MARKETS AND INCOME INEQUALITY IN RURAL CHINA: POLITICAL ADVANTAGE IN AN EXPANDING ECONOMY

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When market reform generates rapid growth in an agrarian subsistence economy, changes in inequality may be due to economic growth and structural change rather than to the intrinsic features of markets. The case of post-Mao China is examined using nationally representative survey data gathered in 1996 to address unresolved questions about findings from 1980s' surveys. Well into reform's second decade, political officeholding has a large net impact on household income—comparable to that of operating a private enterprise. Contrary to findings based on earlier *surveys and expectations about the impact of growth, cadre household advantages are stable across levels and forms of economic expansion. Returns to entrepreneurship, however, decline sharply with the spread of wage employment. Future declines in relative returns to political position are therefore unlikely to occur due to the further spread of private household entrepreneurship, and theories of change based on this mechanism appear untenable.*

THE RECENT historic decline of state socialism worldwide has bred intense interest in its implications for social inequality. Socialist economies granted material privileges to political elites through preferential access to accumulated public wealth. The dismantling of bureaucratic allocation, the monetization of incomes, the introduction of market competition, and varying degrees and forms of privatization and economic restructuring have led observers to predict major shifts in social inequality. One school of thought emphasizes the inherent advantages of the politically well-connected in seizing new economic opportunities to enrich themselves. Another view emphasizes the corrosive effect of market mechanisms on advantages rooted in vanishing bureaucratic structures. A vigorous but inconclusive debate has ensued between proponents of two opposed views about the inherent implications of market reform. I argue, instead, that market allocation per se has no inherent impact on social inequality: The impact of markets will vary according to wide variations in the prior structure of national economies and their subsequent pattern of restructuring or expansion.

While these transformations attracted widespread attention after the dramatic events of 1989, the first transitional economy actually emerged in rural China a decade before that. During a four-year period that began in 1979, the rural People's Communes of the Mao era were disbanded, and one of the world's most orthodox collective economies was rapidly replaced by a system of household production for resurgent rural markets. Although China has since become an icon of gradual reform, this early rural transformation was radical and abrupt:

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Land was divided equally among households; strict prohibitions against household production for commodity and service markets were abandoned; and severe restrictions on population movements were abolished, permitting individuals to leave home to seek opportunities outside the boundaries of their collective. Household entrepreneurship for rural and urban markets revived rapidly.

Initial reports from the field indicated that rural cadres feared that these changes would erode their powers and privileges, and that they acted to block local reform (Latham 1985). Soon, however, it appeared that early efforts to block change had failed, and the reforms were thoroughly implemented. Rural cadres adapted by leaving agriculture and its sidelines to peasant households, while building commercial and industrial enterprises with public capital as a new base for power and privilege (Oi 1986; 1989; Unger 1986; Zweig 1986).

These early reports of cadre adaptation to the market were apparently contradicted by 1985 survey data from rural China that showed cadre households to have no net income advantages after controlling for entrepreneurship and human capital (Nee 1989). These findings served as the foundation for a perspective on market transition whose core claim was that markets inherently erode returns to political position relative to human capital and entrepreneurship—attributes characteristically rewarded by market mechanisms. The fact that the net advantages of cadres had disappeared so soon seemed to indicate that the impact of marketization would be large and rapid.

This claim challenged received opinion, which assumed that cadre power would survive long enough to provide ample opportunity for enrichment. Nee's (1989) argument went further than Szelényi's (1978, 1988), whose ideas provided Nee's point of departure. Szelényi claimed that market mechanisms would advantage ordinary households only within the framework of a redistributive economy (Szelényi and Kostello 1996), whereas Nee argued that the further shift to a market economy would lead to a fundamental shift in social stratification. Inherently provocative, Nee's argument focused work by authors challenged by its claims (Bian and Logan 1996; Gerber and Hout 1998; Parish, Zhe, and Li 1995; Róna-Tas 1994; Sato 1998; Xie and Hannum 1996). Nee's argument became controversial when findings from a later national sample revealed large net advantages to cadres and small returns to human capital that were interpreted as consistent with his theory (Nee 1996). This stimulated an ongoing series of critical exchanges (Cao and Nee 2000; Nee and Cao 1999; Nee and Matthews 1996; Parish and Michelson 1996; Szelényi and Kostello 1996; Walder 1996; Zhou 2000a, 2000b).

These debates have obscured a more fundamental question—not whether markets inherently erode or expand returns to political position, but whether there is any generic effect of markets at all (Walder 1996). As Gerber (2000:26–29) has observed, both sides of the debate seem interested only in the impact of a certain kind of institutional change and have neglected other types of causes that may be at work—causes familiar to students of social stratification in other settings. Considering these other processes along with the institutional changes of interest, one becomes much less confident that it is possible to explain changes in income distribution by the *extent to which* market mechanisms or other trappings of a private economy are put into place. My primary focus here is whether the changes reported in past studies of rural China are attributable to the inherent institutional features of markets, or whether they are attributable, instead, to the extraordinarily rapid economic growth that has accompanied market reform in rural China.

MECHANISMS OF CHANGE: MARKETIZATION OR ECONOMIC EXPANSION?

In China's rapidly expanding rural economy, distinguishing the impact of marketization from that of economic expansion is vitally important (Szelényi and Kostello 1996; Walder 1996). In fact, arguments about the inherent impact of the shift to markets posit some of the same mechanisms brought into play by economic expansion.

Arguments for a generic market effect focus on the shift in power and opportunity that defines the transition from plan to market. First, the change implies the loss of a

certain kind of control by cadres over economic transactions. The dismantling of China's rural collectives, which was completed by 1982, gave farmland and farming decisions back to households, allowed peasants to leave the village to work elsewhere and to freely produce and market goods and services. Second, this change created new opportunities for which rural households no longer depended on village officials. This shift in power and opportunity away from rural cadres and toward household entrepreneurs inspires the prediction that defines the generic market effect: Markets reduce relative returns to political position while increasing returns to human capital and entrepreneurship (Nee 1989:666–67). The declining *proportion* of transactions controlled by officials is at the core of this prediction. This is an argument about the impact of market mechanisms.

In an *expanding* rural economy, however, another analytically distinct process will alter power and opportunity: economic growth and structural change. Here the contrast is not between plan and market, but between a stable agrarian economy and a growing industrial-commercial economy. This contrast involves profound institutional changes known to alter social inequality in any setting—promoting structural mobility, expanding opportunities for wage labor, and increasing returns to human capital (Kuznets 1955; Liu 1998; Nielsen 1994; Xie and Hannum 1996). Rural China has undergone unprecedented changes of this kind: From 1978 to 1996 the percentage of the rural labor force employed outside agriculture grew from 9.2 percent (28.3 million) to 35.4 percent (108.7 million) (State Statistical Bureau 1997:96–97).

In considering the impact of marketization in a region where growth is rapidly transforming rural social structures, it is essential to keep the impact of markets distinct from the impact of growth. Consider the contrast between a transitional economy that is stagnant and one that is growing rapidly. In a stagnant economy, the rate of "marketization"—the shift in power and opportunity from cadres to others—depends entirely on the progress of institutional change. Power and opportunity will not change without continuing institutional reform: Ownership of existing assets must be reallocated to individuals, and markets must be liberalized to free transactions from regulation. Under conditions of stagnation, further marketization depends entirely on the extent of further institutional change.

In a rapidly growing economy, on the other hand, "marketization" as defined above will continue, even if there are no further institutional changes that liberalize transactions or privatize assets. Power and opportunity will shift away from cadre control as long as the private household economy grows and as long as the demand for nonagricultural wage labor grows to the point where local households are no longer dependent on local cadres for their livelihoods. This occurs through quantitative changes in the structure of the economy—growing economic opportunity for peasant households outside of agriculture—not through qualitative institutional changes that alter the rules of the game for cadres and others.

This comparison points to a fundamental problem: What are the effects of institutional change, and what are the effects of structural change induced by economic growth? In a stagnant economy the answer is clear. In an economy that is growing rapidly, however, *economic expansion*, as distinct from the institutional changes identified with market transition, will be an important cause of any observed changes in income distribution.

Institutional Change: Markets or Property Rights?

What institutional changes generate predictable changes in income distribution? The question presents a second source of difficulty. On one hand, claims for a generic market effect are clearly premised on the proportion of economic transactions that take place under market exchange versus those under administrative plan. On the other hand, one can reasonably claim that a shift in ownership of productive assets from rural government to households is the defining institutional change that marks the shift to a market economy. The problem is that these two changes are not so closely related as they seem, and in rural China the pace and direction of both changes have varied through time (see Walder 1995; Walder and Oi 1999).

The crux of the problem is the rapid expansion of rural public enterprises, which spearheaded economic growth for a decade after the mid-1980s. These new enterprises were a novel outcome of market reform: They were not organs of a planned economy; they were not regulated by input-output planning; they were not integrated into urban economic plans. They competed fiercely in regional and national product markets, and their interface with customers was almost entirely through market mechanisms (Peng 2001; Walder 1995; Whiting 2001). Yet they operated under a form of public ownership.

Inevitably, these firms created problems for efforts to identify a generic market effect. Is it the growing importance of market allocation that led to changes in income distribution? If so, the ownership of market-oriented firms should be irrelevant because rural public firms have been an integral part of rural China's emerging market economy. Or is it actually the shift in property rights from public to private that matters? If so, the spread of market mechanisms is not crucial; instead, change in property rights is the key factor.

This uncertainty has bred disagreements about how to interpret evidence. Initial claims for a generic market effect were supported by local survey data from the mid-1980s that showed that cadre households had no net income advantage after controlling for household human capital and entrepreneurship (Nee 1989). However, subsequent analyses based on a later national survey showed that cadre households had large net advantages (Nee 1996). Did these findings undermine claims for a generic market effect? Not necessarily, according to proponents of the generic market effect. Instead, the findings indicate that the process of change may be protracted and complicated. Cadre advantage may take some time to disappear and might even increase temporarily because of complicating conditions of partial reform (Nee 1991, 1996). Rural public enterprise was one such transitional phenomenon that served to mask and delay the intrinsic impact of markets.[1]

[1] Recent restatements of the argument describe change as path dependent (Nee and Cao 1999). This essentially means that the predicted decline in the relative returns to cadre position will take longer in some regions than in others. It does not mean that the impact of market reform will differ depending on local conditions.

Some object that this interpretation alters the original arguments and makes them vague and untestable. Underlying this complaint is dissatisfaction that the most interesting observed phenomena were treated as exceptions because of partial or incomplete reform, a condition that has no clearly defined endpoint (Róna-Tas 1994; Walder 1996; Xie and Hannum 1996). Rejoinders stand firmly on two claims. First, the argument does not predict rapid disappearance of cadre advantages, only their eventual decline with the prevalence of markets. The trend may be delayed in regions where public enterprise has been prevalent or where markets were not yet sufficiently developed. The crucial test is that, through time, net cadre advantages will become negligible compared to the growing returns to private household entrepreneurship. Second, qualifications about partial reform do not render the theory untestable. The theory *can* be tested with cross-sectional data by examining returns to cadres and entrepreneurs in regions with different levels of institutional change and development of a mature market economy (Nee 1996; Nee and Matthews 1996; Nee and Cao 1999).

Proponents of a generic market effect portray the arguments of their critics as matters of interpretive perspective. Critics, they suggest, cling to an outmoded "state-centered" perspective that exaggerates the importance of public ownership and that is biased toward seeing continuity in cadre advantage. The proper interpretive perspective, instead, is a "society-centered" view that recognizes private household entrepreneurship as the wellspring of societal change. Criticisms reflect the biases of interpretive frameworks and are not a serious challenge to the core claims about a generic market effect (Cao and Nee 2000; Nee 1996; Nee and Matthews 1996; Nee and Cao 1999).

THE MECHANISM OF CHANGE: INSTITUTIONAL CHANGE OR ECONOMIC EXPANSION?

This rejoinder does not address a more fundamental issue: Are the smaller cadre advan-

tages observed in regions said to exhibit high levels of market development due to economic expansion rather than the generic features of markets? Economic expansion should have the same impact as institutional change, and its impact works through some of the same causal mechanisms involved in the shift toward markets. Furthermore, an unambiguous definition of progress toward a fully "marketized" economy is elusive when allocative mechanisms and ownership are so loosely correlated. Therefore the first question to ask about regional variation in cadre advantage is whether such variation is caused by marketization or by economic expansion.

The expected impact of economic expansion is best understood by examining the models used to gauge cadre advantage. These models use dummy variables to define cadre, entrepreneur, and cadre entrepreneur households. The net effect of household type is implicitly compared with "ordinary" households that contain neither cadres nor entrepreneurs. In poorer regions, ordinary households derive their income almost exclusively from agriculture, by far the least lucrative economic activity in rural China (Rozelle 1994). As a local economy develops, ordinary households shift into more lucrative activities—nonagricultural wage labor, subcontracting work or piece work for local enterprises, or direct production and marketing of goods and services. Those engaged in the direct production and marketing of goods and services become "entrepreneurs." Otherwise, no matter how many in the household earn salaries, and no matter how high these salaries are, the household remains in the "ordinary" category unless at least one member assumes a special salaried post—as a political official. Economic expansion therefore implies a rise in income for ordinary households, resulting from a shift away from an agricultural economy.

There are two presumed sources of cadre advantage: cadre salaries and bonuses, and the ability of cadres to obtain high-salaried posts for family members. Where "ordinary" households are primarily in agriculture, cadre advantages will be substantial. This is less clear, however, when there is rapid economic expansion. Here the shift from agriculture to wages implies rapid income growth for ordinary households. Whether net cadre advantages rise or fall depends on whether the rising incomes of cadre households keep pace with those of ordinary households. On one hand, salaries for rural officials should rise with local economic prosperity. On the other hand, as the number of local enterprises rises—regardless of forms of ownership—new high-salaried jobs are created for ordinary households. At high levels of economic expansion, demand for labor will exceed local supply. In such localities, there are many more salaried positions than can be monopolized by cadres, cadre household members, or their relatives and friends.

In short, economic expansion may lower relative returns to cadres by increasing wage employment overall, even in the absence of institutional changes that further liberalize economic transactions. Here there are parallels to the distinction, drawn by students of social mobility, between "structural mobility"—upward mobility due to economic growth that increases the proportion of high-status jobs in an economy—and "social fluidity"—mobility due to the reduction of inherent social advantages initially enjoyed by people in high-status positions (Hout 1988). An analogous problem is to determine the extent to which observed reductions in cadre income advantages are attributable to institutional changes that weaken cadre economic advantage, and to what extent this is simply due to the movement of ordinary households out of agriculture. One way to approach the problem is to examine the magnitude of net cadre advantages across regional economies at different levels of structural change and different levels of growth in different types of markets.

The difficulty is to define and measure "marketization" in a way that does not conflate this concept with economic expansion. The best effort to do so with rural Chinese data uses average township income and industrial output per capita as controls for level of economic development (Nee 1996). "Institutional environment" is captured by three different variables that are based on questions asked of rural officials during the survey. The first is "production market"—the number of private and collective firms in the township. This variable serves as a "measure of marketization at the local level"

that "focuses analytic attention on the effect of firms in creating a market environment" (Nee 1996:923). The second is "labor market"—the proportion of the village engaged in nonfarm work outside the village. The higher the proportion, "the greater the extent of the local labor market." The third is "government finds nonfarm jobs"—a dummy variable that indicates whether "most people find jobs outside the village." This variable is a measure of the redistributive power of local cadres (Nee 1996:923–24).

The first two of these institutional variables refer to structural change in an expanding rural economy. "Production market"—essentially the number of local nonagricultural enterprises—gauges the local shift out of agriculture; "labor market" gauges the rise in demand for wage labor that defines structural change. The third variable—"government finds nonfarm jobs"—is the one truly institutional measure, but it is closely linked to aggregate demand for wage labor because local cadres are likely to allocate most nonfarm jobs only where such opportunities are very limited. When these variables are said to indicate "the emergence of market institutions" or a "thickening" "market environment" (Nee 1996), one concludes that the meaning of institutional change in recent work has become indistinguishable—both conceptually and empirically—from that of structural change in an expanding rural economy.

The problem, unfortunately, is not solved by dividing national samples into separate regions at different levels of marketization (Nee 1996; Nee and Cao 1999). The rationale for such analyses is that marketization is a broad regional phenomenon, and therefore differences across regions should be theoretically meaningful. Just as the definition and measurement of "marketization" is virtually synonymous with that of economic expansion, the regions also differ greatly by their extent of economic expansion. Equations estimated separately by region include controls for measures of economic development, but the controls operate only *within* regions, not *across* regions. It remains unclear whether the absence of cadre income advantage in the most "marketized" region is attributable to higher levels of economic expansion or to higher levels of marketization.

AN ANALYSIS OF ECONOMIC EXPANSION

To develop an alternative analysis of rural China, I start with the premise of the theory of declining returns: the contrast between a redistributive economy and a market economy. Chinese rural communes were "redistributive" economies, but they lacked one essential feature: accumulations of public wealth to which political officials had preferential access (Walder 1992, 1995). Mao-era communes were radically different economies: They supplied cheap grain to urban workers as part of a low-wage industrialization strategy. Peasants were forced into subsistence agriculture conducted by village-level team labor. Household economic activities were suppressed, and the state requisitioned crops at artificially low prices while rationing grain to those who produced it (Oi 1989:13–65). This created large income gaps between city and countryside and leveled intra-village incomes to a degree rare even among socialist countries (Parish and Whyte 1978:47–72). Rural income inequality at the end of the Mao era was among the lowest ever recorded (Hsiung and Putterman 1989; Putterman 1989; World Bank 1983).

Therefore *income advantages ordinarily associated with political position in redistributive economies were unusually small in rural China.* It is unreasonable to expect that relative returns to political office would *further* decline as collective farms were dismantled. To the contrary, *increased* relative returns would be a foregone conclusion, once the constraints of collective agriculture were broken (B. Li 1999). The premise for a prediction of increased returns is that the returns to all attributes that potentially increase income—human capital in the form of education and experience, household entrepreneurship, as well as the power and influence of political position—were suppressed under collective agriculture. Therefore the shift to markets should enhance returns to human capital, entrepreneurship, *and* political position.

One source of increasing returns is the cadre salary in an economy in which salaried jobs are rare. In the former communes, incomes were distributed wholly or partly in

the form of grain. The shift to a market-based cash economy would increase cash incomes of rural cadres, potentially at rates faster than that for the average for ordinary households. Parish et al. (1995) have shown that rural cadre salaries are correlated with the prosperity of the community. In the late 1980s, rural cadres in poor regions received no salary, while those in prosperous regions enjoyed large salaries and bonuses tied to local prosperity (Oi 1992, 1999). To the extent that the shift to a market economy leads to increased prosperity, compensation for cadres will also increase.

A second source of rising income returns to cadres is the higher likelihood that members of a cadre household will find salaried positions in village government or managerial positions in village enterprises. Evidence from large national surveys conducted by China's State Statistical Bureau shows that rural cadre households adapt household strategies to varied economic conditions and participate at high rates in the most desirable kinds of employment available in a locality (Parish and Michelson 1996; Parish et al. 1995). In regions with village-run industry, cadre households are more likely to earn income from this source.

A third potential source of rising returns is cadre entrepreneurship. Cadre entrepreneurs have two potential advantages. One is the use of their office and social connections to benefit the family's private business activities. The other is their human capital in the form of business experience accumulated in rural cadre positions. Whether significant positive returns to cadre entrepreneurs support claims for a generic market effect depends on the magnitude of their advantages relative to other cadre households. Only if cadre entrepreneurs have advantages *in addition to* those of other cadre households, *or* if their returns are significantly larger than those of (noncadre) entrepreneurs, can entrepreneurship be considered a source of enhanced advantage for the cadre household.

Writings on China's rural industrialization commonly assume that cadres shared in the incomes generated by growth in a fashion analogous to executive compensation in a prospering firm (Che and Qian 1998; D. Li 1996; Oi 1992; 1999; Peng 2001). Economists offer models of an "implicit, performance-based incentive contract that ties the household incomes of local officials to market liberalization" (Morduch and Sicular 2000). Detailed household income data from one county show that cadre households enjoy returns to labor many times those of other households, especially those outside agriculture (Cook 1998). Others report that "significant and relatively large political rents" have *increased* with reform. The primary source of advantage is the salaries of cadre offices and the greater access of cadre households to other forms of wage labor (Morduch and Sicular 2000). These writings thus show that some evidence for the proposition of increased returns to political position exists in the literature on organization and incentives in the rural Chinese economy. This supports my contention that political position is an asset comparable to human capital, and like entrepreneurship it is likely to yield increasing returns as a market economy expands.

THE IMPACT OF ECONOMIC EXPANSION

If, as I contend, occupants of rural political positions enjoy increased returns as a market economy emerges, several questions arise about the value of these rewards relative to human capital and entrepreneurship and how these returns are likely to change through time. First, how large are the net returns to cadre position, relative to household human capital and entrepreneurship? It matters little if cadre households enjoy statistically significant net advantages if these advantages are small. Second, do the relative returns to political position and entrepreneurship shift through time? Third, as the rural economy develops, the entrepreneur group expands with the extent of the market, but the size of the cadre group increases only marginally. Does this shift in the composition of the rural elite structure lead to a similar shift in the underlying value of cadre position and entrepreneurship? These questions can be pursued by comparing changes in estimated relative returns in surveys conducted in successive periods, and by examining cross-sectional variation in these returns across regions at different levels of economic expansion or with qualitatively different market characteristics.

What local conditions might affect the relative returns to cadres and entrepreneurs? Because marketization and economic expansion work through the same mechanisms, and many suggested measures of marketization are in fact measures of economic *expansion,* I suggest a focus on different *forms* of economic expansion. I suspect that economic expansion may be responsible for the regional differences reported in previous studies. However, different *forms* of market expansion may have different effects. One form is private household enterprise and individual entrepreneurship—the most openly privatized and market-oriented kind of rural economy. Another form is wage labor in nonagricultural enterprises, the expansion of which will reduce households' dependence on cadres for their livelihoods but which will not be so closely associated with private enterprise. Do relative returns to cadres differ in regions that have experienced different forms of economic expansion?

EVIDENCE FROM A 1996 NATIONAL SURVEY

I pursue these questions using data from a nationally representative multistage stratified random sample of households drawn from of all regions of the People's Republic of China, excluding Tibet, in 1996. Complete descriptions of the sample design and fieldwork procedures are available in the project's codebook (Treiman 1998), but several features of the study should be noted here. Rural and urban samples were drawn separately. Each sample employed 1990 census data to sort more than 2,500 county-level jurisdictions into 25 strata according to the proportion of the population with a high school education. In the rural sample, 50 county-level jurisdictions were selected with probability proportional to the rural population. Within each county, one township or town was drawn, and within each township or town, two villages were drawn with probability proportional to rural population. In each of the 100 villages, households were selected randomly based on village household registers. Random table methods were used to select an individual aged 20 to 69 for the interview, yielding a sample of 3,003 individuals/households.

HOUSEHOLD LEVEL MEASURES

HUMAN CAPITAL. Measures of human capital are used to capture changes introduced by markets (Nee 1989, 1996; Xie and Hannum 1996). Returns to human capital should rise with the growth of a market economy. And human capital measures are essential to estimate the net effects of cadre status, because cadres and their households are likely to have attributes and abilities that are rewarded in a market economy. Therefore, advantages to cadre households net of their stock of human capital help to gauge the net returns to the position itself. Human capital is conventionally measured as both education and experience (Liu 1998; Peng 1992; Xie and Hannum 1996:953–58). In prior research on rural China, the educational level of the household head (Nee 1996) or the average educational level of the household head and spouse (Nee 1989) were the measures employed, and the age of the household head has been employed to approximate work experience. Here I employ household-level measures of both attributes—the average level of education and age for all currently working members of the household (all variables are described in Appendix A).

HOUSEHOLD LABOR FORCE. I summed the number of adults in the household who were currently employed based on the enumeration of all members of the household. Inclusion of this variable in the income equations controls for wide variations in the size of the household labor force that result from household structure, life cycle effects, and differential fertility.

CADRE HOUSEHOLD. Previous studies asked respondents whether a "cadre" lives in the household,[2] allowing the respondent to define the term. This creates uncertainty, because village leaders are not "state cadres"

[2] In the China-Cornell-Oxford (n.d.) questionnaire the relevant item (L.1) is: "Are there members of the household who are currently or were formerly cadres?" The response categories are yes and no, with two follow-up questions about whether the members are current or former cadres, and their rank. The questionnaire for the 1985 survey (Xiamen University 1985) contains no question that would identify cadre households, but as described in publications (Nee 1989:670) the question appears to be identical.

(*guojia ganbu*)—they are not on the state payroll and do not have official rank. Their salaries, if any, come from funds generated within the village. However, village leaders are popularly referred to as "rural cadres" (*nongcun ganbu*), making it unclear which of the two definitions a respondent might employ. Moreover, the status, pay, and power of village leaders varies across regions. In areas with highly developed economies, village leaders are full-time administrators who receive high salaries and large bonuses for meeting production and sales targets (Oi 1992, 1999). Village leaders in poorer agricultural regions may be farmers who work only part-time as cadres (Parish and Michelson 1996:1050).

This uncertainty was avoided by asking a series of items about each adult member of the household, one of which was the rank of the job they held. The respondent was given a series of choices ranging from "ordinary worker" to seven different ranks of leaders. The variable "cadre household" is the sum of responses across all working adults. This approach identified 2.4 percent of the households as containing at least one "cadre."[3] Concerned that this detailed question might lead to an undercount of cadre households, I examined written occupational descriptions recorded in Chinese characters for each of the current activities of the respondent, spouse, and (if co-resident) father, mother, and spouse's father. Results indicate that respondents did not identify as "cadres" many of the less important village leaders, such as assistant village heads, vice-party secretaries, village accountants, or heads of the security office or militia. Based on this information, this variable was recoded, which increased the number of cadre households by half, resulting in a broader definition that included 3.8 percent of the sample.

[3] In marked contrast, the China-Cornell-Oxford survey (Chen et al. 1990) yielded over six times this figure—15.4 percent (calculated from Nee [1996, table 1]). An average village in 1986 had 230 households (Oi 1989:5). If 15 percent of the households contained a cadre, villages would have an average of 33 cadres each. Recent surveys indicate that the number of cadres in villages range from four to seven, a figure that fits with national regulations (Oi and Rozelle 2000: 522).

ENTREPRENEUR HOUSEHOLD. Prior studies employed a broad criterion to identify an entrepreneur household—an answer of "yes" to a question about whether the household ran a nonagricultural family business in addition to its agricultural activities. In the 1989 China-Cornell-Oxford sample, 7 percent of the households were identified as "entrepreneur" (calculated from Nee [1996, table 1]); in the current survey, the figure was 21 percent. The difference is attributable to the rapid growth of rural individual and private employment between 1989 and 1996.[4] The massive disparity in the size of the cadre and entrepreneur comparison groups, however, suggested that an excessively large entrepreneur group might create a downward bias in the estimates for entrepreneurs. The narrative descriptions of individual activities revealed that 72 percent of households that reported income from a nonagricultural sideline were in fact doing piece-work at home for local industry (typically textiles or fireworks), working in short-term jobs as independent construction workers (glazers, plumbers) or as individual repairmen (bicycles, home appliances, tractors). Because these activities were, in effect, skilled manual jobs rather than a family business, these households were excluded to create a more selective definition of "entrepreneur." This narrowed definition includes three types of private family enterprise: drivers who own their own vehicles and operate them hauling goods and passengers; a retail shop, restaurant, guest house, or wholesale business; or a manufacturing establishment. This restricted category, 8.1 percent of our sample, comprises rural households that have invested in and operate transportation, service, or manufacturing businesses. My analyses thus compare a broad and inclusive definition of the rural cadre household with a restrictive definition of entrepreneur.

HOUSEHOLD INCOME. Household income from various sources was estimated through a series of items. Respondents were asked a

[4] From 1989 to 1996, rural private employment grew almost five-fold, from 1.1 to 5.5 million; rural individual employment more than doubled, from 14.9 to 33.1 million (State Statistical Bureau 1997:96–7).

series of questions about household economic activities and the income derived from them, beginning with crops, then moving to agricultural sidelines, nonagricultural sidelines, the monthly wages and bonuses of various family members, and then to an estimate of total household income in the prior 12 months. It is widely recognized that self-reported income estimates of this kind are subject to significant error, especially when they involve the recall of incomes in earlier periods. Zhou (2000a:1147–48) has shown that the detailed retrospective income questions in his Chinese surveys closely approximated estimates derived from official data, suggesting at least that responses to such questions are consistent across surveys. The natural log of the estimate for total household income is the dependent variable in the analyses presented below.

Village-Level Measures of Economic Context

The core question that motivates the analysis is whether the relative net returns to political position and household entrepreneurship vary by level of economic expansion or in qualitatively different types of local market economies. Because different economic contexts will be reflected directly in the composition of household income, I use sample data on sources of household income to derive five different village-level measures of economic context.

Average village income. The first economic measure, the mean annual household income of the village (in yuan), is computed from the 30 or 31 responses of the households in each of the 100 villages. This is an overall measure of level of economic development and does not take into account the structure of the local economy. It is in fact highly correlated with the extent of the nonagricultural economy and the spread of nonagricultural wage labor (see below). I use mean village income as a control variable.

Nonagricultural development. Nonagricultural development is a direct measure of the structural change that defines economic development in a rural setting—the shift out of agriculture. It is defined as the proportion of *total* village income that is derived from nonagricultural sources. The sampled villages range from those almost wholly dependent on agriculture (.089) to those that have moved almost entirely out of agriculture (.989). The average village derives 48 percent (.484) of its income from nonagricultural sources (see Appendix A). Not surprisingly, this variable is positively correlated with average village income (r = .646).

Private entrepreneur economy. This variable gauges the relative importance of private entrepreneurship in the nonagricultural economy. It is defined as the proportion of *nonagricultural* village income derived from private household production. The lowest value is 0; the highest is .844. The average village derives 30 percent (.295) of its nonagricultural income from private household production. There is only a modest positive correlation between this variable and average village income (r = .421) and an even smaller positive correlation with total nonagricultural income (r = .203).

Wage-labor economy. Wage-labor economy measures the relative importance of wage labor in the village nonagricultural economy. It is defined as the proportion of village *nonagricultural* income derived from salaries. This assesses a form of market expansion in which households sell their labor to enterprises of various types, either locally or elsewhere, rather than engaging in private enterprise. Villages derive an average of 71 percent (.706) of their nonagricultural income from salaries. In effect, this variable is the inverse of the measure for the private household economy, and its effect is estimated separately to make interpretations of the results more intuitively obvious. It indicates a qualitatively distinct form of economic expansion that gauges the impact of growing labor markets rather than private household entrepreneurship. The variable has a weak negative correlation with average village income and village nonagricultural income that mirrors the small positive ones for private entrepreneur economy.

Wage employment. My measure of the overall importance of wage labor in the village economy is wage employment. It is defined as the proportion of *total* village income derived from salaries and bonuses. Vil-

Table 1. Level and Composition of Rural Household Income, by Household Type, 1996

Household Type	Mean Annual Income (Yuan)	Median Annual Income (Yuan)	Mean Percentage of Income from:			Number of Households
			Agriculture	Household Enterprise	Wages	
Cadre household	12,338	10,200	25.1	16.8	58.1	103
Entrepreneur household	13,947	10,000	16.1	65.1	18.8	228
Cadre entrepreneur household	67,360	15,000	2.7	84.5	12.9	10
Ordinary household	6,577	5,000	50.7	11.7	37.6	2,651
Total sample	7,540	5,000	43.1	21.6	35.4	2,992

lages derived a minimum of 5.7 percent (.057) and a maximum of 74 percent (.737) of their total income from this source. This variable is highly correlated with nonagricultural village income ($r = .749$), and it is also positively correlated with average village income ($r = .646$).

Our village-level contextual variables capture qualitatively different dimensions of economic expansion. Nonagricultural development and wage employment are two measures of the extent to which a village economy has moved out of agriculture. These variables therefore should be interpreted as measures of the impact of economic growth and structural change. Private entrepreneur economy and wage-labor economy, however, capture qualitative differences in the local economy. Because these two variables ignore the overall local level of development by focusing solely on the composition of nonagricultural income, they indicate two qualitatively distinct paths of rural development: Private entrepreneur economy indicates a path of development based on private household production for the market, while wage-labor economy indicates a path of development based on wage labor in enterprises inside or outside the village. Although the predominant forms of ownership of the enterprises in which villagers are employed are unknown, I expect that villages showing high values for this variable will be those that have industrialized under public ownership or that are close to towns and cities. As indicators of different paths of economic growth, private entrepreneur economy represents private ownership and independent production and marketing of goods and services, while wage-labor economy represents simply the expansion of labor markets.

INCOMES OF CADRES AND ENTREPRENEURS IN 1996

Table 1 examines the mean incomes of different types of rural households and the sources from which their income is derived. The categories examined parallel those used in the subsequent multivariate analyses.

The mean and median incomes of the cadre and entrepreneur households are roughly equal and double the income of the ordinary households. This suggests that by the second decade of reform, a dual elite had emerged in China's villages, and each type of elite household earned roughly equal incomes. However, the incomes of the two groups have markedly different sources: Cadre households earn 58 percent of their income from wages and only 16.8 percent from private household activities, whereas in entrepreneur households, the figures are reversed. Ordinary households, by contrast, still derive 51 percent of their income from agriculture, 38 percent from wages, and only 12 percent from household nonagricultural activities.

One change from studies conducted in the 1980s is the continued expansion of the entrepreneur category. Even with our relatively restrictive definition of the entrepreneur household, there are now more than twice as many entrepreneurs as cadres. This is a clear result of economic growth and structural change in a rural setting. Economic expansion creates many new jobs outside of agriculture, but not in rural administration.

Initially, two things are striking about cadre entrepreneur households. The first is their extraordinarily high mean incomes. The mean figure in Table 1 is somewhat misleading because of one very wealthy household. The median cadre entrepreneur household can expect to earn roughly 50 percent more than either the cadre or entrepreneur households. The second thing of note is the small number of cadre entrepreneur households—only 10. The percentage of cadre households that are also entrepreneurs (9.7 percent) is roughly the same as for the total sample (7.6 percent). This figure may seem low, but readers should recall the restrictive definition for "entrepreneur"—only those who own and operate a substantial private family business are included. And the proportion of cadre households in our sample that run family businesses is not lower than that in the China-Cornell-Oxford survey.[5]

Although considerable attention has been devoted to the cadre entrepreneur in past research, their numbers have always been extremely small. It is not difficult to discern why. There is a weak incentive for adding another, different activity to the household mix. Cadre and entrepreneur households already earn very large and roughly comparable incomes. Cadre and entrepreneur households may prefer to intensify their efforts to increase family income with familiar strategies—entrepreneurs by expanding their businesses, cadres by increasing their pay from village enterprises or by arranging high-salaried positions for family members. Also, there are likely to be costs and risks experienced by cadre households that contemplate opening a family enterprise—costs in terms of time devoted to the business activity, risks both in terms of political strictures against official corruption and the ordinary risk associated with the loss of investment in a failed business activity. Cadre households may well prefer to rely on more secure, familiar, and high-salaried posts. Entrepreneur households, on the other hand, may see little advantage in taking on cadre duties. Thus, villages appear to have a "dual" elite composed of two distinct groups with separate bases of income, rather than a "hybrid" elite defined by high levels of cadre participation in private household business.[6]

AN ANALYSIS OF INCOME DETERMINATION

The multivariate analyses of income determination that follow have two goals: to estimate the relative *net* returns to cadre and entrepreneur households, and to determine whether these returns vary with economic growth or by the qualitative characteristics of local economies. As in prior studies, I will look closely for indications that the relative returns to cadre households vary by local economic context. Unlike prior studies, however, the estimates of net returns to *both* cadre *and* entrepreneur households will be examined. Prior studies have examined the sign and level of statistical significance of the coefficients for cadre and entrepreneur households, and for the interaction of cadre household with various measures of marketization. It is essential, however, to compare the magnitudes of these net advantages and to consider the possibility that the returns to entrepreneurship may also vary by economic context. I use contextual variables to examine regional differences, and implement them in multilevel models with interaction terms between village-level variables and household-level variables.

The coefficients reported here are from hierarchical linear models estimated with iterative generalized least squares methods by MlwiN version 2.1 (Multilevel Models Project 2000). Because the dependent variable is the natural log of household income, coefficients can be transformed [100 (e^b–1)] to express the percent change in the dependent variable resulting from a one unit

[5] The proportion of cadre-entrepreneurs in our sample (.004) is half that in the China-Cornell-Oxford study (.009, calculated from Nee [1996, table 1]), but this is because of the much higher proportion of cadres in that sample. The incidence of "cadre entrepreneurs" among the *cadres* in our sample is actually higher than that in the earlier study.

[6] This observation is based on the household level of analysis. Examination of kinship and friendship networks among cadre and entrepreneur households may yield a different perspective.

change in the independent variables. I rely on this feature throughout to provide clear and intuitive interpretations of the findings.

I have shown that cadre and entrepreneur households earn roughly equal mean incomes that are double the mean income of ordinary households. What are the *net* contributions of entrepreneurship or cadre status to the incomes of these households relative to their measured human capital and other characteristics? Early studies based on data from the mid-1980s found no net returns to cadre households after controlling for entrepreneurship and household characteristics (Nee 1989). Later studies based on late 1980s data reported large positive coefficients for both entrepreneur and cadre households, but their relative magnitudes were not calculated and compared (Nee 1996).

Model 1 in Table 2 reports coefficients estimated for a baseline model that excludes household-village interactions. Note that there are large net returns to measures of human capital—much larger than were found in previous studies of urban and rural China. Each additional year of average household education adds 6 percent to total household income in 1996.[7] Each additional year of average age of working household members (our proxy for work experience) adds 9.4 percent to household income, and the quadratic term, age squared, is negative, indicating that this effect shrinks with age.[8] Each additional member of the household who works adds a substantial 22 percent to household income. While these larger estimates may be the result of more precise measures of the attributes of all household members who currently work, these findings are consistent with the established finding that a shift away from agriculture increases economic returns to the human capital attributes of rural households. Thus, the rapid expansion of China's rural economy may have substantially increased returns to human capital from the first to second decade of market reform. These estimates are constant across all the models in Table 2.

Our primary interest, of course, is in the coefficients for cadre and entrepreneur households, which represent their net returns after controlling for various human capital attributes. The term for the cadre entrepreneur household in these equations serves primarily to ensure that their high incomes are not included in the estimates for either cadre or entrepreneur. Not surprisingly, the estimated coefficients for cadre entrepreneurs are large but not statistically significant, as the median income and small number of cases for this category indicated in Table 1 would suggest. The inclusion of this category in all equations means that I will compare the net advantages of cadre households that do not operate a family business with entrepreneurial households that do not contain cadres.

The estimates for cadre and entrepreneur households are large and of comparable magnitude across all models. In the baseline model (Model 1), which controls for average village income but excludes village-household interactions, the net advantage of having a cadre in the household is 40.6 percent; that of operating a family business is 52.5 percent. Comparable estimates for 1989, calculated from Nee's (1996) tables, are 33 percent for cadre and 66 percent for entrepreneur.[9] The difference in my esti-

[7] Nee (1996:929) reported estimates for primary school of .071 and lower middle school of .095. Because these categories represent six and nine years of education, respectively, the estimated effect for each year of education was roughly 1 percent. The effect of education was actually *negative* in models that controlled for household income in an earlier period (Nee 1996:936). Xie and Hannum (1996:956) estimated urban net returns to years of schooling of .031, an effect roughly half of ours (their measures were individual-level data and their models predicted individual income). Their estimates fit with those reported by Liu (1998), who noted that returns to education in urban China during the 1980s have been low by international standards.

[8] Nee's (1996:929) comparable estimate for age (age of household head) was .068, somewhat lower than ours. Xie and Hannum (1996:956) reported an estimate for each year of work experience (not age) of .044—roughly half the effect of each year of average household age in our sample. Both studies report statistically significant negative coefficients for the quadratic term.

[9] Nee (1996:929) reported coefficients for entrepreneur households in two models of .505 and .506, or a 66 percent net increment in household income. The effect for the cadre household was calculated from information provided in tables.

Table 2. Multilevel Model Coefficients from the Regression of Household Income (ln) on Household Characteristics and Village Economic Context: Rural China, 1996

Independent Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Household-Level Variables					
Household education	.056*** (.006)	.054*** (.007)	.057*** (.007)	.057*** (.007)	.055*** (.007)
Household age	.089*** (.012)	.091*** (.012)	.091*** (.012)	.091*** (.012)	.092*** (.012)
Age squared	−.001*** (.000)	−.001*** (.000)	−.001*** (.000)	−.001*** (.000)	−.001*** (.000)
Household labor	.191*** (.014)	.203*** (.015)	.200*** (.014	.199*** (.014)	.201*** (.014)
Cadre household	.341*** (.089)	.337*** (.098)	.358*** (.090)	.358*** (.090)	.366*** (.096)
Entrepreneur household	.422*** (.062)	.472*** (.074)	.350*** (.067)	.341*** (.067)	.511*** (.067)
Cadre entrepreneur household	.310 (.296)	.436 (.314)	.255 (.306)	.231 (.307)	.481 (.301)
Village-Level Economic Context					
Average household income × 100	.011*** (.001)	—	—	—	—
Nonagricultural development	—	1.216*** (.177)	—	—	—
Private enterpreneur economy	—	—	.463* (.209)	—	—
Wage-labor economy [a]	—	—	—	.541** (.209)	—
Wage employment[b]	—	—	—	—	1.038*** (.261)
Household-Village Interactions					
Cadre × Village context	—	.107 (.420)	.184 (.448)	.215 (.467)	−.326 (.507)
Entrepreneur × Village context	—	−.127 (.376)	1.372*** (.300)	−1.413*** (.299)	−1.345*** (.421)
Intercept	6.004*** (.263)	5.864*** (.267)	5.858*** (.268)	5.862*** (.268)	5.850*** (.268)
−2 log-likelihood (IGLS)	7,672.9	7,762.8	7,801.4	7,779.2	7,787.9

Note: Standard errors are in parentheses. All continuous variables are centered on their means. The main effects for cadre and entrepreneur households therefore represent the effect at the sample mean for that level on the village context variable. N = 2,989 for all models.

[a] Defined as village income from wage employment/village nonagricultural income.

[b] Defined as village income from wage employment/village total income.

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

mates for these two coefficients is not statistically significant. These estimates indicate, as the descriptive statistics in Table 1 suggest, that having a rural cadre in the household contributes roughly the same amount of income as owning and operating a substantial family business.

At mean levels of development of "production market" (the number of nonstate enterprises in the village), estimated net returns to cadre households were 33 percent (calculated from Nee [1996, tables 1 and 2]). Insufficient information was provided to perform the same calculation for the second model.

The estimates for both cadre and entrepreneur are very large—the estimated net effect of having a cadre in the household, for example, is equal to the impact of seven years of average household education, four years of average household work experience, or two additional working household members. It is likely, though, that there are individual attributes possessed by cadres and entrepreneurs that distinguish them from others and that are not captured by standard human capital measures (Gerber 2000). Therefore these coefficients are not presented as pure measures of the impact of cadre position or entrepreneurship per se.[10] However, whatever these unmeasured individual attributes may be, there is no reason to suspect that entrepreneurs have them to any lesser degree than cadres.

The primary question is whether cadre or entrepreneur advantages are smaller in regions with higher levels of economic expansion or in regions with a more extensive development of either labor markets or the private household economy. Models 2, 3, 4, and 5 in Table 2 report estimates that incorporate the main effects and interaction terms for one of four different measures of village economic context. Model 2 reports estimates for a model that includes interaction terms for both cadre and entrepreneur household with nonagricultural development. Models 3 and 4 provide the same estimates for measures of the extent to which the village nonagricultural economy is dominated by private entrepreneurship versus wage labor. Model 5 examines the impact of growth in wage employment overall.

It is clear that economic context has a large impact on household income. Each 100 yuan in average village income (Model 1) increases household income by around 1 percent, which represents a difference of 271 percent across the observed range of village incomes (see Appendix A). Each percentage-point increase in the proportion of total village income earned outside agriculture (Model 2) increases household income by 2.4 percent. Each percentage point increase in the proportion of total village income derived from wage labor (Model 5) increases household income by 2 percent.

Does the large positive impact of cadre status vary according to these contextual variables? I suspected that this would be the case because of evidence from the late 1980s that the net returns to cadre position were significantly lower in rural regions that had exhibited higher levels of some form of economic expansion.[11] However, there is no evidence for such an effect in these estimates—the cadre advantage appears to be stable across economic contexts. None of the four interaction terms is as large as its standard error. In other words, the estimated net advantage to cadre households does not vary by the extent to which a village has moved out of agriculture, by the extent to which the local nonagricultural economy depends on private household enterprise, or by the extent of development of local labor markets.

However, the net returns to entrepreneurship are highly sensitive to local economic structures. They decline sharply with the expansion of labor markets, and they increase sharply to the extent that private household entrepreneurship is widespread. The estimated coefficients for the household-village interaction terms for entrepreneurship are large and statistically significant in Models 3, 4, and 5. Therefore, the net returns to entrepreneurship, not cadre position, vary with local economic context.[12]

[10] In addition to the selectivity effects highlighted by Gerber (2000), years of experience in a cadre position can be interpreted as a form of human capital in rural China, because of the role of rural cadres in economic management (Zhao 2000). The distinction commonly drawn between human capital and political capital is therefore conceptually and empirically untenable in certain situations.

[11] Nee (1996) found that returns to cadre households declined with the number of nonstate enterprises in the village. In villages one standard deviation below the mean (1.16 enterprises), the net return to cadre households was 52 percent, while in villages one standard deviation above the mean (4.9 enterprises), it was only 17 percent (calculated from Nee 1996:930). Not enough information is provided to calculate net returns at different levels of community income.

[12] Prior studies did not examine interactions of entrepreneurship with economic context, so it is not known whether earlier surveys would have yielded different findings. Some prior estimates (Nee 1989, 1996) included an additional control for estimated household income in a prior year,

Table 3. Estimated Net Return to Cadre Position and Entrepreneurship, by Structure of Village Economy

Sample Percentile	Proportion of Village Nonagricultural Income from Private Enterprise (1a)	Net Return to Entrepreneur Households (Percent) (1b)	Proportion of Village Nonagricultural Income from Wages (2a)	Net Return to Entrepreneur Households (Percent) (2b)	Proportion of Village Income from Wages (3a)	Net Return to Entrepreneur Households (Percent) (3b)	Net Return to Cadre Households (Percent) (4)
5th percentile	.033	−1.0	.313	145.1	.078	134.3	40.6
25th percentile	.141	14.9	.591	65.4	208	96.7	40.6
50th percentile	.263	35.8	.737	34.6	.331	66.7	40.6
75th percentile	.403	64.6	.853	14.3	.441	43.8	40.6
95th percentile	.697	146.3	.959	−1.6	.623	12.6	40.6

Sources: Columns 1a, 2a, and 3a are from sample tabulations. Columns 1b, 2b, and 3b are calculated from model estimates in Table 2, Models 3, 4, and 5, respectively. Column 1b is calculated as $b = .350 - [1.372 \times (.295 - x)]$, where .295 is the sample mean for the village context variable and x is the figure reported at each percentile of Column 1a. The adjusted b is then transformed $[100\ (e^b - 1)]$ to obtain the percentage figure. Column 2b is similarly calculated as $b = .341 - [-1.413(.706 - x)]$, and Column 3b as $b = .511 - [-1.345 \times (.331 - x)]$. Column 4 is derived from the coefficient for "cadre household" estimated in Model 1 of Table 2 and is constant across all village contexts.

Model 2 shows that economic development per se has no impact on the relative returns of entrepreneurs. The coefficient for the entrepreneurship × nonagricultural development interaction term is small and statistically nonsignificant. However, Models 3, 4, and 5 make clear that the apparently neutral impact of economic growth masks sharp differences in local economies where development is led by household entrepreneurship versus wage employment. Where the nonagricultural economy is dominated by household entrepreneurship, the net returns to entrepreneurs are large, as seen in the large positive coefficient for the entrepreneur × village context interaction term in Model 3. Where the nonagricultural economy is dominated by wage labor, the reverse is true, as seen in the large negative coefficient for the wage labor × village context interaction term in Model 4. Model 5 further demonstrates the point: As the overall importance of wage employment in *total* village income grows, the net advantages of entrepreneur households decline.

The size of the coefficient for the interaction term provides further information about how the relative returns to private business vary by local economic context. Table 3 displays estimated net returns to private household enterprise across the percentile range of the village context variables in Models 3, 4 and 5. Because net returns to cadre households do not vary by local economic context, the cadre figure, calculated from the baseline model (Model 1), is reported as a constant percentage in Column 4.

Columns 1a to 2b of Table 3 show that returns to entrepreneurship are highly sensitive to the structure of the nonagricultural economy. Columns 1a and 2a provide the sample percentile range for the structure of the nonagricultural economy. Column 1a is the proportion of village nonagricultural income earned from private entrepreneurship, and Column 2a is the corresponding figure

and it has sometimes been argued that such controls are necessary to properly assess changes in income. Household income in 1986 is highly correlated with current household income (.732). When I estimate Model 1 in Table 2 with this variable as an additional control, the coefficients for education, cadre, and entrepreneur are all somewhat smaller, but their relative magnitudes and the substantive results are unchanged. Including this variable as an additional control in our equations with household-village interaction terms introduced a degree of multicollinearity that prevented the software from converging on stable model estimates.

for wage labor, which is the inverse of the first figure. Moving down Column 1a and 1b we observe the effects of moving from a nonagricultural economy dominated by wage labor to one in which private household entrepreneurship rivals wage labor in importance. At the lowest levels of private entrepreneurship, where (at the 5th percentile) only 3 percent (.033) of nonagricultural income is from this source (as opposed to 96 percent from wage labor), the net return to entrepreneurship is virtually zero. At the sample median, where 26 percent (.263) of nonagricultural household income comes from entrepreneurship, the net returns to entrepreneur and cadre households are virtually the same (35.8 and 40.6 percent). At the highest levels of private entrepreneurship, where (at the 95th percentile) 70 percent (.697) of nonagricultural income is from this source (versus 30 percent for wage labor), the net return to entrepreneurship is 146 percent, more than triple that of cadre households. The calculations reported in Columns 2a and 2b express the same findings in terms of wage income. Clearly, where the village economy relies heavily on private entrepreneurship, relative returns to entrepreneurs are large, and larger than returns to cadre households. Equally clearly, however, where the village economy relies heavily on wage labor, net returns to entrepreneurs are much smaller, and apparently smaller than net returns to cadre households.

These results, which are based on the structure of nonagricultural income, ignore overall levels of economic development. Columns 3a and 3b of Table 3 illustrate the impact of the form of economic development represented by wage-based industrialization by showing the impact of wage employment in the local economy overall. The results strongly parallel those reported in columns 2a and 2b: as wage employment spreads, large net returns to entrepreneurship drop sharply. Net returns to entrepreneur households that are two or three times larger than returns to cadre households in the lower percentiles shrink to insignificance at the highest levels of wage employment.

An obvious overall interpretation of these village-entrepreneur interaction effects is that in villages where there are few opportunities for wage labor, and where "ordinary" households rely on agriculture for their incomes, private household entrepreneurship is a lucrative undertaking whose returns are far superior to cadre position. However, as wage employment spreads, more "ordinary" households shift out of agriculture and into wage labor, income for the ordinary household rises, and the net returns to household entrepreneurship decline to the point where they are relatively modest. There is surely some endogeneity in these effects. In regions where wage-labor opportunities are most widespread, many of the more capable individuals will likely choose the more lucrative and inherently less risky salaried positions over private household production. In these two separate ways, the rise in incomes for ordinary households because of the wide availability of wage labor reduces the relative returns to entrepreneurship.

The net advantage of cadre households, by contrast, is not sensitive to economic growth or the qualitative features of village economies. Changes in the *relative* advantage of cadre position occur only because of changing returns to entrepreneurship. Cadre positions will be well-compensated in the more industrialized villages, and cadres themselves and their family members are more likely to obtain high-paying positions in the local wage economy (Parish et al. 1995). The estimates suggest that cadre households are able to maintain their advantage as wage labor becomes more universal—but, by the same token, their net advantages do not grow. Table 1 reinforces this interpretation because it shows the heavy reliance of cadre households overall on wage and salary income.

These cross-sectional findings do not imply that the development of labor markets *inherently* reduces returns to entrepreneurship any more than they imply that the relative advantages of cadre households will remain indefinitely at current levels as village economies grow and change in the future. Instead, they illustrate the contention made at the outset—that observed changes in inequality may be associated with forms of economic growth rather than marketization per se. They also help resolve a central issue in recent debates, for it is clear in retrospect that early surveys reported large net returns to entrepreneurship that typically occur in

the early stages of market reform before industrialization increases levels of wage employment. Predictions based on these findings exaggerated the impact of marketization because subsequent economic expansion based on wage labor suppressed returns to household entrepreneurship while failing to erode the wage-based advantages of cadre households.

THE FINDINGS INTERPRETED

I have reported three main findings. First, the net returns to cadre and entrepreneur households in 1996 were large and of roughly equal magnitude, although they were rooted in different forms of income. Second, the net returns to cadre households do not decline with overall levels of rural economic expansion, or with the expansion of private household entrepreneurship or wage employment. Third, the net returns to private household entrepreneurship decline sharply with the expansion of wage employment. Relative advantages of household entrepreneurs are therefore largest in heavily agricultural villages where household entrepreneurship expands before the spread of nonagricultural wage labor.

The first of these findings is consistent with estimates based on the 1989 China-Cornell-Oxford study (Chen et al. 1990). Calculations based on material published in Nee's (1996) analysis of this data set produce estimates based on a much broader definition of entrepreneur and that is double the magnitude of the cadre effect. There is some uncertainty about the comparability of these estimates because of the much larger proportion of cadre households in the 1989 sample, but the estimated effect (33 percent) differs only marginally from my own (44 percent). And my estimate for returns to entrepreneurship (53 percent) is only marginally lower than Nee's (1996) earlier estimate (66 percent). The most important difference between the findings of these two cross-sectional studies is that my definition of entrepreneur is restricted to the 28 percent of the households that reported substantial private enterprises, whereas the 1989 estimate included the entire category. Given my more restrictive definition, the estimate of the returns to entrepreneurship in the second decade of reform in China is larger than it would have been if a less restrictive definition had been used.

The second finding—that net returns to cadre households are invariant across levels of rural development and qualitative features of local economies—diverges sharply from prior findings and is somewhat unexpected. Nee (1996) reported strong negative interaction effects between cadre status and two measures of economic expansion: the number of local nonstate enterprises and average levels of local income. One possible explanation for the difference in these findings is differences in the samples—the China-Cornell-Oxford survey overrepresented more prosperous rural regions.[13] Moreover, despite the fact that our sample design used probability methods at each level and that the primary sampling units were also stratified by an educational measure correlated with economic growth, my findings may nonetheless be sensitive to the characteristics of the sampled localities, especially those at the extremes of the distribution. I therefore do not claim that the findings definitively refute the notion that economic expansion and structural change in local economies may eventually reduce relative returns to cadre households—a plausible expectation. However, I cannot replicate the earlier cross-sectional finding that cadre income advantages decline with either marketization or eco-

[13] According to the survey documentation, "The county selection procedure was not intended to be random, but was simply intended to produce a wide range of cancer rates and wide geographic scatter" (Chen et al. 1990:8) The primary sampling units (counties) were drawn in successive stages from 25 strata defined by male nasopharyngeal cancer mortality rates. The county within each stratum with the highest mortality rates from various kinds of cancer was selected until a total of 65 counties was reached. Counties with a population less than 100,000 were excluded at this stage. The study required the collection of perishable medical samples, restricting the selection of primary sampling units to counties that had an adequate medical lab, and the sampling points were limited to units located within four hours of the county seat to ensure preservation of the samples (Chen et al. 1990:7–8). The design of the study inevitably underrepresented less developed and more remote counties and villages.

nomic expansion.[14]

The third finding—that net returns to entrepreneurship decline sharply as wage employment rises—is the most noteworthy because prior research had not considered the possibility. This novel finding forces us to rethink the unspoken assumption that private household entrepreneurship is the defining activity of a genuinely market-oriented rural economy, one destined to enjoy increasing returns through time and eventually become the dominant income source in the future. The cross-sectional finding that returns to private household entrepreneurship decline sharply with the prevalence of wage employment suggests a radically different view: that private household activities enjoy the highest returns in the *early* stages of market reform, but as a wage-based economy becomes more firmly established, private entrepreneurship becomes just another way to make an ordinary living.

Is there other evidence that private household entrepreneurship earns its highest rewards in the early stages of market reform, before the spread of a modern enterprise-based wage economy into rural regions? Reexamining the successive estimates of returns to entrepreneurship in prior studies, I find them consistent with such an interpretation. The first study of this subject, based on a local 1985 survey (Nee 1989), reported large returns to entrepreneurship and no net returns to cadre households. Indeed, that study showed that cadre households that did not also enter into private entrepreneurship fell behind ordinary households. The second study, based on a nationwide 1989 sample, estimated net returns to a very broad definition of entrepreneurship of 66 percent—double the estimate for cadre households. Our 1996 sample, despite employing a much more selective definition that restricted "entrepreneurship" to only those households that actually ran a substantial business, nonetheless yielded a marginally smaller estimate of the net return to entrepreneurship of 53 percent.

While returns to entrepreneurship appear to be declining slowly in successive cross-sectional estimates, net returns to cadre households appear to have grown slowly and stabilized. The early 1985 estimate showed no net returns to cadre households (Nee 1989), while the 1989 survey showed net returns for cadre households of 33 percent—but returns that were lower where levels of market expansion were higher. Our 1996 survey yields an estimate of 41 percent, but this figure is stable across local economic contexts. One interpretation of these successive cross sectional findings is suggested by the way that returns to entrepreneurship (but not cadre position) are reduced by higher levels of wage employment. The gradually diminishing returns to private entrepreneurship and the slowly rising and stabilizing returns to cadre households may reflect the impact of rising levels of wage employment through time and across rural regions.

This highly tentative interpretation does not imply that the shift from plan to market inherently favors cadre households, for it is obvious that private entrepreneurship has emerged as an important path to wealth for a large proportion of rural households in a relatively short period of time. Nor does the observation that the net returns to household entrepreneurship may be highest in the early stages of market reform suggest that the shift from plan to market inherently depresses returns to private entrepreneurship. My interpretation suggests, instead, that there is no generic market effect: The shift to a market economy has no inherent implication for relative returns to political position and entrepreneurship. Relative returns vary with the predominance of wage labor and household enterprise, and at current levels of development they vary because of the sensitivity of entrepreneurship—not cadre incomes—to local economic contexts. The impact of market reform works through institutional change, to be sure, but in rural China some of the key institutional changes are inherent in the shift from agriculture to industry, not from plan to market.

[14] I tried additional specifications not reported here. County-level measures of rural industrial output per capita and average income per capita, gathered from published yearbooks, yielded negative coefficients for the interaction term with cadre but were roughly equal to the size of their standard errors. Using township-level rather than village-level measures did not substantially change the estimates reported here, and in no case were there significant interaction terms for cadre households.

CONCLUSION

The expansion of private household entrepreneurship has created a large and prosperous new class of rural entrepreneurs whose incomes rival those of cadres. However, household entrepreneurship has an unanticipated rival: the spread of wage labor resulting from industrial growth. Initial research on the subject showed that the impact of entrepreneurship is large in the early stages of market reform and economic growth (Nee 1989). These effects are still much in evidence in agricultural communities that to this day offer few opportunities for wage labor. In such communities, the net returns to entrepreneurship far outstrip those to political position. However impressive these initial changes, they have not provided a reliable basis for projecting future trends. Income from wage labor in rural industry reduces relative returns to entrepreneurship but—so far—not to cadre households. By 1996, only 30 percent (.295) of village nonagricultural income came from entrepreneurship while the remainder was from wage employment (see Appendix A). Unless the relative growth rates of private entrepreneurship and wage employment shift drastically, it is unlikely that private entrepreneurship will have the transformative impact it exhibited in the early stages of growth.

This is a clear pattern of path dependence, but what type of path dependence? Relative returns to cadres and entrepreneurs vary depending on the relative importance of wages and entrepreneurship in the local economy. Localities that experience an early surge of household entrepreneurship exhibit sharp declines in relative cadre advantage that are reversed with the spread of wage labor. By raising incomes for ordinary households, wage labor reduces the net returns to entrepreneurs. Because of the key role of public ownership and government management in building the rural enterprises responsible for rapid growth, salaries for cadres and their household members have grown apace, and the net returns to cadre households have not declined.[15] This is not a pattern of path dependence in which an inevitable decline of cadre advantages takes longer in less entrepreneurial regions than other regions. It is a pattern in which the early leap in entrepreneur advantage is eventually reversed as wage labor spreads.

This does not mean that relative cadre advantages will never decline; it means that such declines—when they eventually occur—will be due to mechanisms other than the spread of household entrepreneurship. To generate such a decline would require a qualitatively different process: The massive assets accumulated by rural enterprises under public ownership in recent decades would need to be transferred systematically to private owners. This would increase relative returns to private entrepreneurs by adding, through legal reclassification, a new group of very large businesses to that category. At the same time, this transfer would reduce the flow of income to cadre households, which has been based on control rather than ownership of these assets. Such a process, however, is subject to political manipulation. This qualitatively different form of privatization, to the extent that it occurred, would shift the focus of research away from the relative returns to cadres and entrepreneurs. Decisive declines in cadre advantage at this stage might simply mask a massive transfer of wealth into the hands of current or former cadres and their associates. To examine this possibility one would need to analyze transition rates across positions, not income returns to positions.

My focus has been narrow, but the message is broad. The term "transitional economy" is a convenient label for a wide variety of economies that share one abstract feature: the move from plan to market. But transitional economies also operate according to processes already familiar in other settings. In rural China, economic growth and structural change shape relative changes in political advantage. The spread of wage labor has led rural China out of agriculture, and this generic structural change has eroded net returns to entrepreneurs, but not to cadres.

[15] Note that the impact of expanding wage labor on net returns to entrepreneurship is not altered by the ownership form of the hiring enterprises. However, the ownership form of rural industry should have an impact on the net returns to cadre position.

We have seen that "redistributive" economies—the starting points of transition—differ in fundamental ways. Mao-era rural collectives lacked certain defining features of this type, suppressing returns to cadre position along with education and entrepreneurship. This meant that market reform inevitably unleashed cadres as well as entrepreneurs. Transition means different things in different settings. Rural China is moving from an agrarian subsistence regime to a diversified, market-oriented economy through rapid growth in household entrepreneurship and even more rapid growth of wage labor in publicly owned enterprises. Transition in urban Russia, by contrast, has meant contraction of employment, declines in real wages, economic restructuring of large corporations, and the rapid transfer of ownership into private hands (Gerber and Hout 1998). The point is not that outcomes of market transition vary, but that the causal processes to be analyzed in each case will have little in common. The more fully we appreciate that there is much more to transitional economies than the shift from plan to market, the better we will understand the consequences of this shift.

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APPENDIX A

Definitions and Descriptive Statistics for Variables Used in the Analysis

Variable	Definition	Minimum	Maximum	Mean	S.D.	Number of Cases/ Villages
Household-Level Variables						
Total household income	Estimate of annual household income from all sources (natural log)	0	12.9	8.49	1.05	2,992
Household education	Average years of education of all working household members	0	16	5.68	2.92	3,003
Household age	Average age of all working household members	20	69	40	9.25	3,000
Household labor	Number of working household members	0	10	2.50	1.18	3,003
Cadre household	Household that contains at least one political officeholder but does not operate a family business	0	1	.038	.191	3,003
Entrepreneur household	Household that operates a family business but does not contain a political officeholder	0	1	.081	.272	3,003
Cadre entrepreneur household	Household that contains a political officeholder and also runs a family business	0	1	.004	.060	3,003
Village-Level Variables						
Average household income	Average total annual household income in the sampled village (yuan)	2,186	29,371	7,541	4,717	100
Nonagricultural development	Proportion of total village household income earned outside of agriculture	.089	.989	.484	.218	100
Private entrepreneur economy	Proportion of village nonagricultural income earned from private household enterprise	0	.844	.295	.199	100
Wage-labor economy	Proportion of village nonagricultural income earned from salaries and bonuses	.157	1.0	.706	.196	100
Wage employment	Proportion of total village household income earned from salaries and bonuses	.057	.737	.331	.161	100

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