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## PROPERTY RIGHTS AND STRATIFICATION IN SOCIALIST REDISTRIBUTIVE ECONOMIES\*

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*In socialist economies, work organizations differ widely in the compensation they provide employees, despite the absence of key product and labor market processes thought to explain such inequalities in market economies. Existing theories of stratification in socialist economies focus on the power and privilege of elites, but inequalities among organizations are not created by political particularism or elite power. In this paper I sketch elements of an institutional theory of stratification anchored in a conception of property rights — the right to derive income from productive assets. Two aspects of property rights guide the analysis: (1) the dispersion of property rights across a hierarchy of government jurisdictions, and (2) the exercise of these rights by government jurisdictions as they extract revenues, primarily through taxation. Extraction of revenues from a work organization varies with the budgetary resources of a government jurisdiction and the dependence of that jurisdiction on the outputs of the organization. Variation in revenue extraction, in turn, creates inequalities among work organizations in their abilities to provide benefits to employees. An analysis of survey data on the provision of housing and benefits by work organizations in the large industrial city of Tianjin, China provides provisional support for these ideas.*

Students of communist states have had little reason to dispute Lenski's (1966) claim that "the distribution of rewards in a society is a function of the distribution of power" (p. 63). As exemplified in Szelényi's wedding of elite theory to institutional economics, this idea has been developed primarily in terms of the power of classes or occupational groups. Szelényi (1978) began with the observation that planned economies operate according to "redistributive" rather than "market" principles. However, the process of re-

distribution, initially designed to ensure the minimum satisfaction of needs, endows a class of administrators with the power to allocate wealth, and Szelényi showed that "redistributive" decisions in Hungary exacerbated inequalities in money income (Szelényi 1983, pp. 9–11, 43–84). Recent studies have examined the effect of the spread of market mechanisms in socialist economies on the power and privilege of officials (Nee 1989, 1991; Szelényi and Manchin 1987; Rónatas 1990; Rónatas and Kolosi 1992). In these studies, power is seen as a class phenomenon — as redistributive decisions are made, officials discriminate in favor of themselves, their families, and like individuals.<sup>1</sup>

Although elite theory is founded on the characterization of socialist economies as redistributive, the economic institutions through which redistribution takes place have been neglected. A focus on resource transfers and the behavior of organizations, rather than on the occupational

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<sup>1</sup>Initially, Szelényi (1982) differed from earlier "ruling class" theorists who emphasized the privileges of the party apparatus (eg. Trotsky [1937] 1972, Djilas 1957) by contending that this group was gradually being replaced by a new intellectual stratum. He has since reconsidered this idea (Szelényi 1986–1987). Szelényi's findings about housing distribution are also consistent with human capital theory (Kelley and Klein 1977), but emphasize a different causal mechanism.

groups that benefit, reveals several intriguing contrasts with market economies. In a centrally planned economy, capital, producers' goods, and even labor and consumers' goods are produced or allocated according to the preferences of planning officials rather than in response to market signals. In other words, production is "demand constrained" in market economies, but "resource constrained" in the centrally planned economies (Kornai 1980). Most enterprise accounting profits flow directly into the coffers of government jurisdictions with ownership rights over enterprises. Government agencies in these jurisdictions reallocate this wealth to organizations as investment capital, budgetary grants, public services, or income.

What mechanisms account for the unequal distribution of resources among organizations in planned economies, and how do these resource flows stratify socialist societies? Do these mechanisms differ from those found in capitalism? These questions require a focus on the power and interests of organizations rather than on the power and interests of elites. The relevant causal processes are shaped by a regime of property rights that serve to define the distinctive economic institutions and fiscal practices of central planning. Although market mechanisms began to emerge more than a decade ago in some centrally planned economies (e.g., Hungary and China), my concern is with the redistributive mechanisms that define central planning, not with their recent erosion.

#### EXPLAINING SEGMENTATION IN PLANNED ECONOMIES

Money incomes and job benefits in socialist economies are clearly stratified by economic sector and characteristics of work organizations (Bian 1990; Domanski 1988, 1990; Lin and Bian 1991; Walder 1986, pp. 39–68; Walder 1990). However, the causal mechanisms behind these relationships have not received sufficient attention.

Explanations of stratification in market economies focus on two separate questions: (1) why some organizations have a greater capacity to compensate labor, and (2) why some organizations choose to compensate workers at higher levels. With few exceptions, however, the underlying institutional or market processes are either absent or greatly altered in planned economies. For example, although large firms may pay high wages in both market and planned economies, the causal processes may differ.

"Sociological" or "structural" explanations of how work organizations in market economies obtain the resources to pay high wages point to levels of profit. Organizations have "differential capacities to realize profits on the basis of exchange advantages" (Fligstein, Hicks, and Morgan 1983, p. 297). These advantages either keep profits high relative to the numbers employed, or stabilize them over time. Economists refer to this as "capital rents" or high relative returns to capital investment (Katz and Summers 1989, pp. 213–16). Firms in industries dominated by a small number of firms can limit competition and price their products at high levels, whereas firms in more competitive industries will have lower profit margins. Firms in industries that enjoy large and stable government contracts with cost-overrun provisions (typically defense and aerospace) also have high profit margins. Finally, capital intensive firms have higher labor productivity than labor-intensive firms and can afford to pay higher wages (See Kalleberg, Wallace, and Althausen 1981, pp. 653–54).

These explanations are not plausible in planned economies, but not because firms are publicly owned and not profit-oriented. In fact, some socialist firms do have higher profits because of price advantages, assured sales to state agencies, or superior capital equipment. These explanations are not plausible because firms in planned economies have no clear and enforceable rights to retain profits and allocate them at their discretion. The hallmark of "redistributive" economies is that no clear legal or substantive standards exist for determining the rights of enterprises to the earnings from capital invested out of public funds. Financial planners routinely redistribute earnings among enterprises in their jurisdictions, skimming off "excess" profits from enterprises with high accounting profits to subsidize those with low profits or accounting losses (Kornai 1986a, pp. 14–19). In Hungary in the 1970s, almost 300 taxes or subsidies enabled planners to take funds from firms or grant them more, and few of the regulations applied equally to all firms (Kornai 1986b, p. 1696). Redistribution favored the less profitable. Balance sheet data for all state-owned firms in Hungary showed no correlation between gross and net profits, or between profitability and investment, and a strong negative relationship between gross profits and net subsidies (Kornai 1986a, p. 16). Research on China has documented the same redistributive practices in large cities and rural towns (Oi 1990, forthcoming; Walder 1992). Clearly, when the property rights of en-

terprises and government units are ill-defined and flexible, what determines a firm's capacity to compensate employees is not its earnings, but the net flow of revenues between enterprise and government. The net flow of revenue, in turn, is determined by processes that affect redistributive decisions, not by the market conditions that affect the firm's earnings.

Why do some work organizations, given the *capacity* to compensate labor at a given level, choose to do so? The ability of labor to extract wages above market clearing levels is referred to by economists as "labor rents" (Katz and Summers 1989, pp. 227–47). Explanations of this phenomenon by economists range from the need to compensate high quality, productive labor at high wages, the need to compensate for difficult working conditions, a desire to ward off unionization, to the existence of "implicit contracts" that restrict employment, meet local norms of fairness, and raise compensation above market-clearing levels to discourage shirking and reduce monitoring costs (Akerloff 1982, 1984; Azariadis 1975; Dickens and Katz 1987; Katz and Summers 1989). Such explanations account for economic segmentation to the extent that high quality labor or greater investment in training is required in advantaged sectors and firms, and this reasoning is buttressed by the observation that the relative cost of high wages is inversely proportional to capital intensity (Dickens and Katz 1987; Krueger and Summers 1987).

On the other hand, sociologists and some institutional economists have stressed the power employees derive from collective organization or have pointed to characteristics of the organization of production (Baron and Bielby 1980; Bibb and Form 1977; Kalleberg and Sørensen 1979; Freeman and Medoff 1984). Unions tend to be concentrated in industries with high profit margins because such employers are better able to compromise and have the resources to offer workers incentives to compromise (Dalton and Ford 1977). From an evolutionary perspective, powerful unions in weak firms may cause the firms to relocate or fail (Cohn 1990). One result of labor-management conflict has been the creation of internal labor markets in the large profitable firms, which in turn provide employees with a stake in job security and organized career advancement (Althausser and Kalleberg 1981). Workers derive power where employers have more resources, and they establish rights that protect themselves from labor market competition (Kalleberg, Wallace, and Althausser 1981).

Such processes cannot account for stratification in planned economies, but not because labor is powerless or because firms do not value skilled and productive employees. Clearly, informal bargaining and implicit contracts between management and employees occur in socialist economies (Sabel and Stark 1982; Stark 1986; Walder 1987). However, these bargains take place under different institutional conditions. In the Soviet Union, legal provisions or *de facto* "job rights" prevented employers from firing or laying off workers, restricted their ability to set wage bills and pay levels, and prevented workers from making certain kinds of geographical and interfirm transfers (Granick 1987, pp. 23–65). In the more rigid urban Chinese institutions, labor immobility in state owned firms has led to rates of interfirm mobility much lower even than Japan's (Walder 1986, pp. 68–81).<sup>2</sup> Under such conditions, explanations of compensation differences must proceed from very different assumptions about the options, preferences, and strategies of managers and workers. Common structural explanations encounter similar difficulties. In planned economies, independent unions are non-existent, and variations in the extent of collective organization among workers cannot account for compensation differences between sectors. Moreover, the job structures and pay ladders central to many sociological accounts of labor market processes are comparatively simple, even where workers often stay with firms for much of their working lives (Walder 1986, pp. 76–81).

If the mechanisms specified by theories of stratification for market economies are absent or greatly altered, what processes do segment planned economies? Studies of sectoral inequality in planned economies have not examined the redistributive processes underlying inequality. By focusing on factors that may affect the capacity of firms to compensate employees, I offer a rudimentary institutional theory of sectoral differences in compensation. The unit of analysis is the work organization, and the outcome to be explained is variation in the ability of work or-

<sup>2</sup>In the present survey, the average number of jobs held by employees aged 40 to 54 in the large industrial city of Tianjin is just under two, less than half the figure for Japan and less than one-fifth the figure for the United States (Hashimoto and Raisian 1985, p. 724). Among those in Tianjin who have worked for 31 to 35 years, 45 percent have never changed jobs — almost double the figure for Yokohama and more than five times the figure for Detroit (Cole 1979, p. 64).

ganizations to provide the subsidized housing and extensive benefits and services characteristic of redistributive economies.<sup>3</sup>

### PROPERTY RIGHTS AND REVENUE FLOWS

Any explanation of stratification must be rooted in an explicit conception of the incentives and constraints that institutions provide individuals and organizations. Different institutional processes can produce similar outcomes, therefore the causal mechanisms are as important as causal relationships. Economic institutions are configurations of rules that govern transactions in the economy. Institutional rules embody property rights, norms regarding economic behavior, and means of enforcement; state regulation is central to their creation and maintenance. Although North (1981, 1991) developed this institutional conception to explain economic growth, it also sheds light on processes of stratification. What is most important here is not North's emphasis on the clarity and enforceability of private property rights, but what government entities exercise property rights — especially the right to operate a productive asset and derive income from it (Furubotn and Pejovich 1974, p. 3). Property rights specify rules for the distribution of income, and in planned economies income rights are dispersed across a hierarchy of government jurisdictions (Pryor 1973). The processes that govern the redistribution of wealth in a centrally planned economy — taxation and finance — can therefore be viewed as a result of the opportunities and constraints provided by a special configuration of property rights. As government officials and enterprise executives pursue their ends in accord with these opportunities and constraints, some organizations are advantaged over others.

These institutions frame an immense redistributive process. In China, as in all planned economies past and present, the process begins with a massive extraction of accounting surpluses from industry, primarily in the form of taxes. In the "traditional" centrally planned economy, *all* profits from industrial and commercial activities were

remitted directly to state coffers after fixed deductions for incentive pay. Despite long-standing reforms in Hungary and China in which state enterprises were allowed to retain significant percentages of their profits, the scale of redistribution remained vast. In Hungary in the late 1970s, for example, total subsidies granted to state-sector firms roughly equalled total profits (Kornai 1986a, pp. 14–15; 1986b, p. 1696). In China in the mid-1980s, in a national sample of 429 enterprises an average of 78 percent of gross enterprise profits were still being taxed away, even after taxes on sales or value added had been levied (Reynolds 1987, p. 89).

In addition to the extraction of enterprise revenues and accounting profits, redistribution also includes the large-scale provision of in-kind income, such as housing, by government agencies and work organizations. This process was highlighted in Széleányi's (1978, 1983) early work on social policy in eastern Europe. Since 1949 in urban China, for example, virtually all urban housing has been built and maintained by local governments or work organizations. Nationwide, only 18 percent of families live in privately owned housing, virtually all of this built before 1949 (Lee 1988, p. 398). The rest live in public housing, paying rents that barely cover half the current maintenance costs and that average less than 3 percent of the family income (Lee 1988, pp. 392–93; People's Republic of China 1990a, p. 9).<sup>4</sup> Another important form of in-kind income is the wide range of services and benefits provided by work organizations (Whyte and Parish 1984, chap. 4; Walder 1986, chap. 2). By the early 1980s in China, national expenditures for insurance, pensions, and various subsidies for urban wage earners exceeded the national wage bill (Lardy 1984).

The processes that govern such a massive redistribution of national income must be at the center of any plausible account of sectoral stratification. Given the scope of redistribution among organizations, a focus on the ability to retain profits, not the ability to earn them, is essential. Given the scope of in-kind income, nonwage forms of compensation provided by workplaces must receive special attention. The institutions that govern the redistribution process must be char-

<sup>3</sup> Although the provision of housing, benefits, and services is the most characteristic form of income in redistributive economies, recent studies of segmentation have focused on wages — the form of compensation most directly subject to government regulation (Bian 1990, Domanski 1988, 1990). Széleányi (1978, 1983) examined the distribution of housing to individuals, but not the capacity of organizations to provide it.

<sup>4</sup> In our 1986 survey of Tianjin, 77 percent lived in public housing provided by workplaces or city government, and only 1.6 percent expected to purchase private housing in the future. Respondents' families paid an average of 1.6 percent of their monthly household income on rent.

acterized clearly before turning to the factors that advantage some organizations and disadvantage others. These institutions include: (1) the fiscal structure of the state — a nested hierarchy of budgetary jurisdictions with their own revenue bases and property rights; (2) the taxation process — the fiscal mechanism whereby governments with property rights over enterprises regulate the flow of revenues between themselves and enterprises; and (3) the investment process — the financial mechanism whereby governments regulate the flow of revenues.<sup>5</sup>

### *The Fiscal Structure of the State*

China's national budget is a nested hierarchy of independent budgets — each government unit exercises property rights over firms under their financial jurisdiction. These firms form the revenue base of that government unit (there are no tangible revenues from personal income taxes). What distinguishes property rights in the Chinese economy is not that enterprise capital is "state owned" versus "privately owned," but that each government jurisdiction exercises property rights over its subordinate enterprises (Wong 1986; Granick 1990, chap. 2).<sup>6</sup> This bureaucratic economy, far from being a monolith, is composed of thousands of government jurisdictions of varying sizes, each of which seeks to expand its revenues by capturing investment, subsidies, and grants.

In this fiscal structure, revenues are collected by all levels of government — revenue sharing moves up to the center, not down to the localities. In an arrangement that resembles tax-farming, each year each government level turns over a negotiated quota of its revenues to the next higher level of government. The revenue base for any government jurisdiction is composed of revenues remitted by the jurisdictions below and

revenues generated by the enterprises lodged in that government's budget. Each local government has ownership rights over a specific set of enterprises and these rights are reflected in a tax system that gives the government the right to set effective tax rates for individual enterprises.<sup>7</sup> Thus, central government revenues come from revenues from the provinces and revenues generated by the (typically) large industrial complexes operated by central ministries. Provincial government revenues, in turn, come from revenues remitted by cities and districts and revenues generated by the enterprises operated by provincial bureaus. This fiscal structure is replicated down to the level of the urban street committee or rural village.

### *The Taxation Process*

At all levels of the fiscal hierarchy, government property rights are expressed in the system of taxation. In redistributive economies, tax rates are tailored to each enterprise. Enterprises have no rights to profits deemed "excess" by planning authorities, and they expect such profits to be expropriated (Walder 1989, 1992). In each government jurisdiction, taxation is redistributive — more profitable enterprises are taxed at high rates in order to subsidize less profitable enterprises and to finance nonprofit organizations and government agencies.<sup>8</sup> Firms that are chronic losers and require annual subsidies are usually kept in operation, especially if large, for several reasons. Taxes on their volume of activity may still be substantial; their production may be essential to

<sup>7</sup> Some large ministry-owned enterprises may also be taxed by the local government jurisdictions in which they are located to compensate for costs of infrastructure and public services. This creates joint property rights arrangements at the top of the hierarchy, from the point of view of the right to derive income from assets (Walder 1992).

<sup>8</sup> Taxation actually takes place in two stages. First, turnover, sales, or value-added taxes are levied on gross receipts. Second, accounting profits are calculated based on these net receipts and various taxes and other charges are levied on accounting profits. This means that government revenues depend on the volume of economic activity as well as on the profitability of a firm in an accounting sense. In fact, profit taxes account for only 21 percent of revenues from industry and commerce (People's Republic of China 1990b, p. 566). Therefore many firms that lose money in accounting terms may actually be net contributors to local revenues because they probably pay substantial first-stage taxes to the local government.

<sup>5</sup> The descriptions that follow are based on interviews in 55 enterprises, government bureaus, and banks in seven large Chinese cities from May to August 1986 (Walder 1992).

<sup>6</sup> In China and other socialist economies, "state" and "collective" ownership are separate administrative types of government ownership with different wage scales and insurance coverage (Walder 1986, chap. 2). Some studies have used the distinction between state and collective ownership as an independent variable in multivariate analyses (Lin and Bian 1991, p. 659). My concern is with the government level that exercises ownership rights, not the administrative category.

other enterprises in the jurisdiction; or the enterprise provides employment and social services for employees who would otherwise turn to the government for relief.

Taxation is therefore a flexible tool for regulating the flow of revenues between enterprises and government. In China, local governments have wide discretion and may exempt any proportion of revenues or profits from taxation, whereas the national tax rates may not be changed. Thus, firms operate under "soft" budget constraint, because local government absorbs both losses and "excess" revenues (Walder 1989). Fiscal solvency is the only constraint on the redistributive activity of a government jurisdiction. When the local budget is large and has many sources of revenue, the ability of local governments in the short run to soften tax assessments is high; in the long run, bargaining with enterprises leaves substantial slack in enterprise budgets, and this slack will fund the discretionary construction of facilities and provision of benefits. When the local budget is small and has few sources of revenue, tax enforcement is less lenient, and in the long run less slack will accumulate in enterprise budgets.

#### *The Investment Process*

Investment finance is the mechanism whereby a local government allocates capital to enterprises to expand or upgrade their production facilities. Investment follows a planner's preferences, and these preferences are not necessarily guided by profit considerations. For example, local supply shortages (especially for steel) or national planning priorities (to stimulate exports, for example) are also important considerations (Walder 1989, 1992).

Traditionally in planned economies, capital was granted to enterprises outright, and repayment was irrelevant because the government took virtually all profits. In a modified economy like China's, investment is a formal loan to be repaid with interest, although repayment is often highly subsidized by government at variable rates.<sup>9</sup> For large investment projects, loan repayment sched-

ules are short — typically three years, and most firms require large tax exemptions to repay such loans. Typically, enterprises are allowed to deduct their annual repayments — interest *and* principal — from the income subject to taxation. In the not uncommon extreme case, enterprises may be exempted from most taxes while they repay their investment loans. True to the redistributive character of the economy, the investment process is highly subsidized and has only partially lost the character of a government grant.

#### STRATIFICATION MECHANISMS

Unlike salaries, pensions, and labor insurance, which are legally included in enterprise accounts as a cost of production, housing and other benefits that work organizations provide for their employees are discretionary expenditures that must be funded from several sources. First, an enterprise sets aside a portion of its retained (after-tax) profits for the funding of benefits. Second, revenues and material resources may be diverted from other uses, but counted as a cost of production. For example, in a large investment project, construction materials may be diverted for housing. Third, work organizations typically have significant "off the books" income from cooperative ventures with other firms, barter trade, or cross-investment (Walder 1989).

A work organization's ability to deliver benefits and services to its employees is a function of the relative indulgence of government agencies that regulate financial flows. When indulgence is high, the package of tax obligations and subsidies allows the organization to retain proportionately more funds, and the accounting of a firm's costs, inventories, and cash reserves is more lenient. When indulgence is low, enterprises face unfavorable revenue flows and more strict enforcement of accounting and tax regulations. The ability of organizations to win privileged treatment in these budgetary and fiscal processes has direct consequences for the standard of living of its employees. Thus, the dependent variable is the ability or willingness of government agencies to grant a work organization the slack resources necessary to compensate its employees, *regardless of the size or direction of current revenue flows between the work organization and government.*

Two possible causes of variation in net revenue flows between government and work organizations are: the degree to which the locality has revenues in excess of its budgetary obligations

<sup>9</sup> Even though most loans are now administered through banks, the majority of the funds lent are grants from government budgets that are allocated to firms through banks. Thus, banks act as accountants on loans. The conflicts of interest and trade-offs involved in financing with public funds versus bank capital are described elsewhere (Walder 1992).

and can afford to be lenient, and the degree to which the organization can induce government agencies to treat it favorably.

#### *Variation in Government Incentives to Extract Revenue*

Stratification among organizations reflects the fiscal structure of the state, i.e., the higher in the government hierarchy, the larger the budget and the more numerous and lucrative the sources of revenue. China's central budget includes tax revenues from around 30 province-level jurisdictions as well as tax payments from the hundreds of large industrial complexes over which national ministries hold property rights. A typical rural county or city district, on the other hand, may have 10 to 20 relatively small enterprises that contribute revenues directly to it. Government units with a large revenue base have a greater capacity to allow work organizations to retain slack resources and a weaker interest in rigorous enforcement of accounting regulations. Moreover, the greater the number of revenue sources, the weaker the capacity of government to monitor firms and enforce compliance with tax and accounting regulations. This variable has a vertical and a horizontal dimension: the higher up in the hierarchy, the larger are the government budgets, from villages and streets to the provincial and national level, but among jurisdictions at the same level, highly industrialized areas have a larger revenue base than less industrialized areas.

Large budgets may affect the incentive to extract revenue in two ways. First, large budgets may simply indicate "surplus" revenues relative to anticipated expenditures. Second, even if all budgets were equally constrained, a jurisdiction with a large budget and many firms has less incentive to extract revenue from any single enterprise than does a jurisdiction with a small budget and few firms, because it receives smaller proportions of its revenues from any single firm. In addition, monitoring many firms is more costly than monitoring a few. Whatever the mechanism, high-level government jurisdictions have less incentive to be stringent in tax and budgetary decisions toward any single work organization than do low-level jurisdictions.<sup>10</sup>

<sup>10</sup> The network ties of a work organization's director may also influence government decisions. Directors with high civil service ranks and long careers locally have better contacts with higher decision-makers. Among directors of the same rank, those who

#### *Resource Dependence*

Given the budgetary capacities of government jurisdictions, organizations that the government depends on for products or tax revenues are favored in the redistribution process. Resource dependence gives a work organization enhanced leverage in bargaining for favorable terms of taxation or finance. Resource dependence may arise from the nature of the organization's output. If, for example, steel is in short supply locally and there are few steel plants in the locality, those plants have a favorable bargaining position. Resource dependence may also be a result of the organization's earnings. An organization that supplies a large percentage of a government's revenues has a favorable bargaining position, because any slowdown in production affects local revenues. Specific political interests may also put some organizations in favorable bargaining positions. If, for example, a Mayor's local plans are based on the stimulation of foreign investment, he or she has a special interest in the success of the first few joint-venture firms. Thus, the joint-venture firms would have a privileged position. The more dependent local officials are on an organization's success, the more indulgent they will be in financial decisions that affect the prosperity of the organization (Laky 1979).

#### EVIDENCE FROM A CHINESE CITY: DATA AND VARIABLES

The data are from a 1986 survey of a multistage stratified random sample of 1,011 households. The sample was drawn in 1983 in the urban districts of Tianjin, China's third largest city, a major seaport and center of heavy industry. From the 124 urban wards (literally "street offices" or *jiedao banshi chu*) with a total population of 4.2 million, 36 wards were chosen purposively to ensure a mix of neighborhood types. A ward contains an average of 8,000 households that are divided into smaller residents' committees (*jumin weiyuan hui*) containing an average of 400 households. Within each ward, one residents' committee was selected randomly. Households within the

enjoy overlapping memberships in governmental or party bodies will exercise greater influence. Csanádi (1989), employing data on Hungarian industry, found that a firm director's membership in local or regional party organs was correlated with high levels of investment in the firm, even after controlling for size of the firm.

residents' committees were sampled from the ward registers according to quotas set to match the occupational profile of the city in the 1980 census.

The households were interviewed annually by sociologists working with the city government; Lin and Bian (1991) reported findings from a 1985 survey of a different sample of respondents drawn from these households. In 1986, the wage-earner in each household whose birth date was closest to October 1 was interviewed. Respondents provided information about their personal background, work experience, income, the living conditions and income of their household, and characteristics of their work organization (See Walder, Zhou, Blau, Ruan, and Zhang 1989).

Although this is a representative sample for both households and individuals, I treat it as a sample of work organizations in order to draw conclusions about processes that affect the resources available to organizations. There are two problems with this procedure. First, because workers often reside in workplace housing blocks, some individuals in the sample may work for the same organization. Within each of the 36 residents' committees, sampled cases that matched on responses to the workplace variables were identified.<sup>11</sup> Out of 1,011 respondents, there were 115 such cases, 25 of whom were concentrated in one factory housing complex. Cases in which respondents apparently worked for the same organization were weighted by the inverse of the number of respondents from that organization. Second, because the sample is not a representative sample of organizations, individuals who work for large organizations have a higher probability of being selected than do those who work for smaller organizations. To correct for the bias introduced by oversampling of large work organizations, observations were weighted by the inverse of organization size divided by the mean of such weights in the sample (Parcel, Kaufman, and Jolly 1991, p. 53). (Observations were not weighted when the individual is the unit of analysis.)

<sup>11</sup> Cases were considered a "match" if they were from the same residents' committee, had the same codings for sector, budgetary rank, and type of legal ownership, had estimates of number of employees that were within 20 percent of the highest value, and whose responses to at least 9 of the 11 questions about the availability of benefits were identical.

### *Independent Variables*

*Budgetary rank.* This six-category ordinal variable indicates the position of the work organization in the state's fiscal hierarchy: Ministry, City, District Bureau, City Company, District Company, and Street. These categories designate the administrative level that has ownership rights or budget-making authority over the work organization. Such information is widely known in urban China. Every urban resident knows what government organ their work unit is "under" — the information usually is printed on the standardized signs that mark the front gates of organizations. This variable is a measure of the size of budget of the government unit to which the work organization is attached. The higher the rank, the larger the budget, and the greater the expected ability of the relevant government jurisdiction to allow the work organization to retain slack resources. This measure of fiscal resources of various levels of state administration in China indicates in turn the ability to provide resources to organizations in which they have an interest and ownership rights.

*Workplace size.* This variable is the respondent's estimate of the number of people employed by their work organization. Such information is included in the reports and speeches that Chinese managers make regularly to their employees, and respondents are usually confident of their estimates. Workplace size is a measure of resource dependence for enterprises that produce goods and services and are thus sources of revenue for local governments. Enterprises with larger numbers of employees generally produce more goods or services and thus turn over large tax revenues from their sales. Because I expect the effect of size to diminish as establishment size increases, I use a natural log transformation of the variable.<sup>12</sup>

*Economic sector.* Work organizations are coded into one of six economic sectors: manufacturing, service, commerce, education, government, and other. The government sector contains the largest proportion of the "redistributive class" of elite theory: In this sample, 38.2 percent of government sector employees are administrative cadres (officials), while in the education sector the

<sup>12</sup> Workplace size and budgetary rank are correlated at  $r = .235, p < .001$ . Size does not increase monotonically with rank, however — the average workplace size at the ministry level is 1,966, but is largest at the second highest rank, municipal government, at 2,548.

comparable percentage is 9.8 percent, and in manufacturing, 5.9 percent. Planners are most dependent on the manufacturing sector for resources — it supplies other organizations or consumers in the jurisdiction and provides the bulk of tax revenues. Nationwide, the manufacturing sector provided 76 percent of all government revenues in 1988, net of government borrowing (People's Republic of China 1990b, p. 569). Government officials are less dependent on the service and commerce sectors — these sectors contributed only 9 percent to state revenues in 1988 (People's Republic of China 1990b, p. 569). Finally, planning officials are least dependent on the education and government sectors, which provide no revenues and are a drain on resources.

### *Dependent Variables*

*Benefits and services.* The main dependent variables are whether the respondent's work organization provided employees with 11 benefits or services that require significant investment of resources. These 11 benefits are not benefits that labor insurance legislation requires organizations to provide — pensions, disability payments, and medical insurance — and whose costs (in enterprises) are deducted from gross earnings. These are optional benefits that must be funded by the organization's slack resources. They include an enterprise meal service that typically provides subsidized meals up to 3 times a day, an infant daycare center, a kindergarten, an on-site medical clinic, bathing facilities (few urban apartments have them), a retail store for employees only, sports facilities, an auditorium (which often becomes a free cinema in the evenings), a library or reading room, organized group vacations at subsidized prices, and a commuter bus service that enables employees to avoid crowded and slow public transport or bicycling long distances. Dummy variables indicate the presence of each of the 11 benefits or services. A final continuous variable is simply a count of the number of these 11 benefits reported by respondents.

These benefits represent a form of nonmonetary income for workers that is characteristic of redistributive economies. The greater the range of the benefits provided by the workplace, the greater the "income" of its employees. Table 1 shows the availability and use of these benefits. Most employees use these benefits when they are available, except for daycare and kindergartens whose use is related to the life cycle. Because employees tend to remain with their work

Table 1. Availability and Use of Workplace Benefits: Tianjin, China, 1986

Workplace Benefit	Percent of Workplaces Offering the Benefit	If Available, Percent Who Have Used the Benefit
Medical clinic	55	97
Meal service	55	82
Bathing facilities	55	96
Group vacations	46	67
Library	41	84
Infant daycare	30	32
Auditorium	23	93
Retail store	21	91
Kindergarten	19	36
Sports facilities	14	63
Commuter bus	6	58
Number of cases	910	910

organizations for long periods, most employees probably use these benefits at some time during their tenure. The simple measure of presence/absence of benefits should be sufficient to explore sectoral differences in benefits — more refined measures are not available.

*Housing.* Workplaces are an important provider of housing in urban China, and housing is easily the costliest and most valuable benefit provided to employees. In the sample, occupants of workplace housing lived in somewhat larger apartments and had been allocated a new apartment more recently than respondents not living in workplace apartments. Respondents overwhelmingly named their work organization as the most important source of future housing. Respondents were asked to name the source of their current housing. Possible responses were "your own work unit," "work unit of a family member," "municipal housing," "private housing," and a few residual categories. Responses were used to create the dummy variable "workplace housing" — responses of "your own work unit" were coded 1; all others were coded 0. The housing variable estimates the capacity of work organizations to provide housing for their employees. Because this variable refers to consumption of benefits by individuals, it is affected by the respondent's characteristics. As a result, several individual-level control variables are included when examining organization-level effects.

Table 2. Logit Coefficients For Weighted Regressions of Presence of Benefit on Workplace Characteristics: Tianjin, China, 1986

Workplace Characteristic	Workplace Benefit										
	Meal Service	Infant Daycare	Kindergarten	Medical Clinic	Bathing Facilities	Retail Store	Sports Facilities	Auditorium	Library	Group Vacation	Commuter Bus
Budgetary rank	.155* (.070)	.146* (.075)	.283*** (.085)	-.182** (.066)	.358*** (.073)	-.346*** (.080)	-.073 (.090)	.179* (.079)	.058 (.068)	.166** (.063)	.489** (.153)
Workplace size (ln)	.653*** (.076)	.579*** (.074)	.105 (.080)	.624*** (.073)	.898*** (.084)	.200** (.078)	.198* (.096)	.415*** (.079)	.523*** (.071)	-.108 (.062)	.601*** (.121)
<i>Economic sector</i>											
Manufacturing	1.151*** (.255)	1.275*** (.259)	1.265*** (.304)	.408 (.255)	.072 (.268)	1.447*** (.305)	3.077*** (.766)	1.829*** (.349)	.708** (.244)	.501* (.226)	-.333 (.478)
Service	.892*** (.219)	.266 (.264)	-.117 (.328)	.168 (.202)	-.110 (.222)	1.344*** (.282)	1.522 (.806)	.914** (.368)	-.060 (.238)	.009 (.195)	.829 (.448)
Education	.864*** (.229)	.867*** (.255)	1.129*** (.289)	-.533* (.219)	.189 (.238)	.104 (.355)	3.891*** (.751)	1.267*** (.355)	1.357*** (.233)	.366 (.211)	-.396 (.519)
Government	2.629*** (.293)	.803** (.287)	.296 (.342)	.303 (.237)	.350 (.260)	1.069** (.329)	3.395*** (.766)	2.854*** (.358)	1.669*** (.255)	-.055 (.229)	-.700 (.650)
Other	-.239 (.461)	-.682 (.648)	-.154 (.628)	-1.045* (.433)	-1.353** (.517)	-.235 (.707)	-.618 (2.62)	.062 (.759)	-.197 (.475)	-1.095* (.457)	-.120 (.867)
Log-likelihood	-541.3	-502.7	-435.7	-603.8	-511.6	-457.7	-327.5	-434.5	-558.7	-671.8	-193.4
$\chi^2$	284.2	199.0	95.1	159.7	345.4	93.6	136.5	207.2	229.3	25.0	61.0
N of cases	993	993	993	993	993	993	993	993	993	993	992

\*  $p < .05$     \*\*  $p < .01$     \*\*\*  $p < .001$

Note: Numbers in parentheses are standard errors. The omitted category for economic sector is "commerce."  
Degrees of freedom = 7 for all equations.

Table 3. Weighted OLS Coefficients For Regression of Number of Benefits Offered On Workplace Characteristics: Tianjin, China, 1986

Workplace Characteristic	Equation		
	(1)	(2)	(3)
Budgetary rank	.558*** (.072)	.180** (.070)	.105 (.072)
Workplace size (ln)	—	.884*** (.060)	.749*** (.071)
<i>Economic sector</i>			
Manufacturing	—	—	1.738*** <sup>a</sup> (.262)
Service	—	—	.627** <sup>c</sup> (.225)
Education	—	—	1.290*** <sup>b</sup> (.245)
Government	—	—	1.935*** <sup>a</sup> (.266)
Other	—	—	-.762 <sup>d</sup> (.441)
R <sup>2</sup> (adjusted)	.056	.223	.288
Number of cases	993	993	993

\*  $p < .05$     \*\*  $p < .01$     \*\*\*  $p < .001$

Note: Numbers in parentheses are standard errors. The omitted category for economic sector is "commerce." Alphabetic superscripts indicate results of significance test of differences between coefficients. Differences between coefficients with different superscripts are significant at  $p < .05$ .

## ANALYSIS

For each of the 11 benefits and services, logistic regression was employed to analyze the effect of workplace characteristics on the probability that the benefit or service is offered. Results are reported in Table 2.

After controlling for workplace size and economic sector, the higher the budgetary rank of the controlling government unit, the more likely are workplaces to offer meal services, a kindergarten, bathing facilities, an auditorium, group vacations, and commuter buses. However, the higher the budgetary rank, the less likely are workplaces to offer infant daycare, a medical clinic, or a retail store. These inconsistent results provide only partial support for the causal role I have attributed to the state's fiscal structure.

Results are more consistent for workplace size: Controlling for budgetary rank and economic sector, workplace size is strongly and positively associated with the probability that a benefit is available. The coefficients for 9 of the 11 equations

are statistically significant, positive, and in most cases over four times their standard errors. The results are consistent with the proposition that government planners favor organizations on which they are most dependent, i.e., large organizations.

Coefficients for economic sector provide additional support for the resource dependence argument. Authorities are most dependent on the manufacturing sector for revenue and physical output and coefficients indicate that the manufacturing sector is significantly more likely to provide benefits than the excluded category of commerce. The size of these coefficients also suggests that workplaces in the manufacturing sector are more likely to offer these benefits than are those in the service sector. Among revenue-generating organizations, those in manufacturing are clearly favored.

Workplaces in the manufacturing sector, however, are very similar to workplaces in the education or government sectors in the provision of benefits. Judging by the size of the coefficients and the pattern of significant contrasts with the excluded category, the three sectors are, after controlling for workplace size and budgetary rank, roughly equal in provision of benefits. The similarity of workplaces in the manufacturing, education, and government sectors in provision of benefits suggests that resource dependence mechanisms operate alongside the kinds of power mechanisms specified in elite theories.<sup>13</sup> Work organizations in education or government do not generate revenues, and the government sector also includes a large concentration of the "redistributive class" of elite theory. On the other hand, this finding suggests that any budgetary privileges accorded to work organizations in government are relatively minor, at least by this rough measure.

To summarize the pattern of these effects, the total number of benefits offered by the respondent's work organization was analyzed in a least squares regression framework (Table 3). The results are consistent with results from the separate logit models. Differences in coefficients and R<sup>2</sup> across equations 1 through 3 indicate the relative impact of budgetary rank, workplace size, and economic sector. The positive association of budgetary rank with number of benefits offered does

<sup>13</sup> The coefficient for workplaces in education may be inflated by the fact that school employees usually have access to a number of benefits — meal services, sport facilities, auditoriums, libraries — that are traditionally provided by schools for their *students*.

Table 4. Logit Coefficients For Regression of Workplace Housing on Selected Independent Variables: Tianjin, China, 1986

Independent Variable	Equation	
	(1)	(2)
Budgetary rank	.458*** (.075)	.448*** (.085)
Workplace size (ln)	—	-.065 (.085)
<i>Economic sector</i>		
Manufacturing	—	-.417 (.290)
Service	—	-.331 (.374)
Education	—	-.277 (.358)
Government	—	-.515 (.434)
Other	—	-.656 (.569)
Gender (male)	—	.606*** (.182)
Seniority	—	.016 (.008)
Cadre rank	—	.501 (.282)
Married	—	-.058 (.683)
Log-likelihood	-461.5	-447.0
$\chi^2$	37.9	66.8
Degrees of freedom	1	11
Number of cases	993	993

\*  $p < .05$     \*\*  $p < .01$     \*\*\*  $p < .001$

Note: The omitted category for economic sector is "commerce."

not survive controls for workplace size and economic sector. The increment in  $R^2$  due to the addition of the economic sector variables is statistically significant at the .001 level, and the magnitudes of the coefficients for the individual sector variables support the conclusions drawn from Table 2.

Significance tests for differences between the sector coefficients (indicated by alphabetic superscripts in Table 3) show that, controlling for budgetary rank and workplace size, workplaces in manufacturing and government offer measurably more benefits than workplaces in the education sector, and that these workplaces, in turn, offer more benefits than organizations in the ser-

vice sector, which in turn offer more benefits than those in commerce and "other" sectors.

Finally, the probability that a respondent lives in housing provided by the work organization was analyzed in two logit regression equations (Table 4). The housing variable measures individual consumption of one benefit — the costliest benefit and the one most valuable to employees. The results contradict those in Tables 2 and 3 in intriguing ways. After controlling for the more important individual characteristics thought to affect the distribution of workplace housing — seniority, gender, marital status and cadre (official) rank — the only organization-level variable that has an effect is budgetary rank. In fact, the bivariate coefficient for budgetary rank (.458) is not appreciably reduced even after other organizational and individual variables are added to the equation (.448). Gender is the only other variable in equation 2 that is significant. Examination of all bivariate relationships between workplace housing and the independent variables showed that only gender, cadre rank, and seniority had significant and positive relationships, in all cases markedly smaller than the bivariate relationship for budgetary rank.<sup>14</sup>

These results suggest that the availability of benefits to individuals may not be determined in the same way as the simple existence of a benefit or facility in an organization. The 11 benefits analyzed earlier are used for brief periods by individual employees, and the use of these facilities or benefits by an individual does not, except in the short term, diminish the opportunity for others to use these benefits. Once an apartment is assigned, however, it is used only by the employee's family, usually for a prolonged period. Hence, the fiscal hierarchy of the state may be more important than the earlier analysis indicated, especially where exclusive benefits to individuals in the workplace are concerned.

## SUMMARY

Two different processes affect government fiscal practices. The first is the incentive of a government jurisdiction to extract revenue from the workplaces under its control. I hypothesized that

<sup>14</sup>Equations were also estimated separately for men and women to see if the processes of allocation differed by sex, which could account for the different results from Tables 2 and 3. The separate equations for men and women showed virtually the same results.

government jurisdictions with large budgets and many work organizations have proportionally less incentive and a diminished capacity to monitor and procure the slack resources of their work organizations. This proposition was partially supported by an examination of the provision of 11 benefits. For the provision of housing to employees, however, budgetary rank was the only significant organization-level variable.

The second process affecting government fiscal practice is resource dependence. I hypothesized that for enterprises, the larger the workplace size, the greater the dependence of a government jurisdiction on the work organization for revenues, and that the manufacturing sector, which provides the vast majority of government tax revenue, would be an important indicator of resource dependence. Controlling for all other organizational variables, workplace size was strongly and consistently associated with the provision of benefits by workplaces, and workplaces in the manufacturing and government sectors provided relatively more benefits than did workplaces in the other sectors. These effects, however, did not hold for the probability that an employee resides in workplace housing, even after controlling for several individual characteristics. The hypothesized causal mechanism is that workplaces derive power from the government's dependence on them for revenue and products needed elsewhere in the jurisdiction. The data suggest that government jurisdictions permit greater slack resources among organizations they are most dependent on. The finding that workplaces in government are just as privileged as those in manufacturing in the provision of benefits, however, suggests that mechanisms specified by elite theorists also operate at the organization level and coexist with resource dependence effects.

These results are promising, but better indicators of the hypothesized mechanisms are needed. Budgetary rank and workplace size are, at best, indirect measures of the budgetary and resource dependence processes hypothesized to be at work. The different results for the provision of 11 benefits versus the provision of workplace housing highlights this concern. Without better data, e.g., on output, government budgets, work organization finances, or individual usage of benefits, these concerns cannot be addressed. Despite the limitations of the present data, the analysis suggests that the arguments I have offered about property rights and fiscal practices merit further research and conceptual elaboration.

## CONCLUSION

My analysis of stratification in a centrally planned economy emphasizes (1) the distribution of property rights among government jurisdictions; (2) the capacities and incentives that these property rights provide; and (3) the resulting fiscal and budgetary practices. Unlike the analogous phenomenon of "industry rents" in market economies stratification in a planned economy does not depend on advantages that accrue to some sectors because of differences in returns on capital. That explanation holds only to the extent that the entity earning profits has clear rights over income flows. The redistributive practices of planned economies reflect the ownership rights of government jurisdictions, and therefore it is the level of revenue extraction from a work organization that must be explained.

In future work, a more sophisticated view of the interaction between government and industry must be developed, and the conception of the underlying causal mechanisms must be sharpened. Workplace size, for example, may represent resource dependence, but it may also be a measure of monitoring costs: Large organizations may be more difficult to monitor and therefore are better able to conceal resources from officials and divert them to benefits. Similarly, budgetary rank may represent a reduced incentive to extract, but it may reflect monitoring costs as well: Organizations located in highly industrialized jurisdictions may retain slack resources more easily simply because of the large number of organizations to be monitored. This suggests a "hoarding" model in line with earlier studies of Soviet-style command economies (Berliner 1957; Walder 1987, 1989).

However, local government agencies may have an incentive to allow the accumulation of slack resources in certain enterprises and may even collude with enterprise officials. Government jurisdictions with unfavorable revenue-sharing agreements with higher levels of government may prefer resources to accumulate in enterprises that could then contribute these resources to local "extrabudgetary revenues" that are not subject to revenue-sharing agreements. This suggests a "collusion" model.

The "hoarding" and "collusion" models are different views of the incentives for government to extract slack resources from work organizations. I have stressed a "fiscal structure" model in which the incentives for governments to extract revenues decline as government budgets

grow. The "hoarding" model places greater emphasis on the monitoring capacity of government and the costs of rigorous auditing: Larger enterprises may find it easier to conceal slack resources, and government jurisdictions with many enterprises may find monitoring more difficult and costly. The "collusion" model suggests a more subtle view of government incentives, and is founded on the idea that a government jurisdiction may also wish to conceal revenues from higher levels of government. All three processes may operate to varying degrees; the challenge is to measure and estimate their relative effects.

There is another important influence process that may be partly responsible for effects I have attributed to resource dependence. The leaders of large and high-ranking organizations tend to have higher civil service ranks, and probably enjoy more extensive and closer ties with government officials. An alternative interpretation of the effects of workplace size and budgetary rank is that these reflect the personal or political connections of the leaders of these work organizations (Csanádi 1989; Laky 1979). It is possible that political influence may be partly responsible for the associations we have attributed to resource dependence. A question for future research is whether such ties significantly affect revenue extraction after controlling for the factors examined in this study.

Clearly, a number of distinct causal processes may be at work in the context of the property rights arrangements highlighted in this paper. Thus, the search for better data must proceed together with more refined conceptualization of the interaction between government units and work organizations.

In this study, I have only considered the question commonly conceived as "ability to pay," which is the equivalent of "capital rents" in a market economy. Left unanswered is the equally important question of why managers of work organizations choose to supply benefits that are not dictated by government regulation or paid for by government funds. This is especially important in the manufacturing sector, which lacks the kinds of labor markets, managerial incentives, and forms of collective organization that are the stuff of theorizing about market economies. Is there a socialist equivalent to an "implicit contract" or an "efficiency wage"? This line of inquiry leads back to incentives, power, and influence processes *within* organizations. Such work has already begun, largely through interviews and field work (Burawoy and Lukacs 1985;

Sabel and Stark 1982; Stark 1986, 1989; Walder 1987, 1989). The challenge is to fashion these ideas in a way that explains statistical patterns in the distribution of benefits, wages, and other forms of compensation across sectors and within organizations.

I have subjected to explicit analysis the assumption of much recent thinking about inequality under socialism — that its economic institutions are "redistributive." Two common observations about property rights in a planned economy were examined: that property rights are predominantly held by the state, and that the rights of work organizations are poorly articulated and weak. Although "state" ownership predominates, analytic leverage is gained by emphasizing that state property rights, especially with regard to income flows, are dispersed across government jurisdictions. Although enterprises do not have clear rights to their income, which leads to a "regime of bargaining," I have specified some of the organizational processes that may cause bargaining outcomes to vary. In short, I have tried to bring institutional processes to the forefront of a field in which "redistribution" is often a background assumption and elites or occupational groups are the actors endowed with interests and power. Socialist economies are stratified, not solely because strategic elites influence the outcomes of redistribution. They are also stratified because of the allocation of property rights that defines the fiscal structure of the state.

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