CHAPTER THREE

Market and Gender Pay Equity: Have Chinese Reforms Narrowed the Gap?

Philip N. Cohen and Wang Feng

In the process of creating wealth and poverty, China has also simultaneously created a new social and economic structure under which rewards and penalties are assigned. One important component of the changing social structure is the relationship between men and women. Pursuing gender equality was one of the main goals and achievements under socialism, but it is no longer high on the policy agenda of the postsocialist state.[1] Instead, allocation of resources and rewards is increasingly left to the economic market, which many presume will result in more efficient allocation of resources as well as a greater degree of equality in the long run. Almost three decades after the start of China's transition away from the socialist planned economy, the time has come for assessing changes in gender equality.

Gender inequality manifests in numerous forms, and changes in gender dynamics should not be generalized in a simplistic way (Whyte 2000). The focus of this chapter is economic inequality, as seen in reported income inequality at work, among China's officially registered urban population.[2] We first examine the trajectory of gender income inequality, and then ask what role the emerging market economy has in the development of this inequality, as seen in income trends on the one hand, and variation between cities at different levels of market development on the other.

The market transition, as it has been called, does not necessarily increase or decrease the level of inequality (Parish and Michelson 1996; Walder 1996). Instead, it alters the context of the production and reproduction of inequality, which in turn results in changes in the level and trends in inequality. Although we will show growing gender inequality in China, several Eastern European countries provide a counterexample, in which market reforms did not result in worsening gender income inequality, in part because educational and occupational advantages women accrued under socialism were more highly rewarded after market reforms (Heyns 2005).

Chinese society at the turn of the twenty-first century presents an ideal setting to examine the role of economic change in gender inequality. Economic reforms have resulted in the coexistence of an emerging private sector and the older, state-owned economic organizations. This hybrid provides

5082_CH03.indd 35 7/18/08 1:29:26 PM

almost a natural experiment for comparing inequality patterns between two economic sectors in the same society during the same historical period. In other words, it allows us to observe the legacy of a socialist stratification regime and to detect the emergence of a new system of gender inequality in the market economy. The remaining state sector in China, while operating differently now than it did during the Mao years, in some respects still represents the legacy of that system. China's transition in the last two decades thus provides an opportunity to reexamine the old claims that the socialist state offers better protection for women and the new claims that the market is a more equitable adjudicator. Such claims would be supported if in the recently created non-state-owned sectors there is less gender discrimination.

This chapter is organized as the follows: first, we present trends in income inequality over a fifteen-year period, between 1986 and 2000. Second, we examine the role of the emerging market by focusing on gender differences within three important contexts of gender economic inequality: ownership sectors, occupations, and industries. Third, we use data from a cross-section of cities in 1999, taking advantage of variations across the country in the role of the market economy. Finally, we discuss the implications of our analysis for a comparative understanding of gender inequality.

ONE- AND ONE-HALF DECADES OF GENDER INEQUALITY

In contrast to the general consensus that there have been steep increases in income inequality in urban China after 1980 (e.g. Chapter 2 in this volume), there is no agreement with regard to changes in economic gender inequality. Using multiprovince survey data collected for urban China in 1988 and 1995, for instance, Shu and Bian (2003) find "no longitudinal change nor city-level variation in the gender gap in earnings." At the same time, however, they report increased educational and occupational segregation during this time period, and note that such changes are, "occurring largely only in the most marketized cities" (1107). This suggests a market-driven increase in economic gender inequality, which is consistent with the evidence we present below.

We use data from China's annual Urban Household Income and Expenditure Survey, conducted by China's National Bureau of Statistics. Specifically, we use survey data for the urban population in three provinces: Liaoning, Sichuan, and Guangdong. This dataset contains over 4,000 urban employees for each year from more than 2,500 urban households scattered across more than two dozen cities in these provinces.

Among urban Chinese employees in the three provinces, there has been a clear trend toward worsening gender inequality in income. In Figure 3.1 we present trends in the gender income penalty between 1986 and 2000, in

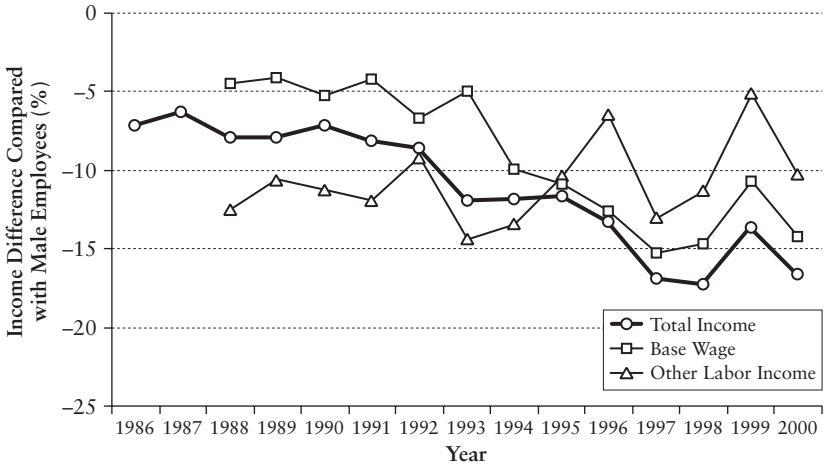

Figure 3.1 Gender penalty in income, urban China, 1986–2000 (adjusted)

terms of percentage difference between female and male urban employees in annual income. The pay inequality trends plotted in this figure are based on statistical analyses that control a number of commonly seen factors of income determination and can be viewed as the "net" effect of gender discrimination in income. It is "net" only in the sense that this difference is the income disadvantage for women compared with men with the *same* seniority, *same* educational attainment, holding the *same* position (occupation), and working in the *same* industries.[3]

In less than a decade's time, the net gender penalty in income rose from 7.3 percent in 1986 to 12 percent by 1993. It increased further in the late 1990s, to over 15 percent in most years.[4] Whereas there has always been a gap in the degree of gender penalty between base wages and other labor income, with the latter being twice or more than the former, the degree of deterioration in gender equality is more noticeable in base wages, over which the state used to exert a direct influence in promising women the same pay as men in the same jobs. Prior to 1993, in areas over which the socialist state had more direct influence, namely in basic wages and salaries, the gender gap was only around five percent after controlling for other factors. This represents a decent record of gender economic equality—though not a perfect one, given the government's promise of equal work, equal pay. After 1993, the gap in this income source suddenly enlarged, to as large as 15 percent, contributing directly to the overall worsening in gender equality in income in the 1990s.[5] Increasing inequality in this income source indicates a shift toward a hands-off policy by the state with regard to gender equality in the workplace; it also contains the effect of an economic reorganization

by which an increasing share of the urban labor force is now employed in nonstate owned organizations.

CHANGING CONTEXTS OF INEQUALITY

Inequality is an outcome of socially and economically structured processes. Institutions, not individuals, structure and sustain inequality. Individuals participate in the process of generating and maintaining inequalities as social actors in accordance with their personal interests and preferences (Killingsworth 1983). But individual actions alone, if not organized and institutionalized, hardly matter in the long run for creating and sustaining inequalities (Tilly 1998). This is particularly the case with the most long-lasting and permeating form of inequality in all human societies: the inequality between men and women (England 1992). Thus, understanding the economic and institutional contexts of gender and work is crucial. To place the worsening gender income inequality of postsocialist urban China in its proper context, we briefly describe the gender composition of ownership sectors, occupations, and industries.[6]

Under the socialist planned economy, the state-owned sector was privileged over the collectively owned and private sectors, with better rewards for employees (Naughton 1997; Wang 2008). Throughout the decade of our study, women consistently outnumbered men in the collectively owned sector of the economy, where average incomes were 20 to 30 percent below the overall mean. In contrast, the sector that had the highest average income was that labeled "joint-venture," in which average incomes were 40 to 80 percent higher than the overall mean—and in which women held a declining share of positions over the 1990s. The changing gender composition across economic sectors provides a glimpse into the emerging new contexts of gender inequality in the economy.

Gender segregation across sectors contrasts with occupational segregation (Bauer et al. 1992), which in China is low by international standards, and remained relatively constant over the 1990s. Based on broad occupational categories, only 15 to 17 percent of men or women would have to change occupations to achieve an equal gender distribution. In comparison, we calculate the U.S. level of segregation in 2003, based on 10 major occupation groups, at 45 percent (U.S. Bureau of Labor Statistics 2005). Detailed examination of major occupations shows that women were especially underrepresented among senior engineers and professionals, and low- and middle-level government officials (cadres)—the three occupations with the highest average incomes.

Finally, gender segregation by industry is persistent in urban China. Chinese reforms have led to a drastic industrial reorganization, with industries

favored under the planned socialist industrialization (such as manufacturing and mining) no longer paying premium wages, while others (such as banking, telecommunication, and real estate) have gained prominence. Women remain concentrated in health and social welfare services—where incomes fell to below the overall average in the second half of the 1990s—and underrepresented in science and technology. The science sector had no more than 40 percent female workers by the late 1990s, and workers there had incomes more than 20 percent higher than the national average.

In some ways, this picture of economic gender segregation is familiar to those who study gender inequality across societies, with concentrations of women in lower-paid, lower-status positions—albeit with less segregation than was seen in capitalist market economies. However the emerging segregation by ownership sector is particularly interesting given women's low representation in the highest-paid sector of joint-venture businesses. In the next section, we assess the effect of this segregation on the income gap between men and women.

HAVE MARKET REFORMS WIDENED THE GAP?

At the end of the 1990s, following two decades of economic reforms and the evident rise in gender economic inequality, how can structure or context be used to explain increasing inequality? In particular, while gender pay inequality has increased over the course of market reforms, have these reforms themselves changed the structure of gender pay inequality?

To address these questions, we turn to a larger dataset, a survey of urban households in China's 35 largest cities conducted in 1999 by China's National Bureau of Statistics. This survey included all provincial capital cities of China, plus a selected few other large cities that experienced rapid economic growth, such as Shenzhen, Xiamen, Qingdao, and Dalian. The sample consists of 150,251 individuals from 48,801 urban households, of which about 65,000 individuals are currently employed and are used in our analyses of income inequality. In this section, we focus on the effects of ownership sector, occupation, and industry contexts on gender inequality. In the next section, we examine the effect of market economy development by modeling city-level variation.

Ownership Sector, Occupation, and Industry

Results from the national survey of large cities mostly confirm the gender segregation patterns described in the previous section based on data from three Chinese provinces. As shown in Table 3.1, women are overrepresented in the collectively owned sector, which also has the lowest mean earnings of all sectors. Similarly, women are seriously underrepresented in the high-paying

TABLE 3.1
Descriptive Statistics, Urban Household Survey, 1999

			MONTHLY INCOME (RMB YUAN)		
	N	*%*	*Mean*	*S.D.*	*% Female*
Educational attainment					
University	6,873	10.5%	1,157	1,308	35.1
3-year college	10,971	16.8%	996	1,679	44.9
Vocational school	6,860	10.5%	853	2,491	51.0
Senior high school	17,666	27.1%	797	1,482	45.5
Junior high school	19,055	29.2%	701	1,193	41.2
Elementary school	3,305	5.1%	612	609	46.0
Other	493	0.8%	605	760	56.0
Ownership Sector					
State	41,276	63.3%	811	752	41.8
Collective	6,469	9.9%	567	595	55.6
Other Organization	3,837	5.9%	1,123	1,094	47.2
Individual/Owner	6,999	10.7%	1,184	4,050	41.9
Individual/Employee	4,592	7.0%	710	1,105	43.8
Post-retirement hire	639	1.0%	1,056	752	43.5
Other	1,411	2.2%	574	1,004	45.8
Occupation					
High level official	176	0.3%	1,351	627	7.4
Mid-level official	1,779	2.7%	1,227	1,315	17.3
Low-level official	4,038	6.2%	1,048	921	29.1
Senior professional	1,498	2.3%	1,197	1,165	31.4
Mid-level professional	4,348	6.7%	1,069	1,346	43.2
Low-level professional	3,069	4.7%	909	794	55.2
Technician	4,566	7.0%	888	1,054	48.5
Staff members	9,533	14.6%	873	929	49.0
Commerce/service workers	13,955	21.4%	790	1,961	55.5
Agriculture related workers	227	0.3%	770	746	42.7
Industrial workers	19,484	29.9%	663	1,598	37.0
Military personnel	319	0.5%	1,010	461	13.8
Other	2,231	3.4%	790	2,783	44.6
Industry					
Agriculture related	532	0.8%	782	751	37.8
Mining	245	0.4%	725	727	36.3
Manufacturing	16,783	25.7%	667	920	41.9
Power, gas and water supply	1,743	2.7%	897	550	33.6
Construction	2,501	3.8%	888	1,251	27.5
Geological survey/water management	484	0.7%	726	513	33.1
Transportation/telecommunication	6,004	9.2%	971	1,514	30.6
Commerce, food services	13,602	20.9%	854	2,661	52.5
Banking, insurance	1,878	2.9%	1,133	879	50.5
Real estate	694	1.1%	1,123	900	38.0
Social services	4,711	7.2%	784	879	48.9
Health, social welfare	2,585	4.0%	861	564	61.8
Education and media	4,657	7.1%	903	839	53.7
Science research	1,832	2.8%	1,023	1,437	37.2
Party, government, other organization	4,825	7.4%	949	682	33.5
Other	2,147	3.3%	757	1,952	43.6
Total	65,223				43.7

5082_CH03.indd 40 7/18/08 1:29:26 PM

occupations of officials and are overrepresented in low-level professionals and service workers, which are among the lowest-paid occupations. Women are overrepresented in food service industries and in social welfare services, which are low-paying industries.

The relationship between gender composition and average monthly earnings by sector, occupation, and industry is shown by the scatterplot in Figure 3.2. Occupation shows the clearest relationship between gender and earnings (r = –.72), followed by sector (r = –.50); industry shows no overall correlation. In addition, not shown in this figure, we also observe a disparity in educational attainment by gender. Among urban Chinese, the ratio of university-educated employees between men and women is roughly two to one.

Ownership sector, occupation, and industry all serve as important contexts for gender pay inequality at the turn of the twenty-first century in urban China. Across the board, female urban Chinese employees earned 22 percent less than their male counterparts. This is shown in the first model of Table 3.2, which presents results of regression analysis, using the natural log of income as the dependent variable (the regression coefficients can be read as roughly the percentage difference in income). When variables representing the contexts of gender income stratification are introduced into the analysis, we observe that combined they reduce the magnitude of the female pay penalty by about 22 percent, from –.2198 (Model 1) to –.1735 (Model 6). In other words, about one-fifth of the overall gender inequality in income can be accounted for by ownership sector, occupation, industry, and personal characteristics such as age and educational attainment.

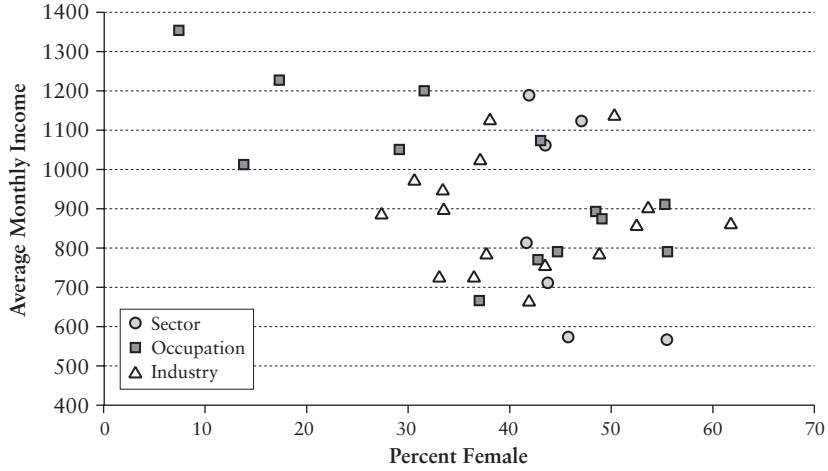

Figure 3.2 Gender composition and average income, by sector, occupation, and industry, urban China, 1999

5082_CH03.indd 42

TABLE 3.2

Effects of gender and other factors on income, urban China, 1999 (OLS results, Ln income)

	MODEL 1		MODEL 2		MODEL 3		MODEL 4		MODEL 5		MODEL 6	
	b	*s.d.*	*b*	*s.d.*	*b*	*s.d.*	*b*	*s.d.*	*b*	*s.d.*	*b*	*s.d.*
Female	–.220	.006	–.208	.005	–.194	.005	–.215	.005	–.179	.005	–.174	.005
age	.012	.002	.020	.002	.031	.002	.022	.002	.034	.002	.027	.002
agesqrd	–.00008	.00002	–.00016	.00002	–.00028	.00002	–.00022	.00002	–.00034	.00002	–.00028	.00002
Education (university=reference)												
3-year college	—		–.135	.010	–.133	.010	–.084	.011	–.082	.011	–.064	.010
Vocational school	—		–.248	.012	–.238	.011	–.144	.012	–.126	.012	–.132	.011
Senior high school	—		–.385	.010	–.380	.009	–.206	.012	–.188	.011	–.188	.010
Junior high school	—		–.520	.009	–.524	.010	–.307	.012	–.294	.012	–.275	.011
Elementary school	—		–.659	.014	–.695	.015	–.431	.017	–.446	.016	–.439	.015
Other	—		–.742	.032	–.777	.031	–.515	.033	–.529	.032	–.497	.029
Ownership Sector (State ownership = reference)												
Collective	—		—		–.252	.009	—		–.194	.009	–.209	.008
Other Organization	—		—		.304	.011	—		.351	.011	.248	.010
Individual/Owner	—		—		.254	.009	—		.333	.011	.347	.010
Individual/Employee	—		—		.005	.011	—		.061	.011	.063	.010
Post-retirement hire	—		—		.293	.028	—		.374	.027	.430	.025
Other	—		—		–.243	.018	—		–.145	.019	–.142	.018
Occupation (High level official = reference)												
Mid-level official	—		—		—		–.092	.052	–.093	.050	–.135	.046
Low-level official	—		—		—		–.173	.051	–.174	.049	–.261	.045
Senior professional	—		—		—		–.124	.053	–.130	.051	–.170	.047
Mid-level professional	—		—		—		–.198	.051	–.211	.050	–.273	.045

7/18/08 1:29:27 PM

Low-level professional		—		—		—	–.245	.052	–.260	.050	–.339	.046
Technician		—		—		—	–.245	.051	–.252	.050	–.376	.046
Staff members		—		—		—	–.248	.051	–.273	.049	–.388	.045
Commerce/service workers		—		—		—	–.365	.051	–.469	.050	–.564	.046
Agriculture related workers		—		—		—	–.346	.068	–.301	.068	–.480	.062
Industrial workers		—		—		—	–.487	.051	–.439	.050	–.519	.045
Military personnel		—		—		—	–.220	.062	–.162	.060	–.204	.055
Other		—		—		—	–.497	.053	–.493	.052	–.524	.047
Industry (Agriculture related = reference)												
Mining		—		—		—		—	.044	.051	.076	.047
Manufacturing		—		—		—		—	–.034	.031	–.055	.028
Power, gas and water supply		—		—		—		—	.234	.034	.240	.031
Construction		—		—		—		—	.098	.033	.064	.030
Geological survey/water management		—		—		—		—	–.023	.042	.025	.038
Transportation/telecommunication		—		—		—		—	.276	.032	.242	.029
Commerce, food services		—		—		—		—	.057	.032	.017	.029
Banking, insurance		—		—		—		—	.321	.034	.273	.031
Real estate		—		—		—		—	.311	.039	.199	.036
Social services		—		—		—		—	.083	.032	.037	.030
Health, social welfare		—		—		—		—	.120	.033	.122	.030
Education and media		—		—		—		—	.088	.032	.088	.029
Science research		—		—		—		—	.088	.034	.072	.031
Party, gov., other organization		—		—		—		—	.097	.032	.082	.029
Other		—		—		—		—	–.020	.035	–.035	.032
Constant	6.283		.036	6.417	.036	6.158	.037	6.625	.060	6.246	.067	6.762	.062
City												Yes	
Adjusted R2	.032			.105		.145		.124		.183		.321	
N	63167												

5082_CH03.indd 43 7/18/08 1:29:27 PM

Results in Table 3.2 also allow an examination of the effects of various contexts and factors separately. In Model 2, results show a clear and positive association between educational attainment and income. Employees with less than a senior high school education, who account for about one-third of the urban Chinese labor force, suffered at least a 50 percent pay penalty compared with those who have university educations. Results in Model 3 report the effects of ownership sector. In comparison to those in the state-owned sector, employees in collectively owned organizations made 25 percent less income in 1999, whereas those in "other organizations" (mostly joint-venture) or who were owners of private businesses reported 25 to 35 percent higher income. There is no statistically significant difference in income between those in the state sector (reference group) and those who are employees in privately owned businesses. Adding ownership sector does not have any noticeable effect on the role of educational attainment, but it did reduce the overall gender penalty by about 13 percent (from –.2198 to –.1943). Adding occupational context (Model 4) reveals the expected occupational differences in income, but it does not change the magnitude of the gender penalty. Model 5 includes all three contexts: ownership type, occupation, and industry. Combined, they reduce the overall gender penalty by about 23 percent (from –.2198 to –.1791). The last model, Model 6, introduces cities as dummy variables. Adding this factor significantly increases the overall explanatory power of the model (R^2 increases from .18 to .32), but does not alter significantly the magnitude of the gender penalty compared with Model 5.

A central question, raised at the start of this chapter, is the emerging structure of gender inequality following China's economic transitions. Specifically, we seek to address this question by examining the relative role of the state versus that of the market in reproducing gender income inequality. Following two decades of economic reforms, was the Chinese state still playing a protective role with regard to income equality between women and men? Or, was the newly created market sector more gender blind, governed mostly by the criteria of efficiency and merit? We do not have direct and ideal measures for the state or market, but we can explore answers to these questions by modeling the interaction effects between gender and ownership sectors. If the Chinese state continues to serve as a protective force, we would expect a weaker gender penalty in this sector than in other sectors. Alternatively, if the newly emerged market sector is less gender discriminatory, we would expect a smaller gender penalty in this sector.

China's emerging market economy is by no means gender blind. Moreover, the emerging market sectors do not discriminate against female employees any less. In Table 3.3, we provide regression results to examine the two alternative hypotheses raised in the paragraph above. When interaction

TABLE 3.3
Effect of gender on income by sector, urban China, 1999

	MODEL 1		MODEL 2	
	b	*s.d.*	*b*	*s.d.*
Female	–.194	.005	–.147	.007
Age	.031	.002	.030	.002
Age^2	–.000	.000	–.000	.000
Education (university = reference)				
3-year college	–.133	.010	–.136	.010
Vocational school	–.238	.011	–.242	.011
Senior high school	–.380	.009	–.381	.009
Junior high school	–.524	.010	–.524	.010
Elementary school	–.695	.015	–.692	.015
Other	–.777	.031	–.763	.031
Sector (state ownership = reference)				
Collective	–.252	.009	–.188	.013
Other Organization	.304	.011	.326	.015
Individual/Owner	.254	.009	.323	.012
Individual/Employee	.005	.011	.067	.014
Post-retirement hire	.293	.028	.318	.037
Other	–.243	.018	–.183	.025
Female * sector interactions (state ownership = reference)				
Collective			–.128	.018
Other Organization			–.052	.022
Individual/Owner			–.170	.018
Individual/Employee			–.146	.021
Post-retirement hire			–.078	.053
Other			–.138	.036
Constant	6.158	.037	6.153	.037
Adjusted R^2	.145		.147	
N	63167		63167	

terms are added to the model, as shown in Model 2 of Table 3.3, the market sectors that in general provided higher incomes (as seen in Model 1 of Table 3.3, as well as in Model 2, as "main effects") also did so more for men than for women. Among all sectors of the economy, those in the state-owned sector suffered the least gender penalty. Whereas women as well as men in the emerging private sectors mostly enjoyed higher incomes than those in the state-owned sector, and especially more than those in the collective sector, the gender difference is smallest in the state-owned sector. Compared with employees in the state-owned sector, the gender pay gap between women and men is about 5 percent more pronounced for those working in joint-venture companies ("other organization"). The gender penalty is especially noticeable for those listed as private business owners or employees, where the difference from those in the state-owned sector is 17 and nearly

5082_CH03.indd 45 7/18/08 1:29:27 PM

15 percent respectively. Our results therefore suggest that among the sectors of the existing mixed economy, the state sector is the least discriminatory.

Market Development and Gender Inequity

Because market economy development has been uneven across China, we can take advantage of regional variation to further examine how China's development pattern might be associated with gender inequality (Shu 2005; Shu and Bian 2003). We assess the pattern of inequality across 31 of the cities in the 1999 data (four cities were excluded because of missing data). This analysis takes an explicitly contextual approach, in that local development levels and patterns are used to model gender inequality for *all* workers in the sample, not only those directly employed by, for example, joint-venture organizations.

We combine data collected on individual workers, used in the regression analysis above, with published statistics on population size, the size of the economy (per capita gross domestic product), per capita foreign direct investment, and the recent rate of economic growth (1998 GDP per capita divided by 1992 GDP per capita). Local GDP per capita is a good indicator of development, and given the rapid pace of urban development in the postsocialist period, the change from 1992 to 1998 may adequately identify those cities with steeper or less-steep development trajectories. Further, foreign direct investment (FDI) may be associated with different employment practices positively or negatively related to gender inequality.[7] As a test of the structural arguments outlined above, then, we model variation in the effect of being female across cities as a function of these city characteristics.

As these data are logically nested—individual workers within cities—we use two-level hierarchical linear models (Raudenbush and Bryk 2002). Conceptually, hierarchical linear models (HLM) are similar to estimating the linear regressions above separately for each city, and then examining the variation in the 31 model intercepts and gender coefficients that result. However, these models fix the effects of the control variables across cities. They also permit us to decompose the variance in incomes into that which occurs within cities (between individuals), and that which occurs between city means.[8]

One of the unique utilities of the models we employ here is that we can decompose the total variance in income into variance between cities (i.e., in the intercept, τ_0) and within cities—the individual-level variance, σ^2 (Raudenbush and Bryk 2002). We show in Table 3.4 the proportion of the variance in income that occurs between cities, labeled as the intra-class correlation. From a fully unconditional model (not shown), we calculate an intra-class correlation of 11.9 percent. This finding is substantively important, because it reveals the extent to which incomes vary *between* rather than

TABLE 3.4
Hierarchical linear models for total income (Ln) on individual and city characteristics

	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Intercept	6.570***	6.566***	6.542***	6.567***	6.543***	6.543***
Population (Ln)	—	—	—	.019	.032	.021
GDP / Capita (Ln)	—	—	—	.403***	.397***	.548***
FDI / Capita (Ln)	—	—	—	–.005	.002	–.013
GDP growth 1992–98	—	—	—	—	—	–.081*
Gender wage effect	–.227***	–.215***	–.168***	–.218***	–.169***	–.169***
Population (Ln)	—	—	—	.024***	.011	.011
GDP / Capita (Ln)	—	—	—	–.068**	–.051*	–.043+
FDI / Capita (Ln)	—	—	—	.015*	.016*	.015*
GDP growth 1992–98	—	—	—	—	—	–.004
Level-1 Controls	None	Age only	All	Age only	All	All
Variance components						
Intercept (τ_0)	.047	.046	.049	.019	.019	.017
Female	.0009	.0008	.0004	.0002	.0002	.0003
Level-1 variance (σ^2)	.328	.326	.256	.326	.256	.256
Intra-class correlation	12.4%	12.3%	16.0%	5.4%	7.0%	6.1%

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests)

within cities. For example, in the United States, the intra-class correlation for income across metropolitan areas in 1990 was much lower, only 4 percent (Cohen and Huffman 2003). In China, therefore, it matters much more than in the United States what city a worker lives in, regardless of his or her other characteristics—reflecting the radically uneven nature of China's development and a pattern of inequality that is based on group membership (Wang and Wang 2007). Further, these intercity differences persist when individual characteristics are controlled (Model 3), with 16 percent of the remaining variance in income occurring between cities.

If what city one lives in is of paramount consequence for Chinese workers, how does this extreme variation affect women and gender inequality? The bottom panel of Table 3.4 shows that one-half of the cross-city variance in the effect of gender is explained by all the individual controls (Model 3 versus Model 2). However, a significant amount of variance remains.[9] Before discussing how the models predict that variance, let us illustrate the "net" gender gap in income across cities. Figure 3.3 shows the income gap between men and women (expressed by women's income as a percentage of men's income), derived from empirical Bayes estimates of the intercept and level-l gender coefficient for each city, net of individual-level controls. We see that women have a high of 87.1 percent of men's income in Zhengzhou, and a low of less than 82 percent in Yinchuan and Fuzhou. In the figure, we plot

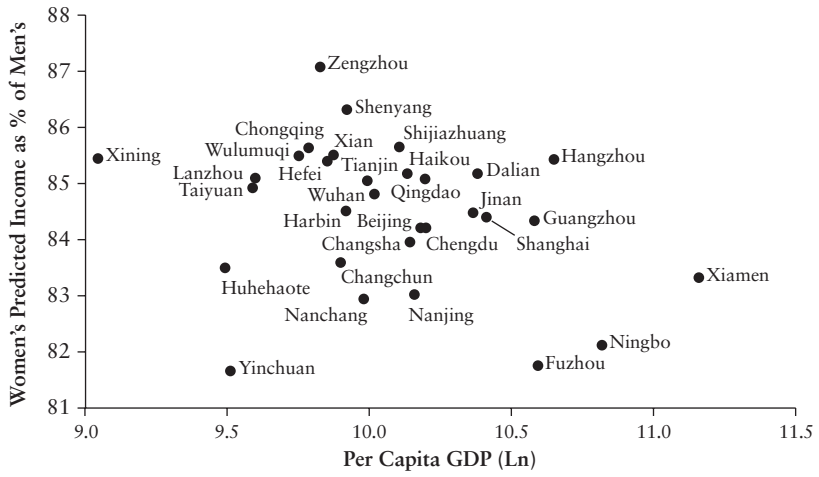

Figure 3.3. Gender gap in income, by city GDP. Empirical Bayes estimates, with person-level controls[1]

NOTE: Data from 1999. Samples of 890–3,897 employed workers ages 18–70 per city.
[1]Controls include age, education, occupation, industry, and sector.

that gender gap against logged GDP per capita. The scatterplot suggests a negative relationship between economic development and women's relative income. It is interesting to note that three of the cities with high incomes and large gender gaps—Xiamen, Ningbo, and Fuzhou—are "special economic zones," areas slated by the central government for market-based reforms and outside investment.[10] The figure suggests that the level of economic development might help explain the pattern of gender inequality.

In the final three models we test whether the level of development (GDP), the nature of development (FDI), and the pace of development (GDP growth) are associated with the gender gap across cities, with population size as a control. The results are quite consistent across models. The strongest effect in the table is of GDP on the intercept. This shows that average incomes are dramatically higher in cities with larger GDP per capita. Of course, it is not surprising that incomes are higher in cities with higher per capita GDP, since GDP is essentially a measure of average income. However, the effect is almost unchanged when individual controls are added to the model (comparing Models 4 and 5). Thus, the advantage of living in more-developed cities does not occur only because workers there are more likely to have higher education or work in better occupations, industries, or sectors. (We note, however, that Model 6 shows that this effect is tempered in cities with rapidly growing economies, as there is a negative effect of GDP growth on the intercept.)

In addition to raising the overall income level, GDP is associated with greater gender inequality in income. The cross-level interactions show that women receive approximately 90 percent of men's benefit from higher local GDP. In Model 6, for every one unit increase in GDP, average income increases by .548 for men, but only .505 for women (.548–.043). The effect of FDI is different, however. Although it has no effect on the intercept, the models show that FDI is associated with a significantly smaller gender gap.

CONCLUSION

Postsocialist economic reforms in China have resulted in a clear reversal in one of the proudest accomplishments under socialism: pay equity between female and male urban employees. Economic reforms and economic growth have dramatically raised the standard of living of the urban Chinese population, but have done so unevenly, as economic inequality also increased substantially. Part of the overall increase in economic inequality is the income inequality between women and men. In our analyses of urban Chinese employees, we find that (1) the gender gap in income has increased sharply over recent years; (2) women are consistently more likely to work in lower-paid occupations, industries, and sectors of the economy; (3) the gender gap is smallest in the state sector; and (4) the gender gap is larger in more-developed cities. As a caveat, we note that the income gap is smaller in cities with higher levels of current foreign investment.

At the start of full-fledged economic reforms, female urban employees in China received on average about 15 percent less income than male employees. By the turn of the twenty-first century, the gap enlarged to about 25 percent. Some of this difference can be attributed to differences in individual and structural characteristics of the female and male employees. After taking into account gender differences in educational attainment, sector of employment, and occupational and industrial locations, the net gender income penalty showed a similar rising trend, from 7 percent to 17 percent. These increases in income inequality, while substantial, still place urban Chinese female employees in a more favorable position in comparison to female workers in other transitional societies, where the gap was as large as 37 to 51 percent (Domański 2002).

What also has emerged is a new structure of gender income inequality embedded in both the old and the new. A segregation and stratification regime created under the socialist planned economy persists and perhaps worsens. Women concentrate in the less-privileged economic sectors, lower-ranked occupations, and lower-paying industries. Gender segregation in the workplace by occupation and industry is not dissimilar to that in capitalist market economies, albeit at much lower levels.

What sets China apart from capitalist market economies is the coexistence of a remaining state sector and an emerging market sector, which structures the patterns of gender economic inequality. China's economic transition away from socialism has resulted in a hybrid economic system. By the end of the 1990s, nearly 30 percent of urban employees in major Chinese cities worked in nonstate and noncollectively owned sectors, in contrast to two decades ago, when nonpublic sector employment was virtually nonexistent. Our study shows that the remaining state sector still serves as the most benign and protective economic sector for women, at least regarding the gender gap in income. Such a pattern is also reported for the city of Moscow in Russia and in a number of settings in Eastern European transitional societies, such as the Czech Republic and Slovakia (Heyns 2005).

The newly emerged market sectors, contrary to the beliefs of some, are in fact also the ones where the gender income penalty is more extreme compared with the state-owned sector. Across major cities in China, locales with more vibrant economies and higher income levels on average also have greater gender income inequality. Overall, these results suggest that the creation of a market economy has not been accompanied by a lesser degree of gender economic inequality.

It is premature for us to draw conclusions from our results in this chapter about the mechanisms or processes that led to the gender inequality pattern we observe here. However, we consider some possibilities. Some scholars have suggested that capitalism, because it rewards rational and efficient, profit-driven decision making, is destined to undermine gender discrimination, which is based on ascriptive qualities and irrational biases (Jackson 1998). However, China has a cultural legacy of extreme gender inequality, which 30 years of socialist leadership could not hope to purge completely. Therefore, increasing gender inequality may reflect that underlying disposition toward gender discrimination, which is only becoming more freely expressed in the increasingly unregulated market. That argument would be consistent with our finding that the state sector has the lowest levels of gender discrimination.

Gender bias also could be expressed through an increasing tendency to relegate women to more nurturing roles, whether by families or by employers.11 Increased economic uncertainty and less government assurance of support (albeit in the context of rising incomes) could have two effects on gender. Within urban families, some may be compelled to devote more of their own resources to household-based care work, for example taking care of sick family members. And in the urban labor market, a growing service economy—in the nonstate sector—could pull women into nurturing roles, where they earn lower incomes and have fewer opportunities for advance-

ment. Our data are consistent with these explanations, but we do not have sufficient occupation and industry detail to test this possibility.

Finally, we note that in everyday life, the reproduction of gender inequality in income takes place in a more confined and concrete context, within jobs in specific establishments and labor markets. The inequality-generating mechanisms or contexts discussed above—local area, sector, occupation, and industry—only serve as the broad contours for capturing the overall structure of gender inequality. Ideally, we would be able to study patterns within specific establishments. However, without such data, we may create a proxy for jobs by examining groups of workers at the intersection of occupation by industry by city, as has been done for U.S. data (e.g., Cohen and Huffman 2003). One of the defining characteristics of China's emerging market economy is the large variation in local labor markets. Rates of foreign investment, employment, economic growth, and change in standard of living all vary dramatically from city to city. Incorporating such local contexts, especially at the job level, should constitute the next step in understanding the mechanisms of rising gender pay inequality in postsocialist urban China.