based on merit (i.e., examination scores), differences in enrollment between young male and female adults are likely the result of different socialization processes and differential parental treatment. Therefore, we turn to household-level characteristics, such as parents' education and occupation and the number and sex of siblings, to explore the causes of gender differential in enrollment and to uncover patterns of intergenerational mobility in urban China.

Enrollment data by age and sex from the 1987 One Percent Population Survey are presented in Table 2. Unfortunately, the survey collected only information on educational enrollment status for household members over the age of fifteen. In every age group, males are more likely to be enrolled than females, and the gender gap in current enrollment status widens with age. This is consistent with the results presented earlier that the gender gap in education increases at higher educational levels.

In this section, we present a logit analysis of the effects of father's education and occupation and the presence of additional school-age

TABLE 2: **Proportion of Population Currently in School, by Age and Sex: China, Urban China, Rural China, 1987**

	China			*Urban China*			*Rural China*		
Age	*Male*	*Female*	*Ratio (M/F)*	*Male*	*Female*	*Ratio (M/F)*	*Male*	*Female*	*Ratio (M/F)*
15	63.70	45.46	1.40	73.09	63.64	1.15	60.15	38.55	1.56
16	45.11	32.23	1.40	54.83	47.56	1.15	41.23	26.05	1.58
17	29.21	19.02	1.54	39.56	32.85	1.20	24.98	13.49	1.85
18	18.03	11.96	1.51	27.36	22.63	1.21	14.13	7.23	1.95
19	11.40	6.73	1.69	18.35	13.87	1.32	8.56	3.66	2.34
20	6.45	3.67	1.76	12.20	7.73	1.58	4.01	2.00	2.01
21	3.85	2.41	1.60	7.54	5.35	1.41	2.28	1.10	2.07
22	1.99	1.16	1.72	3.81	2.66	1.43	1.11	0.49	2.27
23	0.93	0.60	1.55	1.91	1.34	1.43	0.39	0.21	1.86
24	0.60	0.39	1.54	1.27	0.93	1.37	0.23	0.09	2.56
25	0.65	0.22	2.95	1.77	0.48	3.69	0.10	0.08	1.25

SOURCE: 1987 One Percent Population Survey.

children on the enrollment status of 15 to 18 year olds in urban households.[7] We were forced to restrict the analysis to this secondary school-age group because most university students do not live at home and information on their families is therefore not included in the One Percent Population Survey. While it is unfortunate that we were unable to examine the determinants of university enrollment, we were still able to uncover interesting gender differentials in the determinants of secondary enrollment.

The variables used in the enrollment logits are described at the bottom of Table 3. Current enrollment status is regressed on age dummy variables (the 18-year-old age group is the omitted reference group (i.e., the estimated effects of the age variables are all relative to age 18), education of the father variables (illiterates are the reference group), occupation of the father variables (industrial workers are the reference group), and variables indicating the presence of additional school-age brothers and sisters.[8]

The logit estimates are presented in Table 3. The variables controlling for the presence of additional school-age males and females in the household were included to test the hypothesis that sons receive a larger share of resources than daughters, contributing to the higher probability of sons' enrollment. A related hypothesis is that daughters

TABLE 3: **Determinants of Enrollment for Urban Youths Aged 15-18: Logit Regression Coefficients**

	Model 1		*Model 2*		*Model 3*	
Variable	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*
Age 15	2.428*	2.279*	2.365*	2.375*	2.457*	2.423*
Age 16	1.906*	1.588*	1.856*	1.591*	1.960*	1.632*
Age 17	1.040*	1.081*	0.911*	0.955*	0.998*	1.040*
Sister	0.189		0.273*		0.273*	
Other sister		–0.102		0.085		0.078
Brother		–0.246†		–0.004		–0.037
Other brother	–0.151		0.048		–0.003*	
F/University	1.977*	2.391*			1.521*	1.699*
F/Secondary	0.903*	1.052*			0.553*	0.496*
F/Primary	0.337*	0.211			0.224	0.020
F/Professional			0.355†	0.372*	0.069	0.071
F/Head			0.827*	0.894*	0.432†	0.504*
F/Administration			0.772*	0.756*	0.613	0.435
F/Commerce			0.446	–0.343	0.337	–0.501
F/Services			0.482	–0.290	0.455	–0.288
F/Farmer			–0.727*	–1.283*	–0.610*	–1.178*
Intercept	–1.998*	–1.843*	–1.408*	–1.183*	–1.794*	–1.406*
–2 log L	1426.24	1379.21	1421.86	1343.38	1393.11	1306.88
Number observations	1224	1190	1224	1190	1224	1190

NOTE: Dependent variable is 1 if enrolled, 0 if not. The positive coefficient for F/Administration, for example, indicates that the father being an administrative staff (as opposed to an industrial worker) increases the odds of a youth being enrolled. A negative coefficient indicates the opposite. The variables shown were coded as follows: Age 15 = 1 if age = 15, 0 otherwise; Age 16 = 1 if age = 16; Age 17 = 1 if age = 17; Sister = 1 if there is at least one female aged 0-19; Other sister = 1 if there are two or more females aged 0-19; Brother = 1 if there is at least one male aged 0-19; Other brother = 1 if there are 2 or more males aged 0-19; F/University = 1 if father completed university; F/Secondary = 1 if father completed secondary school; F/Primary = 1 if father completed primary; F/Professional = 1 if father is professional; F/Head = 1 if father is head of government/party organization or enterprise; F/Administration = 1 if father is administrative staff; F/Commerce = 1 if father employed in commerce; F/Services = 1 if father employed in services; and F/Farmer = 1 if father is a farmer. F/Illiterate, F/Industry, and Age 18 are the omitted reference groups for the fathers' education, fathers' occupation, and age dummy variables.
†$p = .10$; *$p = .05$.

who have no brothers receive greater encouragement to continue in school than do those who have brothers. If true, we would expect the presence of a brother to reduce the chances that a young woman would be in school. This is in fact what we see in the regressions for young

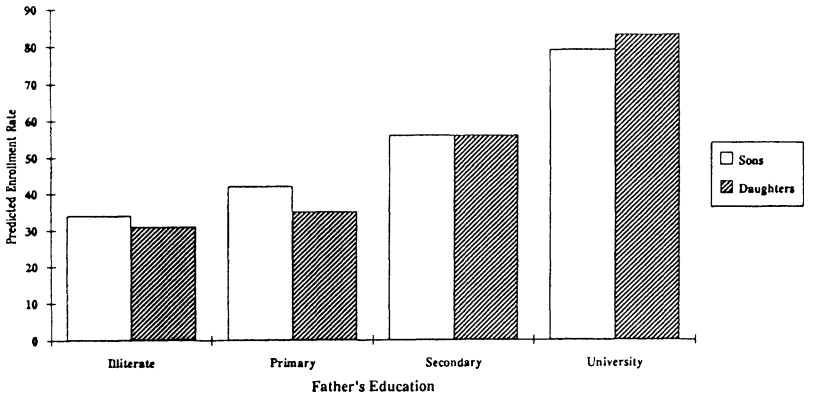

Figure 7: Predicted Effects of Father's Education on Secondary School Enrollment
NOTE: Predicted enrollment rates are calculated from coefficients of model 1 in Table 3.

women. Having a brother reduces the probability of enrollment. However, the effect is small, and the coefficient is insignificant after controls for father's occupation are added.

Education of the father has very strong effects for both sexes. Having a more educated father substantially increases the chances that a 15 to 18 year old is enrolled, even after controlling for the father's occupation (see results in models 1 and 3 of Table 3). The estimated effects of father's education are summarized in Figure 7. For example, among young men, secondary school enrollment rises from 42% for sons of primary school graduates to 56% for sons of secondary school graduates to 79% for sons of university graduates. What is especially interesting is that the effect of father's education is stronger for daughters. This is mainly because daughters of less educated fathers (primary school graduates and illiterates) are at a greater disadvantage than their brothers. For example, whereas 42% of the sons of primary graduates are enrolled in secondary school, only 35% of their daughters are. This is important because about 43% of daughters have fathers with only a primary school education, and an additional 15% have illiterate fathers. The gender gap in enrollment, therefore, is narrower among household members whose fathers are more educated. Perhaps education influences a father to treat his children in a more egalitarian way.

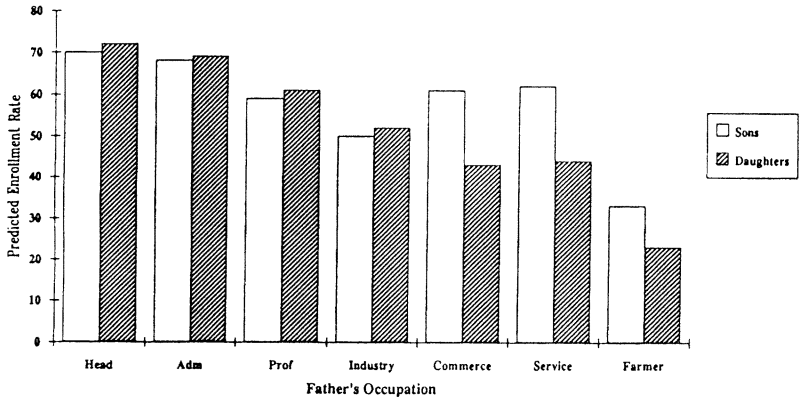

Figure 8: Predicted Effects of Father's Occupation on Secondary School Enrollment
NOTE: Predicted enrollment rates are calculated from coefficients of model 2 in Table 3.

A father's occupation also has strong effects. The occupational categories delineated in Chinese data sources, including the One Percent Population Survey, are different in some respects from the classifications used in most developed countries. A detailed description of occupational categories is postponed to a later section of this article. However, a brief discussion of a few categories is necessary here. The omitted reference group is industrial workers. The "professional" group is actually a mixed bag, including both highly skilled professionals and less skilled, white-collar workers. Heads of government and party organizations and heads of enterprises form a powerful group at the top of the occupational hierarchy. The "administrative" category is also a powerful group, including a subcategory called political and security personnel (*zhengzhi baowei gongzuo renyuan*) assigned to all work units (factories, companies, and schools), who are in charge of seeing Party or government policies implemented.

Occupation of the father also has a significant effect on the enrollment of young males and females (model 2 in Table 3). This is true even after controlling for education of the father (model 3 in Table 3).[9] The estimated effects are illustrated in Figure 8. The reference group is youths with a father employed as an industrial worker. Note that sons and daughters of fathers who are heads of government/party organizations and administrative personnel and, to a lesser extent,

professionals enjoy much higher enrollment rates (about 70%) than those whose fathers are industrial workers (50%).

As in the case of father's education, the gender differences appear among the lower attainment groups. The daughters of fathers employed in commerce, services, and farming are less likely than their brothers to be enrolled in secondary school.[10]

Here we discern a distinctive, gender-specific pattern of intergenerational mobility in urban China. Although there may be considerable mobility in China, parents' education and occupation still have substantial effects on the enrollment status of their children. More educated parents and those with higher occupational attainments tend to have more educated children. Moreover, these effects are stronger for daughters than for sons.

These differences between men and women in education must be understood within the context of a deeply rooted gender stratification system in Chinese society. Beliefs of parents about the innate intellectual inferiority of girls probably influence enrollment rates (Li, 1988). Discrimination by parents in education might also reflect their understanding of different returns in the investment in sons and daughters. As we discuss later, because women are likely to find sex discrimination in the labor market after graduation, the return to the investment in a daughter's education might be lower than that for a son. In addition, sons continue to be more likely to support their parents in their old age than daughters, and if parents can only invest in one child, it is therefore more prudent to do so in sons, where they themselves will be able to benefit from the investments, than in daughters, who will marry into another family (see Greenhalgh, 1985, for a discussion of this issue in Taiwan). Although state policy in theory provides equal educational opportunities for men and women, the support of the family – in the form of fewer chores or more private tutoring for sons than daughters – influences the educational opportunities of sons and daughters differently. The education system itself also plays a role in the gender differences in enrollment and attainment. There are reports that female applicants to some schools are less likely to be admitted even if they are as equally qualified as men (Chen, 1984). The sex ratio of teaching staff may play an important, although less direct, role in determining the different continuation rates by gender. Not only are

females less well represented in higher levels of students, but these students are also likely to encounter increasingly fewer female instructors as they move up the educational ladder, thus providing few role models for female students who aspire to high-level positions. In addition, there is some evidence that female students are more likely to encounter other forms of gender discrimination within schools; they are often tracked into traditional female studies and professions and often receive less attention from their teachers than do male students (Honig and Hershatter, 1988: 20ff).

Thus some of the gender differences in education enrollment rates and attainment can be explained by examining the position of girls in the family and how the schools themselves reinforce traditional norms and attitudes about gender. Also important is the position of women in the labor force, which is also based on the gender stratification system that runs throughout all aspects of the society. We now turn to this topic.

FEMALE LABOR FORCE PARTICIPATION

One of the most remarkable changes in China in the past several decades is the near universal employment of urban women. The government's deliberate efforts to improve women's status by ensuring equal employment opportunities have resulted in a dramatic rise in the proportion of women in the paid labor force. For example, according to a survey conducted in Nanjing, before 1949, 70.9% of women were jobless; of women married between 1950 and 1965, 70.6% were employed; among women married between 1966 and 1976, 91.7% were employed (Pan Yunkang et al., 1987). Results from large-scale population surveys, such as the one used here, register the same trend. Figure 9 plots the labor force participation rates for urban men and women, calculated from the 1987 One Percent Population Survey. Female participation in urban China is among the highest in the world, with about 9 in 10 urban women working.[11] However, substantial differences exist in the pattern of participation for men and women. Participation of young women, aged 15 to 19, is higher than that for young men, a result of their lower school enrollments. Al-

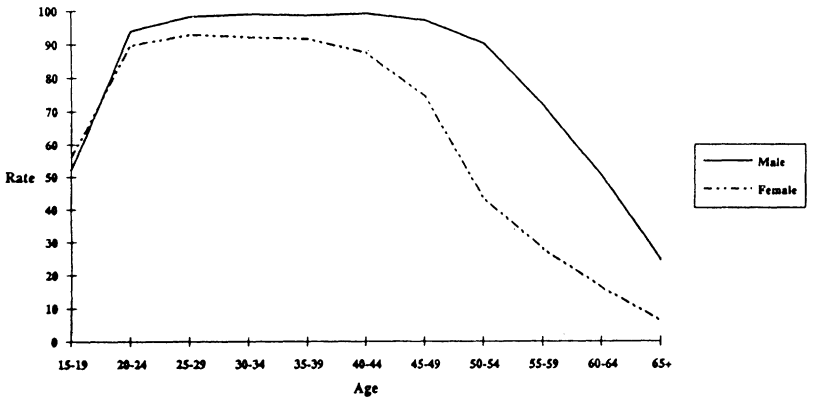

Figure 9: Labor Force Participation Rates (in Percentages), Urban China, 1987

though the participation of prime-age women is very high, many more women than men are not in the labor force. The gender differences in employment status become substantial after age 45.

It may not be surprising that such a high percentage of prime-age urban women are employed in China. In fact, what may surprise some is the fact that the participation rate for women, aged 25 to 44, is only about 90%, given that female employment in urban China is often described as universal.[12] Why don't the other 10% work? Who are these women? The most distinguishing trait of these female nonparticipants is their relatively low educational attainment: 26% of all women, aged 25 to 44, have at least a senior high school education, whereas only 8% of the nonparticipants do, and 39% have a primary school education or less, whereas the percentage is as high as 70% for the women not employed.

We estimated a female participation logit for these prime-age women in urban China. Participation was assumed to be a function of marital status, age, educational attainment, and household composition variables.[13] The results are presented in Table 4. Marital status and household composition variables have only minor effects. Being single does not significantly increase the probability of participating in the labor force. Although having young children, aged two or under, does significantly reduce participation, the effect is not large. In part,

TABLE 4: **Determinants of Female Labor Force Participation among Urban Women, Aged 25-44: Logit Regression[a] Coefficients**

Intercept	2.0744*
Single[b]	0.0299
Age	–0.0152
University	2.8117*
Senior High	1.9091*
Junior High	1.2608*
Primary School[c]	0.1881
Number of children age 0-2	–0.3680*
Number of children age 3-5	–0.1057
Number of elderly age 70+	–0.1258
Number of observations = 2031	
–2 log L = 1222.38	

a. The dependent variable is 1 if in the labor force, 0 if not.
b. "Single" is 1 if never married, 0 otherwise.
c. The illiterate form the omitted reference group.
*p = .05

this is due to low fertility in urban China. It is also due to child-rearing benefits available to women employed in state-owned enterprises and some large collectives.[14] The presence of elderly household members, aged 70 or above, does not significantly constrain female employment. In other words, these results do not provide evidence that many women exit the labor market to care for elderly parents, at least not for parents who live with them.

In our analyses, the most substantial effect on employment comes from the educational attainment variables. (Illiterates are the omitted reference group for the educational variables.) A junior high education significantly increases the probability of being employed, a senior high degree has an even larger positive effect, and a university education has the largest effect. The participation of those with primary education is not significantly higher than those with no education.[15]

Again, the largest gender differences in participation appear among those over age 45. Among the urban male population aged 45 to 49, 97% were employed, whereas for the female population of the same age, only 75% were employed. The gender difference becomes larger when we compare older age groups. Among the population aged 50 to 54, 90% of males and 43% of females are employed, and among

TABLE 5: Activity Status of Urban Men and Women, Aged 45-64 (in percentages)

	Men				Women			
			Household				Household	
Age	Employed	Retired	Work	Other	Employed	Retired	Work	Other
45-49	97.7	1.2	0	1.1	73.6	10.5	15.3	0.6
50-54	90.2	8.1	0.3	1.4	41.8	29.9	27.2	1.2
55-59	73.2	23.9	1.3	1.6	28.7	32.2	38.3	0.8
60-64	50.9	43.5	3.0	2.6	14.7	28.0	56.0	1.4

SOURCE: 1987 One Percent Population Survey.

those aged 55 to 59, 72% of the males versus only 28% of the females are employed. There are two reasons for this. First, many of these older women may never have worked. Second, women exit the labor market much earlier than do men. The current policy on retirement age stipulates that females generally retire at age 55 and males at 60.

Women's earlier retirement is, at least in part, a response to the labor surplus problem in urban China. In the late 1970s, for example, the urban unemployment problem became especially acute, owing to both the return of a large number of urban youths previously sent to the countryside and the large cohorts born in the late 1950s coming of age. To "create" more employment opportunities for these youths, early retirement was promoted. The *ding-ti* policy stipulated that if an employee accepted early retirement, one of his or her children would be given employment in that work unit. More women than men chose early retirement because their earnings were generally lower and because retired women would help with housework and child care, whereas retired men would not.

Table 5 presents information on the employment/nonemployment status of urban men and women aged 45 to 64. Rather than paid labor, a large proportion of women list "household work" as their main activity. Many of these women may never have worked or may have done so only intermittently. However, the table shows clearly that much of the lower participation for women is due to their earlier retirement.[16]

We carried out a multinomial logit analysis for women aged 45 to 54, examining the effects of age, years of school, marital status, and

TABLE 6: **Determinants of Activity Status of Urban Women, Aged 45-54: Multinomial Logit Regression Coefficients**

	Status		
	1 (Retired) *L(P1/P3)*[a]	*2 (Household Work)* *L(P2/P3)*[b]	*3 (Employed)* *L(P1/P2)*[c]
Intercept	–16.0102*	–6.3724*	–9.6378*
Widow	0.2554	–0.1185	0.3739
Age	0.2962*	0.1205*	0.1757*
Years of school	0.0160	–0.1667*	0.1827*
Children age 0-2	–0.1464	0.1171	–0.2636
Children age 3-5	0.2999	0.6081	–0.3081
Elderly aged 70+	0.4953	–0.3383	0.8336

Number of observations = 681
Log likelihood = –591.02

a. L(P1/P3) is the log odds (i.e., the log of the probability of being retired/probability of being employed). The positive coefficient on age, for example, indicates that the odds of being retired versus employed increases with age. A negative coefficient would indicate the opposite (i.e., a decline in the odds).
b. Log of the probability of doing household work/probability of being employed.
c. Log of the probability of being retired/probability of doing household work.
*p = .05.

household composition on employment status (being employed vs. doing housework vs. being retired).[17] The marital status variable is whether or not the woman is a widow, included to examine if widowhood encourages participation. The household composition variables — the number of children and the number of persons over age 70 in the household — were included to examine whether women withdraw from the labor market to help rear grandchildren or care for the elderly. The results of this analysis are presented in Table 6.

The only statistically significant determinant of status, other than age, is education.[18] Higher education increases the probability that a woman will be employed rather than doing housework. It also increases the probability that a woman will be retired, as opposed to doing housework. However, higher educational attainment does not significantly affect the probability of being retired versus employed. These results show that the state mandatory retirement policy has been equally effective across women of different educational levels.

GENDER DIFFERENCES IN OCCUPATIONAL ATTAINMENT

That most urban women are employed demonstrates the success of the Chinese state in drawing women into the labor force in urban China. We next examine the nature of female employment and how women's positions compare with those of men.

EMPLOYMENT BY TYPE OF ENTERPRISE

Studies of gender differences in the labor force often compare the earnings of men and women. Studies in the economically more developed countries have shown that although female employment has increased over time in those countries, women's income still lags behind that of men. Similar patterns have also been noticed in China.[19] Unfortunately, we cannot examine income differentials between men and women because the 1987 One Percent Population Survey does not contain earnings data. In any event, we believe that differences in earnings may well understate the extent of gender inequality because of the importance of other job benefits in urban China. Under a command economy such as the one in China, benefits and privileges are associated with particular positions and are not as easily measured as are monetary differentials; moreover, the nonmonetary benefits enjoyed by people in different positions can often far exceed the monetary structure. Instead of examining wage differences, we examined differences between women and men among different kinds of enterprises.

There are three main types of enterprises in urban China: state-owned, collective-owned, and privately owned. About 70% of urban workers in 1987 were employed in state-owned enterprises, 25% were in urban collective enterprises, and about 4% were individual laborers in private enterprises. We focus on the staff and workers employed in state and collective enterprises, because private enterprise accounts for only a small, though increasing, share of employment. Also, we have no data on employment by gender for these individual laborers. The 1987 One Percent Population Survey did not collect information on the type of enterprise in which respondents are employed. In this

section, we therefore rely on published data from the *China Statistical Yearbook 1988* (Guojia tongji ju, 1988).

Benefits and working conditions are generally better in the state-owned enterprises than in the collectives. The state enterprises tend to be larger and more capital intensive. They enjoy financial subsidies from the government and receive preferential access to credit and raw materials. Benefits for staff and workers in state enterprises (and some large collectives) include housing, vacations, nurseries, nonstaple food subsidies, medical insurance, sick leave, life insurance, and retirement.

Positions in state enterprises are dominated by men. In 1987, only a third of the staff and workers in state enterprises were women. However, they accounted for nearly half of the work force in the collectives. One reason for this is that many collectives in the 1960s and 1970s were organized by the government specifically to generate female employment.

Among workers in state-owned enterprises and collectives, employment by sector also varies by gender, as shown in Table 7. Women are more highly concentrated in industry, commerce, and public health. Men heavily dominate employment in construction and transportation, two sectors with relatively high wages (as seen in the last column of Table 7). Men also enjoy a very large share of the employment in government and Party organizations.

OCCUPATIONAL ATTAINMENT

Occupational patterns of men and women differ dramatically in most countries, and China is no exception to the rule. Although Chinese women play an important role throughout the economy, they are underrepresented in many occupations and heavily concentrated in others. Given the unique classification system in China, international comparisons are difficult. However, some familiar patterns of segregation are easily detected.

Table 8 presents the occupational composition of employment for men and women in urban China.[20] At first glance, one is encouraged by the high percentage of female employment in the "professional and technical" category. A full 19% of women, as opposed to only 13% of

TABLE 7: Sectoral Composition of Employment for Staff and Workers[a], 1987

Sector	Male Composition (%)	Female Composition (%)	Sex Ratio (M/F)	Relative Wage[b]
Agriculture	6.5	6.3	1.8	0.80
Industry	42.3	50.2	1.4	1.01
Construction	9.3	4.2	3.8	1.16
Transportation, communication	7.2	3.8	3.3	1.14
Commerce	11.2	14.8	1.3	0.88
Public health	2.1	3.9	0.9	0.99
Education	8.2	7.8	1.8	0.97
Government/party organizations	7.8	3.3	4.0	1.01
Other[c]	5.4	5.7	1.7	–
	100	100		

SOURCE: Guojia tongji ju (1988).
a. Includes employment in state-owned enterprises, collectives in cities and towns, and various jointly owned enterprises. Excluded are collective and individual laborers in rural areas and individual workers in cities and towns.
b. Annual wage in sector relative to that for all staff and workers. Wages were not available by gender.
c. Includes geological prospecting, real estate, utilities, scientific research, banking, and insurance.

men, are "professional." However, this occupational category is very mixed, containing both scientists and secretaries. Women in this category are heavily concentrated in two groups. The first is translated as "economics" but includes accountants, clerks, secretaries, and other white-collar workers. The second is teaching, where women are more likely than men to teach in primary schools than in high schools or universities.[21] Relatively few women become engineers, scientists, or other technical staff. Many do, however, become medical doctors.

The second occupational group, "heads of government/party organizations and of enterprises," is one of very high status and is dominated by men. Only 14% of organization/enterprise heads are female.

Women do enjoy more substantial representation in the third group, "administrative and political/security staff." However, only one in three of these staff members are women. Moreover, their representation in the more powerful subgroup, staff for political and security affairs, is only 19%. In China's highly politicized and bureaucratic

TABLE 8: Occupational Composition of Nonagricultural Employment: Urban China, 1987

Occupation	*Male Distribution (Column %)*	*Female Distribution (Column %)*	*Female Share (%) of Total Employment*
Professional and Technical (totals)	13.0	19.0	50.2
Scientific and technical staff	3.3	1.4	22.4
Health and medical staff	1.4	3.4	62.8
Accountants, clerks, secretaries, and other white-collar workers	4.2	8.2	57.2
Law	0.2	0.1	21.2
Teaching	3.2	5.0	51.9
Arts, culture, religion	0.6	0.9	48.7
Heads of government/Party organizations, and enterprises (totals)	10.0	2.4	14.2
Government	1.3	0.3	13.0
Party	1.8	0.6	19.3
Enterprises	6.9	1.5	13.0
Administrative and political/security staff (totals)	7.0	4.8	32.0
Administrative staff	4.1	2.9	32.8
Staff for political and security affairs	2.3	0.8	19.4
Postal and other	0.6	1.1	57.2
Commerce (totals)	8.1	12.0	50.6
Sales	4.5	10.9	62.5
Purchasing, procurement	3.6	1.1	17.0
Service workers (totals)	6.8	12.5	55.9
Workers in industry, transport, and related activities (totals)	52.2	44.4	37.0
Section chiefs	0.6	0.1	8.9
Manufacture and operation of machine tools	5.4	3.8	32.8
Plumbers, welders	2.7	1.4	26.3
Operators of power, loading, and transport of equipment	11.3	2.7	14.1
Inspection, testing, measuring	1.2	4.0	68.7
Mining	3.0	0.7	14.4
Metals	2.3	1.4	30.5
Chemicals	0.8	1.2	51.7
Rubber and plastics	0.5	1.5	67.7
Textiles, leather, apparel	2.4	12.7	78.9
Food and tobacco	1.6	2.2	49.1
Wood and paper	4.1	2.0	24.5
Printing	0.5	1.2	63.7
Machine assembly	3.6	1.2	18.9
Electronics	3.6	2.6	33.1
Construction	5.2	1.5	16.7
Workers not classified (totals)	2.9	5.0	54.2

SOURCE: 1987 One Percent Population Survey

society, this group, whose job is to implement party and government policies, enjoy power and influence.

Chinese women, like women in capitalist countries, are more heavily concentrated than men in commerce and service sector jobs. Twelve percent of female nonagricultural employment is in commerce, and over 12% is in services, as opposed to 8% and 7%, respectively, for men. Women also fare poorly in the hierarchy within commerce, where they are much more heavily concentrated in sales. Few women attain higher-level positions in purchasing and procurement.

A smaller percentage of women (44%) than men (52%) are workers in industry, transport, and construction. This last occupational category is a heterogeneous group made up of a unique mix of position and industry classifications in the Chinese data. Some workers are categorized with respect to their position or duties (section chiefs, plumbers, welders, operators of equipment, and inspectors). Fewer than one in ten section chiefs are women. Also, few women become operators of power, loading, and transport equipment. The often tedious job of industrial inspection, testing, and measuring is women's work in China.

Other workers are classified according to the particular industry in which they are employed. There is an official hierarchy of industries in China, based on the degree of technical sophistication, capital intensity, and other work characteristics (Yuan Lunqu, 1987). Highest priority, and a moderately higher wage, is given to heavy metals, mining, and oil drilling. Second highest priority is given to electricity generation, machinery, heavy chemicals, construction, and transportation. Third is paper, weaving, printing, and communications. The lowest priority is given to clothing, glass, food, beverages, and tobacco. In general, women are more heavily concentrated in low-priority industries and are underrepresented in high-priority sectors such as mining, construction, and metals. The gender pattern of Chinese industrial employment does have similarities with that in other countries. The most striking is the heavy concentration of women in textiles and apparel (Table 8). Almost 13% of all urban female nonagricultural employment is in this industry, where eight in every ten workers are female.

GENDER INEQUALITY AND OCCUPATIONAL STRATIFICATION

This section examines two questions: first, can differences in occupational attainments between men and women be fully explained by differences in educational attainments and age? Women workers suffer two disadvantages: they tend to be less educated, and because they leave the labor force at earlier ages, they tend to have less experience. We will examine whether gender affects occupational attainment, after controlling for education and age. Second, do the effects of education and seniority on occupational attainment differ by gender? The answer to both questions is, not surprisingly, yes.

We employed a multinomial logit model to examine these issues, regressing occupational attainment on education, age, and gender.[22] The technique is limited in that it is necessary to restrict the number of occupational categories considered. In this case, we use five broad categories: (1) professional and technical, (2) heads of government/party organizations and enterprises, (3) administrative staff, (4) commerce and services, and (5) industrial workers. Another limitation is that within these categories, especially the professional and technical, there is a substantial mix of jobs. Despite this within-group heterogeneity, we are able to draw several inferences.

We estimated the occupational attainment model for both sexes combined and for men and women separately. The estimates for the pooled model are presented in Table 9. In general, the professional and technical, heads of organization or enterprise, and administration categories represent higher occupational attainments than the commerce, services, and industrial worker categories. Older age and higher educational attainment increase the probability that a worker will be in these higher-status occupations rather than being employed in commerce and sales or as an industrial worker (columns 1, 2, 3, 5, 6, and 7 of Table 9). Concentrating on the three higher-status occupations, we observe that the probability that a worker will be the head of an organization or enterprise rather than a professional or administrative staffer also increases with age (column 10 of Table 9). Higher education increases the probability of being professional rather than a head or an administrative worker.

Being female has significant, and in many cases substantial, effects on occupational attainment even after controlling for age and education.

TABLE 9: Determinants of Occupational Attainment: Multinomial Logits Regression Coefficients (both sexes combined)

	1 *L(P1/P5)*	*2* *L(P2/P5)*	*3* *L(P3/P5)*	*4* *L(P4/P5)*	*5* *L(P1/P4)*	*6* *L(P2/P4)*	*7* *L(P3/P4)*	*8* *L(P1/P3)*	*9* *L(P2/P3)*	*10* *L(P1/P2)*
Intercept	–8.147*	–8.722*	–6.518*	–2.733*	–5.414*	–5.989*	–3.785*	–1.628*	–2.204*	0.576
Female	0.913*	–0.861*	0.143	0.942*	–0.029	–1.803*	–0.799*	0.770*	–1.004*	1.774*
Age	0.110*	0.149*	0.076*	0.032*	0.078*	0.118*	0.044	0.034*	0.073*	–0.039*
University	6.852*	5.385*	4.949*	–0.426	7.278*	5.811*	5.376*	1.903*	0.436	1.467*
Senior high	3.415*	2.013*	2.380*	–0.049	3.464*	2.062*	2.428*	1.036*	–0.367	1.402*
Junior high	2.065*	1.399*	1.496*	–0.013	2.079*	1.412*	1.510*	0.569	–0.097	0.666

Number of observations = 2,047
Log likelihood = –2298.5

Occupation: 1 = Professional and technical; 2 = Head of government/party organization, enterprise; 3 = Administration; 4 = Commerce and services; and 5 = Industrial workers.
*p = .05.

Familiar segregation patterns exist. Being female is associated with higher probabilities of being in commerce and services versus all other occupations and with lower probabilities of being the head of an organization or enterprise. Being a woman is also associated with higher probabilities of being in the professional category. It is difficult to take comfort in this, however, because many "professional" women hold relatively low-level white-collar positions.

The model estimated for men and women separately is presented in Table 10.[23] Once again, higher education increases the probability of being a professional, an organization/enterprise head, or an administrative worker as opposed to being either a commerce and service or industrial worker. Although this is true for both sexes, the effects are larger for men (compare, for example, coefficients for year of schooling for males and females presented in the upper and lower panels of columns 2 and 6). The returns to education, in terms of occupational attainment, are higher for men.

The most interesting gender difference in the effect of age concerns its effect on the probability of being an enterprise head versus either a professional or an administrative worker. This probability increases with age for both sexes, but the effects of seniority are greater for women (column 9 of Table 10). It takes longer service for a woman to attain this status.

These results indicate the persistence and pervasiveness of gender inequality within the labor force in urban China. Although women are encouraged (and even required) to work for most of their adult lives, their opportunities for advancement, or even placement in certain fields, are limited.

This discrimination no doubt comes from several sources. In China's highly centralized, planned urban economy, jobs are assigned by the state, and enterprises have less say in hiring decisions than do those in other societies. Thus, to some extent, it is the labor bureaus in each city that assign graduates to work units. However, it is also true that the enterprises – especially since the economic reforms of the 1980s – do have some control over the assignment of new workers. There are reports that discrimination against women in job placement is actually increasing as enterprises themselves decide who to accept (Dalsimer and Nisonoff, 1984). Many of these enterprises are reluctant to hire women

TABLE 10: Determinants of Occupational Attainment: Multinomial Logit Regression Coefficients (separate models for men and women)

	1 *L(P1/P5)*	*2* *L(P2/P5)*	*3* *L(P3/P5)*	*4* *L(P4/P5)*	*5* *L(P1/P4)*	*6* *L(P2/P4)*	*7* *L(P3/P4)*	*8* *L(P1/P3)*	*9* *L(P2/P3)*	*10* *L(P1/P2)*
Males										
Intercept	−12.268*	−12.503*	−9.642*	−1.954*	−10.313*	−10.548*	−7.687*	−2.626*	−2.861*	−0.235
Age	0.111*	0.153*	0.085*	0.020	0.091*	0.133*	0.065*	0.026	0.068*	−0.042*
Years of school	0.687*	0.549*	0.475*	−0.046	0.733*	0.595*	0.521*	0.212*	0.074	0.138*
Females										
Intercept	−11.331*	−12.677*	−8.412*	−2.478*	−8.853*	−10.199*	−5.934*	−2.919*	−4.265*	1.346
Age	0.116*	0.175*	0.069*	0.043*	0.073*	0.132*	0.026	0.047*	0.106*	−0.059*
Years of school	0.667*	0.394*	0.426*	0.032	0.635*	0.362*	0.394*	0.241*	−0.032	0.273*

Number of observations: male = 1,024, female = 1,023
Log likelihood: male = −1127.1, female = −1171.9

Occupation: 1 = Professional and technical; 2 = Head of government/party organization, enterprise; 3 = Administration; 4 = Commerce and services; and 5 = Industrial workers.
*p = .05.

because they do not want to provide the services, such as child care and maternity leave, that women workers are more likely to require.

The reluctance to hire female workers is related to another factor in women's labor force experience. Although women now work full time for most of their adult lives, they still have primary responsibility for household and child care duties. One study in Tianjin found that although women spent 444 minutes each day on household and child-care chores, their husbands spent only 162 (Bian, 1987). These responsibilities interfere in many ways with women's job performance. They are more likely than men to take time off to care for a sick child, less likely to put in longer hours at work because they are needed at home in the evenings and on holidays, and more likely to suffer the consequences of this double burden of time, energy, and responsibilities. Women also often have a longer commute to their jobs because housing assignments are more likely to be made through the husband's work unit (Honig and Hershatter, 1988: 141). It is likely that women's family responsibilities influence their own and others' perceptions of their ability and willingness to undertake new responsibilities at work and may influence both hiring practices and opportunities for promotion.

These factors, in addition to continuing attitudes about women's lesser abilities in certain skills and leadership roles no doubt contribute to the way that women are treated in the work force and the gender differences we found there. Although women's labor force experience is quantitatively different for Chinese women and women in the industrial West, those numbers do not always translate into a qualitative difference. In China, as in most other societies, women are clustered in jobs of low status, pay, and benefits, have lesser chance for advancement than their male peers, and are discriminated against not only because of beliefs about their capabilities but because of their continuing family responsibilities.

CONCLUSION

Our results show that with changes in education and the labor force in China in recent decades, women have achieved mixed results. The

dramatic improvements in education in China have been enjoyed by women as well as men. However, these improvements came earlier for men, and although the gender gap in primary education has narrowed considerably, it has persisted at higher levels. Fewer females than males continue from primary to junior high school, and even fewer females continue from senior high school to university.

Although there may be considerable mobility in China, parent's education and occupation have substantial effects on the enrollment status of children. These effects, however, vary by gender. Gender inequality is greater among households with less educated fathers. Therefore, higher educational attainment of fathers has stronger effects on the probability of school enrollment for young women. Being a farmer's daughter is a greater disadvantage than being a farmer's son.

Inequality in educational opportunities is onerous in and of itself. It is especially so because education affects employment and occupational opportunities. Female employment has increased since liberation and is now among the highest in the world. Labor force participation patterns do vary, however, by sex. Approximately 10% of prime-age urban women do not participate in the labor market. The most distinguishing characteristic of these women is their relatively low educational attainments. A much larger gender difference in participation is found among women over age 45, a result of the lower female labor force participation among older cohorts and earlier female retirement.

In China, as in many other societies, there are horizontal and vertical differences between women and men in the labor force. Women are more heavily concentrated in certain occupations, especially commerce and services. Female industrial workers are more likely to be employed in textiles and apparel. Within occupations or enterprises, few women achieve high status, such as the head of an organization or enterprise, administrators, or section chiefs of industrial work units.

The gender differences with respect to broad occupational categories persist after controlling for age and education. Furthermore, the effects of education and age on occupational attainment are different for men and women. The effects of education on becoming a profes-

sional, a head of an organization or enterprise, or an administrative staff worker are stronger for men.

These results suggest a continuing system of gender stratification in China. In our work, we have examined only certain aspects of gender stratification in China; our measures are focused on public roles of women. Looking solely at the public evidence of status of women, we see important differences in women's and men's participation. These results argue against any simple relationship between women's paid labor force participation and gender stratification. Rather, such close examination shows the pervasiveness of the system of gender stratification and contradicts any argument that change in that system can arise solely through increasing public roles of women. As in all societies, women's public roles are strongly linked to their other roles, such as those in the family. Our research results argue for continuing work on the links among public roles, development of economic and social policy, and family roles of women and men.

NOTES

1. China's 1987 One Percent Population Survey was a nationwide survey designed to provide demographic information since the 1982 Population Census. The 1987 survey sampled 1% of China's total population, resulting in a sample size of approximately ten million. The survey asks standard census-type questions on such items as educational attainment, employment status, occupation, and birth and death events in the household. Our analyses are based on a 10% subsample of the survey provided to the East-West Population Institute for collaborative research. Because this survey is cross-sectional, we must use caution in interpreting differences among age groups as indicating changes over time. Nevertheless, such differences do suggest important changes in the past several decades.

2. See Goldstein (1990) for a more detailed discussion of the reclassification of urban areas in China.

3. According to the *China Educational Statistical Yearbook 1988* (Guojia jiaoyu weiyuanhui, 1989), the number of new students admitted to college and higher-level institutions increased from 284,816 in 1980 to 705,345 in 1988, more than doubling in less than a decade.

4. Chinese household registration systems reveal very moderate internal migration between urban and rural areas: between 1951 and 1960, net migration into cities was only 3%; between 1961 and 1965, there was a net migration out of cities of 1.8%; and between 1971 and 1977, net migration into cities was only 0.8% (Ren, 1988).

Furthermore, we conducted an identical trend analysis using national as opposed to just urban data. Although overall attainments are lower, due to the inclusion of the rural population, the trends in gender differentials remain the same.

5. These proportions are calculated from the same attainment data used for Figure 2. We convert from age groups to years by subtracting the number of years required to attain a given

degree from a person's age in 1987. We assume that a child enters school at age seven, takes six years to complete primary school, three for junior high, two for senior high, and four for university. We recognize that the number of years required for different levels has varied over time, that individuals enter school at different ages, and that some go back to school after working. The years listed in these figures are approximate.

6. These are the proportions who continued to at least junior high among those aged 20 to 24 in 1987. Some in the 15 to 19 age group would not have finished school in 1987.

7. Logit regression is used in this case as a method of multivariate analysis. In such a model, the effect of each of the independent variables on the dependent variable can be studied by simultaneously controlling for the effects of other independent variables included in the analysis. For instance, one can ascertain the effect of father's occupation on child's school enrollment, controlling for the effect of father's education. Because both father's occupation and education can affect the child's education, such a control is necessary to separate the two effects.

Logit models are particularly suitable when the object of the study is a qualitative variable, for instance, currently enrolled versus not enrolled. Ordinary least squares (OLS) regression is inappropriate in the case of binary dependent variables. OLS could produce unrealistic coefficients, which imply predicted enrollment probabilities of greater than one or less than zero. Moreover, because the errors in this case are heteroskedastic, OLS is no longer efficient. See Pindyck and Rubinfeld (1991) and Maddala (1983) for detailed discussions of the logit model.

8. The coefficients from the logit model provide estimates of the effects of the independent variables on the odds of a youth being enrolled in school. A positive coefficient implies that an increase in the variable increases the probability of enrollment. See the notes from Table 3 for an example.

9. The father's occupation variables are jointly significant in the male and female logits, even after controlling for father's education.

10. The coefficients for F/Commerce and F/Services are not statistically significant. The inference is strongest, therefore, in the case of farmers' sons and daughters.

11. Participants include those who are employed or who are waiting for employment. The percentage of the population waiting for employment (i.e., the unemployed) is very small and is not significantly higher for women than men.

12. We initially believed that the rather high proportion not employed, 10%, was caused by our liberal definition of urban. However, even for the narrower, political definition of urban described earlier, the proportion of women not in the labor force is 8%.

13. For an example and discussion of the use of logit estimation of labor force participation models, see Hill (1983). Labor force participation rates among urban women in China do not follow the bimodal pattern observed in many industrialized countries; that is, the rates do not drop for women in their late twenties and then rise again after child rearing. Therefore, for women aged 25 to 44, a simple linear relation between age and participation suffices.

14. The most recent Act of Protecting Female Staff and Workers passed by the State Council, effective September 1, 1988, stipulates that female workers in state-owned enterprises and agencies receive 90 days maternity leave and receive two thirty-minute breaks during working hours each day for breast-feeding during the child's first year, and it requires work units with large numbers of female employees to provide child care facilities. In practice, urban women can receive a leave of up to one-half year if they accept the one-child certificate.

15. We also conducted regression analyses including occupational variables for the household head in studying female labor force participation. The effects of these occupational variables, however, were small, and their coefficients were generally insignificant.

16. Again, the inferences drawn from Table 5 are not sensitive to our definition of urban. If we restrict ourselves to those living in the stricter, "politically" defined urban areas, we see a

higher proportion retired. However, the gender differences in the timing of retirement are the same. Also note in Table 5 that the percentage of women who are retired peaks at the 55 to 59 age group. Among women over age 60, a much higher proportion never worked.

17. Because women can belong to one of three distinct statuses, a multinomial rather than binary logit model is appropriate. See the notes in Table 6 for a discussion of how to interpret the coefficients in the model.

18. Years of schooling, rather than educational categories, is used in this analysis because in some statuses there are few or no women falling into some educational categories.

19. In a small sample for Nanjing in 1982, women's wages averaged only 74% of their husbands' (Pan Yunkang et al., 1987).

20. Given our liberal definition of urban, fairly large percentages of both sexes were engaged in agriculture: 41% of men and 47% of women. We excluded these workers from the analysis, ignoring the fact that women in suburban areas are less likely than their husbands to be employed off the farm.

21. According to *China Statistical Yearbook 1988* (Guojia tongji ju, 1988), women account for 41% of all primary teachers but only 29% of secondary and 28% of university teachers.

22. The first use of multinomial logit estimation to examine occupational attainment was by Schmidt and Strauss (1975).

23. In this case, we used years of schooling instead of educational categories because for some occupations there were no observations for some education groups. Using years of schooling also makes it easier to compare the coefficients for men and women.

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