Market Transition and the Firm: Institutional Change and Income Inequality in Urban China

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ABSTRACT   This paper examines how the rise of a market economy in urban China redefines the rules governing economic activities and affects on earnings inequality. We identify three causal mechanisms linked to institutional change that are transforming the firm's employment practices: the higher marginal productivity of a private enterprise economy relative to state-owned enterprises, competition by firms for skilled and semi-skilled labor following emergence of labor markets and the end of state monopoly on labor allocation, and increased emphasis on merit-based reward systems in firms. Analyses of survey data from urban China show how these three causal mechanisms stemming from the transition to a market economy contribute to new patterns of earning differentiation that increase income returns to human capital and private-sector entrepreneurship.

As systems of interrelated informal and formal rules, institutions are social structures that provide a conduit for social action in shaping the interests of actors and enforcing principal–agent relationships. Thus in departures from state socialism, institutional change entails not simply altering the rules of the game, but fundamentally it involves the realignment of the interests and power of political and economic actors, whether as individuals or organizations. First, the emergence of a market economy opens new opportunity structures that enable and motivate private entrepreneurs to compete with established state-owned firms. Second, market institutions provide an alternative framework for the pursuit of interests for economic agents. Lastly, as economic agents adapt and compete in the emergent market economy, they institute new economic practices and organizational rules that enable their firms to survive and profit. In sum, we argue that the growth of a market economy alters the structure of incentives for economic actors in facilitating and motivating new pathways for mobility in post-socialist societies, which in turn causes a decline in the significance of political connections.

A central task in the comparative analysis of market transition is to specify the role of institutions in providing the framework for economic activity. Understanding the trajectory of market transition requires examining discrete institutional orders within a country as they co-evolve in the multiple pathways shaping how firms and economic actors adapt and compete in an economy shifting to increased reliance on market mechanisms. In this view, the institutional environment of transition economies is best conceived as constituted of competing and overlapping institutional orders whose boundaries are defined by distinct property rights, organizational forms and governance structures (Nee, 1992).

In the transition economy, the performance of firms is influenced by their sector. In the state-owned sector, for example, for-profit firms face powerful inertia forces that lock them into long-standing organizational routines and interests, limiting their ability to adapt and compete in the emergent market economy (Nee, forthcoming). By contrast new organizational forms – private enterprises and hybrids – are faster at adapting to and learning the new rules and approaches to competition and cooperation of an expanding market economy. Yet they are constrained by the privileged position of state- and collective-owned firms with respect to access to finance capital, raw materials and markets (Nee, 1992). In the transition economy discrete governance structures of firms shape the principal–agent relationship and structure of incentives for economic agents. Variations in governance structures influence returns to investments in different forms of capital. In state-owned firms and public organizations, the Communist Party persists as an entrenched interest group with privileged access to power and resources reserved for its members and leaders. Hence in the public sectors of the transition economy, political capital confers advantages based on positional power. However, the more that private ownership rights and free markets shape the environment of firms, the less the influence of the power and privilege stemming from political connections and party membership. Private enterprise and hybrid firms foster organizational rules and routines that privilege other forms of capital – human, social and financial – not gained directly through political connections.

Using urban China as a strategic research site, we identify three market-based causal mechanisms that reshape the structure of incentives and hence the pattern of earnings inequality in the transitional period:

- the higher marginal productivity of private enterprise relative to state-owned enterprises;
- labor-market competition by firms for skilled workers following the demise of state monopoly on labor allocation;
- the expansion of merit-based reward systems in firms in response to increased competition between firms for market share and profits.

From this market transition framework we are able to derive hypotheses specifying how the structure of incentives that arise from market influences on the firm's behavior gives rise to new patterns of income inequality based on market power secured through investments in human capital and entrepreneurship. To test hypotheses, we then conduct a series of regression analyses, specifying sectors of the mixed institutional environment of urban China using data from two large-scale surveys of Chinese urban households: the Chinese Household Income Project (CHIP) 1995 urban survey and a 1994–1995 Shanghai and Guangzhou survey.

INSTITUTIONAL CHANGE IN URBAN CHINA: PROCESSES AND OUTCOMES

When Western economists traveled to Eastern Europe and the former Soviet Union to advise reformers at the onset of market reforms, they consistently emphasized instituting capitalism by designing sweeping changes in the formal rules governing property rights, capital and labor markets. Such emphasis on writing and legislating new rules of economic action overlooked the realities of power and interests vested in existing institutional arrangements and longstanding personal relationships of the political élite. By contrast, the trial-and-error approach taken by reformers in China has allowed for a more evolutionary approach to economic transition (Lin, Cai and Li, 1996; Tsui and Lau, 2002). We infer from China's greater success that institutional change is driven not so much by new formal rules but by bottom-up realignment of interests and power as new organizational forms, private property rights and new market institutions evolve in an economy shifting away from state control over economic activity. In China, changes in the formal rules governing the emerging market economy have tended to follow *ex post* changes in the informal economic practices and the competitive environment. A parallel process has occurred in Eastern Europe and the former Soviet Union, where following failed attempts at designing capitalism in one fell swoop, a more incremental bottom-up approach tacitly replaced the big-bang approach of top-down legal and regulatory changes, as political and economic actors grappled step-by-step with the concrete problems of their emergent market economy (Elster, Offe and Preuss, 1998; Sachs and Pistor, 1997; Stark and Bruszt, 1998).

Market transition theory builds on the basic premise that state socialist redistribution and a market economy entail fundamentally different institutional mechanisms facilitating, motivating and governing economic behavior (Nee, 1989b, 1996). The theory's propositions are formulated in a series of articles that specify the repertoire of mechanisms involving both political and economic actors. The theory advances three core arguments about the nature of institutional change in departures from state socialism:

(1) Institutional innovations in economic reform are initiated and implemented by the state, and that the course of subsequent institutional change arises from the interaction between the revenue-maximizing interests of political actors and constraints imposed on rulers by organizational and economic actors (Nee, 1989a, 1992, 2000; Nee and Lian, 1994).

(2) Instituting market exchange as the dominant coordinating mechanism for an economy involves a *de-institutionalization* of core features of state socialist redistribution, contributing to a decline in the relative advantages of the political élite.

(3) Institutional change promoting reliance on the market mechanism alters the structure of incentives through changes in the informal and formal rules governing property rights, expanding pay-offs to market-oriented performance for economic agents and firms (Nee, 1989b, 1992, 2000; Nee and Su, 1996).

Clearly, market transition theory does not rule out an independent, ongoing, causal effect of the state in shaping the post-Communist stratification order in urban China. Specifying a political economy approach that posits two sources of causal mechanisms – state and market – shaping the stratification order in departures from state socialism, it claims:

> As long as major productive assets are owned or controlled by the state, officials will pursue power-conversion the more political capital is diminished relative to the appreciation of economic capital . . . Political capital is likely to persist as a strong predictor of advantage in the sectors of the transition economy that are state-owned. It is also likely to persist as a stronger predictor than human capital where structural holes at the boundaries of the state and nonstate sectors of the economy provide opportunities for political actors to serve as middlemen in economic transactions. (Nee and Cao, 1999, pp. 806–807)

In sum, the intact ruling power of the Communist Party combined with the concentration of state-owned productive assets in urban China provide favorable conditions that perpetuate the power and advantages of the political élite, both through conventional redistributive means and through market-based opportunities to convert positional power into private financial advantage.

Walder's (2004) political theory takes a different tack from market transition theory's focus on the causal effects of market penetration and state intervention in departures from central planning. Walder focuses solely on political variables centering on régime change (or not) and constraints (or not) on asset appropriation by the political élite to explain the course of market transitions in post-Communist economies. His state-centered approach builds on his earlier claim that the emergence of a market economy *per se* has no causal consequences for the constitution of the post-communist stratification order (Walder, 1996). In specify-

ing the political variables shaping the post-Communist stratification order, his recent work offers an important advance over the prior formulation of causal mechanisms centered on the action of political élites and the state (Bian and Logan, 1996; Nee, 1992, 1996; Nee and Cao, 1999; Nee and Lian, 1994; Parish and Michelson, 1996; Rona-Tas, 1994; Zhou, 2000). However, we disagree with his claim that the emergence and expansion of a market economy has no independent causal effect on the allocation of power and income.

In order to adjudicate empirically the competing claims of market transition theory and Walder's state-centered theory, we examine the pattern of earnings inequality in urban China. Walder's theory predicts that given the concentration of party power in urban China and the new opportunities for rent-seeking and profit-making provided by economic reform, the cadre élite can be expected to have significantly augmented their power and privileges relative to non-party economic actors, including skilled employees, professionals, managers and private entrepreneurs. We argue that the emergence and expansion of a market economy in urban China has similar effects on the stratification order to those found in tests of the theory using data from rural China. But if Walder's argument that the shift to markets *per se* has no consequences for the allocation of power and income is true, hypotheses adapted from market transition theory to the urban context will not find empirical confirmation. Market transition theory does not advance the 'notion that opportunities for old regime elites eventually decline with the extent of reform' as portrayed by Walder (2004, p. 913). Rather, it is a claim that the rise of a market economy favors economic actors – skilled workers, private entrepreneurs, professionals and managers – relative to political élites. The expansion of a market economy unleashes a repertoire of mechanisms causing the demise and transformation of institutional arrangements upholding state monopoly control over the allocation of resources.

Although our empirical study of urban China might not definitively resolve this debate, we would be satisfied if we can demonstrate that the emergence and growth of an urban market economy unleashes causal mechanisms, altering the allocation of power and income giving rise cumulatively to transformative change in the post-communist stratification order, not accounted for by a theory that only specifies political variables. Below we elaborate three such mechanisms linked to the rise of a market economy, which we claim causes a relative decline in the significance of positional power and political capital in the course of market transition in urban China. This claim does not rule out augmentation of opportunities enhancing the power and privileges of members of the Communist élite, but instead insists that the expansion through market-driven economic growth of opportunities for economic actors – i.e. skilled employees, professionals, managers and entrepreneurs – is likely to outpace in relative terms the gains secured purely through rent-seeking defined as allocation of rewards and income not tied to increases in marginal productivity.

In modern urban societies, most people achieve economic well-being through employment, suggesting that abstract concepts used to characterize macroeconomic institutional arrangements, e.g. redistribution and market, should be elaborated in terms of how they substantively affect individuals' employment choices and their associated pay-offs. Just how have mechanisms of institutional changes accompanying the rise of a market economy brought a new dynamic to the urban employment relationship?

The Causal Effect of Higher Marginal Productivity of the Private Enterprise Sector

A major component of the Chinese economic reform is the change of the structure of property rights, evidenced in the diversity of ownership forms in the economy. In the Maoist era, virtually all productive assets and capital were public property. Most organizations were classified as either state-owned or collective, and private ownership had become a negligible fraction after waves of nationalization following the founding of the PRC. State ownership possessed a more central position in the national economy, while its collective counterpart was relegated to a peripheral role (Whyte and Parish, 1984). As a result, although both were integrated in the state planning system, state-owned organizations enjoyed better access to state resources and at the same time were subject to tighter governmental supervision.[1]

Starting in the early 1980s, the Chinese government began to allow limited growth of non-state ownership forms. The original plan was not to encourage privatization of state-owned assets but to allow private enterprise to generate competitive pressure and thus stimulate performance among public enterprises. However, by the mid-1990s, private and hybrid property forms had become an increasingly significant and perhaps the most dynamic component of the national economy. According to the State Statistical Bureau of China (1995), in 1994, private and hybrid organizational forms accounted for 25% of the nation's total industrial output, compared to 0.74% in 1982. During the same time period, the proportion of the labor force employed in the private/hybrid sector had risen from 1.29% to 13.8%. Thus we calculate that labor productivity in the private/hybrid sector had grown at a rate over three times as fast as in the public sector. Take the example of Guangzhou, a large city located in southern China. In 1995, labor productivity in Guangzhou averaged 51,993 yuan in the private/hybrid sector, compared to 36,865 for state enterprises and 18,705 for collective enterprises (Guangzhou Statistical Bureau 1996, p. 128).

The private/hybrid sector is mainly comprised of four types of economic entities: self-employment businesses (*getihu*), domestic private firms, Sino-foreign joint ventures and branch companies solely owned by foreign capital. Among these four types, self-employment poses the least ideological challenge to the Communist

régime because it involves little or no labor exploitation. The Chinese government originally encouraged it, partly as a solution to increasing urban unemployment in the early to mid-1980s. Domestic private firms, on the other hand, suffer from a less comfortable fit with the Marxist doctrine. Officially, they are classified under the category of 'privately operated enterprise' (*siying qiye*), a label that does not declare outright their distinctive ownership. As a result of financial constraints and governmental protection of public ownership in industries of strategic importance, both self-employment and domestic private firms tend to concentrate in commerce, service and light industries.

Two other new property forms – Sino-foreign joint venture (*zhongwai hezi* and *hezuo*) and foreign company (*waiqi*) – resulted mainly from China's 'open-door' policy, in which the government made foreign investment an anchor of its overall developmental plan and enacted a series of preferential policies to attract international capital. By 1995, international capital accounted for 11.2% of the nation's total investment and 12% of industrial output (State Statistical Bureau of China, 1997, p. 33). Most joint ventures are joint stock companies founded on the basis of pre-existing public enterprises. The Chinese partners usually contribute the land, the buildings and other forms of fixed investment, and the foreign partners provide one or more of the following: technology, equipment, financial capital and brand name. This type of joint ownership often leads to hybrid organizational structures that reflect both foreign investors' financial interests and the concerns of local governments with maintaining employment and social stability. Foreign companies, on the other hand, are essentially overseas branches of foreign corporations that seek to take advantage of the business opportunities in China. Operation and management are structured in parallel to that in the parent companies. Employees are recruited on a competitive basis, and enjoy wage levels far above that offered by domestic employers.

Employment in this expanding private/hybrid sector has become an institutionalized alternative to the traditional career paths under the state socialist régime. In the early days of the reform, a majority of the jobs in the private/hybrid sector were manual jobs in very small firms in labor-intensive industries. Though undesirable in many respects, these jobs nevertheless constituted valuable opportunities for unemployed urban residents and peasant workers who migrated to urban areas in search of a better life. As the private/hybrid sector expanded in both size and scope, more professional and technical employment opportunities began to emerge, and it has become a trend that competent public sector employees leave behind their 'iron rice-bowls' to participate – a career change metaphorically termed 'plunging into the sea' (*xiahai*) by urbanites.

How do the emergence and expansion of the private/hybrid sector affect overall inequality? If the private/hybrid sector generated mostly undesirable low-paying jobs, which in turn attracted only people with no prospects in the state-controlled sectors of the economy, then we should not expect any significant change in reward

distribution. The reason is simple: the least privileged remain at the bottom of the pyramid, while the rest are unaffected. However, such a scenario is inconsistent with the more than two-decade-long record of rapid growth and competitive dynamism of the private/hybrid sectors in China. So long as the private/hybrid sector as a whole can achieve higher marginal productivity relative to state-owned firms, and state asset appropriation is not dangerously predatory, new opportunity structures for economic mobility are bound to continue shifting incentives in the transition economy, eroding the previously unchallenged dominance of the state-controlled economy. The state may be able to maintain a comparable or even higher wage structure in the public sector artificially in the short term (Zhou, 2000). But if state-owned firms are less productive, as a result of inefficient property rights and weak corporate governance, than it is difficult to do so in the long run in light of the higher marginal labor productivity and robust economic performance of private/hybrid firms, which include foreign branch firms of multinationals. Thus:

Hypothesis 1: In equilibrium, the higher marginal productivity of workers in the private/hybrid firms relative to state-owned enterprises causes a growing wage gap favoring employees in private/hybrid firms relative to employees in state-owned firms and organizations.

Firm-based Competition in Labor Markets for Skilled and Semi-skilled Labor

A second important institutional change stemming from economic reform is increasing competition by firms for skilled and semi-skilled laborers in emergent labor markets and the end of the state's monopoly on labor allocation. In pre-reform China, labor mobility was under strict bureaucratic control. The government not only monopolized job provision, but also dictated all personnel transfers across work organizations, or work units. Without permission from the government's labor department, work units could not establish employment affiliation (*renshi guanxi*) for any job candidate or accept his/her personal dossier. Voluntary job change was in general rare, as it was not encouraged by the government and required multiple stages of petition and approvals from current work unit, labor department and receiving work unit. The process could become even more complicated when change in the locality of household registration was involved. As a result of these constraints, many workers remained in one work unit until they retired, while others were forced to relocate to peripheral areas where the government perceived their labor could be best utilized.

Bureaucratic control over labor mobility has loosened considerably during the reform period. Officially, employment affiliation is now defined by a labor contract between the two parties. Product markets replace the work unit's ration system, which used to distribute grain and consumer goods. Personal dossiers can

be registered under the newly created talent exchange centers, and more and more employers no longer enforce restrictions related to the household registration system. These changes together greatly weakened individuals' dependence on their work unit, which Walder (1986) argued was the basis of a neo-traditionalist organizational culture of Communist Party patronage. Voluntary job change thus has become not only feasible but also fairly commonplace, especially in large cities and coastal regions. Although some government regulations over labor mobility continue to exist, they are often either reduced to record-keeping procedures or simply bypassed by employers.

The emergence of demand-driven competition for labor implies a fundamentally different logic in matching individuals with positions. On the one hand, as employment opportunities become available through labor market channels, individuals with skills are in a better bargaining position. Competition for skilled and semi-skilled labor thus makes it increasingly difficult for state-owned organizations and other employers to acquire or retain valuable employees with less than competitive compensations. On the other hand, to the extent that their survival and success is determined by their employees' performance, employers also become more selective when recruiting new workers and renewing labor contracts. For instance, job interviews – virtually non-existent in pre-reform China – are now common. Professional and managerial positions in the private/hybrid sector usually require not only a college diploma from relevant disciplines, but also competitive scores in specifically designed competency exams. In sum, instead of being dictated by the state, labor mobility in the reform period is increasingly based on the mutual choice of potential employers and employees.

How does competition for skilled and semi-skilled workers affect the structure of incentives and relative earnings? Our analysis suggests that market-coordinated labor mobility leads to more meritocratic distribution of material compensation. Returns to human capital should increase, as individuals with talent and expertise can now secure a high salary through bargaining and voluntary job changes, while those with little are likely to be forced to settle for a minimum. As to political credentials, e.g. Communist Party membership, we expect an overall decline of significance because they are unlikely to be rewarded in settings where party loyalty and political activism fail to contribute to employer success. That is:

Hypothesis 2a: The more developed the competition for skilled and semi-skilled labor in labor markets, the higher the returns to human capital.

Hypothesis 2b: The more developed the firm-driven competition for labor in labor markets, the less advantage to party membership.

The effect of labor markets should also be more pronounced in the private/hybrid sector. Most private/hybrid businesses were established in the reform period, and

employees thus were more likely to have acquired their jobs through labor markets, instead of state allocation. Hence:

Hypothesis 3a: The higher marginal productivity of private/hybrid firms allows for higher returns to human capital in these firms than in public-sector firms.

Hypothesis 3b: Advantage to party membership is smaller in the private/hybrid firm than in firms in the public sector because labor productivity is more important in the private enterprise sector whereas party membership is more salient in the public sector.

Rising Meritocracy in Public Firms

Despite rapid growth of the private/hybrid sector, public ownership has remained dominant as an organizational form in China's industrial economy. By 1994, state and collective enterprises still accounted for 75% of the nation's industrial output, and over 85% of the urban labor force worked in the public sector. Reward allocation within public-ownership organizations thus has important implications on the overall structure of inequality. This leads us to consider a third mechanism – the strengthening of meritocracy in public enterprises. In particular, we highlight the difference in the institutional environments for non-profit and for-profit organizations in the reform era and examine how their growing resource dependency on markets affects reward allocation.

As in classic accounts of state socialism, both non-profit organizations and public firms in pre-reform China were under strict control of the overseeing government jurisdictions and party branches (Schurmann, 1968). Both types of organizations depended entirely on state budget and allocation of other resources for organizational inputs; production and operation were carried out according to state policies or plans; and outputs and revenue were channeled to and then redistributed by the state. Consequently, the distinction between non-profit organizations and public enterprises mainly reflected functional differences (cf Hansmann, 1987), as both were governed by the same state socialist redistributive system.

Such an institutional environment imposed three major goals. First, as extensions of the state apparatus, these organizations were required to secure the political conformity of their employees. Second, as functional subsidiaries, they were required to perform functional duties, e.g. producing certain amounts of goods and services. Third, as embodiments of the Communist ideology, they were required to ensure the welfare of the employees. Given strict control by the Chinese Communist Party/state, these goals became highly institutionalized, and organizations were pressured to pursue all of them simultaneously in order to avoid severe sanctions (Bian, 1994; Schurmann, 1968; Walder, 1986).

This goal structure created multiple grounds on which rewards, both material and symbolic, were distributed. In his study of the pre-reform Chinese workplace, Walder found that both on-the-job performance and successful demonstration of political activism were rewarded (1986, pp. 132–140). Decisions on promotion and wage increases were made jointly by the management and party officials, who took both political activism and productivity into account. In fact, a crucial step in determining promotions was the so-called 'political inspection' (*zhengshen*). Only those politically qualified could pass onto the next stage, where competence and expertise became relevant factors. On the other hand, the strong influence of Communist egalitarianism substantially limited the magnitude of differentials in compensation (Walder, 1995), and negative sanctions were more often symbolic than material. For instance, almost all workers in state enterprises were permanently tenured. Firing was rare in general, and even rarer for inadequate on-the-job performance unless it could be interpreted as a sign of political non-conformity (Walder, 1986, p. 143).

Since its onset, a central theme of China's market transition has been to transform public enterprises from passive productive plants into relatively independent economic actors that could actively respond to prices and other market signals (Naughton, 1995). In fact, most urban reform policies implemented in early 1980s had been centered on the so-called 'separation of government and enterprises' (*zhengqi fenkai*). The state no longer guarantees all the material inputs and sales of products. Public enterprises thus must rely on market exchanges to acquire material supplies and realize profit. Meanwhile, state budgetary investment is replaced by bank loans, and instead of handing in all their revenues, public enterprises now can retain the surplus after fulfilling their tax obligations. Commodity prices, which were originally mandated by the state, were liberated in a step-by-step manner, and managers were also given greater power and freedom with regard to managerial decisions. Changes in the legal environment further make bankruptcy an imminent possibility for firms unable to maintain financial solvency.[2]

These reform policies significantly transform the organizational goal structure for public enterprises. To the extent that organizational survival and success depend on markets, public firms now face stronger incentive to reward on-the-job performance and relatively weaker ones to promote political conformity or ensure employee welfare. Public firms thus are likely to devise new compensation schemes and promotion criteria in favor of job qualification and performance. If true, this would suggest that reward allocation in public firms will become increasingly meritocratic and less virtuocratic (Cao, 2001; Shirk, 1982). Following the promulgation of the Company Law in 1994 which allowed public enterprises to incorporate, the shift to meritocracy is likely to be especially pronounced in companies listed in the new stock exchanges of China in which private ownership shapes

corporate culture. In their study of listed companies in the Shanghai Stock Exchange, Opper, Wong and Hu (2002) show that the greater the share of private ownership, the less the Communist Party influences decision-making in the firm, including personnel decisions.

In contrast, China's reform measures have exerted relatively little impact on the institutional environment for non-profit organizations, in the sense that the government continues to play a dominant role in monitoring their operation and providing key organizational resources. With resource provision guaranteed by the state, organizational survival and success are not directly affected by the emerging market economy. Because of this, we expect that non-profit organizations are more likely than their for-profit counterparts to retain the pre-existing distributive practices. Consequently, returns to human capital should be higher in public for-profit firms, whereas party loyalty and political activism are rewarded more in non-profit organizations.

Although organizations are generally considered capable of adaptation, instant adjustment is far from realistic due to inertial forces inside. Organizations often retain features acquired at the time of founding for an extended period of time, as Stinchcombe (1965) observed. Fixed investment, information constraints, internal politics and risk aversion in decision-making all contribute to organizational inertia (Hannan and Freeman 1989, Chapter 4). In the case of China, public enterprises established before the reform tend to have developed organizational routines corresponding to the old governance structure and therefore cannot be expected to make adjustments immediately after the implementation of reform policies. Over time, however, more and more public enterprises should be able to overcome their internal inertia and accomplish systematic adjustments to the new institutional environment. From a cross-sectional point of view, the extent of organizational adaptation among public enterprises is in part a function of the time at which reform policies were implemented at the locality. This implies more pronounced sectoral distinction between public enterprises and their non-profit counterparts in places where reform assumed momentum earlier. Hence:

Hypothesis 4a: In localities where reform policies were implemented early, returns to human capital are higher in public-sector firms than in non-profit organizations.

Hypothesis 4b: In localities where reform policies were implemented early, Communist Party membership is rewarded more in non-profit organizations than in public firms.

Hypothesis 5a: In localities where reform policies were implemented late, returns to human capital are comparable in public firms and non-profit organizations.

Hypothesis 5b: In localities where reform policies were implemented late, Communist Party membership is rewarded similarly in public firms and non-profit organizations.

EMPIRICAL ANALYSES

Data and Measurements

We analyzed data from two large-scale surveys of Chinese urban households: the Chinese Household Income Project (CHIP) 1995 urban survey sponsored by World Bank and the 1994–1995 Shanghai and Guangzhou survey conducted by the market transition research group at Cornell University. The 1995 CHIP urban survey collected data from a nationally representative sample of 6931 urban households containing 21,698 individuals (Khan and Riskin, 1998). These households were drawn from 52 counties and municipalities located in 11 of China's 30 provinces. The 1994–1995 Shanghai and Guangzhou survey began in June 1994. All interviews were completed by February 1995 (Lu, 1996). In each city researchers first used an address-based stratified sampling scheme to obtain a sample of approximately 800 local households, which was then supplemented by a sample of about 150 households of migrant workers and 50 with people holding secondary jobs. The resulting sample size was 1000 households for each city.

To test our hypotheses we examined patterns of income determination among individual labor-force participants. We included all employed adults in the households surveyed, net of those with missing values, in our regression analyses. The final sample size was 11,090 for the CHIP national data, 1825 for Shanghai data and 2049 for Guangzhou data. Table 1 reports the descriptive statistics of all variables used in our analyses. Correlation matrices are presented in the appendix section (Tables A1, A2 and A3).

The dependent variable is total annual income in our analysis of the CHIP data and average monthly income in that of Shanghai and Guangzhou data. In creating the income variable we include wage/salary, bonus, subsidy, income from secondary job(s), property income, profit from entrepreneurial activities and income in kind. Its logarithmic transformation is specified as a linear function of individual and employer characteristics.

We measured human capital in terms of formal education, work experience and occupational expertise. Specifically, *education* is a continuous variable indicating the number of years of formal schooling. *Work experience* is calculated as age minus years in school minus 7. To capture the potential non-linearity in its effect on (logged) income, we also include a squared term in the regression models. We classified all observations into seven occupational categories. For the CHIP data the categories are government/party official, non-profit organization administrator, manager, entrepreneur, professional/technician, clerical/office worker and blue-collar worker. For Shanghai and Guangzhou data the categories are slightly different because of the differences in survey instruments. There, the entrepreneur is treated as a special type of employment, rather than an occupational category; and additional information is available to distinguish service workers from manual laborers. Since administrative and managerial occupations tend to be associated

Table 1. Descriptive statistics of all variables used (standard deviation in parentheses)

	CHIP 1995	Shanghai 94–95	Guangzhou 94–95
Male (%)	53.09	54.41	55.25
Migrant worker (%)	–	11.95	15.66
Communist Party member (%)	24.91	15.07	14.89
With secondary job (%)	5.14	7.34	7.42
Occupation (%)			
Government/Party official	3.30	0.66	1.71
Administrator	2.70	0.99	0.73
Manager	5.60	2.79	5.86
Entrepreneur	1.49	–	–
Professional/technical worker	22.56	24.33	28.94
Clerical/office worker	20.86	20.11	25.13
Service worker	–	9.64	10.69
Other (blue-collar) worker	43.50	41.48	26.94
Employer Ownership (%)			
in state-owned	81.01	74.30	56.52
in collective-owned	15.00	12.71	13.18
in private/hybrid	4.00	13.09	30.30
Employer Type (%)			
in governmental agency	–	2.30	7.27
in state-owned non-profit org	–	17.92	16.69
in collective non-profit org	–	2.79	3.37
in state firm	–	54.08	32.55
in collective firm	–	9.92	9.81
in self-employment	–	7.56	8.05
in domestic private firm	–	0.77	6.00
in joint venture	–	3.78	11.71
in foreign firm	–	0.88	4.54
Education (year)	10.80	11.23	11.82
	(2.78)	(2.65)	(2.73)
Work experience (year)	21.65	20.97	17.72
	(9.98)	(9.22)	(11.17)
Work experience squared	568.27	524.67	438.70
(year squared)	(439.38)	(400.06)	(474.90)
Labor Market (% jobs acquired	0.21	–	–
via labour market)	(0.07)	–	–
Annual income (yuan)	6,375	–	–
	(3,977)	–	–
Monthly income (yuan)	–	699	1,337
	–	(506)	(1,291)
N	11,090	1,825	2,049

with political/positional power, a factor arguably quite distinctive from expertise, our examination of the effect of occupation-specific human capital focuses on the dichotomy between professionals, technicians and clerical/office workers on the one hand and blue-collar workers on the other. As to political capital, we adopt

the conventional measures – *Communist Party membership*, for political loyalty and activism, and the occupational category of *government/party official* – as good indicators of access to redistributive power.

Analysis of the CHIP National Sample

We first estimated linear regression models using data from the CHIP national survey. Because observations drawn from the same localities were subject to the influence of similar socio-economic conditions, OLS regression would not suffice because of correlated error terms among these clustered observations. We adopted a mixed model approach instead, where individual and employer characteristics were incorporated as fixed effects and geographic location variables – province and county/municipality – as random effects (Greene 1993, pp. 464–480; Mason, Wong and Entwisle, 1983). The fixed-effect coefficients are presented in Table 2.

According to Model 1 (first column in Table 2), both human capital and political capital play significant roles in determining income. On average, one year's formal education increases a person's annual income by roughly 3%. The effect of work experience is curvilinear, as the income level is expected to rise at a diminishing rate during the first 30 years of work and gradually decline afterwards. In comparison to blue-collar workers, the earning advantage to professionals/technicians and clerical/office workers is considerable, reaching 19% and 12%, respectively. Meanwhile, political capital is also rewarded handsomely, as the income level for government/party officials is comparable to that of professionals and Communist Party members on average receive 9% more than their non-Party member counterparts.

With regard to employer ownership, Model 1 shows that there is still a substantial gap between state and collective sectors. Other things being equal, those employed in collective-ownership organizations receive about 20% less than those in state organizations. Meanwhile, private/hybrid sector workers are also considerably better off than those in the collective sector but remain disadvantaged when compared to their state-employed counterparts, even though the income gap between private/hybrid and state sectors is only 7%. This finding does not support our first hypothesis that employment in the private/hybrid sector entails a higher level of income than that in the public sector.

To test the impact of firms' growing competition for labor, we constructed from the CHIP sample a county/municipal-level measure of labor marketization. This variable was calculated as the percentage of individuals in each county or municipality who acquired their current jobs through channels other than government allocation, e.g. self-search, referral and employment agencies. The assumption here is that to the extent labor market develops to allow employee-initiated job changes, firms cannot rely on administrative means to obtain/retain skilled and semi-skilled labor; instead, they must compete for it. The reliability of this measure is ensured

Table 2. Fixed-effect determinants of logged annual income in urban China in 1995

	Model 1	Model 2		Model 3		
		Main Effect	x Labor Market	Gov & Non-profit	Public Firm	Private/hybrid
Intercept	7.43***	7.49***	−0.26	7.60***	7.44***	7.07***
Sex (male = 1)	0.12***	0.12***	0.01	0.08***	0.14***	0.18***
Work experience	0.05***	0.05***	−0.01	0.04***	0.05***	0.05***
Work experience squared/100	−0.09***	−0.09***	0.02	−0.07***	−0.09***	−0.08***
Education	0.03***	0.02***	0.05**	0.03***	0.03***	0.06***
Communist Party membership	0.09***	0.05	0.19	0.04***	0.10***	0.09
Occupation (ref = manual worker)						
Government/party official	0.17***	0.17***	0.02	0.14***	—	—
Administrator	0.20***	0.15**	0.23	0.18***	—	—
Manager	0.18***	0.09*	0.45*	—	0.17***	0.55***
Professional/technical worker	0.17***	0.17***	0.03	0.15***	0.14***	0.27**
Entrepreneur	0.13***	0.10	0.09	—	—	0.11*
Clerical/office worker	0.11***	0.10***	0.07	0.11***	0.05***	0.14*
Secondary job	0.03	−0.00	0.16	0.09	0.02	0.00
Employer Ownership (ref = state)						
Collective	−0.22***	−0.25***	0.11	−0.28***	−0.20***	—
Private/hybrid	−0.07***	0.00	−0.23	—	—	—
N	11,090	11,090		3,325	6,941	443

Notes: *p < 0.10; *p < 0.05; ***p < 0.01 (all t-tests are two-tailed). Geographical location variables, i.e., province and county/city, are incorporated as random effects and are not presented here.

by the relatively large number of individuals from each location, with a minimum of 80 and mean of 178 for the 52 counties/municipalities.

In Model 2 we test the interaction effects between labor marketization and individual characteristics (second and third columns in Table 2). Among all the interaction terms only that for *education* turns out to be statistically significant. The regression coefficient is 0.05, indicating that for every additional 10% of people who acquire jobs through labor-market means, the average return to one year's education increases by 0.5%. Overall, we find in Model 2 some, albeit limited, support for H2a, i.e. growing market competition for labor increases the return to human capital, and no clear evidence either for or against H2b regarding the diminishing effect of labor market on the significance of Party membership.

Model 3 divides the entire sample into three sectors according to employment affiliation, and the effects of individual characteristics on income are allowed to vary across the three sectors (last three columns in Table 2). The first sector includes people working for government agencies and non-profit organizations, the second sector includes those in public firms, and the third sector in private/hybrid ownership organizations.

As predicted by H3a, we find that human capital variables tend to have greater effects in the private/hybrid sector than elsewhere. In particular, return to education in the private/hybrid sector is significantly higher in both statistical and substantive senses. There, an additional year's schooling increases income by 6%, compared to 3% in government agencies, non-profit organizations and public firms. The effect of work experience is once again curvilinear, with maximum income level obtained around the 31st year of work. Despite some statistically significant variations, the effect of work experience is in general comparable in all three sectors.[3] White-collar workers in the private/hybrid sector indeed appear to enjoy advantages over manual workers. For instance, the income gap between professionals/technicians and manual workers is 31% in the private/hybrid sector, but only 17% in government agencies and non-profit organizations and 15% in public firms. However, partly because the CHIP data include a relatively small number of observations (443) from the private/hybrid sector, such cross-sector differences in returns to occupational expertise turn out to be statistically insignificant. Lastly, although we find that Communist Party membership confers considerable advantage in both public sectors but not necessarily so in the private/hybrid sector, there is no evidence supporting H3b, since the effect is not statistically different across sectors.

In summary, our analyses of the CHIP data have produced some confirmation of the two predictions on human capital (H2a and H3a), while H1 and those related to Communist Party membership (H2b and H3b) find no support. This may appear to be consistent with some analysts' emphasis on the continuing significance of political capital in post-socialist societies (Bian and Logan, 1996; Rona-Tas, 1994; Walder, Li and Treiman, 2000).

We advise caution in rushing to any definitive conclusions about the emergent institutional environment of urban China due to two major anomalies in the CHIP data. First, as careful readers may have already noticed in Table 1, private/hybrid sector employees account for only 4% of the CHIP sample, a number substantially lower than the State Statistical Bureau's tally of 14.8% for urban China in 1995 (1996, Table 4-1). Second, nearly a quarter (24.91%) of the observations in the CHIP data concerned members of the Communist Party. We also found from the 1995 CHIP rural data that of the 20,253 rural laborers surveyed, 6.1% were Party members. Combining these two statistics from CHIP surveys with the sizes of China's urban and rural labor forces, we extrapolate that the number of Party members in the labor force alone would have approached 70 million in 1995. This contrasts sharply with the Communist Party's own count of 55 million, which includes not only members in the labor force, but also those who were in school, retired, full-time home-makers or out of the labor force as a result of disability.[4] Together, these two anomalies suggest that the CHIP sample may have been biased toward people subject to direct governmental and political influence and thus failed to adequately represent those who were most involved and successful in the emerging urban market economy.

Notwithstanding these qualifications, the utility of our analysis of the CHIP data is to provide a view of urban China as a whole, and not just in the coastal region where the market economy has expanded rapidly, to highlight the importance of continuities in the institutional environment of firms during the early phase of the emergence of a national market economy. Our findings based on analysis of the CHIP data reinforce the view of persistent political advantage in urban China during the mid-1990s, providing a benchmark for future studies of urban social inequalities in later stages of market transition.

Market Reform in Shanghai and Guangzhou

To better understand the impact of market growth on firms and the structure of incentives reflected in relative earnings, we employed a comparative approach to analyze Shanghai and Guangzhou data. Shanghai and Guangzhou are both large cities located in Southern China, with urban populations in 1995 reaching nine million and four million, respectively. While the two cities are comparable in many aspects such as economic development, average educational level among urban residents and cultural traditions in trades and commerce, they differ significantly in the timing and progress of market reform.[5]

Shanghai is the most important industrial base and revenue source for the central government. In 1983, with 1.2% of the nation's population, Shanghai contributed 10.6% of China's total industrial output and 6.5% of the national income (Shanghai Statistical Bureau, 1984). Because of its strategic importance, Shanghai's industrial sector was managed through intensive state planning, and the

central government had been especially conservative with implementing reform policies there. As a result, although the Chinese urban reform started in the early 1980s, little progress had been made in Shanghai until ten years later when it became the token city favored by the central government to symbolize its renewed commitment to market reform (Lu, 1996; also see Guthrie, 1999).

Located on the Pearl River delta, Guangzhou is the capital city of the southeast maritime province Guangdong (often known as Canton). In the late 1970s, Guangdong, along with its neighboring province Fujian, was chosen by the central government as the location for experimental reform (Vogel, 1989). Behind this choice was the rationale that since the two provinces were relatively isolated from the rest of the nation in both geographical and cultural senses, any failure there would be easy to contain before triggering a national crisis. State policy has been liberal since then. Also benefiting from its proximity with Hong Kong and Macao, Guangzhou quickly became the pioneer in China's urban reform.

The differences between Shanghai and Guangzhou in the timing and progress of market reform are reflected in both the development of the private/hybrid sector and the emergence of labor market. As shown in Figures 1 and 2, by 1990 the private/hybrid sector remained almost negligible in Shanghai, accounting for only 6.2% of the total industrial output and 3.2% of the urban employment. Only in the early 1990s did Shanghai begin a dramatic acceleration and catch up with the rest of the nation. In contrast, the private/hybrid sector in Guangzhou had
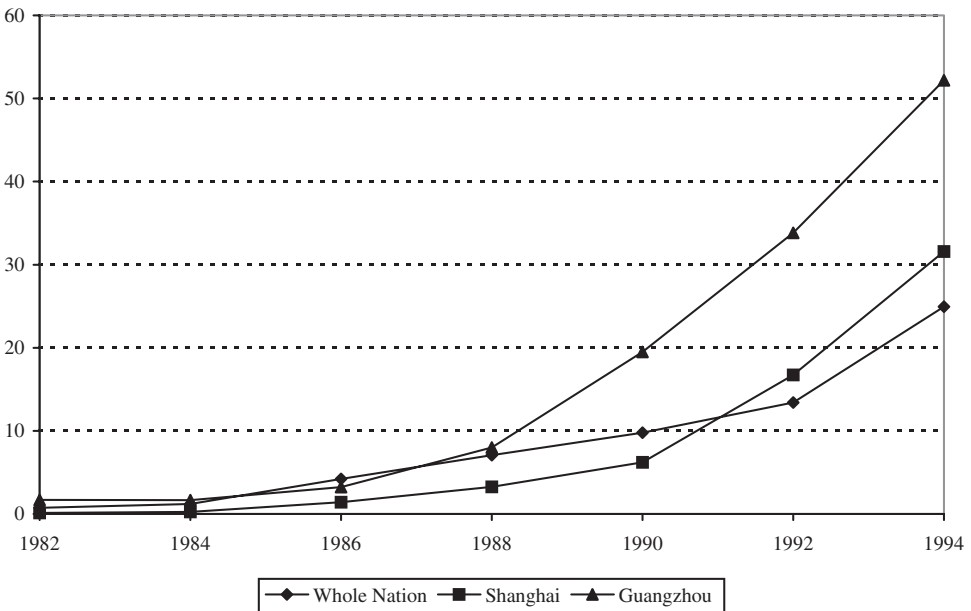

Figure 1. Industrial output produced by the private/hybrid sector (%)
Sources: Chinese Statistical Yearbook, 1983–1995; Shanghai Statistical Yearbook, 1983–1995; Guangzhou Statistical Yearbook, 1983–1995.
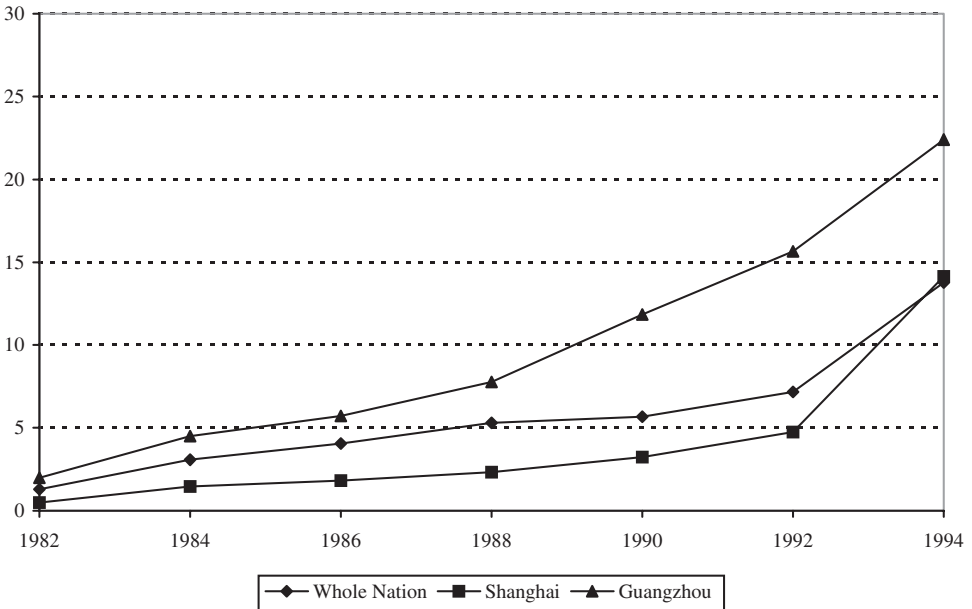
Figure 2. Labor force employed in the private/hybrid sector (%)

Sources: Chinese Statistical Yearbook, 1983–1995; Shanghai Statistical Yearbook, 1983–1995; Guangzhou Statistical Yearbook, 1983–1995.

sustained rapid growth since the mid-1980s. By 1994, over 50% of Guangzhou's industrial output was produced by the private/hybrid sector, which employed nearly a quarter of the urban labor force. Careful examination of the Shanghai and Guangzhou data also indicates the greater extent of labor marketization in Guangzhou, where 71% of survey respondents reported to have acquired current jobs via market channels without any government involvement, compared to 32% in Shanghai.

Relative Earnings Inequality across Sectors of the Transition Economy

Table 3 presents our regression analysis of income determination in Shanghai and Guangzhou. Due to heteroscedasticity in the error term, we use White's covariance matrix estimator to calculate the standard errors and significance levels for all coefficients (Greene, 1993, p. 391).

One striking finding is the income advantage to the private/hybrid sector in both cities. Employment in all four non-public ownership forms – self-employment/ entrepreneurship, domestic private firm, joint venture and foreign company – entails substantially higher income than in publicly owned organizations. In particular, foreign company employees in Shanghai receive 132% more than their state firm counterparts, and entrepreneurs in Guangzhou average 100% more. These

Table 3. Determinants of logged monthly income in Shanghai and Guangzhou, 1994–1995

	Shanghai	Guangzhou	Two Cities Pooled
Intercept	5.67***	5.97***	5.55***
City (Guangzhou = 1)	–	–	0.48***
Resident status (migrant worker = 1)	−0.06	−0.12***	−0.15***
Sex (male = 1)	0.21***	0.30***	0.26***
Work experience	0.01**	0.02***	0.02***
Work experience squared/100	−0.01	−0.05***	−0.04***
Education	0.03***	0.04***	0.04***
Communist Party membership	0.03	−0.01	−0.01
Occupation (reference = manual worker)			
Government/party official	0.16	0.34***	0.25***
Administrator	0.08	0.45***	0.28***
Manager	0.35***	0.53***	0.52***
Professional/technical worker	0.10***	0.12***	0.10***
Clerical/office worker	0.04	0.15***	0.10***
Service worker	−0.03	0.13***	0.05
Secondary job	0.21***	0.43***	0.33***
Employer type (reference = state firm)			
Government agency	0.12**	−0.08**	−0.02
State-owned non-profit organization	0.14***	−0.11***	0.01
Collective non-profit organization	−0.14**	−0.04	−0.06
Collective firm	−0.06	−0.00	−0.02
Self-employed/entrepreneur	0.18***	0.69***	0.50***
Private firm	0.25	0.36***	0.39***
Joint venture	0.43***	0.15***	0.24***
Foreign company	0.84***	0.24***	0.37***
Adjusted R-squared	0.22	0.37	0.41
N	1825	2049	3874

Notes: *$p < 0.10$; *$p < 0.05$; **$p < 0.01$ (all t-tests are two-tailed).

results confirm our first hypothesis and clearly demonstrate the growing importance of new ownership forms in shaping the structure of urban inequality.

In comparing patterns of earning inequality between the two cities we discover strong evidence for the impact of growing labor competition. Return to one year's education is merely 3% in Shanghai but over 4% in Guangzhou. Although the effect of work experience in Shanghai is curvilinear, as predicted by the standard human capital theory (Becker, 1975), income is actually expected to grow continuously throughout a person's work life. The projected earning drop would not occur until the 55th year of work. Since most people reach China's mandatory retirement age after 30–40 years of employment, this result reflects an overwhelming dominance of seniority rule over experience-based skill and expertise. By contrast, earnings distribution in Guangzhou appears to favor younger workers with considerable work experience, as income reaches its peak after 20 years of work. Also consistent with H2a is the finding of greater advantage for

professionals/technicians, clerical workers and service workers over manual labor-ers in Guangzhou than in Shanghai. Lastly, we find no statistically significant dif-ference in the effect of Party membership between the two cities. This, however, should not be taken as contradicting H2b since the effect of Communist Party membership is small in size and statistically insignificant in both cities.[6] It is pos-sible that the overall importance of political credentials has eroded to near non-existence in Shanghai, and at the same time we certainly cannot expect it to have become a liability in Guangzhou.

Two other differences between the cities are noteworthy. First, occupational categories associated with political or positional power are rewarded more in Guangzhou than in Shanghai. This finding suggests that human capital is not the only source of advantage in the transitional period. Administrative/managerial positions themselves may also entail rent or enable rent-seeking behavior that can be extremely lucrative under China's hybrid economy.[7] Second, among public-ownership organizations we find in Shanghai the persistence of the state-collective dichotomy – a classic feature of China's state socialism, whereas in Guangzhou public firm employees are considerably better off than those in governmental agencies and non-profit organizations. This result is consistent with our previous discussion of city difference in reform progress and market transition theory's prediction of greater bargaining power to economic agents as producers (Nee, 1989b).

In the final step of our analyses we divided the Shanghai and Guangzhou samples into three sectors, and the effects of individual characteristics were allowed to vary across sectors. As in the previous analysis, we again used the White covari-ance matrix estimator to correct for heteroscedastic error terms. Regression coef-ficients are presented in Table 4.[8]

Overall, Table 4 strongly confirms our predictions on how returns to human capital vary across sectors. In Shanghai (first three columns in Table 4), where market reform gained momentum only a few years before the survey, returns to education, work experience and occupational expertise are similar in the two public sectors (H5a) but considerably higher in the private/hybrid sector (H3a). For instance, an additional year's formal education increases income by 7% in the private/hybrid sector, compared to 4% in governmental agencies and non-profit organizations and 2% in public firms. While we find no clear effect of work ex-perience among those employed in public sectors, it is strongly curvilinear in the private/hybrid sector, with maximum level of income obtained in the 24th year of employment. Advantages to non-manual occupations, i.e. professional/techni-cian, clerical worker and service worker, also tend to be higher in the private/sector, though the differences across sectors are not statistically significant. Meanwhile, between the two public sectors, the effects of all human capital vari-ables except professional/technician are comparable in size, with no statistically significant differences.

Table 4. Determinants of logged monthly income in Shanghai and Guangzhou, by sector, 1994–1995

	Shanghai			Guangzhou		
	Gov & Nonprofit	Public Firms	Private/hybrid	Gov & Nonprofit	Public Firms	Private/hybrid
Intercept	5.84***	5.84***	5.25***	6.30***	5.93***	6.09***
Resident status (migrant = 1)	−0.24***	0.08	−0.20***	−0.04	0.02	−0.23***
Sex (male = 1)	0.12***	0.23***	0.19***	0.21***	0.34***	0.30***
Work experience	0.01	0.00	0.06***	−0.00	0.02***	0.04***
Work experience squared/100	−0.01	0.01	−0.12***	−0.01	−0.05***	−0.09***
Education	0.04**	0.02***	0.07***	0.04***	0.04***	0.07***
Communist Party membership	0.10	0.02	−0.32***	0.02	0.02	−0.11
Occupation (reference = manual)						
Government/party official	0.08	0.07	—	0.21*	0.27*	0.49***
Administrator	0.00	—	—	0.37***	—	—
Manager	—	0.37***	0.24**	—	0.43***	0.57***
Professional/technical worker	−0.01	0.13***	0.06	−0.06	0.17***	0.21***
Clerical worker	0.00	0.02	0.12	−0.00	0.18***	0.23***
Service worker	−0.11	−0.05	0.10	−0.01	0.16**	0.17*
Secondary job	0.26*	0.19***	0.01	0.33***	0.50***	0.44***
Employer type						
Government agency	−0.03	—	—	0.03	—	—
State-owned non-profit org.	(reference)	—	—	(reference)	—	—
Collective non-profit org.	−0.27***	—	—	0.01	—	—
State firm	—	(reference)	—	—	(reference)	—
Collective firm	—	−0.08*	—	—	−0.01	—
Self-employed/entrepreneur	—	—	(reference)	—	—	(reference)
Private firm	—	—	−0.05	—	—	−0.32***
Joint venture	—	—	0.11	—	—	−0.57***
Foreign company	—	—	0.56***	—	—	−0.46***
Adjusted R-squared	0.26	0.15	0.34	0.21	0.32	0.33
N	420	1168	237	560	868	621

Notes: * p < 0.10; * p < 0.05; ** p < 0.01 (all t-tests are two-tailed).

Guangzhou, on the other hand, exhibits a different sectoral grouping (last three columns in Table 4). In governmental agencies and non-profit organizations only formal education has a significant effect on income. While the advantage to political cadres and bureaucrats over ordinary workers ranges from 23% to 45%, professionals, technicians, clerical workers and service workers are not better off. By contrast, education, work experience and occupational expertise all play greater roles in determining income in the public for-profit and private/hybrid sectors. In particular, return to formal education in the private/hybrid sector is 7% per year, about twice as high as in governments and non-profit organizations. These findings demonstrate clearly the impacts of labor markets and the rising meritocracy in economic organizations on income distribution and provide strong confirmation for H3a and H4a.

With regard to Communist Party membership, we find a positive return only in governmental agencies and non-profit organizations in Shanghai, but not elsewhere. This is consistent with a strong socialist legacy in state-controlled organizations as well as the delayed institutional transformation in Shanghai. However, in a strictly statistical sense the evidence for our hypotheses H3b, H4b and H5b is limited at best. An even more surprising finding is the net disadvantage to Party members in the private/hybrid sector. On average, Communist Party members in the private/hybrid sector receive 30% less in Shanghai and 10% less in Guangzhou, and the negative effect is highly significant in Shanghai. Careful data examination reveals that a majority of the Communist Party members in Shanghai's private/hybrid sector were employed in joint ventures as clerical or low-level professional workers. We suspect that these positions were originally designated for political control and propaganda prior to the joining of foreign partners. As joint ventures developed increasingly strong market orientation, these positions were not rewarded to the same degree as others making direct contribution to the firms' market performance. This finding is consistent with Opper, Wong and Hu's (2002) analysis showing that the decision-making power of Party committees in listed companies on the Shanghai Stock Exchange declined the greater the extent of privatization of the firm. Meanwhile, to the extent that incentives for the employer to eliminate such positions and for party members to switch to better paying jobs exist, the negative effect of Party membership in the private/hybrid sector is likely to disappear. This may account for the large disadvantage connected with Party membership in Shanghai but not in Guangzhou.

In summary, compared to the results from the CHIP data, comparative institutional analyses of earnings determination in Shanghai and Guangzhou have produced congruent yet substantially stronger evidence for the impacts of market expansion on income inequality. While the CHIP national data suggest a slight disadvantage to those in private/hybrid sector, we find in the two large industrial cities that the private/hybrid sector offers the most lucrative employment opportunities. In terms of the effects of labor markets, both our CHIP analysis and

Shanghai-Guangzhou comparisons provide extensive confirmation for the prediction that labor market growth leads to higher return to human capital. Exploiting the differences in reform timing and progress between Shanghai and Guangzhou, we are also able to capture the increasingly meritocratic distributive logic in public firms. As to political credentials, we find that although Party membership may still be a considerable source of advantage in urban China, it plays a role that is marginal at best in large coastal cities undergoing rapid institutional transformation. In Shanghai and Guangzhou, decline of political advantage is not confined to employment settings closely tied to emerging markets, but is nearly universal. This, from an indirect angle, lends support to Zhou's market-politics co-evolutionary framework (2000). More specifically, it suggests that generic socialist practices cannot be taken for granted, and certain changes in the stratification régime thus may result from active and reactive adjustments on the part of the Communist Party/state (see also Nee and Cao, 1999). This may also account for the higher wage level enjoyed by Guangzhou cadres and administrators.

DISCUSSION AND CONCLUSION

Our study of the pattern of earnings attainment in discrete sectors of the transition economy indicates that the institutional environment is far from homogenous and that the structure of incentives differs across discrete sectors of the transition economy, varying according to the extent the institutional logic of a market economy permeates and transforms the pre-existing framework.

In the urban context, we have identified three parallel clusters of causal mechanisms that provide the basis for contingent predictions based on market transition theory:

- change in the structure of property rights, manifested in an expanding private/hybrid sector in which non-state ownership forms compete aggressively with public enterprises;
- the emergence of labor markets, leading to an institutional practice of matching individuals with jobs based on mutual choice of employer and employee, rather than the state's job assignment by fiat;
- the rise of meritocracy in public firms as they adapt to a competitive market environment in which they must attempt to keep skilled employees from departing to the expanding private/hybrid sector and reward performance to enhance productivity.

All of these are market-driven mechanisms that contribute to relative decline in the earnings pay-off of political capital and increase in returns to human capital.

We highlight the importance of careful specification of the relevant scope conditions for hypothesis testing. A repertoire of causal mechanisms contributes to

shaping the institutional environment of firms in the transition economy. Our results from two data sets, especially the more fine-grained study provided by our study of Shanghai and Guangzhou, indicate that contingent hypotheses that take scope conditions into account are empirically confirmed. Our results are also broadly consistent with other studies of the urban context in departures from state socialism. We found evidence in our analysis of the CHIP data of urban China as a whole to support both the persistent reproduction of core elements of the state socialist institutional order in the early stages of market transition (Bian and Logan, 1996; Walder, Li, and Treiman, 2000) and Zhou's (2000) co-evolution model. Together these findings confirm the bumpy nature of change in the institutional environment in urban China. Because our data were collected in the early period of market transition, future studies employing the comparative institutional analysis we outline in this paper may provide a more definitive account of the institutional change accompanying China's emergence as a capitalist economy.

In a recent attempt to specify an alternative causal account of market transition, Walder (2004) argues that variable features of the political environment determine the fate of the political élite with respect to the advantages and privileges they derive from political capital and positional power. His state-centered approach provides a coherent set of predictions specifying only political variables determining the fate of the old régime political élite in market transition. However, this account is flawed because theoretically and logically it overlooks the independent effects of causal mechanisms arising not from political variables per se, but from the deeper sources of transformative change that stem from the emergence of a market economy. Classical theorists Marx, Weber and Polanyi recognised the transformative effects of the rise of capitalist exchange on pre-capitalist societies. Explaining the demise of 'communist neo-traditionalism' (Walden, 1986) necessitates a conceptual shift from a sole focus on political variables to the state-market (or political economy) approach proffered by the market transition theoretical framework, which we maintain specifies a fuller repertoire of causal mechanisms driving institutional change in post-communist societies. In this paper, we confirm that the higher marginal productivity of labor in private/hybrid firms relative to state-owned firms, firm-based competition in labor markets for skilled and semi-skilled workers and the rise of meritocracy as an institutional arrangement in firms alter the relative earnings returns on human and political capital to favor economic actors in a market economy. These mechanisms are economic in nature, and are rooted in the rise of a market economy. They are not a feature of economic growth *per se*, since in the earlier period of state socialism a high rate of economic growth was achieved, yet economic growth then enhanced the power and privileges of the political élite, not direct producers. By focusing exclusively on the political domain, Walder's approach misses an important part of the picture. In particular, although his typology helps to explain cross-national variations in the fates of political élites, it fails to account for the experiences of countries like China and Vietnam, where

profound changes have taken place despite the absence of régime change and asset appropriation. Logically, one cannot explain change by pointing to constants.

What are the implications of our findings for future research on institutional change and the firm? China's trial and error approach to large-scale institutional change has proved highly effective in stimulating and sustaining economic growth (Naughton, 1995), so much so that some observers now refer to its success as 'the China miracle' (Lin, Cai and Li, 1996). While it remains questionable whether or not the Chinese leadership initially intended to create a market economy, there is little doubt that the rapid emergence of a market-driven economy in China now compels reformers to construct the institutional framework for a modern capitalist economy. Future research needs to go beyond the analysis of relative earnings to gain a better understanding of the relationship between institutional change and the incentive structure of society (Guthrie, 1999). However, the comparative institutional analysis of earnings we use in this paper provides a useful and versatile research design to analyze ongoing institutional changes across discrete sectors of the transition economy. In any case, analyses of earnings have confirmed that market transition entails a fundamental shift in the structure of incentives away from a paramount interest in accumulating political capital which characterized classical state socialism towards greater interest on the part of agents in securing market-power (Nee and Cao, 2002).

Our understanding of the way in which the firm mediates changes in the institutional environment and the performance of economic actors is still rudimentary. To gain a better understanding of state intervention, we need to open the black-box of the firm to examine just how political actors intervene in economic decisions, not only in state-owned enterprises, but in larger private and hybrid firms. Some analysts claim that political markets in the transition economy have expanded opportunities for rent-seeking favoring political actors, but there is still very little in the way of research that specifies the mechanisms enabling political actors to extract a sizeable surplus from firms after the institutional framework of a market economy has been largely instituted, as it has in China. Windfall economic gains stemming from corruption and other forms of rent-seeking were widely reported during the early stages of market transition. But the emergence of a market economy in the 1990s in China led to state-crafted reforms to institute formal rules and regulations outlawing predatory forms of political interventions in the economy. To be sure, in less-developed rural regions, rent-seeking by local officials remains a scourge to ordinary citizens, but in large cities and regions of the southeastern coastal provinces where the market economy has reached a critical tipping point, one sees a decisive shift in journalistic reporting away from frequent complaints about corrupt officials to accounts of the robust productivity of manufacturing firms and the favorable environment for foreign direct investments, arguably the highest in the global economy. It is difficult to reconcile the emphasis on the politics of markets and rent-seeking voiced by critics of market

transition theory with the increased attractiveness of China's emergent market economy for foreign investors and multinational firms. As World Bank shows (Batra, Kaufmann and Stone, 2003), political markets characterized by widespread corruption and other rent-seeking activities by political actors create an unfavorable environment for firms and for attracting foreign investment.

The state continues to intervene in China's emergent market economy, but the nature of its intervention has changed substantively from the pattern of intervention characteristic of state socialist redistributive economies (Szelenyi, 1978). We need more research that examines both the persistence and constraints on rent-seeking and predatory forms of political interventions, especially with respect to variation across sectors and ownership forms in the transition economy. Similarly, we need more research that examines in detail the specific patterns and effects of party and government interventions in the governance of firms, while controlling for the extent of private ownership and the nature of the institutional environment as it shifts to increasing reliance on the market mechanism.

Lastly, we hypothesize that as the emerging market economy reaches a critical tipping point, the influence of decentralized market exchange is likely to permeate more and more all sectors of the transition economy where firms compete to survive and profit. By means of comparative institutional analysis of variation in property rights, organizational forms and governance structures within discrete sectors of the transition economy, analysts are likely to discover increasing support for the propositions advanced by market transition theory. We argue that attention to the expansion of a private-enterprise sector, to the emergence of labor, financial and production markets, and to the diffusion of emphasis on meritocracy (as opposed to political loyalty and connections) as an institutionalized practice for metering performance in firms is a prerequisite for understanding institutional change, firms and economic performance in transition economies.

NOTES

[1] State ownership and collective ownership were the two main variants of public ownership in pre-reform China. In addition to this dichotomy, Chinese organizations were also classified as either for-profit or non-profit. For-profit organizations were mostly production units, whereas non-profit organizations concentrated in the service sector. Both non-profit and for-profit organizations could be either state-owned or collective-owned. In this paper, we use the term 'public firms' to refer to state- and collective-owned for-profit organizations.
[2] As a caveat, it should be pointed out that until the mid-1990s access to bank loans and bankruptcy had remained subject to government intervention in most urban areas. Main exceptions included the southern provinces of Guangdong and Fujian.
[3] Not reported here, a series of F-tests have been conducted to examine the differences in the sizes of coefficients across all three sectors. All programs and outputs are available upon request.

[4] Communist Party members account for 15% of the Shanghai and Guangzhou samples and 17–18% once we exclude migrant workers. Based on information from various Chinese publications we find these figures plausible.

[5] It should be pointed out that rather than being representative of urban China, Shanghai and Guangzhou are outliers in not only the above-mentioned respects but also many others. While they provide us with a strategic setting for hypothesis testing through a comparative approach, they warrant no generalization to urban China as a whole with regard to average income, degree of inequality, and so on.

[6] The statistical insignificance of Communist Party membership is not an artifact of the variable's correlation with other regressors in the equation. In both Shanghai and Guangzhou, Party membership is indeed correlated with education and several occupational variables (see Table A2 and A3). However, as shown in the correlation matrices, even the largest correlation coefficient between Party membership and another variable is fairly modest in size (0.25). Without controlling for education and occupation, the coefficient estimate for Party membership would be biased upward. Our model specification relies on the least square method for estimation, and there is no reason to believe that the effect of Party membership is diluted by education and occupational variables, rather than the other way around.

[7] One reviewer has correctly pointed out that our variables for Party membership, occupation and employer affiliation are not independent of each other; instead, they are closely intertwined. Thus, members of the political élite may actually enjoy multiple advantages associated with Party membership, cadre status, employment in the government and so on. To better assess the significance of political status vis-à-vis market power, we construct two hypothetical Shanghai individuals. One is a typical cadre who has a college degree, is a member of the Communist Party and is employed as a government official. The other is a high-school graduate who is not a Party member but works in a joint venture. Based on Table 3, we calculate that compared to a state firm employee with high school education, the cadre enjoys an edge of 0.12 from his superior education ($\times 4$), 0.03 as a party member, 0.16 as an official, and 0.12 as a government employee. The total income advantage to the cadre thus is 0.43, which is the same as the latter person's advantage of 0.43 by virtue of his employment in a joint venture. The same result is replicated with the regression model for Guangzhou. These comparisons, in our view, provide clear evidence for the relative decline of political capital.

[8] To guard against the potential problem of nonrandom selection into the private/hybrid sector, we replicate this part of the analyses using Heckman's 2-step procedure (Berk, 1983), and the results are qualitatively the same.

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Table A1. Correlation Matrix, 1995 Chinese Household Income Project Urban Sample (N = 11,090)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Income	1.0																	
2. Sex	0.14	1.0																
3. Work Exp.	0.20	0.10	1.0															
4. Education	0.17	0.11	−0.35	1.0														
5. CCP	0.21	0.21	0.22	0.23	1.0													
6. Official	0.06	0.09	0.06	0.13	0.25	1.0												
7. Administrator	0.11	0.07	0.08	0.12	0.21	−0.03	1.0											
8. Manager	0.11	0.12	0.11	0.08	0.22	−0.04	−0.04	1.0										
9. Professional	0.12	−0.02	−0.00	0.37	0.04	−0.10	−0.09	−0.13	1.0									
10. Clerical	−0.01	−0.04	−0.08	0.04	0.04	−0.09	−0.09	−0.13	−0.28	1.0								
11. Entrepreneur	0.00	0.01	0.02	−0.05	−0.02	−0.02	−0.02	−0.03	−0.07	−0.06	1.0							
12. Manual	−0.20	−0.06	−0.03	−0.46	−0.32	−0.16	−0.15	−0.21	−0.47	−0.45	−0.11	1.0						
13. Sec. Job	0.22	0.01	0.03	−0.00	0.00	−0.02	−0.02	0.02	0.00	−0.01	−0.00	0.01	1.0					
14. State-owned	0.11	0.11	−0.01	0.24	0.15	0.09	0.07	0.02	0.15	0.07	−0.25	−0.18	−0.09	1.0				
15. Collective	−0.14	−0.11	0.05	−0.23	−0.13	−0.07	−0.06	0.00	−0.12	−0.05	−0.05	0.20	0.06	−0.87	1.0			
16. Firm, Public	−0.12	−0.00	0.08	−0.29	−0.18	−0.24	−0.22	0.16	−0.15	−0.15	−0.16	0.38	0.01	−0.06	0.21	1.0		
17. NP, Public	0.12	0.02	−0.05	0.33	0.23	0.28	0.25	−0.16	0.20	0.18	−0.08	−0.41	−0.05	0.27	−0.22	−0.85	1.0	
18. Private/Hybrid	0.03	−0.01	−0.07	−0.06	−0.07	−0.04	−0.03	−0.03	−0.08	−0.05	0.60	0.00	0.06	−0.42	−0.09	−0.26	−0.13	1.0
19. Labor Market	0.20	0.00	−0.02	−0.06	−0.02	−0.02	−0.00	−0.03	−0.04	0.00	0.07	0.04	0.20	−0.08	0.01	−0.06	−0.01	0.14

Table A2. Correlation Matrix, 1994–1995 Shanghai sample (N = 1,825)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1. Income	1.0																					
2. Migrant	0.02	1.0																				
3. Sex	0.20	0.05	1.0																			
4. Work Exp.	0.02	−0.21	0.11	1.0																		
5. Education	0.17	−0.22	0.10	−0.30	1.0																	
6. Party member	0.09	−0.09	0.11	0.17	0.25	1.0																
7. Official	0.02	−0.03	0.01	0.02	0.05	0.14	1.0															
8. Administrator	0.03	−0.00	0.05	0.01	0.07	0.17	−0.01	1.0														
9. Manager	0.17	0.09	0.06	0.00	0.05	0.11	−0.01	−0.02	1.0													
10. Professional	0.11	−0.12	−0.07	−0.05	0.44	0.08	−0.05	−0.06	−0.10	1.0												
11. Clerical	0.02	0.03	0.08	0.04	0.02	0.10	−0.04	−0.05	−0.09	−0.28	1.0											
12. Service	−0.08	0.23	−0.12	−0.06	−0.22	−0.09	−0.03	−0.03	−0.06	−0.19	−0.16	1.0										
13. Manual	−0.13	−0.08	0.04	0.04	−0.30	−0.19	−0.07	−0.08	−0.14	−0.48	−0.42	−0.28	1.0									
14. Sec. job	0.17	−0.07	0.04	0.04	0.12	0.01	0.00	−0.01	0.02	0.11	−0.02	−0.06	−0.05	1.0								
15. Govt. agency	0.02	−0.06	0.04	−0.00	0.11	0.12	0.08	0.17	−0.03	0.05	0.05	−0.03	−0.11	0.07	1.0							
16. NP, state	0.09	−0.11	−0.03	0.00	0.22	0.05	0.05	0.11	−0.08	0.31	−0.07	−0.03	−0.20	−0.03	−0.07	1.0						
17. NP, collective	−0.07	0.03	−0.09	0.01	−0.08	−0.01	0.07	0.05	−0.03	−0.02	−0.01	0.09	−0.04	0.07	−0.03	−0.08	1.0					
18. Firm, state	−0.13	−0.24	0.05	0.11	0.01	0.03	−0.05	−0.11	−0.04	−0.13	0.01	−0.12	0.22	−0.01	−0.17	−0.51	−0.18	1.0				
19. Firm, collect	−0.02	0.02	−0.07	0.04	−0.13	−0.06	−0.03	−0.03	0.04	−0.07	0.02	−0.01	0.05	0.02	−0.05	−0.16	−0.06	−0.36	1.0			
20. Private firm	0.04	0.08	0.02	−0.04	−0.02	0.00	−0.01	−0.01	0.05	−0.01	0.02	0.06	−0.04	0.02	−0.01	−0.04	−0.01	−0.10	−0.03	1.0		
21. Joint venture	0.12	−0.05	0.03	−0.08	0.08	−0.01	−0.02	−0.02	0.05	−0.01	0.04	0.02	−0.04	−0.00	−0.03	−0.09	−0.03	−0.22	−0.07	−0.02	1.0	
22. Foreign firm	0.20	0.04	0.02	−0.08	0.09	−0.01	−0.01	−0.01	0.09	0.08	−0.03	−0.03	−0.06	0.02	−0.01	−0.04	−0.02	−0.10	−0.03	−0.01	−0.02	1.0
23. Self-employed	−0.00	0.60	0.03	−0.16	−0.27	−0.10	−0.02	−0.03	0.10	−0.15	0.01	0.22	−0.03	−0.07	−0.04	−0.13	−0.05	−0.31	−0.09	−0.03	−0.06	−0.03

Table A3. Correlation Matrix, 1994–1995 Guangzhou Sample (N = 2,049)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1. Income	1.0																					
2. Migrant	0.03	1.0																				
3. Sex	0.19	0.05	1.0																			
4. Work exp.	-0.11	-0.21	0.09	1.0																		
5. Education	0.10	-0.22	0.06	-0.37	1.0																	
6. Party member	-0.03	-0.13	0.11	0.22	0.19	1.0																
7. Official	0.01	-0.06	0.03	0.13	-0.01	0.12	1.0															
8. Administrator	0.01	-0.02	0.04	0.06	0.03	0.08	-0.01	1.0														
9. Manager	0.32	0.03	0.09	-0.00	-0.01	-0.03	-0.03	-0.02	1.0													
10. Professional	-0.07	-0.12	-0.07	-0.01	0.39	0.13	-0.08	-0.05	-0.16	1.0												
11. Clerical	0.01	0.01	-0.06	-0.12	0.06	0.02	-0.07	-0.05	-0.14	-0.37	1.0											
12. Service	-0.01	0.16	-0.16	-0.10	-0.19	-0.11	-0.05	-0.03	-0.09	-0.22	-0.20	1.0										
13. Manual	-0.10	0.00	0.17	0.15	-0.32	-0.11	-0.08	-0.05	-0.15	-0.39	-0.35	-0.21	1.0									
14. Sec. job	0.14	0.01	0.07	-0.11	0.10	-0.00	-0.01	-0.02	0.01	0.02	-0.01	-0.03	0.01	1.0								
15. Govt. agency	-0.04	-0.06	0.05	0.01	0.16	0.18	0.17	-0.00	-0.07	0.07	0.10	-0.07	-0.13	-0.04	1.0							
16. NP, state	-0.12	-0.08	-0.03	0.11	0.15	0.13	-0.02	0.08	-0.11	0.28	-0.11	-0.07	-0.09	0.02	-0.13	1.0						
17. NP, collective	-0.05	-0.05	-0.00	0.03	-0.04	-0.02	-0.02	0.17	-0.05	-0.07	0.02	0.02	0.03	-0.03	-0.05	-0.08	1.0					
18. Firm, state	-0.14	-0.11	0.00	0.20	-0.08	0.04	-0.02	-0.06	-0.07	-0.04	-0.04	-0.03	0.15	-0.01	-0.19	-0.31	-0.13	1.0				
19. Firm, collect	-0.07	0.07	-0.05	0.02	-0.12	-0.06	-0.01	-0.03	-0.03	-0.09	-0.01	0.07	0.08	-0.01	-0.09	-0.15	-0.06	-0.23	1.0			
20. Private firm	0.11	0.16	0.01	-0.13	-0.04	-0.09	-0.02	-0.02	0.06	-0.04	0.02	0.03	-0.02	0.02	-0.07	-0.11	-0.05	-0.18	-0.08	1.0		
21. Joint venture	0.01	0.04	-0.01	-0.23	0.07	-0.09	-0.01	-0.03	0.04	-0.02	0.05	0.02	-0.05	0.04	-0.10	-0.16	-0.07	-0.25	-0.12	-0.09	1.0	
22. Foreign firm	0.04	-0.00	-0.02	-0.15	0.05	-0.06	-0.03	-0.02	0.01	-0.02	0.03	0.08	-0.06	0.05	-0.06	-0.10	-0.04	-0.15	-0.07	-0.06	-0.08	1.0
23. Self-employed	0.40	0.14	0.06	-0.04	-0.14	-0.10	-0.03	-0.03	0.30	-0.17	0.02	0.02	-0.01	-0.03	-0.08	-0.13	-0.06	-0.21	-0.10	-0.07	-0.11	-0.06