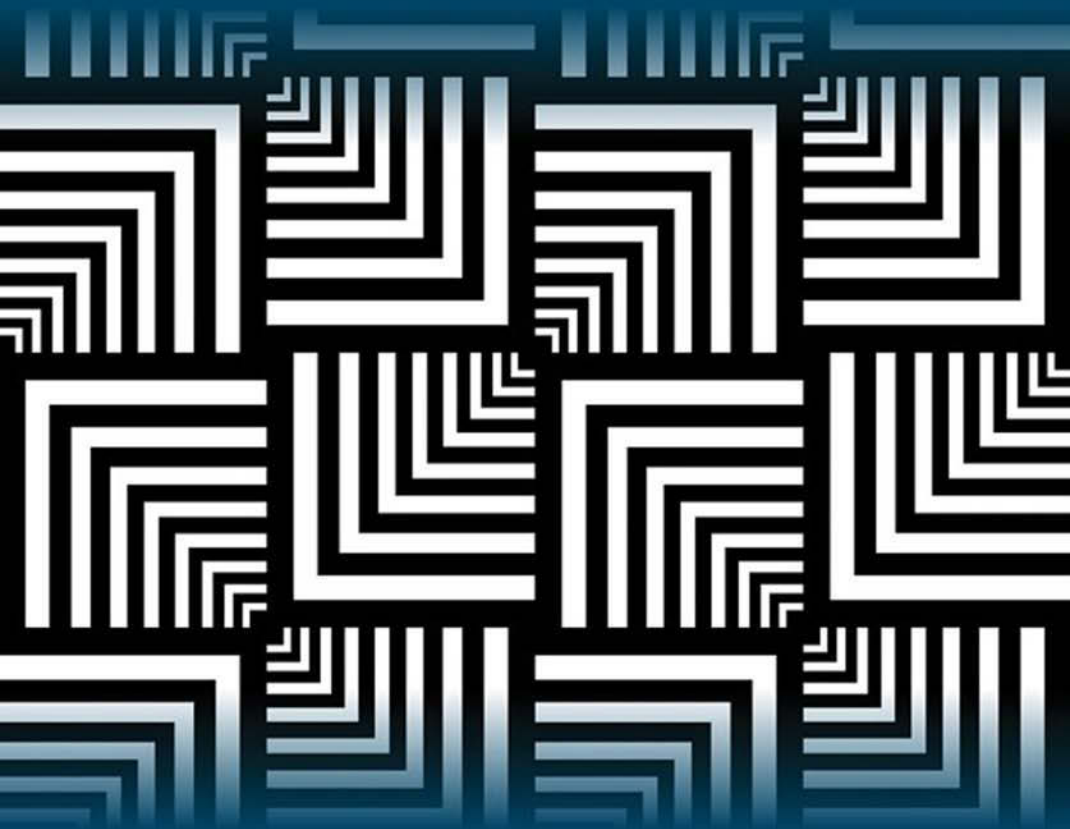
CHINA in TRANSFORMATION

CONSTRUCTING CHINA'S CAPITALISM

SHANGHAI AND THE NEXUS OF URBAN-RURAL INDUSTRIES



DANIEL BUCK

Constructing China's Capitalism

China in Transformation

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Constructing China's Capitalism

Shanghai and the Nexus of Urban-Rural Industries

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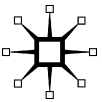

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To Yi-Liang, and my parents
and grandparents

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Abbreviations, Figures, and Tables

Abbreviations

Throughout this book, interviews are cited with capitalized letters representing the industrial sector, and a number representing the sequence of the interview in that sector. The sector, type of enterprise, and status of each interviewee is described in the text wherever it is relevant.

A	Automobile
B	Bicycle
M	Motorcycle
R	Refrigerator
S	Sewing Machine
I	Meters and Instruments
O	Other
MG	Municipal Government (Shanghai official)
LG	Local Government (county, township, or village official)
P	Professor
SOE	State-owned enterprise
TVE	Township- or village-owned enterprise

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Foreword

The "rise of China" is a cliché that resonates in China as in the rest of the world. It is now more than a century and a half since China's self-sufficient economy was forced by gunboats and treaties to open up to an incipient global interest in a fabled market offering the vista of innumerable consumers for endless commodities. By the same token, the prospect of an "awakening" China also conjured up a fearfully racist specter of a "yellow peril" flooding the world with inscrutably industrious Chinese. The political breakdown of the country and its nationalist and socialist revolutionary struggles through much of the twentieth century deferred the market dreams. However, China has now been reconstituted as a bastion of cheap labor and manufacturing for the global market. In place of earlier communist fantasies, the present reality is variously viewed as a model of globalization or as an ugly capitalist dystopia.

Starting around 1980, China has transformed itself again and the dream of a "rising China" has been reanimated, inviting excited speculation about the coming "Chinese century." The nightmare of a Chinese take-over of the world—demographic as well as financial and military—has been reawakened. Within China itself, the precipitous "rise" of the past two decades has provoked a series of critical reflections along with nationalistic jingoism. At the same time, China's financial power and its capacity for investing huge shares of GDP have generated much attention to the mechanisms of the state-market dynamic. The continued hegemony of the Communist Party, which presides over a fundamental transformation of Chinese society along the ostensible lines of capitalist—or state-capitalist—production, presents endless paradoxes and contradictions. The regionalization of its economy and the local variations in directing its transformative energy create opportunities for structural, institutional, and grassroots innovations within the overall national pattern.

How can we understand the "rise of China" along with the internal and global transformations it implies? How can we peel away the

layers of cliché—historical and contemporary—to arrive at analytically rigorous scholarship about China's current situation and its role in the world of which it is an increasingly important part? How can we dissect the meaning of "China's rise" without buying into reified fantasies and dystopias that characterize much current journalism and scholarship about China and the world?

For this series, *China in Transformation*, we hope to identify and publish outstanding works of original research on, as well as translations and analyses of, the debates about China today. Critical, interdisciplinary, and global in its outlook, the series seeks to break through the myths and ideologies surrounding the "rise of China" to arrive at a reasoned perspective on China and the world. We seek to situate China in its historical, regional, and international contexts, and to locate global trends with reference to China, so as to reflect in a comprehensive way what has happened, where events/trends might be going, and why we should care.

The series is intended to be a flexible endeavor to identify longer-term problems and issues. Not constrained by discipline, perspective, or method, it launches a new perspective on China in transformation that contributes to a growing and multifaceted scholarship.

CARL RISKIN, LIN CHUN, and
REBECCA KARL
November 2011

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Figure I.1 Map by Alethea Steingisser, InfoGraphics Lab, Department of Geography, University of Oregon.

Introduction

After a three-hour journey into Shanghai's rural hinterland, I arrived at a high-rise office building of tinted glass. It was the summer of 1997. Ascending to the eighth floor, I waited for a government official and looked out over the patchwork countryside. Below me, three generations of peasant housing jostled together: low brick houses with dirt floors from the Maoist era were crumbling beside two-story concrete houses built in the time of Deng Xiaoping. Even the latter, however, were already spectacularly outmoded by the postmodern houses built in the late 1990s, air-conditioned and rising three stories high out of small rice paddies and family vegetable plots. The countryside was awash in new infrastructure like my shiny, glass vantage point: tall office buildings for the township and village governments, apartment blocks, schools, hospitals, paved roads, and bridges. Everywhere there were factories amid the fields and rural villages, and farther away, the murky horizon looked like a forest of smokestacks in the smoggy morning air.

The official I was to interview arrived from another meeting. He was a cadre of the Chinese Communist Party (CCP) and the general manager of the township's industrial enterprises. His office was lined with government plaques celebrating the enterprises' performance and photographs of him showing factories to party leaders from Beijing. When I asked about local development, he waved his hand at the scene outside and proudly declared that most of it had not existed before the reforms started in 1978. Peasant incomes and local government revenues had benefited from agricultural modernization, but most of the wealth we saw from his office window came from new factories built in the last two decades. There were no privately owned factories here—the township itself operated 19 of them, while the villages under the township operated 61 more. Together, these 80 factories accounted for 82 percent of local economic output. He pointed out that this predominance of township- and village-owned enterprises (TVEs) was typical in this part of China: TVEs had been at the heart, and this area was the heartland, of China's

rural industrialization miracle in the 1980s and 1990s. I asked what his TVEs produced, and he started giving me more detailed information than could be found in official statistics: five factories were producing subcomponents under contract for the automobile industry, three were doing this for the sewing-machine industry, and others for the motorcycle, shipbuilding, and hospital equipment industries. Six more factories produced carton boxes for factories in Shanghai. In fact, he continued, 80 percent of local industrial output involved subcontracting for state-owned enterprises (SOEs) in Shanghai, and this too was typical for this part of China.

A week later, I visited one of these SOEs. It was a large manufacturer of household refrigerators and a significant source of revenue for the municipal government of Shanghai. It had increased its annual output from 10,000 refrigerators to 850,000 between 1985 and 1996, and its workforce had grown from 557 to 2,740. The SOE's cadre/manager picked me up in an air-conditioned VW Santana, and we drove across the river to a recently built factory in the Pudong district. He showed me new assembly lines and machinery installed to meet the SOE's projections of continued nonstop growth and an impressive high-rise office building being constructed as its new corporate headquarters. On the drive back to Shanghai, he told me that this SOE was more competitive than refrigerator SOEs in other parts of China because he had built up its local supplier base in the 1980s, with 35 SOE and 41 TVE subcontractors. Furthermore, he had increased profits by helping his supplier of compressors—the most important and complicated component of a refrigerator—develop its own subcontractor base. The compressor SOE imported most of its components from Japan at first, but gradually localized more than 70 percent of production, cutting costs by at least 45 percent. Over a ten-year period, in lockstep with the refrigerator SOE, the compressor SOE had increased production from 100,000 to 900,000 units. It had managed simultaneous localization and expansion by adding 300 employees and cultivating as many as 60 subcontractors, more than half of which were TVEs. Clearly, he concluded, his own SOE and his supplier of compressors owed a lot of their spectacular growth to the proliferation of TVE subcontractors. And I began to see that Shanghai's SOE factories were really only the tips of large icebergs, the endpoints of networked production systems weaving together hundreds of SOEs and thousands of TVEs across the region.

Surveys in the 1980s had already established the magnitude of SOE-TVE subcontracting, and studies in the 1990s frequently mentioned its significance for TVE development. I hoped to complement

and enrich this literature by focusing on the SOE-TVE networks themselves. Drawing on theories that emphasize commodity chains, networks, and the social embeddedness of economic agency, I hypothesized that the SOE-TVE networks must be evolving and adapting, since the regional production systems were continuing to grow even as the Chinese economy around them was undergoing sweeping transformations. I wanted to see what patterns of flexibility, specialization, and cooperation were enabling and shaping these ostensibly successful adaptations. Networks are usually obscured by statistical categories and not easily observable. So I set out to identify and interview as many SOEs and TVEs as possible belonging to the same or related networks as a way to work toward understanding the relationships between them. By mapping the evolution and spatial shifts of those networks over time, it became possible to tease out their inner dynamics.

Early interviews confirmed many of my expectations. The SOE-TVE networks were still central to many of Shanghai's most important industries in the late 1990s, and managers narrated their factory's histories in terms of the close cooperation between SOEs and TVEs, the nonstop growth since the 1980s, and the ambitious projections and plans for expansion. They led me through modern factory buildings filled with machinery and assembly lines. The smiling and waving workers were not migrants from poorer inland provinces, as was the case in factories in other parts of China. Here, the SOE workers were Shanghai residents, while the TVE jobs in each township and village were claimed by the local villagers, who also continued to cultivate their family fields or lease them to migrants on a sharecrop basis. I learned that in order to keep up with the nonstop and projected growth, the SOEs were expanding their supply networks by adding new TVE subcontractors. Meanwhile, many of the TVE subcontractors were managing nonstop growth by hiring other TVE subcontractors to work for them. For example, a TVE making a refrigerator part with many subcomponents might increase its output and efficiency by shifting its workers and resources to specialize in just a few of those subcomponents and then assemble them with subcomponents subcontracted out to newer and smaller TVEs. Second, third, and even fourth layers of subcontractors emerged as huge amounts of production capacity were built up across the region (see chapter 2). I identified patterns and habits of interfirm subcontracting that had fallen into place in the 1980s and through which the TVEs (and through them, rural workers and governments) were retaining a significant portion of the value they

produced and embedding it in the wealthy countryside all around me (see chapter 3).

However, as I conducted more interviews throughout 1999, especially at factories I contacted on my own, the linear success story started to twist. Addresses were seldom clearly marked in the rapidly changing Shanghai countryside, but I had more difficulty than usual locating one factory. It had not moved; the manager had confirmed the listed address on the phone. I deduced from nearby addresses that it must be the one with a discolored strip on the gatepost where a name sign once must have been. No one was around, so I let myself in through the rusty gate and started to walk across the quiet courtyard. An old man came out of the main building. When I told him that I had an appointment with the factory director, he looked puzzled and then took me upstairs to a dusty conference room and asked me to wait. When the manager arrived 20 minutes later, he told me that the TVE had been established in the 1980s to make bicycle components for a Shanghai SOE. Growth was constant until the SOE started to cut its orders in 1995. In 1997, the TVE stopped producing bicycle parts altogether and was now very busy making auto components for a company in Shanghai. He hastened to add that the factory was so quiet that day because it was a holiday. Leaving the interview at noon, I was struck by the derelict state of the factory, its general appearance of having been idle for a few years. But what struck me next was the factory next door. It very obviously was not on holiday. Hundreds of workers were streaming out for their lunch break and chatting noisily in Mandarin or dialects from other parts of China. The bicycle parts manager had told me that the factory next door had been a TVE until it went out of business the year before. Then it had been purchased very cheaply by an entrepreneur from Hong Kong and reopened as a textile factory.

As I visited more and more ghost factories like this former bicycle TVE, it became increasingly clear that the phenomenon of SOE-TVE subcontracting had recently peaked but was now in rapid decline. Subcontracting orders from the SOEs to the TVEs had dropped and in many cases stopped altogether. The networks and their modes of operation were unraveling quickly, after having stayed more or less the same since the 1980s except for the addition of new subcontractors and increasing specialization. Languishing with little or no business, in limbo while looking for new business opportunities, these failing TVEs described themselves variously as closed (*guanle*), stopped (*tingle* or *xieye*), bankrupt (*daobi*), or half-bankrupt (*ban daobi*). After nearly two decades of economic success enriching peasants and their

rural governments, the TVEs were in crisis and disappearing fast. In fact, my fieldwork covering six industrial sectors—automobiles, motorcycles, bicycles, refrigerators, sewing machines, and meters and instruments—suggests that 60 to 70 percent of TVE subcontractors were bankrupt in one form or another by 1999 (chapter 4).

At first I thought the TVE crisis must be caused by SOEs switching to private enterprises, which had started to proliferate in this part of China in the second half of the 1990s. Private enterprises had much lower production costs and profit margins than TVEs. They hired nonlocal labor for low wages and without benefits, and they earned low profits from which they handed over small amounts of tax revenues to local governments rather than sharing healthy profits with them like before. However, interviews consistently revealed that subcontracting orders were falling because the SOEs, after growing nonstop for more than ten years, were themselves suddenly losing market share, accumulating huge inventories of unsold product, and thus forced to slash production. Trouble started for the bicycle SOEs in 1995, and a famous motorcycle SOE went bankrupt in 1997. In 1999, two years after my initial visit to the refrigerator SOE, its impressive, high-rise office building loomed unfinished, empty, and ominous over the factory. The sewing machine and meters and instruments SOEs were also in crisis, and beleaguered subcontractors from all five of these sectors were trying to shift to the lucrative automobile sector. However, competition was fierce, because the subcontractors added during SOE and TVE growth now represented a glut. Even worse, the automobile sector had stagnated as well, and I was following the reverberations of production cuts and restructuring up and down its supply chains. These SOE crises looked similar, but they started at a different time in each sector, ranging from 1995 to 1999. Something more must have been at work than financial policies, tightened credit, SOE or TVE reform, the East Asian crisis, much less the mild recession of 1998. The dynamics of specific industrial sectors also appeared to be involved.

Rather than embarking on the study of a growing phenomenon, it seemed that I had arrived too late and was witnessing its passing, or, at the very least, its radical restructuring. My research would come to resemble a combination of archeology and autopsy, as I picked over the scattered remains of regional production systems, interviewing managers who had been retired or transferred to other industries, whenever I could find them. I asked about pasts that some were reluctant to discuss, while others became nostalgic, animated, or angry. There would still be untold stories about the period of continuous

growth in the 1980s and 1990s, but now I was also trying to unravel something unexpected, something that seemed bigger than just network adaptations to a changing environment. The changes I was observing seemed to mark a radical rupture and the emergence of something new. But was the proliferation of private enterprises causing the demise of the TVEs? What was happening in Shanghai's SOE industrial sectors, and after years of nonstop growth, why now? Could this rupture tell us new things about the SOEs, TVEs, Shanghai's industrial and regional development, or postsocialist transformations and transitions to capitalism?

1. MAPPING THE NEXUS

It is difficult to study the networks connecting SOEs and TVEs, because they are not observable things, nor are they documented in official records and studies. Indeed, they are obscured by traditional statistical categories. It requires a unit of analysis somewhere between these different categories of firms, somewhere between places like the urban and the rural, somewhere between firms and markets, and yet able to link them all together. I set out to combine three such approaches—networks, regions, and sectors—that in other settings have proven effective at revealing important dynamics obscured by the units of analysis more typical of the social sciences and studies of contemporary China (such as firms, markets, the state, or state-firm, or state-market interactions).[1]

Network approaches foreground the relationships that develop between and among firms rather than individual firms and markets. Networks vary across spectra from close, stable relationships with high degrees of trust and asset specificity to distant contacts from which a firm might purchase inputs only when the price is right, and from horizontal cooperation to vertical capture and control. In the daily process of doing and making, actors in networks tacitly, experimentally, and contingently create new organizational forms and invent "conventions"—informal rules, customs, and habits that guide everyday practice in networked life—which over time may consolidate and become sedimented into a particular place or region as the local business culture. In other words, network and regional approaches typically overlap: network dynamics are shaped by member-actors that are socially, culturally, and politically embedded in a regional economy; this embeddedness can provide tacit and "untraded" forms of trust, coordination, informal governance, and knowledge-sharing that lead to regional innovation and mutual advantage.[2] Similar to network

approaches but not the same, commodity chain analyses tend to focus on commodity sectors, following the vertical slice of one product as it journeys through a particular production chain or social division of labor, regardless of what administrative, firm-type, or industry-type lines it may cross. It analyzes processes within each "node" of the chain, but highlights the linkages between nodes and how changes in one node affect strategies and outcomes in other nodes.[3]

The network/region and commodity chain/sector approaches, especially when combined, map the spatiality of a production system in a way that encourages analysis of the social embeddedness of economic action, as well as the power relations between actors at different levels and in different places.[4] I will refer to my unit of analysis—the dense sets of SOE-TVE networks in particular product sectors in one region—as the "SOE-TVE nexus," a loose reference to Michael Storper's characterization of a regional economy as a "nexus of untraded interdependencies" (Storper 1995). This book results from my efforts to produce a "spatial history" of the SOE-TVE nexus by mapping it spatially and temporally (Elden 2001). Using "space as a tool of analysis instead of merely an object of it" (Elden 2004, 152) helped me to track how production relations had spread across the regional economy, not just within individual firms, and to determine how revenues were distributed among places and displaced up and down the chains. Tacking back and forth between places enabled me to follow processes of network embedding, and later, disembedding.[5]

2. The View from Inside the Nexus

Adopting this vantage point from inside the SOE-TVE nexus complements and contributes to studies of contemporary China by foregrounding seven interrelated dynamics that are frequently overlooked or less clearly illuminated. These dynamics may not have been equally significant to all regions of China throughout the reform era. However, they were significant to the extent that the SOE-TVE nexus was significant, and in the next section, I will argue that the latter was the dominant form of industrial organization in the region encompassing Shanghai and southern Jiangsu Province—one of the most important economic regions in China—and perhaps in the regional economies of Beijing and Tianjin as well.

The first dynamic concerns a common position in the literature on China's industrial development, namely that TVEs undermined the SOE sector by competing with them for resources and markets

(Chan 1996; Lin 2001; Lin et al. 2003; Perotti, Sun and Zou 1999; Yusuf et al. 2006, 68; Zweig 1997). This is likely true in some sectors and some regions, and perhaps even for China as a whole. But across significant swaths of important industries in Shanghai and its wider hinterland, the SOEs and TVEs were interdependent and woven together into large, profitable production systems. The relationships between them were cooperative rather than adversarial: the output markets for member TVEs were the SOEs themselves, hence market competition for these TVEs was mediated through the nexus.

Second, a central issue in the vast and robust literature on rural development and TVEs concerns the absence of clear property rights and how this made possible distributions of profits and incentives between the TVEs, their village and township government-owners, managers, workers, and the central state that were efficient enough to allow rather than impede TVE development (Byrd and Gelb 1991; Che and Qian 1998; Hsiao et al. 1998; Naughton 1994, 1995; Nee 1992; Oi 1992, 1999; Oi and Walder 1999; Rozelle 1994; Walder 1995; Weitzman and Xu 1994; Whiting 1995, 1999). But property relations do not always define the distribution of risks and rewards. The amount of revenue available to be divided among rural stakeholders was largely determined interlocally by the distribution of profits between SOEs and TVEs through these networks, long before its further division intralocally. That interlocal distribution was determined by the network conventions that shared SOE profits generously with the TVEs, because, as we will see, the SOEs did not face true market competition until the late 1990s. Once they did, the ensuing shift in network conventions and redistribution of revenues were integral to network restructuring, TVE privatization, and TVE bankruptcies.

Third, the widespread failure and privatization of TVEs in the 1990s has been attributed to corruption and asset stripping (Ho, Bowles, and Dong 2003; Li and Rozelle 2000; Lin and Ye 1998; Smyth 1998), an increasingly inhospitable national policy environment (Huang 2008; Li 2003), or the inefficiencies of the publicly owned TVEs compared to the greater efficiencies of, and increasing competition from, private enterprises (Fang and Smith 2008; Li and Rozelle 2003; Sonobe and Otsuka 2004; Sun 2000). Many studies pointed to the effects of SOE-TVE subcontracting on TVE development, but none point to its possible role in their dissolution. China's TVEs doubtlessly privatized for many of the above reasons, but they privatized last in the Shanghai and southern Jiangsu region (Huang 2008), and chapter 6 will show that nexus TVEs were healthy and growing until they were decimated by the crises of their client SOEs.

Subsequently, nexus TVEs went bankrupt and then privatized. Thus, for the significant numbers of TVEs belonging to the SOE-TVE nexus, privatization resulted from a crisis of the SOEs rather than a crisis of the TVEs per se. Furthermore, some of the new owners were the original factory managers (Oi and Walder 1999), but many urban and international investors swooped in to buy up devalued factories at bargain prices, plundering the fixed and human capital accumulated over two decades.

Fourth, crises started for many Shanghai SOEs when they suddenly and precipitously lost market share in the mid- to late 1990s. They had enjoyed privileged access to inputs and credit and relative monopolies in many markets while the planned economy lasted. Managers reported that planning mechanisms had become irrelevant to their daily operations by the early 1990s, but chapter 3 will demonstrate a lag of several years during which these SOEs continued to profit and grow—indeed, many of Shanghai's SOEs invested heavily in expansion in the mid-1990s, and the SOE-TVE networks and network conventions remained remarkably stable until the late 1990s. Rather than the waning of the planned economy or decreases in demand, managers pointed to crises of overcapacity. Production capacity continuously expanded but generally lagged behind growing domestic demand, until it suddenly shot past demand in one sector after another. It was this shift from "shortage economy" to "surplus economy"—from seller's to buyer's markets—that introduced real competition to China's domestic markets (Qin 1999; Zhang and Bao 1999; *Zhongguo gongye fazhan baogao 1999;* Zhu 1998).[6] Few works in English have directly addressed this shift (Steinfeld 2004; Wedeman 2003), although there was a brief debate about the resulting deflation and whether this was just a business cycle (Lin 1999, 2004; Rawski 1999, 2002). The economy effectively outgrew the plan by the early 1990s, but growing out of it did not introduce full market competition. There remained a second half of the transition from plan to market that did not occur until the late 1990s: industrial capacity had to outgrow the shortage tendencies of planned economies and surpass demand. When this happened, it caused a severe crisis for many of Shanghai's domestic-oriented manufacturing SOEs, which in turn drove the restructuring of the SOE-TVE nexus. Some would argue that the shift in subcontracting conventions resulted from ongoing ownership and management reforms in the SOEs and TVEs throughout the 1980s and 1990s (see Whiting 1999 and Yusuf et al. 2006 for useful summaries of enterprise reforms). But these reforms cannot explain the remarkable stability of conventions for

more than a decade, followed by such a sudden shift, nor does it match the accounts of interviewees. Enterprise reforms were very important and will be discussed where relevant throughout the book, but I hope by the end to demonstrate conclusively that the real force driving these changes was the onslaught of the surplus economy.

Fifth, once the SOE crises took hold, the productive capacity embedded in the region by a decade of localization and expansion took on the form of a glut of desperate subcontractors; competition between them was exacerbated by shrinking orders and the widespread reinternalization of production functions (see chapter 4). The few enterprises that were able to find new opportunities were forced to accept much worse terms than before, although some "found a way out" by recombining in horizontal networks without SOEs (specifically in the bicycle sector). This was a much more marketized environment than before, and managers repeatedly claimed that they now operated strictly according to market logics. But in the same breath managers would refer to the key role of *guanxi*—a mode of personal connections and relationships in Chinese culture often associated with noneconomic logics—when it came to collecting delinquent payments or securing new business opportunities. Chapter 5 reexamines the academic debates concerning *guanxi* in the context of subcontracting in the new surplus economy. I found that rather than forcing *guanxi* to decline in significance (Guthrie 1998), increased marketization was shifting the locus of *guanxi* practice to a new set of activities.

Sixth, the region's TVEs had typically served the interests of their township and village government owners by employing local villagers, and had typically passed healthy profits along to local villagers in the form of relatively high wages, benefits, and a degree of job security.[7] Studies of labor in China tend to focus on state policies and their implementation (Gallagher 2005), negotiated power on the shop floor (Lee 1998), or the ability of labor to organize and resist demands by capital and the state (Lee 2007). The network approach employed here complements this literature by showing how labor and labor-capital relations can be reworked through changes in the division of labor—in this case the restructuring of the networks connecting the urban and the rural—just as much as through policy or struggle. Privatization—driven in turn by SOE crisis, network restructuring, and then TVE bankruptcy—enabled new owners to shake off these obligations to local peasants and employ nonlocal migrants for much less.

Seventh—the final dynamic—the economies of scope and scale achieved by the development of the SOE-TVE nexus helped ensure

that Shanghai's urban-rural production systems were competitive enough to thrive in the domestic economy for more than a decade. Managers and officials had assumed, and planned accordingly, that double-digit growth would last indefinitely, until they were suddenly decimated by the shift from shortage to surplus economy in the late 1990s. These production systems were then disembedded, transformed, and reembedded in ways that drove the widespread privatization of TVEs, and ushered in new labor norms and new subcontracting conventions that redirected a much larger share of rural-produced value away from the countryside and toward urban enterprises, investors, and consumers. These shifts immediately preceded another significant one in the Shanghai/Jiangsu regional economy. As we will see in the next section, in the 1980s and 1990s this region had fallen far behind Guangdong Province in terms of foreign direct investments (FDI) and exports, but it suddenly surpassed Guangdong in the 2000s. By the early 2000s, many cities in the Shanghai/Jiangsu region were reorienting their development efforts away from TVEs, embracing instead FDI, exports, and internationalization (Wei 2002; Wei et al. 2009; Wei and Gu 2010). Analysts correctly emphasized the importance of changing state policies to this reversal of the (relative) fortunes of Shanghai and Guangdong (Chen 2007; Wu 2009; Yeung and Sung 1996). But the focus here on network restructuring in the late 1990s opens a unique perspective, suggesting that the reworking of labor relations in Shanghai's rural hinterland may have been an important factor paving the way for this regional shift.[8]

Shifting the unit of analysis away from firms, markets, and states and focusing instead on networks, sectors, and regions can illuminate a different set of dynamics and generate unique perspectives on the processes of marketization and postsocialist transformations. Networks are more than an alternative set of ontological categories, because they have generative and causal effects of their own. Furthermore, analyzing markets as networks of firms recasts the normal (and normalizing) focus on property rights and incentives and moves from an ontology of exchange to one of production, that is, to agency-rich narratives of how markets and market processes were produced through the social construction and maintenance of networks. Excavating the elaboration and integration of this large, spatially dispersed, regional division of labor and mapping its spatiotemporal shifts, help unravel entwined shifts in class, labor, and urban-rural relations.[9] These shifts were caused at least as much by the restructuring of urban-rural networks as they were by changes in policy, the negotiation of capital-labor relations in the workplace or other

changes inside enterprises, or direct competition from more efficient private enterprises, and they may have contributed to the transformation of the Shanghai region and its ascendancy over the South in export manufacturing.

3. The Shanghai Region and the SOE-TVE Nexus

Rather than urban or rural, SOE or TVE, the backdrop for this book is the economic region comprised of Shanghai and its greater hinterland, that is, a region that includes China's greatest metropolis and a large predominantly rural periphery.[10] State-owned enterprises and TVEs dominated China's industrial production through the 1980s and 1990s: SOEs produced 81 percent of industrial output in 1980, but by 2005, the figure had declined to 41 percent (Perkins and Rawski 2008, 862); meanwhile the rural TVE sector had grown from 6 percent to more than 30 percent of GDP, and nearly half of industrial output by the 1990s (Heston and Sicular 2008, 57). Yet SOEs and TVEs are usually studied in isolation from one another, in part because Maoist and post-Maoist development policies starkly separated and continue to separate the urban and rural worlds.[11] After the reform period started in 1978, the SOEs remained closely tied to their municipal or central state owners well into the 1990s and even beyond (Huang 2008; So 2009), the TVE sector grew up outside of the urban, planned economy system (Nee 1992; Peng 1992), and the barriers to migration are still only slowly breaking down (Chan 2009; Chan and Buckingham 2008; Solinger 1999). Hence, the urban and rural economies—and the SOE and TVE sectors—are usually cast as empirically and categorically distinct spheres.

Shanghai was elevated to a provincial-level city after Liberation in 1949. In the 1990s, it consisted of ten urban districts (Changning, Hongkou, Huangpu, Jingan, Luwan, Nanshi, Putuo, Xuhui, Yangpu, and Zhabei) and ten suburban counties reassigned from Jiangsu Province in the late 1950s (Baoshan, Chongming, Fengxian, Jiading, Jinshan, Minhang, Nanhui, Pudong, Qingpu, and Songjiang). Starting with Baoshan in 1988 and ending with Fengxian in 2001, all suburban counties except Chongming were reclassified as districts, on an equal level with the urban districts.[12] In the 1980s and 1990s, each suburban county or district averaged 20 to 25 townships under its jurisdiction, and in turn each township oversaw 10 to 15 villages. The administrative hierarchy thus flowed downward from the central government to the Shanghai municipal government,

to the urban districts and suburban counties/districts, and under the latter from county/district to township to village. Shanghai's hinterland consists of these suburban counties and the adjacent portions of Jiangsu Province to the northwest, and Zhejiang Province to the southwest that form the Yangzi River Delta. This was the heartland of the reform-era pattern of rural development known as the Sunan Model. It was characterized by the emergence of TVEs in the 1980s, as decollectivization released surplus labor from agriculture, and state monopolies on the production of many goods were loosened. At the same time, fiscal and bureaucratic reforms both pushed and pulled rural cadres to develop local industries and the region became a sea of developmental, "corporatist" local states (Byrd and Gelb 1990; Oi 1992, 1999; see chapter 1 for a detailed discussion).[13]

The economies of Shanghai and this extended hinterland were deeply interconnected. By 1984–85, 60 to 80 percent of the output of TVEs in rural Shanghai counties was subcontracted for SOEs, and similar percentages of the output of TVEs in Jiangsu and Zhejiang provinces was for SOEs in Shanghai primarily, or neighboring cities in Sunan secondarily (Almanac of China's Industry 1949–1984, Tao 1988, Zhou and Zhao 1985—all cited in Naughton 1995, 155).[14] One representative survey found that "most rural industries in [Suzhou, Wuxi, Changzhou, and Nantong in southern Jiangsu Province] developed economic and technical cooperation with Shanghai, while a smaller number was linked up with [those four municipalities]" (Fei 1986, 73). A later study of three of these cities reported "a lot of backward and forward production and service linkages between the town and the countryside in the area." It described these cities as "small empire[s] composed of identical industrial and economic structures" with a high degree of replication in industries similar to the ones comprising the SOE-TVE nexus in Shanghai: television sets, refrigerators, washing machines, machinery, electrical machinery and so on (Tang and Chung 2000, 297–300). Taken together, these studies suggest that an unquantifiable but highly significant number of TVEs across Sunan were either part of the Shanghai SOE-TVE nexus itself, or else part of a smaller, local SOE-TVE nexus linking them to SOEs in Sunan cities.

Shanghai's SOEs are at the heart of these regional production systems. Because Shanghai had been China's most industrialized and capitalist city prior to the establishment of the People's Republic, party leaders were suspicious and there was "official talk in the early 1950s of dismantling Shanghai and distributing its factories and experts" (Murphey 1988, 158).[15] Instead Shanghai's factories were

nationalized, and by the 1970s it had become China's most important manufacturing center, producing almost one-sixth of the nation's industrial output and one third of its exports. It also had become China's single most important source of revenue, providing as much as one-sixth of the central government's total revenues (Ho and Tsui 1996, 154; Wu 2009, 129). At least 70 percent of Shanghai's fiscal contribution derived from SOE profits (Yu 1990, 8). As the nation's workhorse Shanghai was allowed to keep little of the surplus generated by its industries: as much as 89 percent of its revenue was remitted to the central government in 1980 and 1981, declining to 68 percent by 1987, but still as high as 49 percent in 1992 (Ho and Tsui, 156; Jacobs and Hong 1994). Being such important sources of fiscal revenue, Shanghai's SOEs were tightly controlled and all but completely harnessed to the achievement of government goals and directives. To enhance revenues, Shanghai engaged in a series of adjustments to both industrial organization and product structures over time. These included the specialization of production, reorganization of factories and sectors, and product shifts such as those described in the sectoral histories in chapter 1 (Mok 1996; Weng and Yu 1997; Yang et al. 1991, 25–27; Yu 1990, 14–17).

When the central government started reforms in 1979 by establishing four Special Economic Zones (SEZs) in the southern provinces of Guangdong and Fujian, however, it was reluctant to experiment with its most important economic center and left Shanghai closed and unreformed. Even when the central government allowed Shanghai to establish three Economic and Technological Development Zones in 1986, it intended for them to help Shanghai attract and develop modern technologies rather than labor-intensive or export-oriented manufacturing. In addition, the central government did not tinker with Shanghai's fundamentally "inward orientation" of producing primarily for China's domestic markets (Sung 1996). Shanghai's economy continued to grow in the 1980s, but its 7.5 percent average annual growth rate meant it soon lagged behind other parts of the country that were growing more quickly, notably the export-driven economy of Guangdong Province on China's south coast. By 1994, Shanghai's share of China's industrial output had fallen from 12.1 percent in 1978 to 5.5 percent; its share of China's exports from 30 percent in 1978 to 7.5 percent in 1994; and from its standing as the top contributor to China's fiscal revenues in 1978 it had fallen to sixth place in 1985 and tenth place in 1990 (Cheung 1996, 52–53). Meanwhile, Jiangsu Province's share of China's industrial output had risen to 13 percent, and Guangdong's share had risen from 4.7 to 9.4 percent

(1.7 times greater industrial output than Shanghai). Guangdong's exports, which had overtaken Shanghai's by 1986, were five times greater than Shanghai's in 1994 (Sung 1996, 180–85). Southern China was also the primary destination of FDI, with Guangdong receiving 42.2 percent of China's total between 1979 and 1989, rising to 45 percent in 1990–91, before declining to 29 percent in 1993. Shanghai's share declined from 8.1 percent between 1979 and 1989 to a low of 4.1 percent in 1991, and then rose to 8.3 percent in 1993 (Nyaw 1996, 252).

All of this is to say that Shanghai was decidedly not part of the SEZ, FDI, and export phenomenon of China's southeast coast, which has been studied extensively elsewhere (Cartier 2003; Hsing 1998; Lee 1998; Lin 1997; Vogel 1990). There was almost no foreign investment in the SOE-TVE nexus before the late 1990s.[16] Furthermore, as much as manufacturing for export was a critical driver of China's post-1978 economic development, recently researchers have begun to acknowledge that expanding domestic consumption played an even greater role. Throughout the 1990s the net impact of net exports was "modest compared to either capital investment or private consumption." Much of China's FDI was invested in production for export, and while it is true that FDI contributed to China's capital formation, its "relatively modest" contribution peaked at 17 percent in 1994 and had declined to 7 percent by 2003 (Branstetter and Lardy 2008, 647–48). Burgeoning domestic demand in the 1980s pulled the development of many Chinese industries, and in the 1980s and 1990s, Shanghai produced primarily for domestic markets (Sung 1996). The shortage tendencies of the planned economy still held, ensuring predictable and stable demand for everything that Shanghai's SOEs could produce and room to expand as far as the eye could see. These were heady days of growth—Shanghai's SOEs were making fantastic profits and reinvesting them to increase production capacity, and no one worried about the future.

This book examines the industrial systems that emerged out of Shanghai's planned economy in the 1980s to produce goods for these domestic markets. I chose to focus on automobiles, bicycles, meters and instruments, motorcycles, refrigerators, and sewing machines, because the SOE-TVE nexus was salient in these six sectors, I was able to gain access to interview SOEs in these sectors, and they were important and sufficiently representative of Shanghai's industries and regional economy to be analytically significant during the first two decades of the reform era. Qualitatively, many of them manufactured brand names that were known nationwide and praised for

their quality. Shanghai's bicycles (Phoenix and Forever) and sewing machines (Mifeng, Feiren, Xiechang, Jiangwan, and Shanggong) were big brand-name consumer goods in the 1960s, 1970s, and 1980s, only declining in national importance in the late 1990s; Shanghai's motorcycle and refrigerator sectors, small in the 1960s and 1970s, became very large and important from the mid-1980s until the mid- to late 1990s (Xingfu Motorcycles, and Shangling and Shuanglu Refrigerators); the automobile sector was insignificant until the late 1980s, but by the mid-1990s commanded more than half of the rapidly expanding domestic market (the Santana sedan manufactured by Shanghai Volkswagen led the market); Shanghai has been China's most important production base for meters and instruments since the 1950s.[17] Quantitatively, these sectors were important sources of revenue for the Shanghai municipal government. In 1995—the peak year of the SOE-TVE nexus—the SOEs in these six sectors reported a combined total output of 100 billion yuan ($12 billion), about 28 percent of Shanghai's industrial output (*Shanghai jingji nianjian* 1996). The actual contribution of these sectors to Shanghai's total industrial output may have been higher: in these sectors one-third of total value added was produced by TVEs in Shanghai's rural counties and districts (see chapter 1), suggesting these sectors potentially contributed as much as 133 billion yuan, or 37 percent, to Shanghai's total output.[18] These six sectors by no means exhausted the extent of Shanghai's SOE-TVE nexus, nor was it confined to Shanghai and its rural counties and districts, as we have already seen.

The opening up of the Shanghai and Yangzi River Delta region in the 1990s would lead to a reversal of its relative fortune vis-à-vis Guangdong. It started with the central government's announcement of the Pudong New Area in 1990. Heavily subsidized by the central government, Shanghai engaged in a tremendous burst of construction that upgraded the city's infrastructure and connected it resolutely to the semideveloped, predominantly rural Pudong area just across the Huangpu River from the center of the city (Wu 2009, 136). Included in the project were plans to make Shanghai into the finance, trade, and economic center of China, refocus its industrial development on a small set of growth pole, or "pillar industries," and enhance its role as the "dragon-head" leading development in Jiangsu and Zhejiang Provinces (Huang 1995; Yao 1995). The central government allowed numerous incentives to attract investment (Yeh 1996, 289), and by 2003 Shanghai was receiving more FDI than any other city in the world and had become a major destination for MNCs (Chen 2007, 93). As late as 1994, FDI in Shanghai was still primarily inward rather

than outward-oriented, and its FIEs (foreign-invested enterprises) were much more inwardly oriented than those of Guangdong (Sung 1996, 185–88). But Shanghai and Sunan soared past Guangdong and the Pearl River Delta in the early 2000s. Guangdong and the Pearl River Delta still commanded 36 percent of China's FDI and 43 percent of its exports in 2000, though Shanghai and Sunan had crept up to 27.5 percent of FDI and 28.7 percent of exports. The shift by 2005 is striking, however: Guangdong's share of FDI and exports had fallen to 19 and 28 percent, respectively, while Shanghai's shares had jumped far ahead to a stunning 51 and 37 percent (Chen 2007, 83). Our attention focuses on the fact that immediately preceding this regional transformation was the widespread privatization of TVEs in rural Shanghai and Sunan.

4. Narrating the Nexus

The first three chapters describe how the SOE-TVE nexus was constructed, expanded, and functioned; chapters 4 through 6 then describe how the nexus started to shrink and unravel in the late 1990s. Chapter 1 tells how the SOE-TVE nexus emerged out of the planned economy and proliferated through the growth of six particular industries. Chapter 2 analyzes the spatial logics and trajectories of the SOE-TVE nexus as it expanded across the region and into a matrix of local developmental states. Years of uninterrupted growth built up tremendous capacity and know-how in material and spatial forms that were not neutral but would engender particular effects when the nexus started to shrink and unravel.[19] Chapter 3 details the subcontracting conventions that emerged with the nexus and demonstrates their continuing stability after the planned economy was phased out. The latter should have engendered changes in network behavior but did not: it was only in response to the onslaught of intense market competition, as the surplus economy overtook the shortage economy in each sector, that the networks were restructured. Before that, vested interest in the status quo precluded changes (toward greater "marketness" of transactions) that may have reduced the severity of the sectoral shocks.

Chapter 4 will begin to explore the changing world of subcontracting in the surplus economy of the late 1990s, and the emergence of two new structural tendencies: the virtual entrapment of rural subcontractors in production relationships, and a tendency at all levels toward increased reverticalization (reinternalization of the production functions put out to subcontractors during the expansion of the

nexus). Chapter 5 examines the strategies of subcontractors in the new environment and argues that the significance of *guanxi* was not declining. Rather, with the shift from shortage to surplus economy, the locus of *guanxi* practice shifted from procuring inputs to securing channels for output—finding new business and getting paid for it. Chapter 6 shows that another strategy that was forced upon rural enterprises in the context of the new structural tendencies brought on by the shift to the surplus economy was the destruction of the township- and village-owned rural system and its replacement with private enterprises. This represented not just a radical restructuring of the industrial networks but also a fundamental shift in rural class relations and a new set of urban-rural relations. The conclusion will outline what has happened since and explore some of the theoretical implications of this book.

1

Connecting the Urban and the Rural: Shanghai's SOEs and TVEs

At the end of the 1990s, I visited an old central Shanghai meters and instruments factory with more than eight hundred employees. This state-owned enterprise (SOE), a preserved relic, offered a rare glimpse into the not so distant past. An industry insider who I had met serendipitously on the subway told me, "It still does all of its own manufacturing. They manufacture the entire thing. They don't subcontract anything at all. They have a huge workshop with all the different machinery necessary to make the entire instruments. It's very wasteful. For example, the plastic injection machines are sitting idle every time I go there, because they are only needed for small batches compared to their overall production" (I1). He introduced me to the 1994–99 director of the factory, who explained that "we do contract out the production of components . . . not exactly contract out—we send them down to lower factories in our system." He had not started to subcontract to township- and village-owned enterprises (TVEs) until 1997, because "the workers really have their own opinions about things. They think, if we can do it ourselves, why let go of it? This kind of thinking is limited by their interests—if employment or wages are involved in any changes, they get upset." He continued, "but now, subcontracting is in the overall interests of the factory. Some enterprises don't have a good division of labor, and after they develop they decline" (I2).

As we will see, throughout the socialist period, verticalization versus specialization in production was one issue in larger philosophical and policy debates over the direction of the economy. Industrial production was allowed to specialize more in Shanghai than in most of China, but the structural logics of the planned economy also

encouraged factories to become increasingly self-sufficient and vertically integrated. This tendency for factories to become "big and complete, small and complete *(daerquan*, *xiaoerquan*)" was still predominant in 1978 and would last well into the reform era.

As Shanghai's SOEs grew in the 1980s, however, they developed external supplier systems to which they subcontracted most of the component production, and they transformed their own facilities into large assembly plants. A very significant share of subcontracting went to rural factories, creating a new nexus of linkages that would enable the rapid expansion and prosperity of Shanghai's urban and rural economies and many of its industrial sectors. This SOE-TVE nexus may have been responsible for as much as 70 percent of rural government revenues and villager incomes in the region.

This chapter begins to tell the story of how Shanghai's production systems had changed during the 1980s from the cellular, vertically integrated factories that I encountered as a relic in the 1990s to the predominantly outsourced urban-rural systems that replaced them. It maps the extent, distribution, and evolution by sector of the SOE-TVE nexus using a combination of interviews, written and oral histories of enterprises and product sectors, and data generated from an official industrial census. It also introduces some of the key protagonists, namely, the SOEs, the TVEs, the industrial sectors, and the brands, products, and companies that composed them.

1. The SOEs: "Big and Complete, Small and Complete"

Socialist SOEs tended to be self-sufficient, making all the parts of a product in one factory. This high degree of integration was rooted in the matrix of Chinese socialist bureaucratic governance and in the shortage tendencies of the planned economy (Donnithorne 1967; Riskin 1987).[1] Every SOE in China answered to two overseeing administrative entities. The first was the unit above itself in the administrative hierarchy (*tiao*, a strip or vertical line), while the second was the appropriate unit of its given locality (*kuai*, a piece or chunk, implying a place of local jurisdiction). For example, an industrial bureau in Shanghai would be subordinate to bureaus and ministries in their line of specialization at the central government level (*tiao*), but would also be overseen by local municipal entities such as the Shanghai Economic Commission (*kuai*). Chinese factories were thus accountable to double—and often contradictory—administrative imperatives, a situation commonly referred to as *tiaotiao-kuaikuai*, or

the *tiaotiao-kuaikuai* matrix or muddle (Lieberthal 1995). Factories adapted by constituting themselves as self-enclosed spheres, drawing boundaries around themselves, striving to realize "the maximum degree of both vertical integration and self-reliance of which they were capable" in order to ensure their ability to meet planned commitments (Solinger 1991, 58). Enterprises that prided themselves on being "big and complete, small and complete" claimed that they were able to "do 10,000 things without seeking anyone's help" (59). This led to duplication of equipment and processes across the industrial system. Like the meters and instruments factory in central Shanghai, each factory contained all of the equipment it needed to manufacture each component of its final product (Riskin 1987, 218). Negotiating the *tiaotiao-kuaikaui* muddle was easier for factories that retained and used licit or illicit profits for self-financing, which contributed to this pattern (Donnithorne 1967, 168).[2]

The Chinese Communist Party (CCP) encouraged verticalization during the Great Leap Forward of 1958–59, despite criticism of its effects in the Soviet economy. State-run enterprises were expected to increase output "regardless of assured supplies," exacerbating the shortage of such materials, and Mao's praise of verticalization at the Wuhan iron and steel complex (in the *People's Daily*) provided moral support. Official opinion continued to encourage vertical integration throughout 1959 and 1960, as seen in the high-profile campaign for self-sufficiency inaugurated at the Changchun Automobile Plant in May 1960. By 1959, some economists had begun to warn against "indiscriminate verticalization," and in 1960, Shanghai started to emphasize specialized enterprises (Donnithorne 1967, 168–70).

The president of one of the bicycle SOEs related the history of specialization in the oldest bicycle enterprise in Shanghai. Forever Bicycle was established by the Japanese during World War II, absorbed by the Kuomintang (KMT) in 1945, and then became an SOE after Liberation in 1949. It was very big, but could not meet demand in Shanghai, let alone the rest of China. In 1957–58, more than three hundred small factories and workshops were combined to form Phoenix Bicycle, another large SOE. "After Phoenix was formed, there were two huge factories, and each was big and complete, small and complete. Each made absolutely everything on a bicycle except the rubber tires. But a bicycle has a lot of parts, so it was very inefficient," he told me. Then, around 1960,

> there was a major restructuring of Shanghai industry to rationalize production: "cut down and merge reorganization" (*caibing gaizu*). We

> implemented something called "specialized coordination" (*zhuanyehua xiezuo*). Certain functions were pulled out of both Forever and Phoenix to form specialized factories, which now produced those parts for both. There were about ten of these, all SOEs in central Shanghai, including factories specialized in chains, spokes, flywheels, seats, bolts, ball bearings, and other components. The two main factories now focused on making frames and assembling bicycles. Quality and quantity both increased dramatically, and it was much more efficient than before. (B18)

The specialized factories were under the jurisdiction of the same administrative unit as the SOEs, the predecessor of the Light Industry Bureau. Their relationship to the main plants was distinctly vertical—they simply produced in order to fill the orders of the main plants, using plan-allocated material (B18). Other SOEs also used factories under the same administrative unit, but in the late 1950s and early 1960s, some also started to use urban collectives—small workshops belonging to urban street associations (*jiedao banshichu*) and neighborhood committees (*jumin weiyuanhui*) that were often established during the Great Leap Forward.[3] When these workshops were not under the same administrative unit, they still did not represent a trend away from verticalization, because they were so dependent on the large SOEs (Donnithorne 1967, 169).[4]

By the end of 1964, however, the specialization movement was well under way in Shanghai, Beijing, Tianjin, and Shenyang. After the disastrous failure of the Great Leap Forward, the economically oriented right (expert) wing of the CCP was in ascendancy. It initiated a vigorous press campaign championing the benefits of specialization including productivity increases, lower operating costs, less duplication of investment, and product quality improvements (Donnithorne, 1967, 168–70).[5] The policy orientation favoring specialization over verticalization seemed to have won out. But the issue flared up again when the Cultural Revolution started in 1966 and the left (red) wing of the CCP gained strength. Expert and red factions fought each other by trying to implement policies representative of their political orientations. Local units all over China were forced to negotiate constantly shifting winds as the political fortunes of the factions rose and fell (Zweig, 1989). Economic disruptions exacerbated shortage problems. During the Cultural Revolution, the pressure to become "big and complete" became even more pronounced in Wuhan's machine-building industry (Solinger 1991, 59) and in Shanghai's industries generally (Mok 1996, 217–18).

The "big and complete" vertical integration phenomenon did not disappear once reforms began. That would be a drawn-out and piecemeal process. State Council resolutions (1980) and regulations (1986) promoted economic and horizontal linkages in order to break down vertical and horizontal segmentation. But the "ownership, jurisdictional and fiscal relations" of enterprises were not altered, so this "actually strengthened the existing *tiao kuai* (matrix) and the hold of the administrative corporations on its enterprises" (Mok 1996, 218). According to an early 1990s study of the machine and electrical sectors (including automobiles, tractors, and meters), the degree of specialization was much higher in Shanghai than the rest of China, but still much lower than that of the United States and Japan. There were "too many production points, producing in batches too small. Many final-product factories (*zhengji shengchan chang*) are still making every kind of part and component themselves; while almost all of the larger factories still have their own foundries, casting shops, and forging and smithing workshops" (Yang et al. 1991, 114). And as I had discovered, overly vertically integrated enterprises continued to exist in Shanghai into the late 1990s.

2. The TVEs: The Rise of Rural Industries

In one Shanghai village in the 1970s, the establishment of commune enterprises drew some local workers out of agriculture, but "it was only with the coming of village industries in the 1980s and the vigorous development of small-town industry . . . that large numbers of villagers were finally diverted out of overcrowded agriculture." In that village, TVEs employed more than 50 percent of the workers by 1985, and "only those villagers above age fifty still remained entirely in farm work" in 1988. The share of villager incomes from TVE employment, as opposed to agricultural activities, achieved parity by the mid-1980s and easy dominance by the early 1990s (Huang 1990, 245). Villages under another Shanghai township typically had "only one small-scale factory" before 1978, with "most households engaged only in agriculture." By the early 1990s, the villages were operating "several large-scale factories." Industrial employment increased five-fold, and every household interviewed had at least one (if not several) family members working in TVE factories. Villager incomes, adjusted for inflation, increased at least seven-fold between 1977 and 1995 (Wilson 1997, 94).

These two accounts illustrate much larger trends. Around 1978, decollectivization started to redistribute commune lands more or less equally among rural households, subject to 15-year and then 30-year leases. Families paid taxes in kind, handing over contracted amounts of rice or other staples. This Household Responsibility System (*baochan daohu*) allowed households to cultivate what they wished with the rest of their land, whether for subsistence or for sale. Productivity and rural incomes rose sharply, driving quick increases in consumption. Demand for all sorts of consumer items, including those not on the lists of state economic planners, soared. So did household savings, which, in the absence of financial markets and instruments, typically found their way into the rural credit cooperatives controlled by local governments (Huang 1990; Naughton 1994, 1995).

When the state officially ratified the Household Responsibility System in 1984, communes were redesignated townships, brigades became villages, and existing collective factories became township-owned or village-owned enterprises. The state also restructured local financing. Previously, surpluses were transferred up the government hierarchy and then a portion came back down to finance the communes. After 1984, local governments were expected to finance themselves with revenue from local economic activities while still remitting upward a contracted amount as tax. Cadre promotion criteria became linked to economic development and success. Thus pushed and pulled, constrained and enabled, expected to fund themselves and to provide local jobs without external support, townships and villages mobilized local resources—including the surplus labor and household savings at their disposal—to establish TVEs (Oi 1992, 1999; Naughton 1994; Whiting 2001).

Although some rural industry had existed since the 1950s, and overall had increased during the 1960s and 1970s,[6] this baseline was soon dwarfed by the proliferation of rural factories in the 1980s. In 1978, one and a half million rural industrial enterprises produced less than 10 percent of China's total industrial output (Che and Qian 1998, 1; Morgan 1994, 213). By 1993, there were 23.2 million rural industrial enterprises, employing more than one hundred million rural workers, producing 40 percent of China's industrial output and one-third of the nation's exports. At least 75 percent of rural industrial output came from TVEs (Che and Qian 1998, 1–2; Wong and Yang 1995, 16).

This development miracle was not distributed equally. China's eastern coastal provinces saw the greatest changes. Shanghai and the adjacent provinces of Jiangsu and Zhejiang accounted for 60 percent

of China's total gross output from rural industry in the early 1990s and 25 percent of China's total rural industrial labor force (Morgan 1994, 213). By 1994, nonagricultural production averaged more than 80 percent of total rural output in China's eastern coastal provinces (including Shanghai), much higher than in China's central and western provinces, where it reached only 15.5 and 19.5 percent, respectively (Oi 1999, 61).

The level of rural industrialization in Shanghai had been significantly higher than the rest of prereform China to begin with (Bramall 2007; Huang 1990, 253, 259; White 1998). In 1977, just over five thousand TVEs in rural Shanghai employed 550,000 workers and produced 2.1 billion yuan or $250 million. Nonetheless, these figures increased dramatically by 1988 to 12,907 industrial TVEs, 1.5 million workers, and 21.5 billion yuan of total output ($2.6 billion), representing increases of 254, 273 and 1,024 percent, respectively (Qian 1990, 192). Total industrial output itself increased nearly sevenfold between 1980 and 1990 (Chen 1998, 4). By the early 1990s, industry accounted for at least 75 percent of total output in Shanghai's rural counties (Ling 1993, 15). According to official statistics, in 1995 rural industry contributed 145 billion yuan ($17.5 billion) or 40 percent of Shanghai's total industrial output (*Shanghai jingji nianjian* 1996). The Shanghai Municipal County and District Industrial Bureau (the municipal-level agency responsible for TVEs) estimated the contribution of TVEs to be somewhat higher, at roughly half (MG6).

TVE revenues contributed the lion's share of local government budgets by the late 1980s—anywhere from 75 to 90 percent (Whiting 1995, 38; Wilson 1997, 93). And local governments directed a substantial share of these revenues back into the expansion of existing TVEs and the creation of new ones (see chapter 2). But regulations also mandated that a percentage of TVE revenues, varying widely from place to place, be reserved for the provision of collective welfare and worker benefits and bonuses (Oi 1999, 25; Zweig 1997, 236). As the TVEs expanded, many came to embody the ideal of "the enterprise running society" (*qiye ban shehui*: A22), taking on the "enterprise system of traditional planned economy SOEs" and coming to resemble "secondary SOEs" (*erci guoying qiye*: Chen 1998, 25). As Jean Oi observed, "rich, industrialized villages used profits from [TVEs] to provide an impressive array of services and benefits to villagers, whether these individuals worked in rural industry or remained in agriculture." Benefits included building "schools, housing, movie theaters, and community centers," providing educational subsidies, and the free provision of water, electricity, and liquid fuel

(Oi 1999, 79–80; cf. Zweig 1997, 236). I interviewed managers who pointed out additional forms of welfare supported by their TVEs, including wages significantly higher than those common in the export-oriented factories of Guangdong, the provision of employment to surplus local workers, monthly payments to laid-off workers, factory trips, cafeterias, nurseries, and even retirement benefits (see chapter 6). These programs continued to expand as the TVEs grew and prospered. Living standards soared, and benefits flowing from TVE profits (whether directly or indirectly through township and village programs) would come to be taken for granted by local villagers and seen as obligations.

3. The SOE-TVE Nexus: The Dynamic Transformation of the Urban and the Rural

Ties between Shanghai and its rural hinterland were seriously weakened by their institutional separation after 1949 (Yusuf and Wu 1997, 66–67). This was true all over China, reflecting the sharp differentiation and functional separation of country and city by the socialist state. A key function of this separation was the concentration of industry in the urban, state-owned sector—the collectivized rural sector was intended as the site of the socialist primitive accumulation that would fund urban industrialization (Selden 1993). These divisions began to break down with the proliferation of new sorts of linkages in the 1980s, even if they were still very important in the late 1990s (Tang and Chung 2000). Following decollectivization, villagers marketed produce directly in cities and towns (Zhou 1996), and peasants from poor inland provinces migrated illegally to urban centers in search of work (Fan 2008; Lee 1998; Solinger 1999; Zhang 2001). These migrations were not as important in the relatively wealthy countryside of Shanghai and its hinterland on the Yangzi Delta, which started to absorb poor inland workers in the 1990s. Finally, as we have just seen, some rural industry existed before 1978, and Shanghai's SOEs had started subcontracting to rural commune and brigade factories, the predecessors to TVEs, early on (Bramall 2007; White 1998). But rural factories remained small, and subcontracting was not a huge phenomenon until the 1980s (Huang 1990, 245).[7]

What truly transformed the countryside was the explosion of rural industry in the 1980s, and SOE-TVE subcontracting was clearly one of the principal drivers of that growth. Comments by officials and managers invariably echoed those of one municipal official: "TVE

development relied on Shanghai's SOEs" (MG3). Numerous studies point out the importance of SOE subcontracting arrangements to TVE creation and growth or note that most Shanghai TVEs subcontracted for SOEs (Christiansen 1992; Huang 1990; Naughton 1994, 1995; Ning 1997; Wilson 1997; Xie and Ling 1996). Joint ventures between SOEs and TVEs (*lianying qiye*) were championed as "urban-rural unification," and 1,446 of them produced 31.2 percent of Shanghai's suburban industrial output in 1988 (Qian 1990, 188). Sources vary with regard to how much rural output resulted from subcontracting for urban SOEs, ranging from 48 to 70 percent, respectively (Qian 1990, 186; Xie and Ling 1994, 3), and going as high as 76 percent (Xie et al. 1990, 5). The township of the busy manager whom I mentioned in the introduction produced 80 percent of its output for SOEs—less than 20 percent came from production of independent products such as stainless steel silverware (LG13).

In the first years of reform, then, several forces worked together to link and transform the urban and rural economies. Shanghai SOEs still housed imbalanced economies of scale and scope and other inefficiencies resulting from the emphasis on "big and complete, small and complete" factories. Rural governments were simultaneously squeezed and encouraged and had at their disposal surplus labor, household savings, and other collective resources. Consumption was soaring, and as we will see below, many Shanghai sectors had successfully capitalized on the turn to light-industry consumer goods in the early reform years and were experiencing seemingly endless growth in demand. Together, these forces drove the creation of the SOE-TVE nexus, a formation that remained stable and held together several of these disparate forces for more than a decade.

4. The Sectors: A Snapshot, circa 1995

An industrial census conducted by the municipal government provides data that can be used to develop a snapshot of the SOE-TVE nexus in Shanghai's industries around 1995. The *Complete Listings of Municipal Shanghai Industrial Enterprises* (*Shanghai shi gongye qiye daquan*, hereafter "the census") lists 34 thousand industrial enterprises in Shanghai and its ten suburban counties.[8] It claims to be the most complete ever published. Enterprises are listed by sector, and each listing includes the name of the enterprise, address, corporate representative (manager), scale (large, medium, small), telephone number, enterprise type (i.e., SOE, collective, foreign joint venture, SOE-collective joint venture, or private), number of employees,

turnover, and product type. Data of this type usually help develop aggregate information about a population or allow comparison of different members of a population. They are seldom able to capture and represent the relations between members, but with the proper sorting can be made to tell part of the story of the relationship between Shanghai's SOEs and TVEs.

Table 1.1 shows the number of enterprises of each ownership type as listed under each of the six target sectors. The census lists 1,080 total enterprises in these six sectors. Collective enterprises are clearly the largest single category with 636 (59 percent), followed by private enterprises (13 percent), joint ventures (JVs, 10 percent), SOEs (9 percent), and SOE-collective joint ventures (9 percent):

Table 1.1 Sector Listings, 1995 Shanghai Industrial Enterprise Census Data

Sector	SOEs	Collectives	JV	SOE-TVE	Private	Other
Auto	37	267	36	47	70	1
Bicycle	14	96	22	17	6	1
Meters	21	102	27	5	27	2
Mtrcycle	5	94	8	11	23	0
Refrig.	7	28	6	6	6	1
Sew. M.	15	49	4	11	8	0
Totals	99	636	103	97	140	5

Source: Census 1995. Shanghai shi gongye qiye daquan [Complete Listings of Municipal Shanghai Industrial Enterprises]. Edited by the Shanghai shi disanci gongye pucha bangongshi [The third Shanghai industry census office]. Zhongguo tongji chubanshe [China Statistics Publishing].

Table 1.2 re-sorts these categories by location, as well as by type. SOEs are primarily under the direct control of the municipal government (even the few owned by county governments are closely tied into the municipal plan and administrative structure; see B6), so that column has not changed. The collective enterprises have been divided: Those located in Shanghai are listed as urban collectives, and those in the suburbs are listed as TVEs. Joint ventures have been likewise divided: Those in the city are listed as urban JVs, and those in the countryside are listed as TVEs. And the SOE-collective joint ventures located in urban areas are included with the urban collectives, while those in rural areas are included with the TVEs. (Almost all SOE-TVE joint ventures are in rural areas and usually are TVEs with some kind of close involvement with an urban SOE, such as capital investment, knowledge and machinery transfer, etc.)

This more nuanced categorization reveals a slightly higher preponderance of TVEs in the industrial structure at 60 percent of total enterprises.

Table 1.2 By Location and Enterprise Type (Sector Listings, 1995 Census)

Sector	SOEs	Urban coll.*	Urban JVs	TVEs**
Auto	37	72	8	269
Bicycle	14	7	8	120
Meters	21	54	17	64
Mtrcycle	5	9	0	104
Refrig.	7	1	1	38
Sew. M.	15	9	1	54
Totals	99	152	35	649

Source: Census 1995.
* Urban collectives and urban SOE-collective joint ventures.
** Rural collectives, rural foreign joint ventures, and SOE-TVE joint ventures.

Firsthand knowledge of these sectors allows the next useful sort. Each sector has at most only a few different final products or brands. The automobile and motorcycle sectors had 459 and 124 listed enterprises, respectively, but each had only one brand before the late 1990s: Shanghai Volkswagen (SVW) and Xingfu Motorcycle, respectively.[9] The Shanghai refrigerator industry, with 54 listed enterprises, was the median sector with four brands: Shangling, Shuanglu, Hangtien, and Yuandong. In the bicycle industry, with 149 listed enterprises, I discovered nine brands during the 1985–95 period: Forever Bicycle, Phoenix Bicycle, Shanghai Children's Bicycle, and Feixiang Bicycle were the most famous, but there was also Sibike (an SOE) and four very small Taiwanese ventures. The sewing machine sector, with 87 listed enterprises, had approximately ten brands. Finally, the meters and instruments sector with 188 listed enterprises had the highest number of final producers, owing probably to the simplicity of manufacturing many kinds of meters. One source said that most of the SOEs in that sector produced a final product (I1), and through interviews I found that in this sector, many rural enterprises were producing final products, as well.[10] With the exception of the meters and instruments sector, then, the rest of the enterprises listed under each industrial sector, regardless of enterprise type, size, or location, were most likely subcontractors. Table 1.3 shows that excluding final producers (half of the enterprises from each category in the meters and instruments sector have been excluded) reveals a preponderance

of rural subcontractors, with a three-to-one ratio (713 rural versus 242 urban, or 75 and 25 percent, respectively):

Table 1.3 Total Subcontractors (Sector Listings, 1995 Census)

Sector	SOEs	Urban Collect.	Urban JVs	Urban Private	Total Urban	TVEs	Rural Private	Total Rural
Auto	37	72	8	10	127	269	60	329
Bicycle	11	7	5	1	24	116	5	121
Meters	11	27	9	3	50	32	11	43
Mtrcy	4	8	0	1	13	101	21	122
Refrig.	5	1	1	1	8	36	5	41
Sew. M	10	6	1	3	20	52	5	57
Totals	78	121	24	19	242	606	107	713

Source: Census 1995.

This pattern is consistent across all sectors (except meters and instruments): automobile, 329/127 (72/28 percent); bicycle, 121/24 (83/17 percent); meters, 43/50 (46/54 percent); motorcycle, 122/13 (90/10 percent); refrigerator, 41/8 (84/16 percent); and sewing machines, 57/20 (74/26 percent).

These calculations represent the number of enterprises, but say little of the size and relative contribution of those enterprises to each sector. Because most enterprise listings include the number of workers and turnover (*xiaoshou chanzhi*) in 1995, it is possible to estimate the relative contributions of urban and rural subcontractors to each sector as a percentage of the number of workers and turnover of the final producer SOEs:

Table 1.4 Contributions to Total Sector Labor

Sector	Main Plant Workers	Urban Subcontractor Workers		Rural Subcontractor Workers	
Auto	9,437	45,500	*53.9%	29,484	*34.9%
Bicycle	24,212	9,028	19.6%	12,837	27.9%
Mtrcycle	4,358	2,146	12.1%	11,190	63.2%
Refrig.	8,010	645	5.3%	3,527	29.0%
Sew. M.	20,700	4,823	15.7%	5,140	16.8%
Totals	66,717	62,142	32.5%	62,178	32.5%

Source: Census 1995.
* As a percentage of total sectoral labor.

Table 1.5 Contributions to Total Sector Turnover (millions yuan)

Sector	Main Plant Turnover	Urban Subcontractor Turnover		Rural Subcontractor Turnover	
Auto	18,431.0	5,944.7	*32.3%	4,592.0	*25.0%
Bicycle	3,121.0	423.5	13.6%	780.3	25.0%
Mtrcycle	2,353.0	110.5	4.7%	1,061.3	45.1%
Refrig.	2,632.0	45.2	**1.7%	632.4	24.0%
Sew. M.	1,653.0	185.4	11.2%	405.8	24.6%
Totals	28,190.0	6,709.3	23.8%	7,471.8	25.7%

Source: Census 1995.

* Turnover as percentage of main plant turnover only.

** The census data does not list the Shanghai Compressor Factory, an SOE that supplies Shangling. I estimate its 1995 turnover at 320 million yuan, which would raise the urban contribution to 13.9 percent and the total urban contribution to 25 percent.

Tables 1.4 and 1.5 suggest that rural subcontractors contributed heavily to their respective sectors, though not as much as suggested by the three-to-one ratio of number of enterprises. Still, with 62,178 rural workers as compared to 62,142 urban workers, rural subcontractors contributed slightly more than 50 percent of total subcontractor labor. And with 7.47 billion yuan in total turnover, as compared to 6.71 billion yuan for urban subcontractors, rural subcontractors contributed nearly 53 percent of total subcontractor turnover. Both of these figures are very significant.[11]

The census data underscores the insignificance of private enterprises in Shanghai as late as 1995—they would not become important until the late 1990s (see chapter 6). Private enterprises represented 13.4 percent of total listed enterprises, but only 1.5 percent of the total labor force in these sectors (including main plant workers) and less than 1 percent of total turnover (0.46 percent). Furthermore, many of the larger enterprises included in the private-enterprise category are actually listed as independently owned by foreigners (*waizi qiye*) or entrepreneurs from Hong Kong, Taiwan, and Macau (*gangautai duziqi*). If the contribution of those enterprises is removed, in order to reflect the degree of indigenous private-enterprise involvement in these sectors, the total urban and rural private-enterprise contribution of 2,885 workers and 195.14 million yuan turnover would change to 1,879 workers and 118.77 million yuan turnover, thus representing total contributions of only 0.98 percent and 0.28 percent, respectively. This corroborates statements by local scholars and officials. As late as 1994, local scholars wrote that the relative weight of privately owned enterprises in the Shanghai economy was very slight

(*bizhong hen xiao*) and that there existed a huge gap (*cunzai zhe hen da chaju*) in their scale, quantity, and overall effect on the economy when compared with other provinces and large cities (Xie and Ling 1994, 32). As late as 1997, the Shanghai District and County Industry Management Bureau told me that almost all of Shanghai's industrial output was still produced by either SOEs or TVEs and that privately owned enterprises, although long important in other parts of China and beginning to develop very quickly in Shanghai, were just starting to play a role (MG6).

The census does have some limitations. It lists Shanghai enterprises only and thus does not include the contribution of nonlocal subcontractors. There was much reported subcontracting to Jiangsu and Zhejiang TVEs and some to nonlocal SOEs (see chapter 2). And while the census provides the most comprehensive enterprise-level data publicly available, it does not list all Shanghai enterprises and may list some subcontractors under headings other than the relevant sector, precluding them from this portrayal. Still, I found surprisingly few errors when I used the census as a source to contact factories, and only a few enterprises claimed not to be the listed enterprise.[12]

5. Sector Dynamics

Sectoral analysis can capture variations in competition, production, and consumption between industries more fully than general studies of the market, the economy, or classes of firms (Storper and Walker 1989). But as seen above, official sectoral statistics were too aggregate to reveal the extent of SOE-TVE subcontracting until combined with even more specific knowledge about which enterprises were rural, which were final producers, and so on. To capture these dynamics, sectoral statistics must be enriched with some form of commodity-chain analysis that helps to identify the discrete or possibly overlapping groups of firms that are linked together in the manufacture of a specific product from beginning to end—what are here termed production systems. Furthermore, while statistical data for one year can present a static snapshot of the sectors at that time, they do not provide a sense of how they came to be that way or how they might be changing. Each commodity chain or production system must be considered in the context of its specific history, one that is ongoing and may contain the seeds of its possible futures (Hart 2002; Smith and Swain 1998).

The following subsections trace the history and evolution of each sector and its production systems. The histories may vary, but sectoral

growth will emerge as the single most important imperative driving the expansion and elaboration of production systems. Other patterns will emerge, as well. Interviews with managers strongly corroborate—and further nuance—the patterns adduced from census data. For example, interviews revealed that specialized urban branch factories continued to play an important role in these production systems,[13] but both sources demonstrate that a very significant share of the new subcontracting went to rural TVEs. Chapter 2 will continue this analysis by showing that a preponderance of second-tier and third-tier subcontracting went to TVEs, as well, and by tracing the spatial trajectories of the growth of these sectors to reveal how social relations came to be extended across the regional economy rather than remain contained within firms (Friedland 1984; Sayer and Walker 1992).

The six sectors examined here were major Shanghai industries with brand names known nationwide for quality. Shanghai bicycles and sewing machines were major brand-name consumer goods in the 1960s, 1970s, and 1980s, declining in national importance only in the 1990s. Shanghai's motorcycle and refrigerator sectors existed in the 1960s and 1970s, but became important from the mid-1980s until the mid-1990s. The automobile sector was insignificant until the late 1980s, but by the mid-1990s commanded more than half of the entire domestic market. And Shanghai has been considered the most important production base in China for meters and instruments since the 1950s. In 1995, these six sectors contributed 100 billion yuan ($12 billion), or 28 percent, of Shanghai's total industrial output (*Shanghai jingji nianjian* 1996).[14]

a. The Motorcycle Sector

The organizational and subcontracting history of the motorcycle sector was the simplest of the six, with only one brand—Xingfu Motorcycle—and one enterprise that did not work for it exclusively.[15] The SOE, Yichu Motorcycle, was formed in 1984 through a joint venture with the Ek-Chor Corporation of Thailand. The Chinese partner was the Shanghai Tractor and Automobile Company, which redirected to the task one of its subsidiary factories, the Shanghai Motorcycle Factory, an SOE that had been making motorcycles in small batches since 1958. After the joint venture, production levels increased rapidly, from 78,249 total accumulated units in the five years from 1980 to1984 (*"Xingfu zhi lu" bianzuan weiyuanhui* 1994), to more than six hundred thousand in 1996 alone. In the 1990s, Xingfu held a prominent position in the domestic motorcycle

industry. There were more than 118 motorcycle manufacturers in China, but the top 10 manufacturers accounted for two-thirds of all domestic production, and Yichu was sixth nationwide (Cheng 1997, 19–20).

Rapid growth combined with import substitution to drive the elaboration of a local supply base. The SOE had some urban workshops producing components during the socialist era, but no subcontracting outside its system (i.e., to TVEs or enterprises in other places). Ten percent of the value of a Xingfu motorcycle was imported at first, because Ek-Chor Thailand licensed Japanese technology from Honda Motorcycle. Yichu upgraded existing subcontractors, created new ones to replace the imported components, and reduced the imported value to 1 or 2 percent by the mid-1990s (M1). A TVE manager in rural Pudong said, "When we began subcontracting for Yichu in 1986, they had very few subcontractors. We were one of the earliest. But they had an awful lot by 1992" (M4). An ex-general manager elaborated that Yichu relied at first on the original internal workshops but quickly started to outsource component production. "A motorcycle has more than two hundred components (*lingpeijian*). We started by developing one factory per part. A lot of those factories were very poor at the beginning, but after a few years with us, they were doing very well. We supplied a lot of them with molds and equipment. Later on, we started to develop two factories per part. At our peak, we had more than three hundred suppliers. About 10 percent were SOEs; the rest were TVEs" (M1).

These figures were more or less supported by other evidence. Interviews suggested a peak of more than three hundred subcontractors (M4, M16), though estimates ranged from more than two hundred (M6, M10) to 370 (M3). The census listed 13 urban SOEs or collectives and 101 TVEs, suggesting a TVE ratio of 85 percent, very close to the 90 percent stated by the ex-general manager. A Pudong subcontractor said there were "well over a hundred TVEs in the Shanghai area alone. I know this because every year Yichu would hold a huge banquet for the managers of all of its suppliers" (M4, M6). Likewise, the census listed 19 subcontractors in Pudong, while interviews estimated 15 to 20 suppliers there (M2, M4); other managers counted six to ten subcontractors in Nanhui County (M5, M6), with the census listing ten. I concluded that the spatial distribution of Yichu's subcontracting system may have been as follows: 150 in Shanghai and its rural counties; 60 and 30, respectively, in neighboring Zhejiang and Jiangsu Provinces; and 50 more scattered around China.

b. The Refrigerator Sector

The refrigerator sector experienced rapid growth as well, and enterprises in this sector also expanded by developing subcontracting systems. The most important of the Shanghai refrigerator manufacturers made anchor chains until ordered to begin producing refrigerators by the Second Light Industry Bureau in 1984. Because a small refrigerator factory already existed, this one was named the Shanghai Number Two Refrigerator Factory. In early 1985, it entered into a technical cooperation agreement with the Mitsubishi Corporation of Japan that resulted in not only technical training but the importation of a state-of-the-art assembly line as well. Close cooperation with Mitsubishi continued, and in 1989, the factory was renamed Shangling, a combination of the Chinese characters for Shanghai and Mitsubishi (*san ling*). Starting with 557 workers in 1985 and producing fewer than 10,000 refrigerators that year, it grew quickly. By 1987 it had 1,335 workers and produced 60,000 units, after which it expanded steadily until reaching 2,740 workers producing 850,000 units at its height in 1995–96. In 1995, it was listed as number 202 of the 500 largest industrial enterprises in China, and the twenty-second largest enterprise in Shanghai (Lu 1996, 171).

As with Yichu, I worked closely with a manager from Shangling Refrigerator to develop a comprehensive profile of its subcontracting structure. He supplied a list of all of Shangling's subcontractors in 1990, a list that he believed to be also essentially valid for the period from 1987–88 to 1996. It included 35 SOEs and 41 TVEs. "Shangling started to build its subcontractor base in 1985 and within the first three years or so it was finished. After that, the number of suppliers basically didn't change over time—the original suppliers expanded along with us. We added a few along the way when these suppliers couldn't keep up with the growth, but not many" (R7). In addition to those 76 subcontractors, Shangling partnered five SOE-TVE joint ventures with rural Shanghai townships (I interviewed three). This 35/46 ratio differs from that provided by the census data (7/37), which may be partially explained by Shangling's purchasing of compressors and evaporators from SOEs in other parts of China. Also, including second-tier subcontracting (see chapter 2), the ratio becomes 25/112, more closely approximating the census.

Shangling's key supplier developed a large subcontractor base, as well. Also an SOE under the Second Light Industry Bureau, it was ordered to stop producing small motors and start manufacturing compressors for Shangling in 1985. Compressors are the most critical

component of refrigerators—they are the single most expensive component and are difficult to make. In the 1990s there were about 15 manufacturers in China, and all were foreign joint ventures, most with Japanese and Italian companies (R17). The rest of a refrigerator is comparatively easy to make: One manager said, "anyone who can get their hands on compressors can start a small factory and make refrigerators" (R18). In close cooperation with Mitsubishi, this factory imported almost everything from Japan in 1985, but set a target to reduce imports by 10 percent each year in order to reduce costs. "Now [1999] about 20 or 30 percent is still imported from Japan because local subcontractors are still not good enough for some of the parts. But production costs are 45 percent lower than in 1985 due to localization. So, at first we did not have many subcontractors, but we increased the number in order to localize (*guochanhua*)." Production also increased rapidly from 100,000 units in 1985 to 900,000 units in 1996. To manage simultaneous growth and localization, the number of employees grew from 900 to 1,200 during the first four years, and the compressor factory added a large number of subcontractors. Four subcontractors—two Shanghai SOEs and two Shanghai TVEs—were added in 1985, the first year, followed by eight in 1986, four in 1987, and 25 in 1988 and 1989. The last two years were quite tumultuous, because the factory expanded most rapidly during that period. Many potential subcontractors were tried and rejected owing to the relatively high quality demands of compressors. By the early 1990s, the SOE had more than 60 subcontractors, of which more than half were TVEs, six were Shanghai SOEs, and a few others were SOEs from other cities (R1, R10).

Shuanglu Refrigerator also developed an elaborated subcontracting system. It began as a group of urban (street committee) collective enterprises in the 1980s, and as they grew, they integrated into one large enterprise that was eventually upgraded to full SOE status. At its peak in the early 1990s, it produced 250,000 units annually, and had three branch plants. All three were SOE-collective joint ventures: one with an urban street committee and two with rural localities (R11, M17). One subcontractor said that Shuanglu must have had at least 50 additional subcontractors at its peak (R12), while another estimated, "at least sixty or seventy. Almost all were TVEs in Shanghai, Zhejiang, and Jiangsu, and almost all of them relied on Shuanglu's growth to grow up" (R15). One of the rural branch plants subcontracted to another five or six local subcontractors (see chapter 2 on second-tier subcontracting). And a Jiading County TVE, which had enabled Shaunglu to add a new assembly line by taking over all of its

metal stamping operations in 1992, continued to subcontract to the same 15 TVEs that had performed metal-stamping subroutines since the 1980s. Almost all of those TVEs were located in rural Shanghai; Changshu and Wuxi in Jiangsu Province and Ningbo in Zhejiang Province had one each (R12).

c. The Automobile Sector

By any measure, the automobile sector is the largest and most complex. Like the motorcycle and refrigerator sectors, it was based on a local system dating back to the 1950s but did not begin to develop into a large-scale production system until a joint venture was formed in the mid-1980s. During the 1950s a number of small factories were merged to form one factory, under the Agricultural Machinery Company (*nongji gongsi*), which in turn was under the First Machinery and Electrical Bureau (*jidian yiju*), to produce what were essentially reverse-engineered Mercedes sedans. The cars, which came to be called the Shanghai Brand (*Shanghai Pai*) in the 1960s, were produced in small batches by hand: Production levels never surpassed 10,000 units per year, even as late as 1985 (A3, A12). The Agricultural Machinery Company was merged into the Shanghai Tractor Company in 1976, and in 1984, at the urging of then Shanghai mayor Jiang Zemin, it formed a joint venture with Volkswagen of Germany—the Shanghai Automotive Industry Corporation (SAIC). Growth in output of the first model, the Santana sedan, was rather slow during the 1980s, starting at 3,356 cars in 1985, more than doubling to 8,031 in 1986, but then reaching only 10,470 in 1987. Production then increased somewhat to more than 15,000 units in 1988, only to stagnate at 15,688 in 1989 and increase only slightly to 18,500 units in 1990. But after 1990, output started to rise dramatically, reaching 35,000 units in 1991, 65,000 units in 1992, and surpassing 100,000 units in 1993 (Harwit 1995, 99, 104). By 1997 and 1998, production had increased to 220,000 to 230,000 units, and the Santana had captured more than 50 percent of China's passenger car market (A2, A12).

Much of the original Santana model was imported at first. In fact, the joint venture grew out of experiments with the importation of completely knocked-down kits (CKDs) that started in 1982. When assembly began under the new joint venture in 1985, very few of the existing 140 specialized factories and workshops under SAIC could meet German quality standards, and most of the components continued to be imported. A vicious circle resulted in which the specialized factories refused to make the necessary investments to improve

quality until they were assured of large enough quantities to reach scale economies. But because CKD imports used costly foreign-exchange reserves, central authorities would not allow large increases in the number of CKD imports until more of the components were purchased locally. This problem was worked out step by step in the late 1980s, and the rate of localization increased from essentially zero in 1985 to more than 80 percent in 1993. While the Germans benefited greatly by exporting parts to SVW, the Chinese authorities encouraged localization and implemented a series of policies, the most dramatic of which was the localization fund (*guochanhua jijinhui*) established in 1988 (A21). Each Santana was taxed heavily: SVW sold Santanas to SAIC for 70,000 yuan ($18,800) in 1988, which in turn sold them to authorized distributors for double that price, or 140,000 yuan ($37,600). Most of the difference went into the localization fund, which the Shanghai government then used to subsidize the development of qualified local parts suppliers by providing loans at 50 percent of the prevailing rate to factories implementing upgrade projects preapproved by the Fund Office (A1, A2, A5, A14, A21).[16]

The story of growth and localization is simultaneously the story of the development of SVW's subcontracting system. Cajoling by the local government, tangible incentives such as the localization fund, and the lure of growing production quantities induced increasing numbers of factories to upgrade and become SVW subcontractors.[17] The purchasing manager of the Shanghai Tractor and Internal Combustion Engine Corporation, a combination of two SOEs that had historically been the bulwark of what became the auto system in the late 1980s, narrated part of this dynamic:

> For a lot of the 1980s, tractors were still the big brother (*laoda*) of the group. Cars were a small thing, but we were huge. But after the joint venture, cars started growing. SVW was doing localization, so they were expanding their subcontracting system. Profits for cars were a lot higher than for tractors, so a lot of the [specialized] factories that did tractor parts also started making car parts. They continued with tractor parts, but focused more and more on car parts. The entire system became increasingly auto-oriented, with all the new investment going there instead of to tractors. (M13)

Subcontractors were also developed outside of the SVW system. In 1987, to much fanfare, SVW held its first annual Localization Supplier Meeting (*Guochanhua Peitaohui*). It was attended by such dignitaries as Yao Yilin, and representatives of the first 37 officially

approved subcontractors, including county-level collective enterprises that had been approved to manufacture car jacks (A23), mufflers, and fire extinguishers (A21) and a TVE that manufactures rear-view mirrors and gear-shift knobs (A5). Several other TVEs where I interviewed managers had started subcontracting for SVW in the late 1980s: One began producing paint for SVW in 1987; another switched from watch and clock repair to making repair tools and rubber parts for SVW in 1988 (A13); one was established in 1992 to do welding (A12); and two TVEs, each formed by combining three village-owned enterprises, started to do metal stamping, pressing, and soldering in 1987 (A11) and to produce electric cables and subassemblies in 1990 (A8), respectively.

In addition to involving local TVEs, SVW took advantage of the manufacturing talent that had been developed in China's military industries. Many of those were actively shifting from military to civilian products (*jun zhuan min*) in the 1980s. For example, in 1990, a joint venture was formed between a Pudong township and a subsidiary of Shanghai Hangtien, an SOE originally charged with manufacturing missles and satellites, to make air conditioners for the Santana (A6). Other subcontracting functions went initially to the huge SOEs producing military equipment that were located in the mountains of western China, particularly Guizhou.[18] One of these started making mufflers for SVW in 1988, but in 1992 established a joint venture with a Shanghai TVE (A10). Another formed a joint venture with a Shanghai township in 1992 to produce air-conditioning components and air filters. As part of the localization effort, the mother company in Guizhou set up eight such joint ventures in Jiading County (A14). One source said that there were about 15 suppliers from Guizhou, several of which had established themselves locally in the early 1990s (A4).

By the mid-1990s, SVW had three hundred first-tier suppliers. The core, the SAIC enterprise group (*jituan*), had 54 members and contributed 40 percent of locally produced value.[19] One source believed that while TVEs were important, SOEs and factories in the SAIC group provided the main foundation (A4). The managers I interviewed all concurred that the first tier consisted of approximately three hundred subcontractors but expressed different opinions about the relative contribution of TVEs and SOEs. But even more than other sectors, the automobile system had a well-developed second tier of subcontractors and even third and fourth tiers. An SVW researcher had no idea how many second-tier subcontractors there were (A7), while an industry insider guessed there were at least one thousand

second-tier subcontractors under the three hundred first tier suppliers (A4). Twenty of the enterprises I interviewed (13 of which were first tier) claimed to have a combined total of 275 second-tier subcontractors, suggesting that one thousand may be too conservative for the group as a whole. TVEs played a more important role at the second-tier level than at the first. Of those 275 second-tier enterprises, only 50 were SOEs, while 191 were TVEs, 10 were private enterprises, and 24 were unspecified. (See the discussion of second-tier subcontracting in chapter 2.)

Finally, the development of the supplier base of another large SOE under SAIC helps demonstrate just how widespread this pattern was among Shanghai SOEs. The manager of the Shanghai Tractor and Internal Combustion Engine Corporation, originally the undisputed leader of the enterprise group, described the development of its supplier base. In 1980, on the eve of reform, the Internal Combustion Engine Factory had about 80 specialized parts factories underneath it, almost all of which were either SOEs or urban collectives in Shanghai. This factory started to subcontract outward in the early to mid-1980s and by 1986 had 120 suppliers. Of those, 80 were the original specialized factories, while the new additions consisted of 30 Shanghai TVEs and 10 SOE-TVE joint ventures (eight of which were in Shanghai). Thirty more subcontractors were added between 1985 and 1989, of which approximately 15 were TVEs and 15 were SOEs. The total in 1989 was thus 80 original specialized factories, 45 TVEs, 10 SOE-TVE joint ventures, and 15 newly added SOEs. After 1989, the subcontracting system did not change until the current manager started to restructure it in 1998 (M13).

d. The Bicycle Sector

The Shanghai bicycle sector was dominated by the two large SOEs described earlier, Forever Bicycle and Phoenix Bicycle. Their combined annual production was 2.8 million units in 1979, expanding rapidly to 6 million bicycles in 1988 (Xie et al. 1990, 3).

The president of Phoenix Bicycle, who described the specialization of production in that sector around 1960, went on to narrate the expansion of its division of labor beyond the specialized urban parts factories.

> Starting around 1983 or 1984, Phoenix did a huge number of internal cooperation factories (*neibu xiezuo gongchang*) with TVEs in Shanghai, maybe 100! A lot of different forms—some were actually joint ventures

> (*lianying qiye*), with the TVE supplying land and labor and us supplying equipment, know-how, and materials, and with different capital arrangements, sometimes 30–70, sometimes 40–60 [SOE-TVE]. Others just did value-added work (*jiagong*) and received a value-added fee (*jiagongfei*), and with others, we split profits at the end of the year according to the amount of investment (*touzi bili fenxiang*). We often had as many as five TVEs making the same part, because our quantities were simply too large for most of the TVEs (B18).

These TVEs did not replace the original ten specialized factories: "The TVEs were only making a bunch of small parts, not the same parts as the specialized factories. And they were doing things like electroplating (*diandu*), which is poisonous and polluting" (B18).

Several years later, at the end of the 1980s, the ten specialized factories started to subcontract out to local TVEs, as well. "The first was in 1988, when the Chain Factory put out production of the small parts, and after that primarily did the final assembly of the chains." Finally, when the market dipped for the first and only time in 1991,[20] the Forever and Phoenix main plants started to purchase some components from TVEs in other, inland provinces (*waidi*) for the first time.

> We did that to reduce costs. The specialized factories couldn't lower their prices because they had to maintain high, state-mandated standards and because production costs were much higher in Shanghai than in the inland provinces. The inland TVEs could sell at a lower price, but with lower quality, of course. By purchasing some of our parts this way, we could lower our prices. On our standard models we never had to lower our prices before the late 1990s, but we created a new brand, using the lower-quality parts and selling for a lower price. (B18)

Forever Bicycle started its expansion even earlier, establishing a large SOE-TVE joint venture in Baoshan County in 1979 and two more in 1982.[21] In addition to these three branch plants, Forever had "dozens of value-added factories in which they had no investment, all TVEs in the Shanghai area, doing simple functions like wire drawing, making standard screws and bolts, and so on" (B9). A manager of one of those subcontractors, a wire-drawing factory in Pudong, said that Forever Bicycle had at least 100 subcontractors in the late 1980s and early 1990s. "There were at least 30 or 40 in Pudong alone! All of them were TVEs—pretty much all of their subcontractors were TVEs. The 30 or 40, those were factories with at least 50 workers, but there were

a lot, lot more tiny ones" (B1). These estimates are very similar to one posited by an academic source, relying on government information, that claimed that "the Bicycle Company [parent to both Forever and Phoenix], in order to expand production, eventually established 119 points in the suburbs specialized in producing components for the two large brands" (Xie 1990, 3).

In 1982, a third, but much smaller brand of bicycles was established by the Jiading County government to take advantage of the lucrative market. Many TVEs in that county competed to be designated the main plant—one in Nanxiang Township won, and was designated the Jiading Bicycle Number One Factory. Enterprises in Jianbang and Xuhang Townships were designated the Number Two and Number Three factories, respectively. Production of the resulting Feixiang brand bicycles started at fifty thousand units the first year and peaked at five hundred thousand units in 1992. During the same period it expanded from two hundred workers to more than a thousand, and developed a supplier base consisting of "dozens" of subcontractors. The main plant manufactured the frames and did final assembly, while the rest, about 60 percent of the value of the bicycle, was purchased. Of the subcontractors, "about two-thirds were TVEs, one-third SOEs." Most of the latter were the specialized factories under Forever and Phoenix in Shanghai (B4, see also B3, B13).

Finally, the Shanghai Children's Bicycle Factory was another SOE under the Light Industry Bureau until it went bankrupt in the late 1990s. Before 1978, it was the largest manufacturer of children's bicycles in China. In 1978, it started to export to an American company (under the latter's brand name) and quickly focused on that lucrative market. By the time the American company had found a new supplier in 1985, other manufacturers had captured the domestic market. Unable to compete with the new entrants, the Shanghai Children's Bicycle Factory struggled along for ten years before going bankrupt. However, it, too, developed a subcontracting base. While exporting to the United States, it obtained components primarily from the specialized urban factories under Forever and Phoenix. Later, it "raised a group of TVEs" (*yangle yipi xiangzhen qiye*) in the Shanghai counties, approximately 20 altogether (B12).

e. The Sewing Machine Sector

The sewing machine sector is even more complex than those described above, with a long history, several brand names, and two major market

segments. Household sewing machines had always been a sought-after commodity due to their usefulness in keeping families clothed during the shortage economy. They were a highly prized wedding gift, and Shanghai brands such as Mifeng and Feiren were famous and preferred all over China. However, their importance declined significantly by the end of the 1980s as cheap, manufactured clothing became readily available (S5; Zhang and Bao 1999, 176–78). The industrial sewing machine sector has a different history. According to one source, before the 1980s, it was not nearly as important as the household sector: Only in the early 1980s did the Light Industry Bureau begin to produce industrial machines.[22] The industrial sector developed rapidly in the 1980s as people purchased more clothing and used household machines less and by the late 1990s had all but replaced the household sewing machine sector. Taken together, Shanghai's manufacturers produced 33.1 percent of China's sewing machines in 1988 (Yu 1990, 4).

For a long time, the largest manufacturer in Shanghai (and China: S7) was the Shanghai Industrial Sewing Machine Factory (Shanggong), which was established in the 1950s. Like the bicycle SOEs, Shanggong also had more than ten specialized component manufacturers underneath it, all urban SOEs with names like the Shanghai Sewing Machine Parts Number One Factory, Number Two Factory, and so on.[23] These branch plants were established in the early 1960s. Two of them started to assemble final products (*zheng ji*) in the 1980s in addition to producing parts. After a major restructuring in the early 1990s, several of the other parts factories also began producing final products with their own brands, but even then, their principal activity was value-added work for the big factories (S7). The census listed six Shanggong SOE-TVE joint ventures. I interviewed the manager of an SOE-TVE joint venture formed by one of the two branch plants that was assembling final products. The branch plant was making two models of industrial sewing machine by 1982. As quantities increased, it needed to increase its scale: "They needed to expand production, so they started to look for cooperation partners. So they established five SOE-TVE joint ventures with Shanghai villages and townships." The ownership of this one, established in 1984 to produce components, was 55 percent SOE, 45 percent TVE. The SOE supplied the equipment and technical skills, while the TVE supplied land, labor, plant, and capital. The manager continued, "The [branch plant] had other subcontractors, as well. At their highest point, around 1994, they had about 60. The majority were Shanghai TVEs. But they also got some parts from the other branch plants and

from some TVEs and, later, individually-owned enterprises (*getihu*) in Zhejiang and Jiangsu" (S8).

Shanghai's huge textile industry was supplied by Textile Bureau factories in addition to Shanggong and other factories under the Light Industry Bureau. I visited one Textile Bureau SOE that was doing so. Established in a rural township in 1970, it had transferred three hundred urban workers and employed two hundred local villagers. In the mid to late 1980s, it started to sell outside of the Textile Bureau system and by the mid-1990s was exporting half of its production (six hundred total units per month) to Southeast Asia. It developed a subcontractor base of one SOE, six TVEs, and one SOE-TVE joint venture, but also continued to do a lot of its own value-added work (one manager in a 2000 phone interview said that its products were no longer competitive due to poor internal organization: S6, see also phone interview with DQ C6).

Finally, I interviewed two large final-product manufacturers with the same mother company, a large Shanghai SOE that was moved out of Shanghai in 1968, to the city of Xian in Shanxi Province.[24] That SOE formed three joint ventures in the late 1980s and early 1990s. The first, manufacturing household sewing machines, went bankrupt in 1992. The second, established in 1992 to manufacture industrial sewing machines, is an SOE-TVE joint venture in which the village owns 90 percent and the SOE in Xian owns 10 percent. It started with only 30 or 40 subcontractors and expanded its supplier base as it added models and product lines. By 1999, it had 85 component subcontractors, at least 90 percent of which were TVEs and less than 10 percent of which were SOEs (S1).[25]

The third joint venture by the Xian SOE was with an urban, district-level collective enterprise in Shanghai. The manager of that factory was evasive, but he claimed the relationship between the second and third joint ventures was that of "brothers" (*xiongdi guanxi*) and said that he knows the other manager and speaks to him from time to time. This third factory, established in 1994, made only components at first, but by 1995, it was assembling final products, industrial sewing machines. Since 1992, it had expanded from 25 workers to 150 workers. It slowly reduced the amount of parts it manufactured over time and by 1999 was producing only the oil pump (*youbeng*) and experimental parts for new models until the latter were mature and put out on the market. By late 1999, it had about one hundred subcontractors of which only a few were SOEs and the vast majority were TVEs.[26] But only 10 to 20 percent of the TVEs were in Shanghai, unlike most of the other subcontracting systems: 45 percent were in

Zhejiang Province (and the majority of those in the Ningbo area) and another 35 percent were in Jiangsu Province. This factory shared 80 to 90 percent of its supplier base with the second joint venture, but this common supplier base had very little overlap with that of Shanggong, their main competitor. Shanggong, unlike the two newcomers, was from the beginning deeply imbricated in the Shanghai planned economy (S1, S4).

Finally, there were other Shanghai brands, including Xiechang,[27] Jiangwan,[28] and Chongji,[29] about which I collected little information. But various interviewees suggested that these also subcontracted out to SOE-TVE joint ventures and TVEs.

f. The Meters and Instruments Sector

Just as it had played an important role in the production of motorcycles, refrigerators, automobiles, bicycles, and sewing machines, Shanghai had long been considered the most important source of meters and instruments in China (followed by Xian and Sichuan), and many of its factories were quite famous (Lin 1990). Unlike the other sectors, this one was more difficult to chart, for two reasons. First, the factories where I interviewed management all produced for different, specialized markets, including gauges and instruments for measuring heat, fluid levels and fluid pressures for a variety of industrial processes, temperatures, and electricity flow for households, businesses, and factories. Second, because meters and instruments are so crucial to so many industrial processes, the market for them has generally risen with the development of industrial capacity in China during the reform era. Market demand combined with ease of manufacture of lower-end types and models motivated the establishment of many small enterprises during the early 1990s. This phenomenon is largely responsible for the anomalously high number of small private enterprises listed in the census for this sector and also contributed to a much higher number of urban and rural collectives manufacturing and marketing final products than I observed in the other sectors.

As noted above, at least one of the large SOEs did not subcontract until the late 1990s. That factory was representative of the "big and complete, small and complete" phenomenon, but not necessarily of the sector as a whole. Another large SOE, also under the Meters Bureau, more than doubled its output between 1985 and 1995, growing from 200 to 300 workers. Originally established in 1951 to produce pressure gauges, this factory has a large number of specialized factories underneath it, dating back to the planned economy. "The

administrative departments above (*shangmian de xingzheng bumen*) do the overall coordination (*zongti de xietiao*). The factories below us are specialized in making each type of component."[30] The first time this factory reportedly went outside this vertical structure was 1985. When one of its own specialized factories could not keep up with its growth, it subcontracted surface processing (*biaomian chuli*) to some TVEs. During the late 1980s, it subcontracted to eight or nine TVEs, but then started to add more in 1990, reaching 30 TVEs in 1994 or 1995. Almost all of the TVEs were located in rural Shanghai and a few in Jiangsu and Zhejiang provinces (I3).

The manager of one TVE in this sector had originally worked in an SOE-TVE joint venture in the 1980s. At that time, the Shanghai Medical-Use Instruments Factory, an SOE under the Meters Bureau, established four or five such branch plants in rural Shanghai. He worked for one established in Jiading County in 1985 and described the establishment of another one in Yangzhou, Jiangsu Province. In the early 1990s, after finishing the university through night courses, he left the SOE to establish a TVE in Pudong making temperature gauges. It was a "red-hat" enterprise—a private enterprise disguised as a TVE.[31] For purchasing, he said that whatever he did not make himself, he purchased from either the specialized SOE factories, some of which started to sell outside their own systems in the 1990s, or from stores selling standard parts (I5).

Another private enterprise, also established by a young university graduate after leaving his SOE, makes specialized meters for a high-end, niche market. Rather than depend on the urban supplier base, he imports crucial components, produces 20 or 30 percent of value-added in-house, and subcontracts the rest to TVEs. Since 1992, he had raised about six small village-owned enterprises "from nothing to something" (*cong wu dao you*) in the Pudong area (I4). Finally, a small TVE that seemed to be failing at manufacturing and marketing a meter for which it had a patent did not have any subcontractors at all—it did some value-added work itself and was able to purchase everything else it needed off the shelf. This attests to the ease of entry in this sector.

6. SHANGHAI'S SOEs AND TVEs: CONNECTING THE URBAN AND THE RURAL

Many of Shanghai's large urban SOEs relied heavily on the industrial bases within their own industrial bureaus and associated administrative systems until they began to break out of their "big and complete, small and complete" frameworks by subcontracting production

functions. By the late 1980s, the SOEs in these Shanghai sectors had eliminated yearly losses, high rates of surplus labor, and rampant inefficiencies. Only the meters SOE described at the beginning of this chapter, with its idle equipment and poor economies of scope, approximated the SOE stereotype. The rest were making such large profits that they had become an important source of revenue for the municipal government. Surplus labor had been fully absorbed, and in fact, these SOEs increased their labor forces: internally, as more workers were allocated or transferred in, and externally, through their subcontractors. And these SOEs had greatly rationalized their production structures. The main factories now more closely resembled final assembly plants, purchasing most components from well-developed and primarily local supplier bases that largely balanced scale and scope economies across the sector and the regional economy.

A very significant portion of the subcontracting that proliferated in the 1980s and 1990s took the form of urban SOE to rural TVE linkages. The formation of these linkages was largely driven by and in turn increasingly enabled the successful growth of many of Shanghai's SOEs in the product markets of the mixed, dual-track economy. SOE success contributed substantially to the growth of Shanghai's industrial output and to its municipal coffers. These subcontracting linkages also contributed to the establishment and growth of a very significant amount of rural TVEs, and through them, the enrichment of villagers and rural local governments. In short, the development trajectory of Shanghai's economy, of the industrial sectors in question, and of the SOEs, and TVEs cannot be adequately understood without reference to the SOE-TVE urban-rural nexus.

Through the late 1980s and well into the 1990s, driven by sectoral and SOE growth, these subcontracting systems continued to expand along the same trajectory: They grew quantitatively without changing qualitatively. Sectoral growth engendered the eventual shift to establishing more than one factory to supply a given component, a practice usually referred to as "one part, two factories" (*yipin liangdian*). At first, factories often struggled to establish one factory that could reliably supply a given component. But as the output grew and suppliers could not keep up, they eventually increased the number of suppliers. Another important effect was the ongoing reinvestment of accumulated capital by each level of the administrative hierarchy (industrial bureaus, SOEs and specialized factories, and district, county, township, and village governments), establishing new local enterprises for the sake of capturing industrial employment and profits locally. These dynamics are so important that they will occupy much of chapter 2.

2

The Geography of the Deepening Division of Labor

Whether to make or to buy is one of the classic questions of economic and industrial organization (Coase 1937). It was central to the constellation of questions I asked every enterprise manager. "What do you make, and what do you buy? Why? How has this changed over time? Why? Why did you subcontract this function to a township- or village-owned enterprise (TVE)? Why did you subcontract that function to a state-owned enterprise (SOE)?" Keeping a production function in-house or subcontracting it out to an SOE or a TVE was a choice between enterprise types with different characteristics and cost structures, but it was also a spatial decision. A significant degree of subcontracting went to TVEs, rather than SOEs, but how much of it went to TVEs in Shanghai's rural counties, TVEs in other provinces, or SOEs in other cities? Did this change over time, and what can that tell us?

Ideally, subcontracting would go where overall costs are lowest, whether because of lower transportation costs (due to proximity or location along convenient transportation routes) or cheaper input costs (labor, rent, taxes, etc.). Exceptions might result where necessary technical capabilities or services are not otherwise available. Accordingly, subcontracting might have stayed within the Shanghai counties (based on lower transportation costs), gone outside to neighboring Jiangsu or Zhejiang Provinces (based on cheaper labor and taxes), or gone wherever the necessary capabilities existed in cases of higher technical difficulty (other Shanghai SOEs, due to their history of technical superiority, or perhaps SOEs in other cities, or in the Third Front defense industries in western China).

This basic locational logic was certainly evident in the spatial patterns of the SOE-TVE production systems. But mapping the landscapes produced by growing sectors and production systems reveals

patterns too dispersed, varied, and anomalous to have resulted from such a simple and singular logic. And it is not enough to recognize that divisions of labor are spatial, that they are stretched across space. The expansion of a division of labor, such as a subcontracting system, produces the economic landscape across which those activities are stretched—a linked series of places and spaces of economic activities (Massey 1984). These landscapes change over time, and tracing their changing spatiality reveals that the logics by which managers chose to subcontract to one locality instead of another were multiple, at times countervailing, and that they, too, changed over time. Significantly, they were not always reducible to whether it was more efficient to make or to buy.

Locational outcomes were decidedly mixed in the 1980s in a way that suggests heady but confusing times. Industrial growth and enterprise expansion were unusually rapid, allowing for the possibility of new forms of organization. There were strong reasons for SOE managers to reduce costs, but managers also had to make decisions serving multiple masters and imperatives. The 1990s were heady and confusing, too, but by the beginning of that decade, two overlapping trends were increasingly apparent. Subcontracting was becoming concentrated within the rural counties of municipal Shanghai, and subcontracting systems were becoming deeper (increasingly multilayered and verticalized) and clustered in denser agglomerations. The division of labor between SOEs and TVEs penetrated deeper into the countryside and became more concentrated there. Tracking these subtle shifts reveals how the spatial trajectory of Shanghai's industrial growth was gradually rationalizing according to two logics or structural tendencies. The first, the interest of each level of government in maximizing local industrial employment and profit retention, had roots in the socialist planned economy. The second, the logic of accumulation of capital, was largely a product of the reform era.

The logics informing decisions to make or to buy and whether to subcontract to an enterprise here or there are entwined, but some elements can be separated for the sake of presentation. The point of exploring spatial patterns and their underlying locational determinants is not so much to identify which played the most important role (distance, the state, technology, etc.) but rather to illuminate the logics of these embedded circuits of capital. Industrial growth followed the spatial contours of the countryside, spreading outward geographically and downward organizationally to embed itself in a horizontal and vertical matrix of local developmental states that stretched from municipal Shanghai all the way down to rural villages. Over ten years,

these six sectors drove the proliferation of thousands of TVEs, building up the countryside into a regionwide production complex embedding tremendous manufacturing know-how and capacity. This matrix of developmental states increased production and capacity without stopping until the SOE-TVE nexus paradoxically imploded in the 1990s.

1. To Make or To Buy?

Costs were not irrelevant in the planned economy, but they took on new salience in the reform years. Localities became more responsible for generating revenues, and enterprises could retain profits generated from goods they could produce and sell above their quota. Production costs were simply lower for TVEs than for SOEs, and lower labor costs were clearly part of the reason.[1] Some SOEs lowered costs by as much as 10 percent by subcontracting to TVEs rather than to SOEs (R10, R13, A1). SOEs estimated that labor in Shanghai's TVEs in 1999 was 200 to 300 yuan less per month than SOE salaries. A former employee of the Shanghai Medical Instruments Factory explained:

> if it cost ten yuan to use SOE workers to make a meter, then the cost for *waibao* [subcontracting that production to a TVE] would be six yuan, and the subcontractor would sell the product to the SOE for eight yuan.[2] The SOE could not keep up with growth in demand in the 1980s, and everyone was working overtime. But branch plants [SOE-TVE joint ventures] don't have to worry about paying overtime. Overtime salary in SOEs is much higher than normal salary. The branch plants go by a piece-rate, so overtime is no problem. (I5)

Eventually, higher relative labor costs emerged within the countryside, as well. A TVE producing rearview mirrors subcontracted the simplest operations to more than ten village-owned enterprises in the same township, because the TVE had grown so large that it had higher overhead and could save money this way (A5).[3]

But labor costs were not the sole basis for decisions about whether to subcontract to another SOE or a TVE. Several managers spoke of the role of the state in influencing their decisions to subcontract to TVEs. "In the early 1980s, the state encouraged us to help TVEs, because at the beginning, the TVEs did not have a technical base. The state required us to support the TVEs. So we established an SOE-TVE joint venture in the suburbs" (I3). Another former SOE

manager used stronger language: "At that time, the government policy was to support TVEs. So the government ordered us to support TVEs, to raise a batch of TVEs (*fuchi xiangzhen qiye, peiyang yipi xiangzhen qiye*)" (B12).[4]

These state campaigns surely helped boost SOE-to-TVE subcontracting, but they do not explain its huge scale and ongoing proliferation. Clearly, the SOEs subcontracted for other reasons, as well. The six sectoral histories show that subcontracting was driven primarily by the logic of enterprise, rather than by state logics, as SOEs (and TVEs) looked for ways to grow in an otherwise restrictive environment. In the shortage economy in the 1980s, demand exceeded supply for essentially everything. Almost anyone who could produce refrigerators, bicycles, and so on could sell them for a substantial profit. And because the end of the shortage economy was nowhere in sight, successful factories continued to invest in expanding production. But all this required successfully overcoming shortages of space, capital, raw materials, and, most surprisingly, labor. Subcontracting to TVEs was the easiest way to do this.

One reason SOEs started to put out the hitherto in-house production of components was to make physical space in the factory for larger assembly lines. As they continued to expand, they needed even more space. Most SOEs were located in urban Shanghai and did not have room to expand (Yang et al. 1991, 10, 111–12, 195–96). Building new plants would have been far too costly, though many SOEs eventually would do so in the 1990s (see chapter 3). According to the purchasing manager of the Shanghai Tractor and Internal Combustion Engine Factory, "we subcontracted to TVEs because we didn't have enough space to expand our own production" (M13). The manager of an SOE that produces radiator fans for SVW said that in the beginning, around 1989, the factory produced 70 percent of the value of the product and purchased only 30 percent. By 1999, those percentages had been reversed. "At first, we made most of the parts, but now we make only a few critical components (*guanjian*). Now we mostly assemble the components made by our subcontractors." To expand production, he increased the number of subcontractors, making room in the factory for more final assembly (A1). In another case, Shuanglu Refrigerator produced all of its stamped metal parts in-house during the 1980s, though it subcontracted elements of that work to 15 TVEs in rural Shanghai. But in 1992, it wanted to install an additional assembly line in order to expand production capacity. To make room, Shuanglu moved all of the metal stamping operations

to a TVE in Jiading County, and along with that shift, it directed the 15 subcontractors now to work for that TVE (R12).

SOEs also farmed out the production of old products to make room for the new. The manager of Shanghai Tractor said that he moved the production of old and low-end products to TVEs in order to make room for expansion, thus allowing the main plant to focus on higher-value-added products (M13). Likewise, the Shanghai Automobile Gearworks put out many of its older products to five branch plants, all joint ventures between itself and rural local governments in the Shanghai area. This enabled them to dedicate to SVW Santana production. "The earliest was in 1988, just as production for SVW was picking up. The last one was formed in 1993 or 1994. The TVEs offered land and labor, we offered old equipment and skills, plus supervision and about half the workers" (A3).

Physical space was critical but so was access to capital, and subcontracting to TVEs helped the SOEs resolve this bottleneck, as well. Managers frequently complained about how the Shanghai SOEs were squeezed by the state in the 1980s and not allowed to retain much profit. The manager of Phoenix Bicycle, one of Shanghai's largest and most profitable SOEs, lamented, "At that time, the SOEs could only keep a small percentage of our profits. How could we develop? We had to send up 55 percent of profits for income tax (*suode shui*) and another 37 percent for adjustment or regulatory business tax (*tiaojie shui*), leaving only 8 percent for us!" (B18). Another SOE manager said he subcontracted because "the investment required to make everything is too big. So we use someone else's equipment and don't have to make the investment ourselves" (R10). The manager of an SOE producing evaporators for Shuanglu Refrigerator explained that he subcontracted out two key processes—aluminum plating and manufacturing copper tubes—because, though simple, they required equipment investments that were too large for his enterprise (R13).

Another way SOEs used TVE capital was implicit in the procurement of raw materials. A common practice was for the SOE to purchase material and then supply the TVE with more or less what was needed for the completion of an order (commonly referred to as *daicailiao jiagong*, or *lailiao jiagong*). When the TVE was finished, it would return the product plus any unused material or pay a fine for any unreturned material. The TVE would receive a value-added fee for its work (*jiagongfei*). In a slight variation, the SOE might sell the material to the TVE at its purchasing price plus a 3-to-5-percent

markup (*guanlifei*). But SOEs often required TVEs to purchase material on their own. One manager said,

> Our relationship was not value-added processing on materials they gave us (*lailiao jiagong*). We did everything from start to finish, then sold it to them. They wanted only the finished product, that way they could use our capital. And it was more convenient for them, because they didn't have to hassle with purchasing material, shipping it back and forth, and so on. Big factories always use the capital of the small factories in this way. (A20)

These methods were often mixed. Another TVE manager said that "the SOE had us buy some materials because then they were using our capital instead of their own to finance it. In turn, they gave us a slightly higher *jiagongfei* for those pieces" (S6). An SOE manager explained this dynamic in slightly different terms: "Subcontracting increases the speed of our capital flow, thus reducing costs and increasing profits" (I2).

In addition to allowing SOEs to use TVE capital, TVEs purchasing raw materials also opened more potential channels for the acquisition of scarce raw materials. The development of the SOE-TVE nexus occurred during the dual-track economy (*shuanggui zhi*) of the 1980s, when the allocation of raw materials through the plan or through the market was increasingly mixed. The best way to obtain material was through plan allocation, because the plan price was always the lowest. However, raw materials were constantly in short supply, and SOEs almost never received all the materials they needed. One source claims that 40 percent of raw materials and 80 percent of combustible materials used by enterprises in Shanghai's Machinery and Electrical Bureau (which included the automobile and meters sectors) in 1987 were allocated through the plan.[5] Anyone who could obtain access to and control over materials (i.e., by having them designated as outside the plan) could sell them for exorbitant prices on the market. Middlemen sprung up everywhere, many striking it rich. These markets were highly irregular, relying heavily on personal relationships (*guanxi*) for access and the transmission of information. Though TVEs were generally outside the plan, at crucial times, some had access to materials through informal channels not open to the SOEs. Although one manager said that subcontracting to TVEs instead of SOEs was more trouble, because they needed materials (M13), many TVE subcontractors were purchasing significant quantities of material by the late 1980s (see chapter 3). The Textile Bureau sewing machine SOE originally sent precut metal pieces to

one of its TVE subcontractors, which then did further value-added processing. Over time, it discovered that overall production costs could be lowered if the TVE performed the initial cutting, because the SOE workers were much more wasteful in how they cut the metal material (S6).

Access to labor encouraged subcontracting, as well. One manager listed several reasons why he had subcontracted to TVEs but then said that gaining access to TVE laborers had not played an important role in enabling expansion of his SOE, because he could hire temporary workers (M13). But another manager said that adding more workers entailed bureaucratic difficulties and an increase in responsibilities, which could be avoided by subcontracting to TVEs (B10). Either way, the sectoral histories reveal that many of the main plant SOEs increased the number of workers several fold between 1985 and 1995, and the census data suggest that a much greater addition of labor occurred through the addition of subcontractors. Across the sectors, main plant labor totaled 66,717 workers by 1995, but the number of workers in urban and rural subcontractors, at 61,538 and 60,872, respectively, almost constituted a tripling of the overall workforce. Adding so much labor inside the original SOEs would have been a logistical nightmare, would have required more precious space, and would have exacerbated, rather than ameliorated, the scope economy problem solved by specialization.

Many managers talked about how much easier it was to subcontract to TVEs rather than to SOEs. A former manager of the Shanghai Children's Bicycle Factory explained that "for an SOE to change anything, it must go through several layers of bureaucracy. A lot of hassle. But not TVEs. The SOEs were all expanding production, but to take on your orders, they would have to add more people. It would take a long time. And everything with SOEs was government-set prices, but not the TVEs, so it was easy to deal with them" (B11). The purchasing manager of the Shanghai Tractor and Internal Combustion Engine Corporation made a similar analysis: "SOEs took longer to do anything, and TVEs could adapt. If you wanted to expand production, an SOE supplier would be likely to say 'sorry, not in the plan,' while a TVE would say 'get us the materials, and we'll do it.' So the TVEs played an important role in helping us to expand production in the 1980s" (M13). Another manager said TVEs "don't mind starting small, unlike SOEs and their specialized factories, which insist on scale quantities right from the start. The TVEs work hard, they're flexible and aggressive" (A3). Another made similar comments: "TVEs played an important role in our development. They

brought in competition (*yinjin le jingzheng*). They are more flexible and dynamic, and SOEs are more expensive. Most important, TVEs paid more attention to service. An SOE says, come and get it yourself, but a TVE delivers it the next day, with their own people to unload the truck" (R11). Finally, it was "easier and more fun" to subcontract than to expand an SOE's operations. "To grow, we would have to add more people. So that meant a lot more hassles for management, more people to take care of. Changing anything in an SOE means going through several layers of bureaucracy. Being a factory director back then was easy and even boring—why do something difficult? Subcontracting to TVEs meant you got to go there and play (*bexiang bexiang*), have fun. So we raised a group of about 20 TVEs in the Shanghai suburbs" (B12). Also, TVEs "invite you to a nice meal in a nice restaurant. When you went to an SOE to do business, you would pay for your meal in the workers' cafeteria. Our factory had this rule until the 1990s!" (R13).

Subcontracting to TVEs presented opportunities for creative bookkeeping, as well. An SOE producing medical instruments established an SOE-TVE joint venture in Jiading County in 1985. "Labor was cheaper, and you didn't have to worry about overtime. But we also wanted to free up some money (*yonghuo zijin*). It worked like this: The rural branch plant did the value-added processing. To make an instrument costs six yuan, but the invoices show seven. So the TVE gets one yuan profit. After that, a lot of expenses of the SOE are paid by the village (*you cunban qiye chu*)." By overcharging for the TVE's work, the SOEs created a slush fund in the branch plant, which they could use at their discretion without government oversight (I5). One specialized factory had orders from some of the Shanghai household sewing machine factories, but in the early 1990s, its production costs began to exceed the price. The household sector was already experiencing price pressure, and urban costs were increasing, too. So it subcontracted production of its entire product to a TVE in rural Pudong and stopped production altogether. "They didn't do much work now, but our TVE production costs are much lower, so they subcontract to us and just keep part of the profit" (S5).

Preferential policies for enterprises employing handicapped workers similarly created opportunities to reduce taxes (A22). Under the 1994 tax system, enterprises employing more than 50 percent handicapped workers were not required to pay the 17 percent national value-added tax or the enterprise income tax (which was progressive, ranging from 17 to 33 percent of profit).[6] Shuanglu Refrigerator had 70 handicapped workers, but they represented only a small percentage

of total workers. So it established a new branch plant to perform simple tasks such as the packaging and assembly of electrical cords and then transferred mostly handicapped workers there. The new factory qualified for and was granted tax relief. Shuanglu took further advantage of the situation by transferring a portion of its profits to the new plant, as well, thus lowering its overall taxes (R15). The strategic use of these regulations is further illustrated by the actions taken by a township when its qualified handicapped factory (*fulichang*) was privatized. The new manager laid off some of the workers, but the number of employees decreased from 220 to 36 primarily because the township transferred the handicapped workers to another local TVE (R14).

2. A Muddle of Logics—The 1980s

But locational logics were more complex than simply whether to subcontract to an SOE or a TVE, as illustrated by the widely dispersed and highly varied distribution of subcontractors for Shangling Refrigerator. Shangling had five SOE-TVE joint ventures in rural Shanghai townships (R2, R3, and R6). In addition, it had 35 SOE subcontractors, many of which were actually urban collectives, and 41 TVEs. Of these 76 subcontractors, 27 were located in urban Shanghai, 22 in rural Shanghai, 12 in Zhejiang Province, 11 in Jiangsu Province, two in Guangdong Province, and one each in Anhui and Jiangxi Provinces. Some spatial agglomerations were notable in Shanghai's rural counties, including eight TVEs in Pudong County, three in Chongming, and two each in Nanhui, Baoshan, Jiading, and Fengxian counties. Nine of the twelve subcontractors in Zhejiang Province were located in the municipality of Cixi (or townships and villages under its jurisdiction); Hangzhou, Jiashan, and Yuyao (next to Cixi) each had one (R7). In Jiangsu Province, there was a small agglomeration of four subcontractors (two each in neighboring Jiangyin and Jingjiang); Taicang and Wuxi each had two subcontractors, while Suzhou, Changshu, and Taixing each had one.

Shanghai's industry was still highly concentrated in urban areas in 1980 (Yang et al. 1991). There had been some attempts to create a more decentralized structure during the socialist period, attempts that took the form of satellite towns on the urban periphery and the development of new industrial complexes in somewhat more distant locations. The latter included the gigantic Baoshan Steel Complex northeast of the city and the Jinshan Petrochemical Complex to the southwest and, on a much smaller scale, the location of the Shanghai

Brand automobile factory in Anting, Jiading County, to the west (Fung 1981, 1996). Beginning in the early 1980s, the central state wanted enterprises to break out of the "big and complete, small and complete" mold and the inefficiencies associated with the *tiaotiao kuaikuai* system. One of the first campaigns was the creation of a lower Yangtze Economic Region, which emphasized the creation of horizontal linkages (*hengxiang lianhe*) between Shanghai SOEs and nearby provinces. The effort essentially failed, and by the end of the 1980s the Shanghai Economic Region had been abolished. The difficulties of fostering interprovincial cooperation surely played a role (Jacobs and Hong 1994, 239–41; Mok 1996, 217–18). But contradicting state directives to create horizontal, extraprovincial linkages, the municipal government moved factories out of urban Shanghai in order to lower costs and reduce pollution and noise in the city\ but did not move them out of the greater Shanghai area, preferring instead to move them to the semirural suburbs (Ling et al. 1990, 2).

Around the same time, the central state began pushing SOEs to support the development of the rural sector. One manager said these policies were to support TVEs in general—"there was never a policy to support Shanghai TVEs as opposed to those outside Shanghai." But his SOE established linkages only to Shanghai TVEs (B12). It is unclear whether contradictory central and municipal government directives influenced managers to subcontract locally or extralocally. These sources and data from the late 1990s (see below), seem to indicate a higher propensity for Shanghai SOEs to subcontract to local TVEs. But a significant proportion of subcontracting did go to neighboring provinces in the 1980s, suggesting there were logics at work other than government influence and distance (the classic locational determinant, in the form of transportation costs and delivery times).[7] A TVE manager explained that "here in Shanghai, our TVEs did not develop as fast as in Jiangsu. Jiangsu and Shanghai had different policies—Jiangsu was more tolerant, especially their taxes were lower. So in the early 1980s, Baogang [the steel SOE] and others were giving their business to Jiangsu, not Shanghai TVEs, because Jiangsu started earlier and its policies were more open" (M17, B6). A manager in the refrigerator sector described a rural branch plant established by a Shanghai SOE in Suzhou (Jiangsu Province) in the early 1980s to make refrigerator evaporators: "At that time, [rural] Suzhou was a lot cheaper than rural Shanghai. Suzhou was better connected to Shanghai than most of Shanghai's own suburbs because of the railway line. And there were also higher education and skill levels" (R11).

One source claimed that suburban greenbelt regulations initially dampened industrial development in rural Shanghai:

> Rigidly enforced greenbelt regulations restricted rural industrialization in the immediate environs of Shanghai in an effort to contain the spread of the city into the adjacent farmland. . . . Enterprises in Shanghai quickly discovered the advantages of moving some production facilities out of the city and entering into subcontracting arrangements with manufacturers in the hinterland. Such subcontracting allowed enterprises to rationalize production and cut the expenses of extreme vertical integration. Through much of the 1980s, enterprises wanting to relocate facilities had to leapfrog the protected belt of farmland girding Shanghai and to transplant production in Jiangsu or Zhejiang. But after 1988, the ban on rural industry within the municipal precincts was relaxed, and the immediate hinterland became part of an industrial continuum extending from the city into the lower Yangtze region. (Yusuf and Wu 1997, 66–67)

While such regulations probably did encourage subcontracting to nearby provinces instead of rural Shanghai, my own research suggests that it was not an important factor. First, no manager that I interviewed mentioned these regulations.[8] Second, the sectoral histories suggest that these industries were growing rapidly during the 1980s, driving the creation of a high numbers of TVEs in rural Shanghai. Third, statistics on the rate of growth of rural Shanghai TVEs do not show a notable upswing in the establishment of TVEs after these regulations were reportedly relaxed in 1988 (the TVE sector continued to grow rapidly but not at a rate inconsistent with the continued expansion of the targeted sectors and the industrial economy). If anything, the rate of TVE growth in rural Shanghai slowed at the end of the 1980s, rather than accelerating, due to the related retrenchments of TVE and economic growth of 1988–90 (Zweig 1997, 257–59; Huang 1996).

Differing technical requirements played little role with regard to locational choices between local and nonlocal TVEs, but they did with SOEs. Capital-intensive or technically difficult production functions were usually subcontracted to SOEs, but there were some sectoral differences with regard to subcontracting to local or nonlocal SOEs. Shanghai had long been one of the most important industrial centers of China, and, as previously noted, in fact had exported large numbers of technical workers, factories, and even a university to other provinces during the socialist era. As a manager of the Shanghai Tractor and Internal Combustion Engine SOE reminded me when

I asked why almost all of its subcontractors were in Shanghai, "You have to remember that 15 or 20 years ago, Shanghai was one of the most important and technologically advanced industrial centers in China. Not many places could match it or even come close, so a lot of subcontracting necessarily went to this area" (M13). Thus, I found no examples of SOEs in the sewing machine or meters and instruments sectors subcontracting to nonlocal SOEs: The development of technical capabilities in these sectors had been concentrated in Shanghai in the first place.

The bicycle sector also had no subcontracting to extraprovincial SOEs per se, but the manager of one of the large SOEs described how his factory established a series of factories (which he referred to as joint ventures, or *lianyingchang*) around China.

> Policy shifted at the end of the 1970s [with a new emphasis on consumer goods as opposed to heavy industrial goods—see Naughton 1995] and everyone wanted to develop their own industries—you couldn't prosper without industry (*wugong bufu*). So these places would come to us and say, hey, old friend, we are very poor here. We can't do anything except grow crops, so we are too poor. And other industries are too hard. If you help us, we can make bikes. So we helped them. (B18)

For this manager, an egalitarian ethos of redistribution still carried legitimacy and led Shanghai's bicycle SOEs to establish a series of branch plants that started diffusing Shanghai's advanced technical capabilities to the rest of China.

The refrigerator and automobile sectors, on the other hand, subcontracted extensively to SOEs in other provinces. For refrigerators, the only real technical difficulties come from the four key components, known in the industry as the "one motor and three instruments" (*yiji sanqi*), namely, the compressor (*yasuoji*), temperature control unit (*wenkongqi*), evaporator (*zhengfaqi*), and defroster (*huashuangqi*—only in later models). The Shanghai SOEs imported most of these components at first, but then developed local capability through a series of joint ventures and localization programs. Shuanglu did not, however, and purchased compressors and temperature control units from SOEs (with foreign joint venture partners) around China throughout the 1990s, because Shanghai suppliers could not always keep up with demand (R17).

The technical requirements of manufacturing automobiles far surpass those of the other five sectors, and those difficulties were exacerbated by the dogged (and infamous) insistence by SAIC's foreign

joint-venture partners (Volkswagen in 1984, and then General Motors in the late 1990s) on maintaining high-quality standards. Very few of the existing 140 internal workshops in the Shanghai automobile system (or, for that matter, in China's other automobile SOEs, First and Second Autoworks) could meet German standards at first, and at least part of the localization effort relied on factories in China's defense and aerospace industries. Some of this subcontracting could stay local: SVW's first air-conditioner supplier was established by a huge aerospace SOE in Shanghai. But much of it apparently went to Third Front (*sanxian*) factories, located in the remote hills of western China during the 1960s for strategic reasons (Naughton 1991). I interviewed two of these subcontractors (A10, A14) and heard of at least eight more, all of which had later relocated to Shanghai's Jiading County in the early to mid-1990s.[9] (See below.)

Yichu Motorcycle reported some subcontracting to extraprovincial SOEs, but it was clear that these relationships did not play an important role in its development. This may have represented capacity subcontracting, a search for lower costs, or an attempt to tap into particular capabilities developed by motorcycle SOEs in other places, but this manager, too, alluded to an appeal to an egalitarian ethos by other local governments who insisted that Yichu spread the wealth around (M1).

Finally, *guanxi*, or particularistic ties, played an important role in the elaboration of subcontracting systems, but its net effect on the spatial distribution of subcontracting is difficult to measure. Managers of SOEs and TVEs alike often (though not always) mentioned *guanxi* as the means through which they began working together. Many managers who cited *guanxi* as the primary mechanism for the establishment of the initial relationship simply said they were introduced by friends (*touguo pengyou guanxi*) or relatives, but others cited connections through government channels.

On the one hand, *guanxi* ties could lead to the creation of far-flung subcontracting networks. Describing the construction of Shangling's subcontractor base in between 1985 and 1988, my contact said, "As far as introducing suppliers, *guanxi* came into play with the factory's managers and leaders. But it was also with the workers and even from up above—from people in the Light Industry Bureau or even all the way up to the mayor! Everyone was pulling connections (*la guanxi*)." He continued that a lot of managers and entrepreneurs in Shanghai are originally from Jiangsu and Zhejiang and "still have *guanxi* back home," and he then pointed out two spatial concentrations of subcontractors that had resulted from *guanxi*. The first was a cluster of

nine factories located in the city of Cixi (or townships and villages under its jurisdiction) in Zhejiang Province. The factory director of Shangling in the late 1980s was from there, and as Shangling sought out new suppliers as it expanded, he had directed new business there. My contact rationalized that Cixi is not really so distant: "It was only six hours away before the freeway, so we could call in the evening and have a truckload of components by 7:00 A. M. the next morning—production wasn't interrupted" (R7).[10] The second, smaller cluster consisted of four factories in Jiangsu Province, located in the adjacent cities of Jiangyin and Jingjiang along the Yangtze River. This emerged because many Shangling employees were originally from that area (R7, R9). One of those subcontractors started producing for Shangling in 1986: "At that time, Shangling had a lot of people from Jingjiang who introduced Shangling business to their old hometown (*laoxiang*). All of this was hometown connections (*laoxiang de guanxi, pengyou guanxi*)" (R8).

On the other hand, *guanxi* could also result in the establishment of linkages to places much closer by. The expansion of Shuanglu Refrigerator presents a typical example. In the early 1990s, it had one assembly line in its main plant and still performed all of its metal stamping and pressing functions (*chongyajian*) in-house. As production increased, it decided to add another assembly line. Expanding the existing plant, located in urban Shanghai, was out of the question, so the leadership decided to outsource the metal stamping. The factory director frequently attended meetings of the Shanghai Household Appliances Company (*Shanghai Jiadian Gongsi*), which was subordinate to the Light Industry Bureau at that time, along with the directors of other factories under that company. Through these meetings, he had developed a friendship with the factory director of Aite, an SOE producing industrial air conditioners. When the Shuanglu director told the Aite director that he needed a subcontractor for metal stamping, the Aite manager promptly introduced him to his good friend, the party secretary of a township in rural Shanghai. The latter was responsible for all of the TVEs in his township, a great many of which had been subcontracting for Aite since the mid-1980s. The Shuanglu manager went to the township, took one look at its factories, and signed an agreement without even requesting sample batches. The township established a new TVE factory, the equipment was moved there from the main plant (for which the TVE paid a usage fee, or *shiyongfei*), and production was started. The manager of that TVE repeatedly emphasized that all of this took place very quickly (R12).[11]

The spatial patterns produced by the elaboration of subcontracting networks in the 1980s were not determined by a single logic. State directives sometimes contradicted one another; the particularistic ties of *guanxi* could result in nearby *or* far-flung subcontracting systems; the need for specific technical capabilities both concentrated subcontracting in Shanghai and dispersed it to the distant corners of China. There is little evidence that managers or enterprises developed comprehensive plans as to the spatial distribution of their subcontractors, especially the early 1980s. To all appearances, managers negotiated multiple, shifting, and conflicting logics as they moved from one crisis, decision, and project to the next in the context of unusually rapid growth. In the face of conflicting directives from the government, the need to meet technical specifications, the varying pulls from local and distant *guanxi* relationships, and a complex spatial matrix of differing capabilities and production and transportation costs, they made decisions serving different masters and imperatives.

For example, the factory director at Shangling Refrigerator probably created the five joint ventures with TVEs in rural Shanghai to meet the demands of local government directives and pressures from local officials. Likewise, the subcontracting relationships with SOEs in faraway Anhui and Jiangxi Provinces may have been established to take advantage of their particular technical capabilities, though it is more likely that officials in those places pressured officials in the central government, who in turn ordered Shanghai and its SOEs to share their wealth. The two subcontractors in Guangdong were possibly established to create ties with an important provider of refrigerator compressors there or perhaps in exchange for some access to local markets. The Shangling manager probably located factories in Cixi, Zhejiang, in order to help his native place but also to placate his relatives, and then some factories in Jiangyin and Jingjiang (Jiangsu Province) in order to placate the demands of (and perhaps dampen criticism from) subordinate managers and workers with native ties there. Of course, some choices may have been more serendipitous, with ties established through a number of introductory channels to factories in rural Shanghai and neighboring provinces that simply met the requirements of cost, delivery, and quality.[12]

But as time passed and these systems grew, two new trends emerged in the late 1980s and first half of the 1990s: the elaboration of local second-tier and third-tier subcontracting and the increasing concentration of subcontracting in Shanghai as heretofore extraprovincial production functions were relocalized. At times, these two trends were entwined, because they were both driven by the same (localized)

logic of accumulation. The following section will document the phenomenon of lower-tier subcontracting, while subsequent sections will explore the accumulation and relocalization dynamics.

3. Localization: Second-Tier Subcontracting

These networks changed little after they were established in the 1980s—at the first tier. As the sectors and their production systems continued to expand, SOE subcontractors developed their own mix of SOE and TVE subcontractors, and first-tier TVEs cultivated additional rural enterprises to subsubcontract for them, resulting in hierarchies of second-tier, third-tier, and even fourth-tier subcontractors. This further deepening of the social division of labor resulted from the continued growth and the increasing specialization of the production systems. The spatial trajectory of this round of industrialization reveals a particular logic of (local) accumulation that was embedded in the specific institutions and features of the transitional, postsocialist economy.

To develop an account of the extent and contours of lower-tier subcontracting hierarchies, I asked each manager how many subcontractors worked under his factory, their type, location, and functions, and how that system had changed over time. Of 138 enterprise interviews, 36 factories that were clearly subcontractors (first tier or second tier) reported having subcontractors themselves. Enterprises at either the top or the very bottom of their respective subcontracting hierarchies were thus not considered, and many managers refused to discuss the topic.[13] Of the reported second-tier and third-tier subcontractors, 454 were TVEs (79 percent), 63 were SOEs (11 percent),[14] 13 were private (2 percent), and 47 were unspecified (8 percent). These 36 factories thus revealed a total of 577 second- and third-tier subcontractors (see Table 2.1).

These estimates are based only on the enterprises whom I interviewed and are meant only to suggest that the dimensions of these rural subcontracting systems are probably even greater than demonstrated by the more concrete statistical and interview data. Nevertheless, they reinforce the patterns described earlier. Like the enterprises at the top of these production systems, first- and second-tier factories also tended to subcontract to much higher numbers of TVEs than other types of enterprise. Adding these estimates of the number of second- and third-tier subcontractors to the estimates generated from the census data increases the total number of rural subcontractors from 716

Table 2.1 Second-Tier Subcontractors

Sector	# without 2nd Tier	# with 2nd Tier	2nd-Tier SOEs	2nd-Tier TVEs	2nd-Tier Private	Unspecified
Auto	3	17	35	225	10	24
Bicycle	1	4	0	83	0	7
Meters	1	0	0	0	0	0
Mtrcycle	3	6	3	31	1	6
Refrig.	2	8	25	112	2	10
Sew. M.	2	1	0	3	0	0
Totals	12	36	63	454	13	47

Source: Author's interviews.

to 1,170 and the number of urban subcontractors from 242 to 305. Based on these calculations, 79 percent of all subcontractors were rural, and only 21 percent were urban (the earlier estimate was 74 and 26 percent, respectively). This may have resulted from some double counting of subcontractors in those cases where second-tier subcontractors are listed in the census. My fieldwork suggests, however, that the census underreports small, second- and third-tier subcontractors. For example, the TVE that supplies rearview mirrors to SVW claimed to have more than ten local TVEs subcontracting for it, but the census lists only five enterprises in that township (A5). Likewise, various sources said that most of the TVEs in one village had been set up to supply the Shuanglu Refrigerator branch plant there. One manager claimed there had been at least six of those factories, but, again, the census lists only two enterprises there (R11, A20). Once again, private enterprises are shown to have been insignificant until the end of the 1990s). (See chapter 6.)

The preponderance of second-tier subcontracting appears in the automobile and refrigerator sectors, a pattern that reflects the greater capital requirements and difficulty of manufacturing those products. Many of the first-tier auto subcontractors, such as radiator-fan and air-conditioner suppliers, were themselves assembling products consisting of many subcomponents. Likewise, as I've noted, most refrigerator components are easy to manufacture, except the "one motor and three instruments"—the compressor, temperature control unit, evaporator, and defroster. The compressor and evaporator were manufactured by SOEs (the compressor SOEs are usually joint ventures with Japanese or Italian companies) with large subcontracting systems. The ex-general manager of Yichu said that most of their subcontractors had no subcontractors of their own (M1), but the results for that sector likely would have been different had I been able to

interview managers at the Yichu Motor Factory (*Fadongji Chang*)—one subcontractor said that SOE had "dozens of subcontractors, most of them Shanghai TVEs" (M8). The flatness of the sewing machine and meters sectors may reflect the smaller number of interviews in those sectors but more likely is indicative of the simpler nature of those products (as noted above, a very high number of enterprises in the meters and instruments sector were involved with finished products rather than component production).

The spatial and organizational forms created by the elaboration of lower-tier subcontracting were just as significant as its extent. Much lower-tier subcontracting went to—or created enterprises within—the same locality as the subcontracting first-tier factory.[15] Of the enterprises that spoke of their subcontracting systems, 86 percent reported having most (at least 50 percent) of their subcontractors in Shanghai as opposed to other provinces. Likewise, 55 percent reported having more than half of their subcontractors in the same locality, 36 percent reported having some, but less than half of their subcontractors in the same locality, and only one manager stated that none of his subcontractors were local.[16] Thus, more than 50 percent of these enterprises subcontracted primarily to local enterprises, while 91 percent subcontracted at least partially to local enterprises.

In the same way that many SOEs started subcontracting to TVEs because they could not keep up with their own growth, TVEs sometimes engaged in capacity subcontracting to maintain their own growth. One of the Forever Bicycle TVE branch plants in Baoshan County subcontracted to many TVEs in its township and the surrounding area when it could not keep up with production demand in the mid to late 1980s (B9). A Fengxian County TVE that

> manufactured gas tanks for Yichu Motorcycle could not keep up, so it subcontracted production to another local factory. That factory was small at the beginning, but before long was as large as the first. After subcontracting for some time, the first TVE introduced the second to Yichu so they could do business directly (M16).

In other cases, a TVE would specialize in the process of growth and then mimic the upgrading-through-growth trend seen in the SOEs, concentrating in local enterprises, the production of subcomponents, or processes, that it had previously made or purchased elsewhere. One of the most notable cases was a township in Jinshan County specialized in the production of automobile rearview mirrors and other accessories. In the late 1980s, it became the supplier for

SVW and by the 1990s was the largest producer in China, with more than 50 product types. Between 1992 and 1995, it drew subsidized loans from the Shanghai Localization Fund three times to engage in three rounds of product upgrading. Over time, as production volume increased, as product specifications and quality were upgraded, and as the number of product types grew, the township expanded the one factory into four TVEs. In addition, these four factories started to subcontract the production of simpler value-added tasks to smaller local factories established by the township government or its subordinate villages (A5). "At the beginning, we did all of the product ourselves, but with the development of the factory, now there are about 20 factories in our township subcontracting for us" (ApC5). One of these local, second-tier subcontractors, a village-owned TVE with 70 workers, had an additional third tier of subcontractors consisting of three smaller TVEs belonging to the same village (ApMM1).

Another prominent example is a village in Qingpu County that became specialized in the refrigerator sector. At first, there was only one parts subcontractor, a very efficient and profitable local TVE that developed close relations with Shuanglu. The refrigerator market was growing quickly, and Shuanglu wanted to increase production and productivity and also get a share of the TVE's high profits. So in 1988 it purchased the TVE and established the Number Two Branch Plant (R17). As that factory grew and profits accumulated, the local government began investing large sums in local TVEs to produce parts for the branch plant and thus capture even greater revenues and profits. The census lists only two, but one source claimed the village established five or six (A20), and village locals told me that almost all of the TVEs in the village had depended on the branch plant. The village was so successful that it used to be listed as the third richest in the county. The village secretary was bestowed the title of "advanced" (*xianjin*: meritorious or exemplary) for three consecutive years, and his official residence status (*hukou*) was transferred from rural (*nongmin*) to urban (*jumin*), a great privilege (A20). In the late 1990s, after Shuanglu and all of the local TVEs had gone bankrupt, another Shanghai SOE relocated a branch plant in this village to produce refrigerator evaporators. It reproduced the earlier pattern, though on a lesser scale: Of its 15 subcontractors, two were local TVEs. The rest were scattered around the Shanghai counties (R11).

There were at least three more agglomerations in the refrigerator sector. The first was an SOE-TVE joint venture created by Shangling Refrigerator with a Pudong township in 1985 to produce plastic components. Over time, five more TVEs belonging to the same township

or its subordinate villages had been established to subcontract for the joint venture. These five primarily produce packaging or metal components to go inside the plastic components (i.e., screws in the plastic refrigerator feet). The SOE-TVE joint venture employed 130 workers in 1999, almost all of whom were local villagers (a few managers and technicians originated from Shangling). The manager estimated that the five subcontractors employed more than 100 additional local workers (R6). Another TVE in a Pudong township, also engaged in producing plastic components for Shangling Refrigerator, subcontracted to some value-added factories in one of its villages (RpC2). Finally, a TVE in Fengxian County that produced large refrigerator units for restaurants and food retail had four to six small village-owned TVEs in the same township doing value-added work for it (RpF6).[17]

Other agglomerations consisted of townships and villages with many same-sector enterprises that did not subcontract for one another but rather for the same SOE. In these cases, localities with a TVE subcontracting in one sector had established new TVEs to take on additional production functions within the same sector. One of the most famous of these agglomerations is Anting Township in Jiading County, where the Shanghai Automobile Factory was relocated in the 1960s. As it became the main assembly plant for SVW, and as SVW's subcontracting system increased from zero to three hundred first-tier subcontractors in less than ten years, Anting came to have a high number of auto subcontractors (the census lists fourteen). A different kind of pattern is represented by Touqiao Township in Fengxian County, with five TVEs producing parts for SVW until the mid to late 1990s, when they were each split into several small private enterprises. The township now has a very high number of small private factories, most of which produce subgrade automobile components for the black market. The census lists 12 private auto-sector enterprises in that township, but interviewees claimed there might be as many as one hundred (A19, A22, M16).

A township in Qingpu County became specialized in the bicycle sector. Well before conducting my first interview there, other TVE managers in the same sector had told me that it was famous as a "base" in the bicycle industry (*zixingche jidi*). The township had relied heavily on the bicycle sector, with at least five TVEs subcontracting for the Forever and Phoenix SOEs. One manager said his TVE started subcontracting in the sector after being introduced through the *guanxi* of a friend, and he implied that an official in the local government had had good connections with the Shanghai SOEs (B7). The census

listed this enterprise as employing 70 workers in 1995 and listed four more bicycle sector enterprises employing 495 additional workers.

Other townships combined both types: vertical production relations between local TVEs and multiple TVEs engaged in differing production functions for an urban SOE. One township in Nanhui County had an SOE that had been established in 1970 to produce industrial sewing machines for the Shanghai Textile Bureau. It employed three hundred relocated workers from Shanghai and more than two hundred local villager-workers at its peak in 1990. It had at least one subcontractor in the same township, a village-owned metalworks (S6; S-C6). The same township had also become highly focused on subcontracting for the motorcycle sector. One manager said that Yichu had six subcontractors in Nanhui County, with three of them concentrated in this township (M5), while another (M7) claimed that there had been four (the census lists eleven enterprises for Nanhui County, with five in this township). None attempted to explain how the township had become so dependent on the motorcycle sector, but two said they had connected to Yichu through the *guanxi* of friends (M5, M6). The three TVEs that I interviewed employed just over three hundred workers at their peak in the mid-1990s, and the other two listed in the census employed an additional 92 workers.

Finally, I interviewed the manager of a Shanghai Industrial Sewing Machine (Shanggong, an SOE) branch plant in a Jiading County village. That branch plant, an SOE-TVE joint venture (30/70) established in the 1980s to produce machine frames, employed 232 workers according to census data. Another factory in the same village also produced sewing machine parts for Shanggong, but my interviewee would not say clearly whether it subcontracted directly for him or for Shanggong (147 workers: census data). A third TVE in the village engaged in value-added metal stamping and pressing (*chongyajian*) for a TVE that belongs to the township above the village. That TVE in turn was a second-tier subcontractor for one of the two factories that supplies air-conditioning systems to SVW. Finally, a fourth TVE did value-added work on motorcycle frames for Yichu until the latter went bankrupt in the late 1990s (S3).

Clearly the largest group of second-tier subcontractors was TVEs within the same locality as the subcontracting factory, the second largest group was TVEs in other Shanghai townships and counties, the third largest group was TVEs in neighboring Jiangsu and Zhejiang provinces, and the fourth was SOEs in Shanghai, followed finally by non-Shanghai SOEs. The social division of labor was thus even deeper and the local share of the surplus pie in each of these

sectors even larger than first meets the eye. Tracing out the distribution (spatially and by enterprise type) of second-tier subcontracting thus reveals an even higher degree of subcontracting to rural TVEs and the very local nature of the additional economic activities and linkages. It also reveals a particular logic of (local) accumulation embedded in the specific institutions and features of the transitional economy, the focus of the next section.

4. Relocalization: Capturing Profits and Jobs

These sectors were growing rapidly, and much of the growth was absorbed and localized in these multitiered subcontracting hierarchies. However, localization entwined with an overlapping process, as subcontracting functions that had originally gone to outside provinces were pulled back to the Shanghai urban-rural nexus. This "relocalization" was probably most pronounced in the automobile sector. For example, several Third Front aerospace SOEs from Guizhou Province that had been supplying SVW since it started production as part of the larger project to localize component production in China later formed joint ventures with townships in Jiading County. One study of transnational corporations in Shanghai reported that 67 percent of SVW's domestic suppliers were located in Shanghai in late 1997 (Yeung and Li 2000, 632), and industry insiders agreed that the preponderance of SVW's subcontractors were in Shanghai. Guizhou is very far from Shanghai, and naturally SVW would want distant subcontractors to relocate as it continued to develop and consolidate its supply chains (to coordinate delivery times better, ensure clearer communication, save on transportation costs, etc.). But managers both inside and outside the sector argued that the relocalization of jobs and revenues was more important for SVW than lowering costs. Indeed, interviews strongly suggest that the local state started a concerted effort at the end of the 1980s to pull subcontracting back to Shanghai and its suburbs. Rural local governments also pressured for this, because they sought new opportunities for industrial expansion.

The Zhejiang Province branch plant of the Number Two Autoworks, established in the late 1950s in inland Hubei Province, made only one component for SVW. Cylinder heads (*ganggai*) are technically very demanding, so the central government had designated Number Two Auto as the focus point (*dingdian*) for developing that technology. Number Two and its subcontractors wanted to produce more for SVW, but could not. A vice-governor of Zhejiang Province led

a delegation of automobile-component subcontractors to Shanghai, seeking to be included in the SVW subcontracting network. They were politely refused. "It is impossible for outside factories to get in to the Shanghai system, even at the second- and third-tier levels, even though we have lower production costs. Almost all SVW subcontracting is in Shanghai, at least 70 or 80 percent. This is to solve their own problems—both labor, by creating local jobs, but also financial, since all of those factories are either owned by or pay tax to Shanghai, so all the revenue goes up to the Shanghai government" (A16).

A manager with Shanghai General Motors (SGM) who was close to that company's supply process told of the same dynamic but from another perspective.[18] When SGM wanted to localize component production in China, the Shanghai government told them whom to work with. "SAIC chooses, and the factories they choose are local. Almost all SVW subcontracting is here in Shanghai, and 'importing' from other provinces is just as or even more difficult than importing from abroad. A lot of the time it isn't so much that you are told you must buy from this factory or that, but it is obvious that you must buy locally, and there is only one qualified factory." Like the manager from Number Two Autoworks, he said that "every place is trying to solve their own labor and finance problems" (A17).

Subcontractors for Yichu Motorcycle said that SVW had used factories with special abilities all over the country—especially aerospace factories—to localize component production (*guochanhua*) and then later pulled all of those functions back to the Shanghai area. One then started to talk about Yichu: "They did the same thing. Their engine factory used to make tractor engines, not motorcycle engines. Then around 1990, Yichu absorbed it, and it started to make all of their engines. Before that, all of the engines were made outside the system—I think it was in Chongqing" (M10).[19] Another manager described how subcontractors for Yichu "would develop the product and figure out how to make it domestically, and then start to make it. The imports stop. But then, after the product is mature, Yichu would open its own factory and start to make the component itself, pulling all the business over (*ba shengyi laguolai*). They usually wouldn't cut off the original factory completely—they would keep three or four factories producing the same component for them." He had worked with a research center in another province to localize production of part of the steering mechanism. "That part used to be imported, but we developed a local version and started making them, but then Yichu grabbed it back" (M9).

Most subcontractors for Shanghai Industrial Sewing Machines (Shanggong) were in urban or rural Shanghai, but one key component, the frame (*jijia*), was originally manufactured in another province. At the end of the 1980s, Shanggong decided it wanted that production moved to Shanghai. The manager of the Shanghai TVE that was formed around 1990 to make that component said, "A local guy who was working in Shanggong heard they wanted to find a local factory to make the frame, and he introduced us. They did it way out here because the production process is polluting, and it needed a lot of cheap labor" (S3).

The other side of this story was told by the manager of a TVE in Jiangsu Province that had his business slowly cut off and given to a Shanghai TVE. He started to make cardboard boxes for Shangling refrigerators when it was developing its original supplier base—many Shangling workers were from his town and had introduced him. The TVE grew until the mid-1990s, when it had 328 employees. Then, "a team leader from the Yangjing Township Production Team[20] came and asked us for help, asked us to teach them how to do it. After that, we both made the boxes for Shangling." When I asked why they helped Yangjing, he replied, "there was no way out of it (*meiyou banfa*). Yangjing had good *guanxi* with Shangling. We knew if we didn't help them, someone else would, and then we would be cut out of the business. So our best strategy was to try to keep good *guanxi* with Yangjing." I then asked if Shangling wanted a local supplier because it would lower transportation costs. "No, we were still cheaper. Even including our higher transportation costs, our unit price was still 3.2 yuan lower than Yangjing's." I then inquired about Yangjing's *guanxi* with Shangling. The manager kept saying he was not completely clear about that (*wo ye shuo bu qingchu*). "When Shangling built their factory in Yangjing, they took up a lot of farmland, but promised to take care of a bunch of the local villagers. It had something to do with those deals, and the *guanxi* [in the sense of obligation] that arose from them." By 1996, Yangjing wanted all of the business and pressured Shangling to cut off the Jiangsu TVE, which it did in 1997 (R8).

Beginning at the end of the 1980s or early 1990s, Shanghai SOEs started pulling back to the Shanghai area business that it had originally subcontracted to enterprises in other provinces. Lowering costs may not have been the primary motive behind these shifts. Rather, enterprises—and the local governments that controlled them at all levels of the administrative hierarchy—were reinvesting industrial profits in expanded capacity, seeking to capture locally ever greater amounts

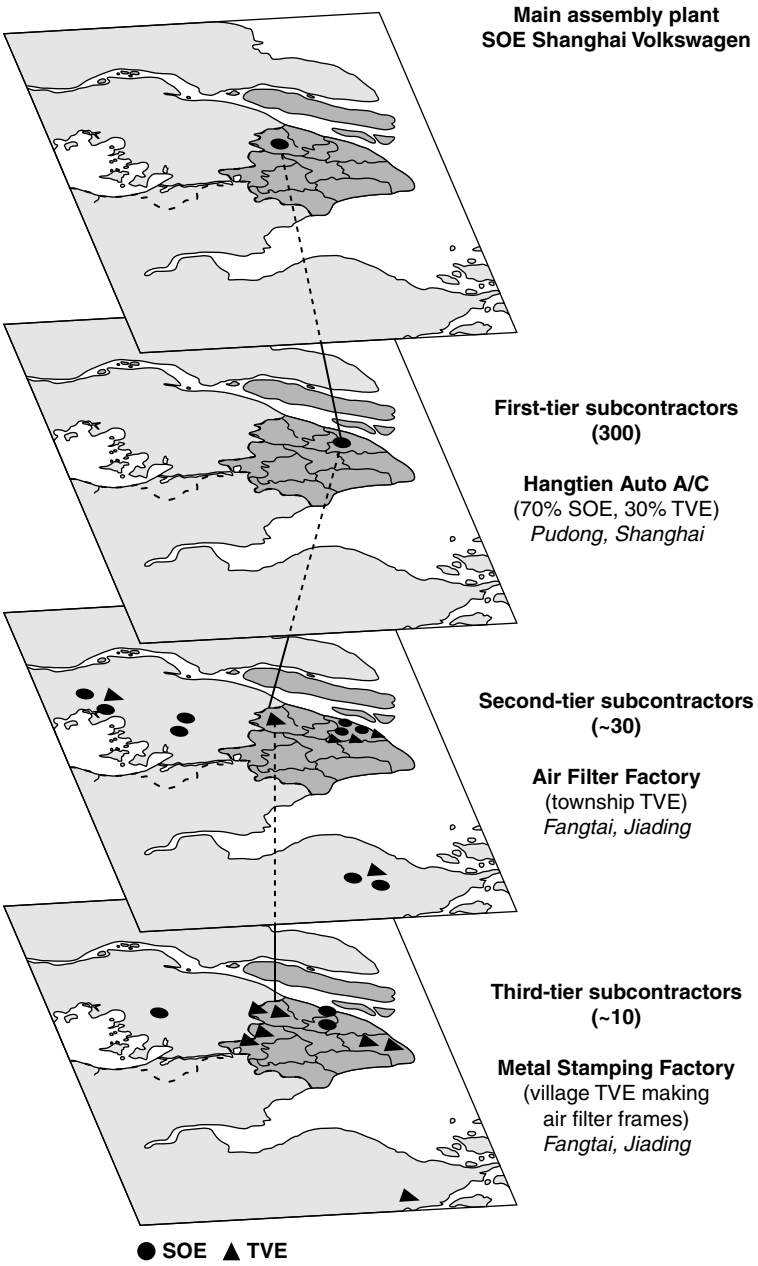

Figure 2.1 Multitier Subcontracting.

Source: One vertical commodity chain among thousands.

of industrial employment and revenues. The resulting subcontracting hierarchies increasingly resembled those of one of SVW's first-tier manufacturers of automobile air conditioners for SVW that reported 30 subcontractors in 1997 (see Figure 2.1). Of those, approximately 20 were SOEs, most of which were also located in Pudong, but some of which were in Ningbo (Zhejiang Province) or Suzhou and Wuxi (Jiangsu Province). Approximately ten were TVEs, most of which were located in Shanghai counties, with some in Pudong, but others in Ningbo and Wuxi (A6). One of its second-tier subcontractors, a manufacturer of air filters in Jiading County, had 10 total subcontractors, including three SOEs (two in Shanghai) and seven TVEs. Six of those TVEs were in Shanghai (including one in a subordinate village, another in the same county, and two each in Qingpu and Nanhui counties), while and one was in Ninghai, Zhejiang (A14).

5. The Logic of (Local) Accumulation

Starting in the late 1980s, subcontracting tended to become increasingly concentrated in the Shanghai urban-rural nexus, often following the lines of the administrative hierarchy downward. This trend could (and should) be at least partially explained by factors such as traditional locational considerations (cheaper transportation and quicker delivery times) and a logically greater abundance of personal *guanxi* ties between urban and rural Shanghainese (often through government and party connections). But over time, the most salient logics were localization and relocalization. These, in turn, were driven by the interest at every level of the local state to maximize local industrial revenues and jobs. For municipal Shanghai and the successful SOEs that it controlled, this took the form of continued expansion of output and sales and the increasing concentration of production functions in Shanghai's subordinate rural localities. For those localities, it took the form of reinvestment of retained surplus in expanded capacity, either by expanding existing factories or creating new ones within the locality.

In large part, this dynamic originated with the dual identity of TVE managers, the vast majority of whom (at least in Shanghai), were local officials, as well. A combination of incentives usually rewarded managers both economically and politically for increasing enterprise turnover, profit, employment, and size. The structural tendencies for localities to reinvest retained surplus in industrial expansion is very well documented. David Zweig (1989) shows how rural officials had strong incentives to develop local industries throughout the

1960s and 1970s. Jean Oi (1999) demonstrates how fiscal reform and the decentralization of economic decision-making authority in the 1980s worked together both to squeeze local officials, forcing them to develop local industries in order to pay for local government outlays, and to give them greater authority to do so. Yasheng Huang (1996) argues that the only real force checking rampant local (re)investment and its resulting inflationary tendencies has been the at least partial subordination of local officials to central government interests through the power hierarchy of the political system (namely, the nomenklatura system of the CCP). There is also wide consensus about the entrepreneurial behavior and attitudes of local decision makers (Oi 1992; Hsing 1998) and about the high degree of reinvestment of TVE profits in expanded capacity. In 1985, an average of 46.3 percent of profits were reinvested in this manner nationwide, increasing to 49.8 percent in 1986 (*Zhongguo tongji nianjian* 1987, 205, cited in Oi 1999, 25, fn25). Jean Oi describes strict local regulations requiring TVEs to reinvest 50 to 70 percent of after-tax profits in the expansion of production capacity (Oi 1999, 25).

The argument that subcontracting became increasingly concentrated in the Shanghai area in order to lower costs is certainly powerful and probably played a role in that process. But production costs were usually lower outside Shanghai. And while some managers listed lower costs as one of their reasons for subcontracting locally, most did not mention it at all. Indeed, several managers stated outright that lower costs were not as important as the "local" factor. As noted above, Shangling was compelled to switch production from a Jiangsu TVE to a local one, even though it had a long working relationship with the Jiangsu TVE, had no problems with that relationship (R8, R9), and the unit price of the locally produced cartons was 3.2 yuan higher. The supply manager of the Shanghai SOE that provides refrigerator compressors to Shangling said that "distance (cost and time) are important. We like to have someone that can deliver tomorrow." I presented the manager with a hypothetical choice between two TVE suppliers, one in Kunshan (located in Jiangsu Province but quite close to downtown Shanghai) and one in Jinshan County (a Shanghai suburb but significantly farther away from downtown Shanghai than Kunshan). He replied, "certainly Jinshan." When I asked why, he answered, "Quality and price are big considerations, but we prefer Shanghai suburbs over Jiangsu—if the difference isn't too big, we prefer to give the profit to our own (*lirun ranggei ziji de ren*)" (R10). The manager of a TVE that subcontracted for Shuanglu Refrigerator until its demise, the TVE that now subcontracted for

a Japanese speaker factory in its township, said that he no longer put out any of his subroutines. "We don't have any subcontractors now; we prefer to do it all ourselves if we can, in order to solve the labor problem." Without prompting, he continued, "If subcontracted labor costs 400 yuan per month, and our own costs 700 yuan, we still hire our locals and make everything [internally], just to solve the local labor problem" (R12). A TVE manager in the automobile sector told a similar story, which he then summarized with the phrase, "Don't let the fertilized water run into an outsider's field (*feishui buliu wairen tian*)" (A18).[21]

One informant told me of an interesting variation on this theme: "A lot of times. the Shanghai government orders particular subcontracting to be done locally, but the local cost is too high. So enterprises get around it by subcontracting *through* a local factory—the local subcontractor takes the orders, but then secretly has the work done by a cheaper subcontractor in a nearby province and takes a cut of the profit. The SOEs are watched much more closely, but small rural subcontractors can do whatever they want." In these cases, Shanghai production costs are higher than elsewhere, but everyone comes out ahead: Local governments and workers get some relief, and the original factory gets a lower price than it would have if the local subcontractor actually did the work (though somewhat higher than if it could have subcontracted directly).

Guanxi was the key mechanism through which managers established subcontracting relations in the 1980s. But the tone of those stories was quite different from their accounts of how *guanxi* was used in other contexts. *Guanxi* was essential to gain access to raw materials in the dual-track, shortage economy of the 1980s (see chapter 3), and it became absolutely essential to get new subcontracting work in the late 1990s (see chapter 5). In these latter cases, *guanxi* mediated intense competition for scarce resources. It determined the winners, and there were real losers. But in the case of establishing subcontracting relations, managers described the role of *guanxi* nonchalantly, as merely a mechanism through which they were introduced to economic opportunity. Rather than narrating how SOEs chose subcontractors over erstwhile competitors solely on the basis of *guanxi*, their managers did not speak of competition at all. The manager of Shuanglu needed a subcontractor. He told his friend, the manager of Aite, who then introduced him to his friend. Without production trials or lengthy negotiations, he struck a deal, because the TVE fit the needs of the SOE. The location of the bicycle branch plants in Baoshan County townships followed the same pattern. Local accumulation

would later result in intense competition between subcontractors for work (see chapters 3 and 4). However, such intense competition did not exist in the 1980s, and the role of *guanxi* thus had more to do with contacts than with the exercise of power relations in determining outcomes.

And even when *guanxi* did take this latter form, as in the case of Shangling cutting off its Jiangsu supplier in favor of a local Yangjing one, this may not have been a case of local particularism as much as it was a matter of local officials demanding that Shangling uphold its earlier bargain to provide an (undisclosed) threshold of local revenues and employment. The role of *guanxi* was likely, in most cases, completely entwined with demands on local officials to provide local revenues and jobs. To give another example, the TVE that manufactured its own brand of hot-water heaters eventually concentrated much of its subproduction locally. Of those decisions, the manager said, "[At first] we subcontracted production of the waterboxes to a TVE in [a nearby township]. That TVE was already making that part for a rival enterprise in Nanjing. That's why we chose them—they were already making this component. But Nanjing was their priority, and we were second. Sometimes we were left waiting for parts. So the head (*laozong*) of our enterprise, who is also the party secretary of our township, decided to have a local TVE make the part. Because he is the secretary, he has an interest in the welfare of the people of the township" (O6).

This interest may not have always sprung from the benevolence of local officials or even from the incentive of the rewards accruing to officials who increased local revenues. The manager of a former sewing machine subcontractor explained that the local government could not close the enterprise (at the end of the 1990s—see chapter 6), though it was still losing money and heavily in debt. The manager explained that "the township government wants to keep it open because they [sic] want to keep the workers employed. Otherwise, they are afraid the workers will go to the township government, or even the Shanghai Municipal Government, to demand jobs or money" (S5). He implied that this happens frequently, but would not elaborate. Lee (2007) suggests that vestiges of the socialist moral economy have combined with the common experience of widespread layoffs in northeast China to generate a structure of feeling that leads former workers to unorganized forms of protest. I suggest that elements of this moral economy combined with rising expectations during the constant and rapid growth of the 1980s to create at least the fear of pressure from below should local fortunes not continue to rise.

Finally, another commonly noted function of *guanxi* in economic networks is its role in minimizing malfeasance. Several of the managers I interviewed laughed at this notion. "No! It was much simpler back then. No one was thinking about the market economy or worrying about problems later. Everyone was making money, and this kind of thinking [protecting oneself against potential future problems with production partners] did not start until much later" (B12). Having never experienced problems, downturns, or crises, managers put little or no effort into measures to protect themselves against such things. This included a failure of so many enterprises to diversify. (See chapter 3).

6. The Geography of the Deepening Division of Labor

A confusing muddle of factors shaped the spatial trajectory of the deepening division of labor between the SOEs and the TVEs. But over time, the trend was for subcontracting to become increasingly concentrated down the administrative hierarchy, strongly suggesting that the most salient locational factor—the most significant structural logic over time—was how the logic of (local) accumulation came to be embedded in the specific institutions and features of the postsocialist transitional economy.

The idea of local governments concentrating resources on their own profit is not new in the literature on China. In one sense, this is a renewed form of the cellular structure of the prereform economy. Many studies have discussed this kind of economic localism, and at least one has argued that it took on new salience during the reform period when the subsumption of rural counties to cities led to the creation of competing places with similar product structures. It correctly shows how this must be seen within the context of countervailing tendencies toward "totalization" and "localization" (Tang and Chung 2000). Much of this literature focuses on the planning process and the role of local government. This book adds a closer examination of the industrialization process itself. It documents how the municipal government concentrated the production of lucrative commodities in enterprises it controlled but also how subcomponent production came to be increasingly localized, as well. Highlighting the spatial effects of capital accumulation over time eventually reveals how this process worked to undermine itself in the end.

3

Failure of the Regional System

The nexus of state-owned enterprise (SOE) and township- and village-owned enterprise (TVE) networks was very successful, until it suddenly was not. By 1999, more than ten years of accumulating profits had been fixed in place, inscribed in the urban and rural landscapes. But as I crisscrossed the countryside, I started to notice padlocked factories, their gates rusting and tall weeds growing up through their driveways. I found myself interviewing managers in dusty meeting rooms in quiet, empty factories. Township and village streets that would have been deserted during the daytime just a few years before, with everyone working in the TVEs, were now filled with people playing cards and gossiping; the TVE workers were living off their savings and small family plots. As much as two-thirds of the rural subcontractors in these sectors were bankrupt by 1999. Especially hard hit were the townships and villages with heavy concentrations in single industries.

I followed this devastation up the commodity chains, and it led me back to Shanghai. Trouble was rewriting the urban landscape, as well. Sometime after I first visited in 1997, construction had stopped on the new Shangling Refrigerator high-rise office building, and it loomed eerily over the main factory. The Shuanglu Refrigerator factory in western Shanghai now stood empty, with broken windows and a large rusting sign. Yichu Motorcycle had abandoned the huge new factory it built in 1996 and moved back to its old facilities. The new facility sat empty. "We never dreamed that Yichu would suddenly crash! They were growing like crazy," said the manager of a prominent SOE in the Shanghai Auto Group that had just established a joint venture with a Shanghai township to manufacture motorcycle horns (M14). Another said, "Yichu expected growth to continue, and they increased production yet again in 1996, reaching their all-time production peak" (M4). Subcontractors continued to do business with Yichu, even as it crashed: "Of course we did. Yichu was an important

breadwinner for the Shanghai government for a lot of years. In 1997, Shanghai gave them a lot of money to keep them going [through a *huohua*, or spark program], and everyone expected them to come back!" (M15; see also A22)

This was a crisis not just for the TVEs but for these industrial sectors as well, or, more precisely, for the SOE-centered production systems in these sectors. The stories varied, but in all of them, the SOEs had believed that demand and market share would continue to soar upward without end. They invested heavily, building factories and incessantly increasing production capacity. Then, caught off guard by new waves of competition in the mid to late 1990s, they lost market share, cut prices, and stopped production. The shocks were so severe that many never recovered, including Yichu Motorcycle. The immediate explanation was clear to all: The SOEs were suddenly outcompeted by enterprises from other parts of China that offered newer product lines with more variety, of sufficient quality, for much lower prices. But not as easily explained were the suddenness and unexpectedness of this new competition and the stark and drastic nature of its impact. Why were these SOE-centered production systems caught off guard, and why were they hit so badly? Why were they unable to adapt to the new market pressure?

The SOE-TVE nexus was simultaneously a set of networks and a sociospatial formation, a coherent and stable assemblage of machines, practices, and conventions. Such formations can be palpable and observable sites of inquiry, but they are not permanent or unchanging (Berry 1993; Ong and Collier 2005; Storper and Walker 1989). Explaining how or why they change requires elucidating the forces that hold them together, which is best done by analyzing the historical processes intrinsic to their production and maintenance (Hart 2002). An account of the implosion of the SOE-TVE nexus, therefore, must be consistent with the reasons that it held together as a stable and coherent entity for more than a decade. The planned economy was often cited as crucial to Shanghai's success, but it was also a source of rigidity. Did it enable the development of Shanghai's SOE-TVE production systems only to shelter them from competition for too long or prevent them from changing when they needed to? Enterprise-level accounts of sector dynamics suggest that key markers of the planned economy had effectively disappeared by the early 1990s. However, they also show that key markers of the degree of market competition—contained in the conventions at the heart of SOE-TVE relations—registered no observable changes until several years later. The end of the plan should have increased market pressure

on the SOEs, so why was there such a delay before corresponding changes in behavior? Was there something about the production systems themselves that made them too rigid or inflexible to adapt? Did the deep involvement of local governments in these industries stymie attempts at change?

The Shanghai regional economy would experience not one, but two fundamental shifts in the predominant pattern of interfirm conventions during its transition from a planned economy to a market economy. The first shift corresponded to the transition from a planned to a mixed economy, while the second corresponded to the transition from a mixed to a market economy. The mixed economy of the late 1980s and early 1990s, in which plan and market coexisted, did not give way to a market economy once the plan faded away. As we will see, the SOEs did not feel market competition until several years later, when production capacity caught up with and surpassed demand. The same network conventions that marked the long stability of the expanding SOE-TVE nexus became markers of enterprise inflexibility and lack of market pressure after the crises. The lag of several years between the end of the planned economy and the shift to a market economy will show that yet another characteristic of the planned economy, or, more precisely, the operations of the same characteristic now at a macro rather than a micro level, was relevant to this moment: the tendency toward perpetual shortage. Many studies of postsocialist transitions assumed that the end of economic planning, of the bureaucratic allocation of resources, signaled the transition to a market economy. But in the case of China, the transition to a market economy also required a shift from shortage to surplus tendencies. And the end of the planned allocation of resources did not coincide with the end of the effects of the shortage economy. Ironically, one of the most crucial reasons why the nexus stayed stable, as well as the reason it failed so suddenly and so spectacularly, would turn out to be the same.

1. From Plan to Dual-Track Economy

Many Shanghainese blamed the predominance of SOEs and their counterpoint—the planned, command, or administrative economy—for the troubles encountered by their industries in the late 1990s. I heard phrases referring to the planned economy throughout my fieldwork, including "eating out of the big pot" (*chi daguo fan*), "eating the nation's rice" (*chi guojia fan*), and "sitting facing south" (*chao nan zuo*). The first two are commonly used to describe the selfish

destruction of the socialist commons arising from the collective ownership of assets. The third phrase is a reference to the *Analects* of Confucius, 15:4: "To have taken no [unnatural] action and yet have the empire well governed, Shun was the man! What did he do? All he did was to make himself reverent and correctly face south" in his royal seat as the ruler (Chan 1996, 43). For Confucius, Shun was the ideal ruler who could do no wrong as long as his rule emanated from his proper inner virtue and benevolence. This phrase was used with certain irony by the Shanghainese to refer to a smugness borne of superior position in the industrial structure and in the marketplace. Managers invoked it frequently to describe the attitude of enterprises in their respective sectors, to characterize Shanghai's SOEs, in general, and—retrospectively—to explain their fall. "Shangling was sitting facing south as a big SOE. Then so many enterprises entered the market. Shangling was a big SOE with an 'eating the nation's rice' attitude, so it lost out" (R7). Or "Yichu was sitting facing south. Everyone came to us to buy. But other enterprises learned to sell, while we didn't" (M10). The planned economy helped engender a "sitting facing south" attitude that likely contributed to SOE inertia in the face of the oncoming market challenge.

But the story on the ground was more complicated. When I asked about the planned economy, nearly every manager exclaimed, "It's not like that anymore! The planned economy is gone! Now everything is market economy!" This was very often followed by, "Business was great until the end of the planned economy. Now, under the market economy, things are not good" (B7). They mapped the planned and market economies onto discrete, sequential periods and coded them as "business was good" and "business is bad," respectively. In other words, many managers considered the planned economy central to the long decade of success. It put Shanghai's SOEs in an advantageous position vis-à-vis other types of enterprises and other places. Demand exceeded supply in almost every market, and any factory that could gain access to raw materials could, with a modicum of production efficiency, earn good profits in the seller's market. While Shanghai managers typically complained about the difficulty of getting enough material in the late 1980s and early 1990s, managers in nearby Zhejiang Province complained specifically about the access Shanghai managers *did* have to plan materials at plan prices. "Just because you wanted to make it did not mean that you could. It wasn't easy to get access to steel, for example. It was all controlled by the plan. Shanghai's industries developed precisely because of the plan. They had to buy some steel at market prices, but they got a lot through the

plan when others couldn't, at the lower plan price" (B15). The fact that the plan had essentially withered away by the early 1990s does not necessarily mean that this advantage disappeared, as well: The plan still operated, to some extent, and enterprises still received *some* allocation of resources, *especially in times of shortage*, at least until the mid-1990s (B18, R17, R18, MG9).

In the abstract, the industrial economy was totally planned in the early 1980s and had become completely market by the late 1990s. But the well-established fact that it was a mix of the two throughout the late 1980s and perhaps into the early 1990s complicates any notions of a clear temporal divide between the two. When I asked managers how their factories experienced the shift from the plan to the market, they usually answered in terms of the bureaucratic allocation of raw materials and distribution of finished products. For enterprises, two key institutions of this planned input-output system were purchasing and ordering meetings (*peitaohui* and *dinghuohui*, respectively). Using manager estimates of when material acquisitions ceased to come primarily through the plan and when purchasing and ordering meetings ceased to be important to their operations, I found that the importance of the plan to enterprise operations had diminished significantly in importance by the early 1990s.

The planned economy refers not only to state ownership of the means of production, but more specifically to the bureaucratic allocation of resources and distribution of finished products. The Shanghai Planning Commission (Shanghai Shi Jihua Weiyuanhui) answered to both the State Planning Commission in Beijing and the Shanghai municipal government (vertical and horizontal jurisdictions, respectively, or *tiaotiao-kuaikuai*). It received allocations of raw materials from the State Planning Commission in Beijing and then determined its local distribution between Shanghai's various industrial bureaus (i.e., the Textile Bureau, the Light Industry Bureau, etc.), agriculture, and other sectors of society. The industrial bureaus would then distribute the materials among their own respective factories. After the industrial bureaus were converted into holding companies under the administrative jurisdiction of the Shanghai Economic Commission (*Shanghai Shi Jingji Weiyuanhui*) in the 1980s, the Planning Commission came to allocate materials to the latter, which then handled subsequent allocations.

According to an official from the Shanghai Planning Commission, "before 1991, Shanghai was almost completely a planned economy, with almost all resources allocated through the Planning Commission. Only after 1991 were the reforms more and more 'market,' letting

go a little, letting go a little (*fang yidian, fang yidian*). Now [1999] there is very little plan left, it's almost completely market" (MG9). He explained that Shanghai's industries were too important to central government revenues to be touched at the beginning of reforms. Special Economic Zones and other experiments were conducted in other parts of China in case they failed. Reform in Shanghai did not begin until the textile sector,[1] which at the time represented 30 percent of Shanghai's industrial output and employed two million workers, began to face pressure from just such an experimental area, Guangdong Province in the South. Subsequent reforms in the 1980s were mostly internal management reforms in the SOEs or adjustments of the allocation and control of resources between the Planning Commission, the Economic Commission, and the Commercial Commission.

But enterprise managers presented a much more nuanced picture than the simple claim that the late 1980s and early 1990s were "almost completely a planned economy." Starting in 1984, a series of state directives froze the size of the plan permanently. A fixed amount of allocated materials and output for each factory would still be handled through the existing bureaucratic channels, but anything produced above those amounts could be bought and sold outside traditional bureaucratic channels and the resulting profits retained by the factory in question. The idea was that the nonplan or market share of the economy would eventually outgrow the planned share, and the plan could then be phased out. But in the meantime, it created a "dual-track" system (*shuanggui zhi*) with a dual-price structure (Naughton 1995). As enterprises increased production, induced by the incentive of higher prices and retainable profits from above-quota production, their raw materials were partly allocated, partly purchased on the "market" through extraplan channels. The lowest price was for materials acquired directly through the plan (*jiahua nei*). This was called the "plan price" (*jihua jiage*, also called the command price, *zhidingxing jiage*, or most commonly, the *pingjia*). During the planned economy, there were two higher prices "outside the plan" (*jihua wai*), known as the "guided price" (*zhidaoxing jiage*) and the even higher "market price" (*shichang jiage*). Later, in the dual-track system, these "outside the plan" prices were usually called the "exchange price" (*yijia*) or the market price (M13).

This dual-track system was inseparable from the shortage economy in the late 1980s. While the shortage economy meant products were constantly in demand, even at high prices, it also meant that factories could never get enough materials. After material was allocated

through the Planning Commission to the Economic Commission and then in turn to the industrial bureaus (holding companies), each bureau would then decide how to allocate it among the factories underneath its jurisdiction. The basic principle was to allocate in direct proportions (e.g., if 50 percent of the total request by the bureau was received, then give each factory 50 percent of its request), but that was not usually the case in practice. Actual allocations might depend on which products were needed more, which were selling better or for higher profits, and so on. To acquire materials not allocated through the plan, factories, the bureaus (holding companies) above them, and even the Economic and Planning Commissions would act either singly or jointly to find some way to purchase or trade for more. Because refrigerators and bicycles were in high demand in the late 1980s, their manufacturers could trade directly with the large Baogang and Angang steel plants, material for product, in a kind of exchange known as "serial exchange" (*chuanhuan*). The Planning and Economic Commissions organized many such "exchange meetings" (*jiaoyi hui*), even ordering the Light Industry Bureau to trade its bicycles and refrigerators for coal in 1988 and 1989 (R17).

Just as often, however, factories were left to obtain additional inputs on their own. "We would use the allocated amount, then, for the rest, we would find a way, any way, to get more" (R17). It was a chaotic period, and when I asked managers to recall it in detail, a typical answer was that "we got a lot of material through allocation, but it's hard to say how much, because it fluctuated a lot from month to month. Maybe three months would be 100 percent plan, the next three months would come through Phoenix or Forever [the bicycle SOEs], next it was through personal connections . . . " (B6). A legion of middlemen (*liutong*, or the more pejorative *daoye*) emerged to handle the exchange of materials outside the plan. Because everything was in shortage, people with the ability to access or control the above-plan production of the material-processing industries could charge exorbitant "exchange" or "market" prices that were often several times higher than the plan price. The extent and strength of one's *guanxi* ties often meant the difference in obtaining materials and negotiating a price. One manager explained that, at least for his factory, this system lasted until the supply of steel finally exceeded demand, and he was able to cut out the middlemen and deal directly with the manufacturers. This marked the passage from the dual-track economy to the market economy (M13).

The purchasing meeting survived throughout the dual-track period as an important part of the planning and allocation process.

The plan made provision for material allocations to the large main plants, but not for every parts factory below them. After each factory received its production plan/quota for the following year, it used a purchasing meeting to arrange the next year's production with its subcontractors. "Instead of having to run around to, say, 100 different factories (at half a day each), we could meet with all of our subcontractors in two or three days (M13). The meetings were festive events that included large banquets and speeches, and the SOEs utilized them to disseminate information. Each supplier would set up a table, and the purchasers would roam the hall. They would place their orders with their suppliers and make contracts but did not negotiate prices, because those were preset by the Price Bureau, a subunit of the Planning Commission. The supplier would then take the contract to its own industrial bureau, which would then report upward through the planning apparatus the required amount of materials. The planning process was thus a two-way flow, with quotas for finished products coming down and requests for the materials necessary to carry them out flowing back up. Once the contracts were signed, the supplying factories (subcontractors) essentially had mandatory orders from above (*zhiling xing*) to fulfill the promised production (B6; M13).

Shanghai's large SOEs used purchasing meetings to make arrangements with the other SOEs and urban collectives that supplied them. TVEs were not included when they first started to subcontract for the SOEs, because they were entirely outside the official planning process. Rather, subcontracting TVEs could get materials through three possible channels. First, they could purchase them on the market (often at the market price, which was the highest). Second, the SOEs could obtain the materials, ship them to the TVE, and get back any leftover material or assess a fine. The TVE would receive a value-added fee for its work. (This process was known as *dai cailiao jiagong*.) Third, the SOE could obtain material through the plan at the plan price and then sell it to the TVEs for a 3 to 5 percent markup called a "management fee" (*guanlifei*). The processed materials would be sold back to the SOE at a negotiated price—this was closer to a two-way market exchange than the second channel.

But as Shanghai's large production systems grew and consolidated, the SOEs started to hold similar meetings with the same name (*peitao hui*) that included their TVE subcontractors. Though the TVEs could not take their contracts and resulting material requests to their own industrial bureaus (they belonged, after all, to township and village governments, not the industrial bureaus), these meetings fulfilled

many similar functions (M13). For example, the new Shanghai SVW system had its first purchasing meeting in 1987 with its first batch of 37 official subcontractors. The meeting, the Shanghai Guochanhua Peitaohui, was a big event in Shanghai, and even Yao Yilin from the State Council attended. After that, they held another meeting each year (A17). TVE managers in the bicycle, motorcycle, and refrigerator sectors often gave me estimates of the numbers of subcontractors in their area based on attendance at these meetings.

The distribution of finished products was also arranged and executed by the bureaucracy of the planned (and dual-track) economy. An institution commonly referred to as the "ordering meeting" (*dinghuohui*) was the key marker of this part of the planned economy. These meetings were arranged by the Commerce Commission (Shangye Weiyuanhui), and went through various units (later formed into companies) underneath it, such as the Shanghai Wujin Jiaodian Gongsi (B1).[2] At these meetings, large department stores and other distribution institutions would come from around the country. The SOE manufacturers would set up a table, and units wishing to receive an allocation of their product would visit them. Orders were allocated by the government through these meetings at approved prices (*hejia*) determined in advance by subunits of the planning commission (R14), and after completing production, the SOEs handed their finished product to these institutions for distribution around the country. One manager expressed just how emblematic these meetings were of the planned economy: "In the 1980s, this factory was totally planned economy. We had no sales—all products were sent up to the Shanghai Wujin Jixie Gongsi. And we did only a little material purchasing" (A23).

These institutional markers of the planned economy diminished in importance to the daily operations of enterprises in the six sectors. An ex-purchasing manager for Shuanglu Refrigerator said that all purchasing was through the plan in 1980, but that under the dual-track system in the late 1980s, he could never get enough material through the plan. He estimated that the plan and the market were most completely interwoven (*jiaozhihua*) in 1989, with each around 50 percent, and estimated that the planned economy essentially ended by 1993 (R17). A manager from the refrigerator compressor SOE supplying Shangling said the Light Industry Bureau determined the price between themselves and Shangling until 1989, after which the two enterprises negotiated a price themselves (R10). The importance of bureaucratic sales channels seems to have lasted longer. Shuanglu did almost all of its business through the meetings until 1992 or

1993. It held a meeting every December for the following year, and large stores would come to order from them. By 1993, it had started to go to stores seeking customers (R15).

Two independent refrigerator producers (not related to the Shangling and Shuanglu systems) said that the ordering meetings (*dinghuohui*) were important to their sales until the early 1990s. The first said all of their sales were at approved prices through ordering meetings until the second half of 1987, when they first began some sales through other channels. The meetings slowly diminished in importance for them, and by 1989 or 1990, 50 percent of their sales were through the meetings and 50 percent were at higher or lower prices through market channels. After 1990, they found they had to begin building a sales force in order to maintain sales levels, and the meetings continued to diminish in importance, eventually reaching zero. While he did not say when the meetings ceased to play any role for his enterprise, he did say that prices for sales through the meetings were approved by the Economic Commission until 1992 (R14). The second enterprise sold its refrigerators through the meetings but also to department stores in the 1980s. "At that time, it was so easy—everyone wanted to buy. We sold through ordering meetings, but also a lot of large department stores from all over China came directly to us to buy. But 1990 was a turning point; it was the first year we had to actively seek sales" (R18).

A high-level manager of one of the bicycle SOEs said that the plan did not end in his sector until 1995, but he did not elaborate (B18). One rural subcontractor bought materials on its own for the first time in 1995—before that, all materials had been supplied by the Forever SOE (B9). Another said that both Forever and Phoenix held purchasing meetings until 1994 (B1). But many managers suggested earlier transition dates. "We couldn't negotiate subcontracting prices until 1990—that was the first year we ever made a counteroffer (*huanjia*). Before that, Forever would give us a price—it was a command (*zhiling*). All of our orders with them were by command, completely plan, until the early 1990s" (B1). Similarly, one manager said that "everything was plan until 1990 or later. The main factory [*zongchang*, the SOE] would give us an order, say for 10,000 units next month, and we were commanded to fill it (*zhiling*), under the guiding principle of maintaining quality. That enterprise obtained a lot of material through the allocation process (as a county-level collective, it was part of the Shanghai plan), but by 1991, it was purchasing most of its own materials (B6).[3] Forever and Phoenix turned over their product to the Shanghai Wujin Jiaodian Company (a unit

under the Commercial Bureau), which handled the distribution of both the bicycles and their corresponding ration coupons. As late as 1990, Forever Bicycle was not allowed to sell its own products except through that channel and at prices determined by the Price Bureau. But by 1994, Forever was handling most of its own sales (B1). Another manager said that Forever still markets a portion of its production through the Jiaodian Company, which now engages in wholesale on a commercial basis (B9). By contrast, Feixiang Bicycle, the Jiading County start-up, was handling most of its own sales by 1990 (B4).

In 1997, the Shanghai Tractor and Internal Combustion Engine Corporation (a filial of SAIC, the Shanghai Automobile system) was ordered to begin producing some small gears for Yichu Motorcycle. That enterprise had used purchasing meetings to conduct most of its business with 80 or 90 local SOEs and urban collective enterprises until 1993.[4] The domestic tractor market was good until the seller's market became a buyer's market in 1994 or 1995. But its suppliers of steel and other raw materials faced the new surplus economy at the same time, and in that year, it was able to cut out the middlemen and deal directly with the manufacturers. Finally, nearly 100 percent of sales occurred through the ordering meeting in 1990, reducing to half by 1994 (M13).

2. From Dual Track to Postplan: Subcontracting Relations of the SOE-TVE Nexus

The plan was important to Shanghai's industrial enterprises, but at least three markers of its importance—allocated materials, purchasing meetings, and ordering meetings—thus had diminished significantly by the early 1990s. In addition, the transition from the planned to the mixed economy was accompanied by observable shifts in enterprise behavior. Was the shift from the mixed to the postplan economy accompanied by analogous changes? Put more strongly, did the end of the plan represent a transition to a market economy? It certainly did in the sense that interfirm transactions were now coordinated horizontally, rather than bureaucratically, through competitive markets. Such a transition also should have been marked by changes in the ways enterprises conducted business with other enterprises. One of the most important elements of their input-output systems was the subcontracting nexus. Transactions between enterprises within these productions systems were different from those with the outside—the

procurement of materials and the distribution of the final product—but a structural shift of the magnitude of the end of the plan should have also engendered changes within the subcontracting systems.

Studies of industrial districts and regional economies suggest that certain practices can help gauge the dynamism and flexibility of production systems (Best 1990; Piore and Sabel 1984; Saxenian 1994). By extension, they can also be used to gauge the degree of marketization. When interviewing factory managers, I asked about the number of customers a subcontractor worked for, or, conversely, the number of suppliers a factory maintained for a given component; the frequency with which factories changed suppliers; whether factories pitted multiple subcontractors against one another, especially to impel increases in quality, service, and lower prices; and, relatedly, the degree to which factories forced increasingly lower prices upon their subcontractors.

In fact, the conventions of daily operation would change very little before the late 1990s. On the one hand, these stable conventions suggest well-oiled production teams—problems have been worked out, and everyone works as a team. This was no doubt part of the production success of these Shanghai industries for many years. On the other hand, however, these conventions might indicate rigidity, inflexibility, and lack of vibrancy, dynamism, and competitiveness, even as the entwined tendencies toward localization and relocalization continued adding subcontractors, increasing the depth as well as the breadth of these production systems, as we saw in chapter 2. As markers of marketization or the absence of it, the stability of these conventions show that the end of the plan did not correspond with an increase in market pressure for these SOE-TVE production systems, whereas the transition from shortage to surplus economy did.

SOE reliance on the planned economy clearly played an important role in the rise and fall of Shanghai's SOE-centered production systems, but it cannot take all of the blame, since the SOEs were ostensibly operating in a market environment, successfully and profitably, for several years before they encountered serious difficulties. An excellent case study of industrial Shanghai in the mid-1990s concluded that the SOEs were under increasing market pressure (Guthrie 1997). The literature, as well as accounts by SOE managers and government officials, all testify copiously to the introduction of market-oriented reforms, part and parcel of weaning SOEs off the plan, which had been instituted in wave after wave since the 1980s.[5] Official histories of target sector SOEs record the implementation of new management practices,

product upgrading, and production improvements, all designed to ensure success in the newly emerging market environment.[6]

But if actions speak louder than words, the SOEs did not expect market pressure during this process—itself, after all, a planned transition—or certainly no more than incremental increases. As mentioned above, they continued to build new factories and make new investments as if nothing would change. However, they had been warned. One insider confided that both General Electric and a Shanghai municipal government think tank prepared market strategy plans for Shangling, which were ignored. Given the nature of how these ideas are generated and diffused within the municipal party and government structure, it is safe to assume that similar studies with similar recommendations were made, or at least proposed, around the same time for the other industrial SOEs in Shanghai.

a. Most Subcontractors Had Only One Customer

The degree of dependence of subcontractors on a single customer can be one measure of dynamism or stasis. Multiple customers may indicate greater flexibility, due to the need to retool for different orders and specifications; broader and deeper production skills and knowledge acquired through a wider degree of experiences; and greater management flexibility and dynamism to handle multiple situations and negotiations.

A high percentage of subcontractors were completely reliant upon a single customer. Data was gathered for 96 subcontractors, of which 67 (70 percent) worked for only one factory before the late 1990s. Twenty-nine enterprises (30 percent) had more than one customer.[7] This data is arguably skewed, since data was collected only from enterprises that I was able to contact and interview. Since an estimated 60 to 70 percent of listed subcontractors were stopped, bankrupt, or closed by that time, only information from surviving (to whatever extent) enterprises is represented (see chapter 5). Hence, it is theoretically possible that the majority of defunct enterprises had multiple customers. Nonetheless, I believe the opposite to be the case. I divided enterprises into one of two categories, based on interview impressions and explicit statements by interviewees. Enterprises were either doing well (or OK) or they were doing poorly (including those bankrupt or stopped). Of those enterprises reporting only one customer before the late 1990s, 26 were doing well, while 41 were doing poorly. Conversely, of those reporting two or more customers,

24 were doing well, and only five were doing poorly. While imperfect, these data strongly suggest that enterprises with greater reliance on a single factory were more likely to go bankrupt than those with more than one customer. This, in turn, suggests that a much higher percentage of the now defunct enterprises were undiversified rather than diversified.[8]

Lack of subcontractor diversification may have reflected a "planned-economy" nature of relations inside the SOE-TVE nexus. Some subcontractors were not allowed to sell to other customers. The former general manager said that many of Yichu Motorcycle's subcontractors were very poor at first, until Yichu "raised" them. "At the beginning, Yichu supplied molds and a large part of the manufacturing equipment. So for a long time, we didn't allow them to produce for others" (M1). For similar reasons, some first-tier auto subcontractors are still prohibited from selling to China's other auto makers as SVW seeks to prevent the transfer of its hard-won advantages to competitors (A17, A6). TVEs in the bicycle and sewing machine sectors were also prohibited from selling to enterprises other than their SOE partners (B9, S3, S6): "Chongji even came here once, and we turned them away.[9] We weren't allowed to have outside customers, but the truth is, we wouldn't have even thought of doing something like that" (S8).

More importantly, though some factories were thus limited to one customer, there seems to have been a widespread acceptance or contentment on the part of many TVEs with their monadic subcontracting relationships. In part this is understandable: Most of the targeted SOEs were growing rapidly until the mid-1990s, and TVE production quantities and profits generally increased yearly. When I asked why they had not diversified, the manager of one TVE (now stopped) laughed and said, "We were so busy just filling each order and expanding our production lines, who had time to think about finding new customers? We never even thought of it. We were making money" (B3). But an SOE purchasing manager explained it a little differently: "A lot of the suppliers grew up with Shangling. Now that the refrigerator market is down, they are also down. Especially the TVEs, most of which rely on Shangling, just waiting for orders and not looking for other outlets or business lines. They don't know what to make or how to sell it, and most of the managers are local villagers. This is still like the planned economy, because they never do anything to look for business. Once the relationship is worked out, they just produce the quantity of the orders they get from Shangling" (R9).

It is more difficult to measure accurately the degree to which subcontractors have diversified since the onslaught of the surplus economy.

First, many TVEs and former subcontractors were either bankrupt or had no business at all in the late 1990s. When I conducted interviews, they were desperate to find one customer, let alone diversify their customer base.[10] Second, nearly every enterprise that did have business either reported having multiple customers or was actively seeking more. In part, this may have had to with my identity. Managers often assumed I represented, or at least could put them in contact with, foreign enterprises, and more often than not, they tried to present a successful image. But diversification was also the official party line in the late 1990s, part of a larger package of prescriptions for proper market-economy behavior for managers. As part of longer speeches about the market economy, many managers spoke at great length about the need to diversify and have multiple customers to avoid reliance on a single source of business. After conducting many interviews and hearing the same lines repeatedly, it became apparent when the interviewee was speaking freely and when he was repeating lines read over and over—and probably discussed in meetings—in party and government propaganda, newspapers, and instructional materials. Manager descriptions of enterprise operations and histories were thus often couched in current ideological norms. While many of these surviving enterprises probably did have multiple customers, there may also have been incentive to exaggerate these claims. These new norms applied to localities, as well as to enterprises. In light of the destruction of entire local economies in the wake of the surplus economy,[11] local officials also spoke of diversifying their local manufacturing bases. (LG6, LG9, LG10, LG12, LG19).

In some cases, increased diversification in the late 1990s reflected the growth of production capacity. For example, enterprises raised under the aegis of the domestication program in the automobile sector eventually succeeded in replacing imported components, but their productive capacity also outgrew SVW demand. In the late 1990s, some were capturing increasing shares of the national market. By 1997, the Shanghai SOE producing radiator fans for SVW had captured 67 percent of the national market and had expanded that share to 70 percent in 1999 (A1). Likewise, a Jinshan County TVE had produced rearview mirrors since 1970, but expanded rapidly when it began to supply SVW in the late 1980s. It took advantage of the SVW Localization Fund to upgrade in 1992, 1994, and 1995, and by the mid-1990s had become the largest producer in China, supplying most of the major domestic automakers. In 1997, production capacity surpassed existing demand—it was growing faster than SVW—and it started supplying other Chinese automakers, as well (A5).

Finally, the entry of Shanghai General Motors further increased diversification, especially in the upper strata of SVW subcontractors. Most large SVW subcontractors began to produce for SGM as well in 1999, and those not yet producing for SGM were seeking approval.[12] Domestic purchasing for the SGM Buick was only 40 percent in 1999 (the rest was imported from the United States at great cost), an amount SGM was striving to increase as rapidly as possible. General Motors in the United States was thus pushing many of its US suppliers to establish joint ventures with Shanghai factories quickly, often with SVW subcontractors. Closer ties to US companies and the resulting increases in quality (combined, no doubt, with negotiated terms of joint-venture agreements) were creating new opportunities to export to US markets, as well.

b. Duplicate Suppliers Not Forced to Compete

In the 1980s, Shanghai's SOEs had to exert tremendous efforts to cultivate suppliers that could replace imports. It was an accomplishment to develop a single supplier—multiple suppliers were simply not available. This partially explains the high incidence of factory-subcontractor interdependence. As local capability developed during the 1990s, the principle of "one part, two factories" (*yipin liangdian*) became current practice, or at least something most SOE managers were striving to develop. But even in cases of multiple and dependent suppliers for a given component, the SOEs did not take advantage of the situation to extract lower prices.

Many SOEs did not develop duplicate suppliers, at least for many components, until the 1990s, if at all. Shangling Refrigerator frequently had just one supplier per part. "These suppliers . . . were often the only subcontractor making a particular component . . . it would be difficult for Shangling to develop a new supplier after putting so much effort into making things work with these ones" (R9). Likewise, a major subcontractor for Shuanglu Refrigerator claimed to be its sole supplier for pressed and stamped metal parts (Shuanglu in turn was his only customer): "We had no competition" (R12). In the sewing machine sector, many subcontractors were the sole providers of particular components, like the small TVE that coated sewing machine cases with enamel for Jiangwan Sewing Machines (S2) or the TVE that supplied sewing machine frames to Shanggong (S3). Yichu Motorcycle observed the "one part, two factories" principle. The former general manager said that "a motorcycle has more than two hundred components. Yichu had about three hundred subcontractors. So

it was about one factory per part." He then corrected himself: "At the beginning one, later two" (M1).

At the lower tiers of the subcontracting systems, localization could work to maintain narrow supplier bases, as well. For example, Huayi Village became the site of the Number 2 branch factory for Shuanglu Refrigerator. The new plant was a joint venture between the SOE and the village. Because it was so profitable, the village invested in a number of smaller subcontractors to supply it with various components. It used its partnership in Number 2 to ensure that the latter did not purchase those components anywhere else, thus localizing more profit and jobs.

There was little duplication of suppliers at the first tier of the automobile subcontracting hierarchy, even in the late 1990s, though nearly every manager spoke of "one part, two factories." Of the 13 first-tier suppliers I interviewed, only five had direct competitors (two of which competed with one another, producing mufflers). The earliest example I found of "one part, two factories" was the establishment of a second muffler factory in 1992 or 1993. The first factory, originally a TVE started in the 1970s to produce agricultural tools, but now a county-level enterprise, started to produce mufflers for SVW in 1988 with assistance from the Localization Fund program. It eventually became part of the SVW Group (A21). The second factory was originally a Third Front aerospace factory from Guizhou Province.[13] It also started producing mufflers for SVW in 1988 and then formed a joint venture with a Shanghai township to produce them locally in 1992. In 1997, SVW purchased 55 percent of its mufflers from the new supplier and 45 percent from the old. Even though the original supplier is a member of the SVW Group, when it had quality problems the following year, SVW increased the new supplier's share to 62 percent (A10).

A second source for automobile air conditioners was established in 1995. The original factory was created in 1990, when a central government aerospace SOE located in Shanghai established an SOE-TVE joint venture. That factory, part of the Hangtien enterprise system, rather than the SVW Group, claimed a 70-percent share of the domestic market in 1997. But its sales had not increased since 1995, when the SVW Group established its own internal supplier by forming an SOE-TVE joint venture in Anting Township (A6). Finally, a second source for car jacks was established in 1998, prior to which the original supplier (itself one of the original thirty-seven approved subcontractors at the legendary first purchasing meeting in 1987) had no competition. The upstart was supplying 20 percent of SVW's

demand in 1999. Note that unlike the earliest case above (1993), in which competition was based on product quality, these two suppliers now competed on price (A23).

When subcontractors were not the sole suppliers of their components during the shortage economy, they cited reasons other than price competition for the maintenance of a duplicate supplier in those days. The most common reason was production capacity. For example, one of the bicycle SOEs "often had as many as five TVEs making the same part, because our production quantities were simply too large for most of the small TVEs" (B18). Likewise, a Shangling manager said that after the basic supply base was established in the late 1980s, they would occasionally add additional subcontractors when existing ones could not expand quickly enough to keep up with Shangling's growth (R9). Yichu Motorcycle had several factories making gas tanks: one factory supplied 20 to 30 percent, and four or five other factories supplied the rest. But this did not create competition between them: "At that time, there was no feeling of competition at all. We small factories were all using our facilities to full capacity—we were swamped! We couldn't have produced more, even if we wanted to." When they could not keep up, the manager sent a batch of work over to a small factory in a neighboring village. That factory, run by his friend, soon grew large, as well. "At the beginning, we subcontracted our extra work to them, but later, we just introduced them to Yichu, and they did business directly. Business was good. It didn't even occur to me to ask for a commission on the subcontracting, let alone worry about competing" (M16; see also M5).

In other cases, factories maintained duplicate subcontractors to ensure steady supplies. A large Shanghai SOE that supplied refrigerator compressors to Shangling maintained two factories per part, because "if one has a quality problem, the other can fill in. If you have only one factory, and they have a quality problem, you might have to stop your whole line." It usually split orders equally between the two subcontractors, but insisted that each subcontractor have enough production capacity to meet its entire demand. This did not require excessive investment on the part of the subcontractors, because they fulfilled their 50 percent shares with day shifts anyhow and could simply add a night shift to double capacity (R10). A small subcontractor said Yichu usually kept three or four factories producing the same component in order to ensure supply and quality (M9); another stated that "Yichu had two factories for important components. The brownout problem was very serious until about 1996. We often didn't have electricity during peak hours, especially in summer" (M6).

Other interruptions could occur, as well. One subcontractor had to stop production during the Plum Rains in June. The factory itself was not flooded, but the workers, all of whom were still engaged in agriculture,were worried about their crops (R11).[14]

Because it is common practice to invoke retrospectively what are in fact currently accepted practices—the party secretary of an SOE once told me that everything was "market economy," even in Mao's time!—it is difficult to ascertain the validity of claims that multiple suppliers were maintained to induce competition. Managers frequently invoked "competition" when speaking about the "one part, two factories" practice. But, crucially, the following sections will demonstrate that before the late 1990s, factories seldom changed suppliers and never pushed down prices—two practices that would have represented, or at least been enabled by, such competition. Rather, the "one part, two factories" principle was a way to maintain SOE expansion and ensure the timely delivery of adequate components. Only in the auto sector was it used to stimulate competition, and even that was linked to upgrading quality, rather than to inducing price competition.

c. Subcontractors Were Seldom Changed

Most TVEs had only one customer and did not actively seek to diversify before the late 1990s, and there is no evidence that the SOEs frequently switched suppliers. For example, the purchasing manager of a large Shanghai SOE in the Automobile Group, the Shanghai Tractor and Internal Combustion Engine Corporation, described in great detail the expansion of its subcontracting system in the 1980s. He then said the 1989 subcontracting system remained more or less intact until he began restructuring it in 1998. "Basically, our attitude about the subcontracting system was 'if there are no problems, just keep working the same.' So there was very little change until recently" (M13).

Shangling began to develop its subcontracting system in 1985 and 1986 and within three years had established its supplier base. It added some additional suppliers when particular suppliers were not able to grow as quickly as Shangling, but not many. Most of the original suppliers established within the first three years expanded along with Shangling, keeping up,[15] and the number and identity of suppliers changed very little over time (R7).[16] "Back then, we used the same list for several years; it hardly changed." After establishing its suppliers, it did not actively seek new suppliers. "These suppliers have stable relations and were often the only company making a particular

component. It would be difficult for Shangling to develop a new supplier after putting so much effort into making things work with these enterprises. The only reason to cut off relations was if the quality went down and they did not correct it or if they messed up the *guanxi*" (R9).

Likewise, the time/space/enterprise-type supplier matrix supplied by Yichu Motorcycle presents little evidence of shifts in the supplier base. While suppliers were added every year between 1985 and 1989, only one was dropped during the entire 1985–95 decade—a Zhejiang private enterprise in 1993. A total of 49 enterprises were dropped in 1996 and 1997, reducing the total number of Shanghai area suppliers from 183 to 138 (4 suppliers were added). The former general manager said that there was not much change in the number of subcontractors, because although quantity may fluctuate, the number of parts on a motorcycle does not. And like Shangling, once the supplier base was established during the first few years, it remained very stable until the enterprise entered a state of crisis in late 1996. Again echoing Shangling, he said that "most of the subcontractors were the same—we didn't switch much. But a few were weeded out due to poor quality" (M1).

The automobile production system was also very stable, with no evidence of switching, at least at the first tier. And interviews with subcontractors in all six targeted sectors produced very little evidence of supplier switching during the pre-1995 period. There were very few stories of subcontractors losing their position once the relationship was established or of factories switching suppliers at all. Most of the exceptions were cases of SOEs switching from nonlocal to local suppliers (See chapter 2). Finally, when factories did drop subcontractors, they cited poor quality as the reason, not price.[17]

The degree and frequency of factories changing subcontractors is another possible measure of the degree of market competition, competitiveness, or systemic dynamism. If nothing else, it reflects the stark difference between the precrisis and postcrisis economies. During the golden age of the SOE-TVE nexus, factories were highly unlikely to change suppliers. They tended to establish a relation with one and then maintain it. But in the late 1990s, they began to change frequently, as subsequent sections and chapters will demonstrate.

d. No Tightening Down: Prices Static in spite of High Profits

There was little change in these subcontracting systems once they were established in the 1980s. Factories tended not to switch subcontractors,

and, almost without exception, they did not exert downward pressure on subcontracting prices until they were forced to do so much later. This phenomenon was observed in every one of the industrial sectors, but the most dramatic example was from the motorcycle sector.

Subcontractors from the motorcycle sector were almost unanimous that Yichu never lowered its prices or exerted downward price pressure on its subcontractors. In contrast, the former general manager said that the price of a 125cc model had dropped from 10,300 yuan in 1996 to just over 5,000 yuan in 1999, allowing only 50 yuan profit per motorcycle. He said there had been price changes before 1996, but they were due to fluctuations in material costs, especially steel, and usually resulted in raising, rather than lowering, prices (M1). Subcontractor accounts all agreed that prices never changed between 1985 and 1996, except when they increased to keep pace with increases in the price of steel, labor, electricity, and so on from 1993 to 1995 (M4, M6, M8, M9, M10, M11, M16).

The Shanghai SOEs in the sewing machine sector were not doing well in 1999. "Shanggong started to get hit by competition in the second half of 1995. That's when their quantities started to decrease. But they didn't start lowering the price of their sewing machines until 1997, when they started to feel extra competition due to the Asian crisis. Then they lowered their price about 20 percent in 1997, and they pushed this price drop directly down onto their value-added factories (*jiagongchang*) in 1997–98. The price here was pushed down 20 percent at that time" (S7). A TVE subcontractor for Jiangwan Sewing Machines reported that prices were very stable from the beginning of their relationship in 1988 until Jiangwan's market collapsed in 1994–95 (S2). From 1988 to 1996, another TVE subcontracted for a Shanghai SOE manufacturing industrial sewing machines. During that time, prices changed very little. Even when their markets went down, exacerbated by Asian crisis in 1998, the SOE did not exert downward pressure on prices. Instead, it started to delay payments until the TVE eventually found other business (S6).

One of the Shanghai bicycle SOEs started to feel pressure from competition when the market dipped in 1990–91, but did not have to reduce prices until 1995 (B18). The manager of an SOE-TVE joint venture (*lianying qiye*) in that sector said his factory never felt any pressure to lower its prices until 1995, and even then, there was not much stiff competition until 1997 or 1998. "Before that, it never mattered if the price was too high. Forever got the profit anyway—we were all the same family" (B9). A TVE subcontractor that made bicycle fenders described prices as stable. "They increased by about 15 percent in 1988 because material costs went up, but then they

stayed pretty much the same until quite recently. We were never pressured to lower our prices" (B3). Only one interviewed subcontractor, a Baoshan County TVE, cited an earlier starting date to the quantity and price reductions: His enterprise began to feel competition during the market dip in 1991 and had its prices reduced for the first time in 1992 or 1993 (B8).

Evidence from the refrigerator sector is less conclusive, but implies similarity to the other sectors. The manager of an urban collective that subcontracted for Shuanglu said, "Prices started to come down after the situation went bad" (R15). No one in the sector mentioned price reductions before the sudden increase in competition. (They mentioned reduced quantities but not price cuts.)

Finally, no enterprises in the automobile sector reported price pressure before the late 1990s. One second-tier TVE manager said that the SOE above them now pushes down their prices three or four times a year (totaling more than 20 percent in 1999), forcing them to reduce production costs and nearly wiping out their profits (A22). First-tier suppliers also began to face price reductions, such as one TVE that had its price lowered for the first time in 1998, by 20 percent. Its profits accordingly declined by 46 percent from 1,050,000 yuan in 1997 to 570,000, in spite of a 39 percent increase in output (A14). Even first-tier suppliers that were members of the SVW Group (*gongtongti*) itself did not escape reductions, including two Anting TVEs that had their prices reduced by 10 percent in 1998 (A11, A12) and a county-level collective that reported reductions of 10 percent in 1998, 10 percent in 1999, and 8 percent in 2000 (A23).

3. From Post-plan to Market: The New Competition

In the transition from the planned to the mixed economy and well into the implementation of the market economy, the SOE-TVE nexus was very stable for a long decade. As we have just seen, membership in these networks did not change, except for the addition of new subcontractors by the twin processes of localization and relocalization. Nor did conventions change. The SOEs neither reduced their prices nor exerted price pressure on their subcontractors and suppliers. As the development of regional capacity enabled and rapid growth encouraged the maintenance of multiple suppliers for components, the SOEs did not take advantage of opportunities to force subcontractors to compete with one another. They neither looked for cheaper suppliers nor changed subcontractors on the basis of price.

The new regime that would emerge in the late 1990s was the inverse. The new business environment was described by the manager of a rural branch plant of a Shanghai SOE: "My customers now take advantage of the fact that I need business, giving me great pressure to lower prices. The pressure is very big. Prices are always being renegotiated downward, even by old customers" (R11). With the new and real salience of price, the practice of "one part, two factories" changed. Shangling had developed multiple subcontractors in order to ensure the steady supply of components, but it now used this practice to generate price competition between suppliers of the same components (R9). Although the two bicycle SOEs had duplicate production structures, one subcontractor had no competition until the late 1990s. "Only since 1997 or 1998 has Forever started to compare back and forth between Forever and Phoenix suppliers, so now we have a competitor." Consequently, "now, prices are compared and pushed down" (B9). A newly established private assembler of bicycles maintained at least two factories per component in order to ensure quality and drive down costs by playing the suppliers off against one another (B15). "A lot of factories want to be our suppliers. Competition is very intense, so we can really push down prices" (B12). Finally, factories began switching to cheaper suppliers. According to a second-tier auto subcontractor, its first-tier SOE maintains a few factories like them. "They make us compete on quality and price. When one is doing better, they [the SOE] give them more orders and cut out other subcontractors" (A22). Yichu Motorcycle was actively switching to suppliers more willing or able to lower prices, especially private enterprises (M10, M6, etc.; see chapter 6).

From the vantage point of the expanding SOE-TVE nexus, network conventions helped identify and define the long decade of stability. But from a different vantage point—the crises and their aftermath—they highlight enterprise inflexibility and the absence of market pressure. All this is to suggest that unlike the transition from the plan to the mixed economy, the transition from the mixed to the postplan economy did not engender an analogous shift in enterprise behavior. Such a shift was not observable until several years later. This returns us to earlier questions: Why were the constitutions and conventions of these networks so stable for so long? And what caused them to change so suddenly and drastically? Interview accounts revealed that membership and conventions did not shift until several years after the planned economy. They also relate the immediate experiences of enterprises, what caused them to change behavior, and when.

These SOEs were among the largest and most famous in China. They were powerful and unquestioned during the 1985–95 decade of fast growth and high profits. Accounts were unanimous that pressure from new market competition hit in the late 1990s. Because they started to experience crises well before the Asian crisis and the economic slowdown of the late 1990s, it is clear that they were outcompeted. Market demand for their products was still expanding, but increasing shares of those markets were captured by products manufactured by Chinese enterprises from other parts of the country, to a lesser degree by foreign joint ventures, or by products from abroad.

A fuller inquiry into the sudden and devastating demise of Shanghai's SOE-centered production systems might examine why enterprises in other parts of China were able to capture increasing shares of the market. A few facts are obvious and were cited by everyone: By the mid-1990s, those enterprises had developed better products for cheaper prices and become numerous enough that supply outstripped demand. Less obvious is the changing market structure and segmentation as incomes increased and polarized and as consumption patterns differentiated—a larger fleet of smaller producers may have been better able to fill niches than the large, Fordist SOEs. And even more difficult to ascertain might be the particular modes and regimes of capitalist accumulation and regulation that engendered successful growth and competitiveness in China's other regional economies. Because we are concerned here with enterprises and industries in the Shanghai area, however, this chapter will focus on factors and dynamics internal to the Shanghai system.

Socialist command economies have inherent shortage tendencies.[18] Bureaucratic incentives induce managers to hoard resources and underproduce, leading to a systemwide tendency toward the shortage of all resources and goods. The shortage economy in China was still quite prevalent in the 1980s and 1990s. Prices and profits were high because demand outstripped supply for almost everything. As already noted, in a series of directives around 1984, the state froze both the size of the overall plan and the annual quotas of enterprises, allowing enterprises discretion over profits earned from output above the planned amounts and leading managers to scramble eagerly for resources, increase production, and then reinvest profits to increase production capacity. The intention of the state was to let these marketized components of the economy catch up to and surpass the planned components or to let the industrial economy "grow out of the plan" (see Naughton 1995).

This is exactly what happened: By some point in the 1990s, supply caught up with demand. Seller's markets became buyer's markets for almost every conceivable resource and commodity, and fierce competition and drastic price wars ensued.[19] The comfortable environment that Shanghai's SOEs had enjoyed for ten years disappeared, and the heady days of rapid growth and high profits ended quickly.

A second look at the sectors will confirm this. Sources agreed that the shift to a surplus economy occurred sometime in the mid-1990s, but the exact timing of the onslaught of the surplus economy, with its fierce competition and price wars, differed by industrial sector.

It was probably earliest for refrigerators, beginning at the national level in the late 1980s. Managers explained, "When you have an industry where the costs are low, and you are selling high and making huge profits, others are bound to rush in. With production costs at about 800 yuan and selling price at 2,000 yuan, it was inevitable" (R16). "Anyone who had a way to get hold of air compressors could start a factory" (R18).[20] As early as 1985, the central state implemented measures to rein in rapid growth by limiting official recognition to 41 "fixed-point" manufacturers (*guojia dingdian shengchan dianbingxiang de qiye*).[21] But the sector was too lucrative for local governments, and they frequently ignored central state directives. The total number of manufacturers rose from 20 in 1978 to more than one hundred at the end of the 1980s. Fierce competition led to increased concentration by the early 1990s as the advantages accruing to the 41 designated manufacturers began to pay off.[22] The number of manufacturers fell from 114 in 1988 to 72 in 1992 and roughly to 40 by 1994 (Liu and Jiang 1996). In Shanghai, Shuanglu felt the competition first. Sheltered by the large Shanghai market, it was able to survive longer than most of the other nondesignated factories in China. Production peaked around 250,000 units in late 1994, when it, too, felt intense market pressure, and sales plummeted. Production was reduced to almost nothing in 1996 and 1997 and stopped completely by 1998 (R12, R15). Shangling, on the other hand, had taken advantage of its designation as a fixed-point manufacturer to develop a much larger scale, with production peaking at 850,000 units in 1995 and 1996. But with total national production capacity estimated at 20 million units in 1996, actual production around 13 million, and sales reaching only 7 million,[23] Shangling, too, succumbed to the fierce competition. By 1998, production had been reduced to only 200,000 units, and inventory was piling up fast (R2, R5, R10).

In the motorcycle sector, the surplus economy hit very suddenly and unexpectedly in mid-1996. Production levels had been

increasing dramatically. A dozen manufacturers in 1979, with a total output of 49,000 units in 1980, had increased by 1987 to more than 60 manufacturers with about six hundred subcontractors nationwide, producing 775,000 units (*Motuoche Xinxi* [Motorcycle News] 1988, 3). High profits continued to attract entrants, and by the end of 1996, there were 139 manufacturers, with 22 more large-scale projects in progress in 12 provinces.[24] Production figures broke through the one million mark in 1992, and by the end of 1993 had reached 3.7 million units as China passed Japan to become the largest producer (and consumer) of motorcycles in the world. Output increased to 7.8 million units in 1995, nearly half of total world output, and reached 9.3 million units in 1996. Driven by the growth and expansion of existing plants and high numbers of new entrants, total production capacity—which the Machinery Industry Department had planned would reach 10 million units in the year 2000—was already pushing 15 million units in 1995. But just then, production outstripped sales, and supply surpassed demand. By July 1996, 4.25 million motorcycles had been produced, but only 3.8 million sold—production was up 22 percent from the previous year, but sales were up only 12 percent. The ensuing price war, the first the sector had ever seen, reduced average prices 15 percent by the end of the year (Zhu 1998, 112–14). Yichu had increased production to more than 600,000 units, and, expecting its market to continue to expand, it had invested 650 million yuan (US $79 million) in a large new factory. But as noted, it was forced to cut prices from 10,300 yuan in 1997 to 5,000 yuan in 1999 (M1). Still unable to compete, it reduced production to less than 40,000 units in 1998 (M6, M8, M11).

Sources point to 1995–96 as the turning point for Shanghai's bicycle SOEs. The SOEs first felt market pressure when the economy was at a low point in 1990–91, but the economy recovered quickly in 1992.[25] Rural subcontractors steadily increased output until 1994–96: "In 1996, we made two million sets of fenders, but this year [1999] only eight hundred thousand sets. Business went down after 1996. Now it is bad" (B3; also B1, B6). One TVE manager explained: "We did not really feel any competition until 1994, when [Forever Bicycle] orders went down for the first time. That was the year we first felt market demand exceed supply (*gong da yu qiu*). After that, orders decreased about 5 to 10 percent each year. The bicycle sector has been doing very poorly since 1996" (B1). Another manager said, "Business was good until 1995. Then it started to go down fast, and we stopped completely in 1997. The bicycle industry has really been going down [since 1996], because people prefer to buy motorcycles

now and because Giant and so many other foreign bike makers have come in. In the last few years, half the bike factories have changed to doing either motorcycle or auto parts, and the remaining half, with great difficulty (*xinxin kuku de*), are still doing bikes" (B6).[26]

The sewing machine sector is broadly divided between household and industrial sewing machines, and the two subsectors differed markedly in the timing of the onset of their crises. Household sewing machines had always been a sought-after commodity, due to their usefulness in keeping families clothed during the shortage economy. They were a highly prized wedding gift, and the Shanghai brands were famous and preferred all over China. Their importance began to decline in the 1980s as cheap manufactured clothing became readily available (S5; Zhang and Bao 1999, 176–78), and the sector began to feel intense pressure in the late 1980s. By 1990, the Shanghai Sewing Machine Platform Component Factory, an SOE supplying the famous Mifeng and Feiren brands, experienced sufficient price pressure that it could no longer produce competitively. Its solution was to subcontract production to a Pudong TVE, supplying it with cheap allocated materials and keeping part of the profit generated by the TVE's lower production costs. Even this arrangement failed before long, and the TVE was bankrupt by 1993 (S5). A crashing market drove at least one large manufacturer of household sewing machines, the Shanghai Huigong Sewing Machine [Number One] Factory, to bankruptcy in 1992 (S1).

The industrial sewing machine sector has a different history. Before the 1980s, it was not nearly as important as the household sector, and only in the early 1980s did the Light Industry Bureau begin to produce industrial machines.[27] The sector developed rapidly in the 1980s as people purchased more clothing and used household machines less. The largest manufacturer in Shanghai (and China: S7) was the Shanghai Industrial Sewing Machine Factory (Shanggong), a large SOE with many branch plants and SOE-TVE joint ventures. For one of those SOE-TVE joint ventures, the peak year was 1994, and the industrial sewing machine market started to go downhill (*zou xiapo lu*) at the end of that year (S8). The manager of a TVE subcontractor said that "Shanggong started to get hit by competition in the second half of 1995. Household sewing machines were earlier. At the end of 1995, Shanggong started to reduce production quantities, but it wasn't until 1997 that they had to start lowering their prices. They lowered their prices by 20 percent in 1997 and pushed that price drop directly down onto us in 1997–98" (S7). Again, the stories are similar to the other sectors: "In the early 1980s, there were only a few

competitors, but by 1997, there were about 50 or 60, a lot of them TVEs in Jiangsu and Zhejiang" (S8). Likewise, "the state controlled capital and investment flows to this sector very tightly until 1993, so before that, there was little new investment in equipment and upgrading. The industry grew in volume, but there was no upgrading until we were suddenly hit by the foreign firms and other companies that had upgraded a little" (S1). Now, "none of the big SOEs are doing well—Shanggong, Xiechang, Jiangwan, etc." (S7). When the Asian crisis began to hit in late 1997, at least two producers with some export market—Shanggong and another SOE under the Textile Bureau—felt the effects (S7 and S6, respectively).

Charting the rise and fall of the meters-and-instruments sector is more difficult, because the factories I interviewed produced for different, specialized markets, including gauges and instruments for measuring heat, fluid levels, and fluid pressures for a variety of industrial processes and temperature and electricity flow for households, businesses, and factories. Again, Shanghai had long been considered the most important source in China (followed by Xian and Sichuan), and many of its factories were quite famous. Because meters and instruments are crucial to so many industrial processes, the market for them has generally risen along with China's industrial capacity. But as Chinese industry has upgraded, so has the demand for high-end equipment, and many of the small enterprises established to take advantage of the easier to manufacture low end of the sector now faced incredible competition and shrinking market niches (I7).

Statements about the onslaught of the surplus economy in this sector reflected wider trends. The manager of one large Shanghai SOE said that "in the early 1990s, the seller's market (*gong bu ying qiu*) became a buyer's market (*gong da yu qiu*)" (I3). Another manager, explaining why his TVE never became an SOE-TVE joint venture, said that "many such enterprises were formed in Shanghai around 1985–90. But in 1993, they started doing badly (*kaishi buxing*), because the SOEs started doing badly in 1993. The TVEs depend completely on the SOEs, so when the SOEs started doing badly, so did the TVEs" (I6).

While the initial blow to these sectors came from competition, they were further affected by dampened demand in the late 1990s as China's economy entered recession and started to feel the effects of the Asian financial crisis. The strain on Shanghai's auto sector, however, was probably due more to the latter factors than to competition from other producers. By the mid-1990s, Shanghai SVW had captured fully half of the entire domestic market for automobiles.

When domestic demand slumped (temporarily), SVW's market did not completely collapse, like those of the other SOEs in this study. Sales decreased slightly in 1996 (A6), and production levels were reduced beginning in 1998 (A23). Still, by mid-1999, inventories were piling up—interviewees, and even the TV news, claimed that SVW had anywhere from 54,000 to 80,000 autos in inventory, filling up every parking lot they had in the Shanghai suburbs (M10, M11). Production levels dropped, though not to market equilibrium: Shanghai ordered SVW to continue producing in order to shore up its lagging economy. In addition, the central state did not allow SVW to stimulate demand and clear inventory by lowering its prices, because that would have increased the burden on China's other auto makers, who were struggling even more than SVW (M10).

The downturn was further exacerbated for many subcontractors by an unrelated internal factor. The "one part two suppliers" principle (see below) had been implemented more gradually at the first tier than at the lower tiers, and in the late 1990s, many first-tier subcontractors were facing price pressure and production cutbacks for the first time as some of their production was transferred to their new competitors.

4. The Role of the Local State

While the SOEs were implementing marketizing reforms as the plan was phased out, they did not make appropriate adjustments in their subcontracting systems. Since this book focuses on the power relations between the town and the country, it is correct and important to ask whether the countryside was powerful enough in these relations to prevent the SOEs from making such adjustments. There are some indications of this, both in the bargaining power afforded localities through negotiations over the use of rural land for factories and in the few instances of rural resistance that I encountered. But SOE and municipal power was stronger.

a. Local Power: Land-use Negotiations and Local Resistance

Agreements made about agricultural land as part of SOE-TVE joint ventures gave some bargaining power to rural interests that affected subcontracting relationship dynamics. Forming an SOE-TVE joint venture usually entailed building new plant, requiring the conversion of cropland and consequently the displacement of local families. State

regulations require the SOE and the local government to compensate those affected. This practice, known as *zhengdigong*, requires these factories to provide jobs for a number of displaced villagers as determined by the following formula: the average number of persons per acre in the given locale multiplied by the number of acres converted. In addition, the factory must replace any houses destroyed or pay market price for them, and it must reimburse villagers for any crops that were already in the ground. The extent, and thus the impact of *zhengdigong* was exaggerated by government regulations requiring "greenification" (*luhua*). Each new factory was required to be surrounded by a formula-determined amount of green space or garden. This required each new factory to convert a larger area of land, thus increasing the terms of *zhengdigong* negotiations and settlements.

Though decreed in nationwide regulations, these standards were anything but uniform in application. The market value of various components, such as houses and crops in the ground, is debatable. There is plenty of room for interpretation, and negotiations often result in very local solutions. For example, the SOEs and townships are not necessarily required to employ all of the displaced villagers in the resulting factory. A joint venture between Shangling Refrigerator and a township government (50 percent each) displaced a large number of villagers. In compensation, Shangling employed 260 local villagers, bringing an additional 40 managers and technicians from the main plant. But Shangling wanted only the younger workers, so the local government provided health coverage (*laobao*) and a pension (*yanglaojin*) to the old (R4). Another Shangling joint venture employed 500 workers, only 100 of whom were displaced local villagers. Because this factory required workers with higher skill levels, Shangling insisted on employing only those who were able to pass a test rather than meeting a formula-driven quota. Shangling now had to help the local government with its labor problem. Instead of employing unqualified workers, it paid a sum of money to the local government to help the latter settle the remaining workers in other local jobs (R3). In another case, the local government simply paid displaced locals a yearly payment for use of the land and let them find jobs on their own (R14).

State regulations decree minimum standards, but rural localities can negotiate for higher benefits. A first-tier subcontractor in the auto sector, a joint venture between SVW and the local township, reported a 25 percent profit rate (A11). The manager of a TVE in the same sector in the neighboring township explained that the former's abnormally high profit rates resulted from the *zhengdigong* negotiations

between it and SVW. "The township negotiated a better deal from SVW when they did *zhengdigong*. Because SVW used mostly [urban] Shanghai workers in the plant, it could not satisfy the *zhengdigong* requirements. The local government said no problem. Let this factory earn a high-profit rate, and the township will use the extra profit to open other factories to employ them" (A12).

While *zhengdigong* negotiations and their resulting obligations and arrangements thus could produce rigidities in subcontracting relations with regard to hiring practices and profits, they could affect subcontracting dynamics in other ways, as well. A particularly dramatic case involved entitlement claims arising out of *zhengdigong* arrangements. A TVE in rural Jiangsu, several hours distant from Shanghai, began to produce cardboard boxes for one of the refrigerator SOEs in 1987. When the SOE moved its main factory from Shanghai to a rural township just across the river in Pudong, it negotiated *zhengdigong* arrangements with the local township. A few years later, officials from the township came to the Jiangsu TVE, asking for its help. The TVE taught them how to manufacture cardboard boxes, and afterward, both factories produced cardboard boxes for the SOE. When I asked why they helped the township, the manager said he had no choice (*meiyou banfa*) because the township had close *guanxi* with the SOE. Though he was unclear about the details, his understanding was that some kind of obligation had arisen from the *zhengdigong* arrangements. He believed that if he did not help the township, the SOE would find someone else who would, so his best strategy was to maintain good *guanxi* with the township. The township factory developed very quickly, and by 1996, wanting all of the business, it was able to insist that the SOE cut off the Jiangsu TVE supplier. At the time, there was no economic rationale for doing so. The unit price of cardboard boxes produced by the Jiangsu TVE was 3.2 yuan lower, including transportation costs, than that for boxes produced by the township.

There are also examples that did not involve *zhengdigong* in which rural localities asserted their own interests against those of an urban SOE or the Shanghai municipal government and thereby structured subcontracting relationships in their favor. In one SOE-TVE joint venture, the SOE partner provided the TVE with the equipment and know-how to produce parts for motorcycle locks. The original agreement stipulated that the TVE could not sell to anyone else, but in return, the SOE guaranteed a certain annual profit level for the village-owned enterprise. When volume started to decrease, the village decided to supplement that business by producing windshield

wiper assemblies for large trucks. The SOE invoked the original agreement to prevent them from doing so, but the village insisted that the SOE either let them pursue other business or guarantee their profit levels. Since the SOE could no longer do the latter, it had no choice (A20). In another case, three village-owned enterprises making automobile components for the Shanghai Automobile Factory[28] were combined into one township-owned enterprise by the Anting township government in 1987. When SVW purchased the Shanghai Auto Factory in 1990, the township enterprise became an important SVW subcontractor. At that time, the township government resisted inclusion of this enterprise as a member of the SVW Group. If it had entered the group, the local township would have lost control of enterprise profits. A larger share of both enterprise profits and taxes would have accrued to Shanghai, rather than to the township (A11).

More generally, it is certain that there were tensions between urban SOEs and rural TVEs in their partnerships during the 1980s and early 1990s. One of the functions of the Township and Village Industry Management Bureau under the Baoshan County government was to coordinate (*xietiao*) problems or contradictions (*maodun*) between SOEs and TVEs (*gongnong*). Unfortunately, when I asked for clarification and examples, its officials refused to elaborate, beyond hinting that villagers and urban managers sometimes saw things differently (LG25). Overall, I believe that such contradictions were relatively few and seldom serious before the late 1990s. Subsequent sections will underscore the words of one subcontractor who, when speaking about SOE-TVE relations in general, said there were seldom contradictions before the SOEs started to go downhill (*zou xiapo lu*) in the late 1990s (S8).

b. Municipal and SOE Power

In spite of these examples, there is ample (though murky) evidence that the Shanghai municipal government exercised considerable control over the targeted industrial sectors and the SOEs at their head. This may seem tautological: State-owned enterprises are owned, and thus controlled, by the state. But interviews almost invariably described SOE and TVE actions as market behavior, and decidedly not government behavior (*zhengfu xingwei*). As with "one part, two factories," another slogan—"separating government and enterprises" (*zhengqi fenkai*)—was the official line in the late 1990s (Liu and Zhu 2000). And very few managers contradicted the party line. Interview questions that approached this subject were either politely turned aside

or resulted in long, rehearsed soliloquies about the market economy. However, the manager of one large SOE explained that even in the late 1990s, there was "a huge difference between what the government says and what it does. It is impossible for an SOE to be truly independent in management, because the local government always pressures it, makes it do things it doesn't want to do. Everything in Shanghai is this way." He proceeded to describe a particular instance in which the municipal government shuffled bankrupt enterprises around like in a shell game in order to improve local statistics.[29]

In large part, government behavior with regard to the industrial subcontracting systems is reflected in its actions as a local developmental state, as described more fully in chapter 2. Subcontractors and other insiders portrayed the SVW subcontracting system as closed and highly orchestrated by the municipal government. The automobile sector was the single most important source of revenue for the Shanghai government in the 1990s, but the other targeted sectors were important, as well, before they crashed in the mid- to late 1990s (*Shanghai jingji nianjian* 1996). As in the automobile sector discussed above, chapter 2 documented examples of subcontracting being focused in Shanghai in the refrigerator, motorcycle, and sewing machine sectors. One subcontractor talked about how the Shanghai government interfered constantly in the internal affairs of Shangling Refrigerator in the early and mid-1990s because Shangling was making so much money. Many parts of the municipal government were making different demands on Shangling (R8). It is safe to assume that the other targeted sectors were recipients of similar meddling in their respective heydays.

The TVEs are also owned by the local state, though at a lower level (Walder 1995). In theory, the municipal government (to which the SOEs belong) should be capable of exerting tremendous influence over TVEs through party and government hierarchies (municipal-county-township-village). Unfortunately, aside from stories about introductions setting up supplier relations, interviews produced few descriptions of municipal government meddling in SOE-TVE relations or of SOEs using government fiat to pursue their interests over those of rural localities. One manager hinted at the lack of bargaining power of automobile sector TVEs. His factory was one of a series of eight SOE-TVE joint ventures formed in Jiading County by the Forever Red Group, a giant Third Front SOE from Guizhou Province, to take advantage of the localization program to subcontract for SVW. He said that the eight factories should have been linked together in an enterprise group, rather than formed independently, in order to

face SVW together. He would not elaborate, but later in the interview said that SVW had unilaterally reduced their prices by 20 percent in 1998 (A14).

Managers of several subcontractors alluded to the "command" nature of contracts with SOEs, saying that their orders with the SOEs were *zhiling*, like orders that must be obeyed (B1, R17, S8). One manager did elaborate, saying:

> It was all planned economy (*jihua jingji*) until 1990 or later. The factory (*zongchang*) places an order, and you have to fill it (*zhiling*), even if you lose money, under the guiding principle of maintaining quality. Same with their subcontractors (*peitaochang*)—if they placed an order with a factory with whom they had a prior production agreement, that factory had to produce it, even if they lost money on it. They had to produce at the price specified by the government, but might not be able to get material at a low enough price. For example, prices might be set according to costs based on the "plan price" (*pingjia*) for materials, but you can't get materials at that price. You still have to fill the order, so you end up paying the higher "guided" or "market" prices (*zhidao jiage*, *shichang jiage*). Or maybe you have an order to produce, but after you fill it, the factory doesn't need it and cancels—you are stuck with it. And the whole thing was completely plan, administrative (*xingzheng*). Even if we subcontracted to a local TVE, we were higher [in the administrative hierarchy], and commands flowed down. All of Shanghai was one big administration (B6).

While few managers would discuss the government role in coordinating or enforcing subcontracting relationships in greater detail, almost all sources concurred that prices were set by the government before the mid-1990s and that enterprises did not negotiate or make counteroffers (*huanjia*) until some point in the 1990s. And as the previous section has hinted, and as the following chapters will discuss in much greater detail, rural enterprises and localities had little recourse when the SOEs did begin unilaterally to lower prices, delay or stop payments, and switch suppliers in the late 1990s.

5. "Sitting Facing South"

While there may have been some room for rural resistance, the municipal government had ample levers for imposing its will on rural enterprises, had it desired to do so. It is thus not a very tenable argument that rural resistance produced serious rigidities in the SOE-TVE subcontracting relations that prevented timely adjustments to

the production structures under examination. The planned economy did play a role in the demise of Shanghai's SOE-centered systems but not a straightforward one. On the one hand, it helped engender the "sitting facing south" attitude that contributed to SOE inertia in the face of the oncoming market challenge. On the other hand, it arguably contributed to Shanghai's success before 1995 by putting its SOEs in an advantageous position vis-à-vis other types of enterprises and other places. Indeed, the relational nature of these subcontracting linkages suggests that the SOE-TVE nexus resembled an extension of the *jihua jingji*, more than a new market economy (*shichang jingji*).

If the effects of the planned economy were mixed, so was the role played by the local state. The state implemented a series of management reforms in the 1980s and 1990s designed to make TVEs more market oriented, but they had little or no effect on the relational nature of SOE-TVE subcontracting itself (see chapter 6). The local developmental state was instrumental in building up Shanghai's industrial sectors into the winners they were, but it was also demonstrably greedy in its reliance on these large cash cows. It is safe to say that Shanghai did not push the SOEs to lower their product prices before the late 1990s, and it may have even prevented them from doing so had they tried. The revenues were simply too attractive. The SOEs were pushed to increase production figures and capacity every year in order to generate even more sales. And the local state, at its various disaggregated levels, actively pulled subcontracting business back from nonlocal suppliers, even when this resulted in higher costs, because benefits would then accrue locally.

This machine was highly profitable for Shanghai for a decade. It was able to continue after the withering of the plan because there was enough plan left to give some advantage until 1995 and because the Shanghai brands were market frontrunners with reputations for high quality. But the primary reason was that the shortage economy lasted for a few more years. As the plan was phased out during the early 1990s, the SOEs were still competitive enough in their respective sectors until the onslaught of the surplus economy in the mid-1990s. If Shanghai foresaw the impending end of shortages, it chose to continue raking in high profits rather than make radical adjustments. It was a good short-term strategy, but had the long-term effect of precluding effective restructuring of the subcontracting systems before it was too late. While the industrial economy steamed ahead in other regions of China, Shanghai enjoyed high profits and healthy growth rates and was content to implement incremental changes, avoiding

conflict-inducing, redistributive institutional changes. And as we have seen, it was overwhelmed when the rest of the economy caught up in the mid-1990s. It was not just the SOEs that were "sitting facing south," but the Shanghai government, as well. While local state actions were not the immediate cause of the surplus economy, they certainly exacerbated the severity of its effects.

The local state at all levels—municipal, county, township, and village—reinvested accumulated capital in expanding production capacity, continually expanding the SOE-TVE production systems. This is seen most spectacularly with the investments in huge new plants in the mid-1990s, but it also took the more mundane, though in the long run more important form of increasing the size and number of subcontractors. Reinvestment and expansion enabled the increasing local capture of subcontracting functions and benefits over time, but it also paved the way for what was to come next: a glut of capable factories, all out of work, that helped shape the way the SOEs eventually broke out of the SOE-TVE nexus and rewrote urban-rural relations in the late 1990s.

4

The Nexus Unravels

The transition from shortage to surplus sent shock waves through the sectors and up and down the commodity chains. As their cash-flow problems worsened, large enterprises started to look for ways to reduce costs. They could not lay off workers, because they were state-owned enterprises (SOEs), and their own profits had disappeared quickly as they cut prices to stay competitive. So they started to look for ways to eat into the profits of their subcontractors. The first sign of trouble was smaller orders, but before long, the SOEs started switching to cheaper suppliers, as well. Developing new suppliers can be arduous and time-consuming, however, and frequently it proved easier to use the threat of switching suppliers to impose more favorable terms on existing ones. The practice of "one part, two factories" took on new significance when the SOEs realized that reduced orders could be shifted between multiple, duplicate, and dependent subcontractors. The resulting competition was very intense—"if you do not supply [*gonghuo*], then someone else will" (A18)—and for the first time subcontractors were compelled to compete with one another not only in terms of quality, but in terms of price, payment, and delivery, as well.[1]

The production capacity embedded in the region by a decade of localization and relocalization was becoming a glut of desperate subcontractors. While the SOEs themselves were beleaguered, they took advantage of their new leverage within the production systems to compel subcontractors to continue producing for them at near or even below cost. Such a great leap in market competition should have resulted in a major rationalization of the subcontracting systems. If nothing else, increased competition might have reduced the costs of subcontracting, thus reinforcing its benefits and leading to a new round of proliferation and specialization like that of the 1980s. However, its effect was anything but a linear shift to more market-rational forms of behavior. Rather, enterprises started to pursue the

perverse strategy of cutting off their subcontractors and pulling back and internalizing as many production functions as possible—in effect, returning to a more verticalized production structure. To say that the make-or-buy decisional logics of enterprises were being recalibrated to fit new circumstances would be an understatement, and much too simple. It is not enough to speak of rationalization, the changing business environment, or shifts toward more "market-oriented" behavior. Ultimately, the new and unexpected tendencies resulted from the embeddedness of these production systems in the checkerboard political economy of postsocialism. The new imperatives and practices that emerged were unraveling the conventions at the heart of the SOE-TVE nexus and would eventually unravel the nexus itself. As this continued, profits for rural subcontractors were not only reduced, they started to displace upward along the commodity chains, out of the countryside and toward large enterprises in the city.

This is the first of three chapters that will explore the new business environment for subcontractors from different vantage points. What new imperatives, practices, and spatial formations emerged from the palpable increase in market competition? We have seen what happened to the urban SOEs, but what happened in the countryside? How did rural subcontractors deal with the crisis? What tactics and strategies were available to them? How big was the glut of subcontractors, and was it large enough to make a difference?

1. New Payment Terms

When the large SOEs encountered difficulties selling their products and began to experience cash-flow problems, they soon discovered that reduced orders could be shifted between multiple and duplicate subcontractors hitherto operating at capacity, and started using this new advantage to impose new terms. As one manager explained, "there are a lot of firms that want to be our suppliers; competition is very intense, so we can really push down the prices" (B11).[2]

A subcontractor described the typical renegotiation process. His enterprise produced refrigerator evaporators for Shanghai SOEs and in turn subcontracted subroutines to smaller factories. His customers faced tough competition and started to take advantage of the fact that he needed business by pressuring him to lower prices. Soon, he found that prices were constantly being renegotiated, even with his old customers. First, a customer would tell him he must lower his unit price from 75 to 70 yuan. They would haggle and settle on a reduction of

3 yuan (instead of 5), which his customer would justify by telling him he could reduce his price by 1 yuan anyway because of lowering material costs. (The interviewee admitted that material costs were indeed falling) As for the remaining 2 yuan, the customer would say "give us a little more profit (1 yuan), and lower your own profit by 1 yuan." To rationalize this, the customer would point out that business was growing and orders were getting bigger: larger batches would lower costs by 0.5 yuan; the remaining 0.5 yuan could be reduced from other production expenses. Of course, 1 or 1.5 yuan of that 3 yuan reduction would be passed on to his own subcontractors, along with the same justifications. The manager kept repeating that pressure was very great, but he also insisted that the whole process was very reasonable (*heli*) and full of negotiation, back and forth, give and take (*xietiao,* or *taojia huanjia*). He explained that although his customer had its own price pressure, it did not want to push its suppliers too hard. He had several years of good *guanxi* with his customers, and no one wanted to break that off. Also, if the customer pushed too hard, he might substitute cheaper, substandard materials to cut costs. He did not want this to happen, and neither did the customer, so the customers would push only so hard (R11).

Accounts from the auto sector reported even less give and take. One TVE manager (second-tier auto) said the SOE above him pushed prices down three or four times a year (totaling more than 20 percent in 1999), forcing him to reduce production costs and nearly wiping out his profits. At the same time, the SOE insisted he must improve quality or he would no longer be given the business at all (A22). Even first-tier enterprises suffered unilateral price reductions. In 1997 and 1998, SVW informed other interviewees that their prices had been lowered. Two Anting TVEs that were part of the SVW group (*gongtongti*) had their prices reduced by 10 percent in 1998 (A11, A12), while another county-level collective in the group reported price reductions of 10 percent in 1998, 10 percent in 1999, and an expected 8 percent in 2000 (A23). A TVE that was not part of the group had its price lowered 20 percent in 1998 (A14). At least these first-tier subcontractors were still paid regularly; all second-tier interviewees reported delayed payments or worse.

Additional methods were even less fair than straightforward price reductions. A first-tier auto supplier (outside the group) said that SVW had paid quickly after delivery, and even after price reductions, they still made a profit. But when SVW sales began to slow, it purchased less than 90 percent of this supplier's product (production amounts were according to SVW forecasts), forcing them to shoulder

the entire burden, a portion of which they pushed down on their own suppliers (A6). Other subcontractors reported that not only did their SOEs delay payments, but that when they did pay, they made deductions from their payments. For example, a TVE manager (second-tier auto) was not paid for a long time after delivery, and when he was, the amount was usually reduced by 15 percent for various reasons (A18). Yet another (not producing for SVW) would not get paid until three to five months after delivery. But the first-tier enterprise above it often had to wait as long as six to twelve months before receiving payment from the SOE at the top and even after waiting six months or longer would not necessarily get paid. When they finally would get paid, there was usually a deduction of 6 percent (A20). These managers saw these maneuvers as ex post facto, unnegotiated, and unilateral impositions of lower prices for their subcontracting work. It could have been even worse. Sometimes the large SOEs would declare upon delivery that the product was not up to quality standards (*bu hege*), and use this as an excuse to reduce payment by as much as 50 percent—but meanwhile, they would still take and use the product (A20).

The SOEs had always paid subcontractors on time each month, but now started to delay payments until that became standard practice. A typical example was a village-owned TVE that had been a second-tier subcontractor in the motorcycle sector. It subcontracted for an urban collective (street committee, or *jiedao jiti*) that paid regularly, every month, until 1996. Then it began to delay (*tuo*) payments. The delays were only three or four months at first, but after a while, they increased to five or six months, and then to seven or eight. When the urban collective finally went bankrupt, it owed the TVE more than 300,000 yuan (A20). Similarly, the SOE customer of a private subcontractor (second-tier auto) required it to purchase raw material from one of its branch factories, a TVE in rural Pudong. The SOE cited special quality-control requirements (the product required #20 or #45 steel, not the typical A3 steel most common on the market) and would not accept components produced with material purchased elsewhere. Because the two enterprises had been working together for a while, the Shanghai factory let the private enterprise pick up each new load of steel for the next round of production whenever it was almost ready to deliver the current batch. The payment method varied slightly from the traditional planned economy method of regular monthly payments. Upon delivery of the second order, it would get paid for the first, so it was always one payment behind. But it had always been paid on time, in full, until 1996 or 1997. Then the SOE started to delay payments (*lai zhang*), sometimes not paying,

sometimes not paying in full. After three or four years, the debt had accumulated to 140,000 yuan (A19).

Delayed payments did more than gradually accumulate debt. They also lengthened turnover times for subcontractor capital. One manager (second-tier) still producing for the auto sector said that he was getting paid regularly, but that the new terms were very different. His customers, two first-tier subcontractor SOEs, themselves were not getting paid on time and had to wait for their money. So his enterprise was getting paid three months after delivery. This meant he had a six-month cycle, from the time he made payment on the raw materials to begin a new batch until he would get paid for the product (A22).

SOEs likewise indicated a dramatic shift in the way they paid subcontractors. For example, the general manager of one large SOE producing a key refrigerator component for some large Shanghai SOEs reported:

> [S]everal of our suppliers have left us because they could not stand the increasingly poor payment terms. We were taking too long to pay them. The problem has recently become much more serious than before. Our own customers are all on three-month contract [we get paid three months after delivery], but we are seldom paid within four months. So it is always a problem for us to pay our subcontractors on time. (R13)

The motorcycle SOE had always paid suppliers monthly, but even the ex–general manager admitted that they now paid once every three or four months, or sometimes even later (M1).

Subcontractors that found themselves in these circumstances could deploy a number of tactics, none of which were very effective. The first and easiest was simply to pester the larger factory for payment. While this often met with partial success, more often than not it failed or was not worth the trouble. One manager described his attempts to collect a debt of 140,000 yuan that had accumulated through delayed payments: "The first time you visit the factory and ask for 100,000 yuan, maybe they give you 3,000. The next time you go they might give you 2,000, and if you go a third time they might give you another 3,000. If you go every day and ask for payment, the Shanghai factory plays *ti piqiu* [kicking the ball around, a kid's game]. You talk to the first guy, and he tells you to go talk to the second, who tells you to go talk to the third, until someone eventually tells you to talk to the first guy!" (A19). Another manager experienced difficulty collecting from customers in other provinces and spent three to four months a year

on the road (and 300,000 to 400,000 yuan on travel, banquets, and gifts) just for that purpose. He explained that "in China, if you have been owed money for a long time, then the costs of collecting the debt are large. You have to keep going there to ask for the money, and this takes a lot of time and travel expense. And each year you can only get so much back—under these circumstances, you are doing well if you can cover your costs" (A20).

Such collection efforts sometimes resulted in collection of payment in kind, rather than in cash, and possibly with unwanted products that could be used or easily resold. One small private enterprise in the bicycle sector had been subcontracting for a bicycle manufacturer in Hangzhou (the capital of nearby Zhejiang Province). That factory could (or would) not pay its debt to the enterprise, so it paid in whole bicycles. Indeed, there was a large pile of several hundred bicycles in boxes on the factory floor. On one of many trips to Hangzhou to collect on the debt, they were offered these bicycles in exchange for clearing the debt. Not expecting to get more money, they accepted. They knew the bicycles would be very difficult to sell for any kind of profit, because of the large glut in that market, but decided they could at least recover part of the debt. What they did not expect, unfortunately, was that upon returning and inspecting the bicycles, many of them had been assembled with defective components (B2). In a follow-up interview with the auto subcontractor trying to collect a debt of 140,000 yuan, I was told that while we were speaking, the son of the owner was on his way to visit the Shanghai SOE, because the SOE had offered to give them a small van (*mianbao che*) in exchange for part of the debt. The son was going to examine the van to see if it was worth anything before accepting the offer—the father guessed the van would have something wrong with it (A19).

Another way to recover delayed payments was to use some kind of *guanxi*. The manager of one auto subcontractor explained that it was necessary to rely on *guanxi* to recover debts. He also described a process in which one SOE manager would tell him to collect from another, who would refer him to yet another, and so on. But if one had some kind of *guanxi* with someone inside the organization, then that person could intervene in the game on one's behalf. Everything depended on who one had *guanxi* with and what kind of *guanxi* it was. Good *guanxi* with someone high up in the organization would make it easier to recover all or most of the debt. If the *guanxi* was not as good, the person seeking to collect the debt might have to build it up a little first, or, if the *guanxi* was with someone lower in the organization, he might have to work through them in order to

get introduced to and cultivate *guanxi* with someone higher up and more in a position to influence the matter (A20). Another manager said that in order to collect, he usually just kept asking while at the same time going through every "hard and soft" means at his disposal to persuade the SOE to pay up. When I asked what he meant, he would only say that he went through any and every kind of *guanxi* he could (*touguo gezhong guanxi*) (R11). Seeking further clarification, I inquired if this included *guanxi* in the municipal government, since the vertical administrative lines of Shanghai's SOEs and TVEs meet at the upper levels of the municipal government. He replied that the government did not usually negotiate or coordinate these kinds of debts unless they were huge, and small ones like those of his enterprise were much too small (R11).

A more extreme way to try to collect late payments was to file a lawsuit. Some enterprises used this technique with partial success, including one village enterprise in Pudong that had been established in 1987 to subcontract for a first-tier SOE subcontractor of household sewing machines. The SOE supplied all of the materials, which the TVE processed in exchange for a value-added fee (*jiagongfei*). When the SOE could not pay that fee, the debt accumulated until the TVE sued them for 600,000 yuan. Eventually it collected 60,000. (The actual settlement was higher, but they themselves owed the SOE for training fees, which were deducted.) The same TVE was still involved in another lawsuit.

And in yet another suit filed in 1996, in which as of late 1999 the TVE involved had yet to collect anything, the lawsuits proliferated and dragged on. When the sewing-machine-component business was shrinking and increasingly less promising, the then-manager had looked for new business lines and had met two brothers from Ningbo, an industrial center in neighboring Zhejiang Province, who convinced him to make medical syringe lids. They would introduce him to a big contract worth 100 million yuan. In exchange, the younger brother would make eight sets of molds for him. The older brother took his money and gave him five sets of molds, which turned out to be defective, and kept the money. He disappeared, and even the younger brother was suing him. The manager of the TVE that I interviewed described his firm's litigation as a marathon suit (S5).

But most subcontractors were hesitant to sue. One manager, echoing most interviewees, said that his enterprise was owed payment by several SOEs and that in general, the payment problem (*fukuan wenti*) was huge. Although he had written contracts with all of his customers, he usually did not sue when a big enterprise owed money

for a number of reasons: it would break off existing relations and ruin any chance of future business with that firm; it would take forever in the courts; and collection was difficult, even if you won (R11). The manager of another TVE expressed his frustration at the difficulty of collecting debt from the bankrupt motorcycle SOE. His enterprise subcontracted the production of mufflers in 1997 and 1998, its last period of business. It delivered the product, but was never paid and lost a lot of money. When I asked if they had filed a lawsuit, he merely said that the government did not care about small matters like this (*guojia buguan*) (A22).

Finally, a subcontractor could stop producing for the SOE in question. One small TVE in Pudong making sewing machine components for a Shanghai SOE in Nanhui County started to look for other business in 1997. The SOE's business had begun shrinking in 1994, and by 1997, the TVE had decided it could no longer depend on that business. It switched to making one part of the stand for a dental apparatus for a different Shanghai SOE exporting to Italy. The manager said, "If we had not been lucky enough to find that new business, we would still be producing for [the original sewing machine SOE], hoping to collect enough to keep going." The SOE asked him to fill some small orders in 1998, but by then he had severed the relationship and given up on ever recovering what the SOE owed him (S6). (See chapter 5)

This TVE was able to change business lines (*zhuanye*) and escape dependence on a particular SOE, but as we will see in the next chapter, most small subcontractors could not find new business and were stuck with their old SOE partner. Because they were unable to exit, their payment terms deteriorated still further. A typical example is a TVE that had produced electrical-meter metal casings for Shanghai SOEs since 1980. The manager described the relationship between the system of new competition and the emerging payment terms:

> Out of ten SOE customers, three or four are in very bad shape and owe us a lot of money. In total, ten SOEs owe us more than 2 million yuan. But we keep supplying them because we have to—if we do not fill their orders, someone else will, and they will not pay us at all. Each time we deliver an order, they pay us for the previous order, so we always have a large sum of money stuck there with them. If we do not fill the next order, we will not get paid for the last order, the one we already filled. We also want to eat rice. We have already delivered the goods and there is no way to get them back. So even when we deliver the second round, and they do not pay us for the first, then we still have to give them the second delivery, because we have already spent the money to make it.

> And since it is made to their specifications, there is no other market for it, so if we do not give it to them, there is no hope we will get the money from the first time, let alone the second time. There is nothing we can do about it [*mei banfa*]. (I6)

Indeed, many small subcontractors were finding themselves trapped by debt in exploitive subcontracting relationships with large enterprises. The subcontractor who hoped to receive a van in lieu of partial payment explained that "we are still paying tax, a percentage on each delivery, and electricity, but we cannot pay wages to our workers." When I asked why they continued to produce for the first-tier SOE if they did not pay, he said, "We must; if we do not produce for them, they simply will not pay any of the debt. As it is, we get some of the money this way" (A19).

As another second-tier subcontractor explained:

> [L]arge factories all want to take advantage of the capital of small ones—they do not pay until a year after receiving the goods. For example, when Sundiro Motorcycles moved its Hainan factory to Shanghai, they relied on the capital of the subcontractors. The subcontractors in Shanghai do not have any way out [*meiyou chulu*]; they have to do it this way. If you want to have rice to eat, then you must produce, so once subcontractors enter, they cannot get out. Large factories are only concerned with their own survival and do not pay any attention to the subcontractors, because there are so many subcontractors available. Under these circumstances, from the point of view of getting money [*zhengqian*], producing is better than not producing, but if you look at it from an economic point of view, sometimes it is better not to produce than to produce. A lot of the time you are losing money when you produce, but you must. In the past, TVEs could generally make money, but now, it's not bad if you can just break even. (A20)

Delaying payments transferred profit from subcontractors to large enterprises just as effectively as pushing down prices. It meant shorter capital cycles for the large enterprises at the expense of longer ones for subcontractors. By the late 1990s, it had become common for large enterprises, even in relatively lucrative sectors such as automobiles, to push down on subcontractors so hard the subcontractors were working at a loss. If one subcontractor quit, the large enterprise could easily switch to another. On the first tier, where cooperation was much closer and the large enterprise could not easily find replacements due to higher asset specificity, subcontractors were treated much better. However, even in the SVW group, non-SVW enterprises were treated as second-class citizens.

2. REVERTICALIZATION

While market competition was driving down prices and reworking payment terms, it was also reconfiguring the organization of production, driving a new tendency toward the internalization of production functions that I will call reverticalization.[3] This tendency was most evident in three contexts: in the case of SOE collapse; in the case of auto upgrading, restructuring, and tightening down in the sector; and in the case of subcontractors with business opportunities simply trying to continue to survive.

The collapse of the refrigerator, sewing machine, and motorcycle sectors offers clear examples of SOEs reacting to shrinking market share by reintegrating production. After its sales plummeted, but before it went bankrupt, Shuanglu Refrigerator attempted a major readjustment. It closed all of its branch plants and moved the necessary machinery and personnel back into the main plant, reducing the size of the main assembly lines to make room. It thus moved a lot of its remaining (and diminishing) production back up into the main plant, continuing to produce a little, then increasingly less, until it finally went bankrupt altogether (R11). Shanggong Sewing Machines followed the same strategy (S1).

The more spectacular collapse of the motorcycle sector illustrates how the lingering socialist political-economic logic operated in the face of sectoral decline. A purchasing manager told me that because production volume had become so low, the number of subcontracting factories was now fewer than one hundred (down from well over three hundred during peak times) and still decreasingly rapidly. "Because we cannot feed our own factories [*ziji chibuliao fan*], we do not want to feed others. We are pulling in a lot of the functions that we used to subcontract out and giving them to our own internal factories [*women xiamian de chang*]."

Interviews with other enterprises revealed that the story was more complicated, however. First, many suppliers continued to produce for Yichu in tiny quantities whenever it had an order. These enterprises were either waiting and hoping to collect on debt and barely keeping their own doors open or, in the case of more successful enterprises, they had shifted to completely different sectors or products and only continued to produce for Yichu as a small sideline. But many enterprises no longer produced for Yichu at all. Yichu had not cut off any suppliers. Rather, these factories did not want to produce for Yichu, either because the orders had become too small to be profitable or because they knew they would not get paid. These interviewees

suggested that Yichu was internalizing its production because it could not find factories to produce for it. Furthermore, some said that Yichu did not cut off any factories and that this was true even of suppliers in distant provinces—in those cases, the suppliers themselves cut off the relationship because, due to small order sizes, transportation costs now overwhelmed any profits (M4, M10).

Regardless, most of the (albeit greatly reduced) production was internalized in factories under the control of Yichu or its superior, the Shanghai Automobile Group. The conflicting stories I gathered about this reveal something about the internal workings and tensions of the system. While working with Yichu (through SASS) to assemble a database of their suppliers, I was told that there were still 63 Shanghai enterprises producing for Yichu (SOEs and/or their collectively owned branch plants and urban collectives), all affiliated with the Shanghai Auto Group. Yichu did not want to subcontract to those enterprises, but sought to break off relations with them and to internalize those functions either within itself or factories directly under its own line of command. But they were ordered by the leadership of the Auto Group (*shangmian de lingdao*) to continue subcontracting to the 63, because otherwise those factories would go bankrupt (SASS communications, 6/23/99 and 7/11/99).

This dispute seems to reflect the unevenness of power within the Shanghai Auto Group. Although Yichu was located administratively under this group, the group seemed to be favoring enterprises in the more important auto sector over the increasingly unimportant motorcycle sector. A number of well-established auto group subcontractors had recently begun to produce for Yichu as an insignificant sideline. One Yichu subcontractor knew of many auto enterprises that were now producing motorcycle components for Yichu (M8). One of the largest SOE's in the group (with more than 6,000 employees) that specialized in the production of diesel tractor motors began producing some small gears for Yichu. It had never made motorcycle components before, but in late 1997, was ordered to begin doing so by group leadership (*jituan lingdao*). It first developed the product in a small experimental workshop, planning to move production to a branch plant in Jiading County when volume increased, but batches were still so small that they continued to produce them piecemeal in the original workshop (M12). Another enterprise deep inside the auto system was also ordered to begin producing small parts for Yichu in late 1997. That factory was a small *lianying* factory (joint venture between an SOE and a rural township) owned by and producing for a second-tier auto supplier, which in turn was a branch plant wholly

owned by a first-tier SOE. The factory in question was completely reliant upon the enterprise above it—their managers were appointed by it, they received their raw materials and production plans from it, and they turned over all production to it (M17). This suggests that the leadership of the auto group, upon the collapse of the Yichu system, redistributed its production functions throughout its own enterprise system by fiat, without much concern for the wishes of Yichu itself, except to continue its supply. By doing so, it redistributed these functions to enterprises that it targeted for support, perhaps based on future plans concerning which enterprises and subsectors would be continued and which would be weeded out.

In the auto sector itself, the dynamic was not only one of collapse. Reverticalization occurred because reduction was coupled with restructuring as SVW attempted to upgrade its product and production system. In the late 1980s, SVW was constantly upgrading as part of the localization process. The Shanghai leadership and German engineers insisted on upgrading all component production to meet strict German standards. High quality was crucial to SVW's market success. The Santana became a major cash cow for the Shanghai government; once it was successfully developed, SVW continued to produce the same model with few changes for many years. In the second half of the 1990s, just as China was entering a recession and SVW was beginning to cut production, a new challenge presented itself: a new US $1.5 billion joint venture between the Shanghai Automobile Group (also the joint venture partner with VW for SVW) and General Motors (SGM). The entrance of GM was shaking up SVW, forcing them to upgrade and introduce new models.

Among other strategies to meet these challenges, SVW embarked on a plan to reduce the number of first-tier subcontractors from 300 to 150. The remaining 150 would no longer supply components to the main assembly plant, but preassembled sets (*mokuai*). When one first-tier SOE supplier of radiator fans started in the late 1980s, it made most of the product itself (about 70 percent of its value), which consisted of 40 components. Now it contracted out most components, and produced only 30 percent of its value. In 1990, it had 40 to 50 subcontractors, whereas by the end of 1999, it had 116 (mostly TVEs). It first developed one supplier per part (thus 40 to 50 suppliers) and then later increased to two suppliers per part, doubling the number of suppliers. But now it was cutting back to 50 suppliers again and subcontracting more of the subassembly. In the future, it planned to assemble subassemblies, rather than components, and then deliver the entire assemblies to SVW (A1).

As part of this restructuring of the entire SVW system, evidence suggested that SVW was pushing its first-tier subcontractors to pull back and reinternalize subcontracted functions. Touqiao, a township in Nanhui County, was notorious for having tens, if not hundreds, of small private enterprises that pirated spare auto parts for the secondary, after-sales service market. (It was rumored that at least half of the merchandise on Shanghai's Weihai Road, known for its concentration of small auto-parts stores, came from factories in this township.) The manager of a second-tier TVE discussed Hongbao, a TVE in Touqiao Township that was a first-tier subcontractor for SVW (and later, SGM as well). Knowing of the plethora of small auto-parts manufacturers in town, I asked if Hongbao had any second-tier subcontractors in the same township. The manager said no, because SVW did not allow it to, in order to ensure both quality and secrecy. He explained that the latter was very important, there in particular, because second-tier subcontractors, once trained to produce the higher-quality components required by SVW and SGM, would use newly learned techniques to upgrade pirate products, as well. (The secondary, gray market for parts was a large problem for SVW, because these parts typically sold for 30 to 50 percent of the prices charged by SVW. However, SVW still had some advantage in that market because pirated parts tended to be lower in quality.) But the manager said that quality was also an important issue, because second-tier subcontractors in this township (and other places, but he said this town was notorious) sometimes substituted cheaper and lower-grade raw materials. Even if they were supplied directly with raw materials by the SOE or ordered specifically to purchase a certain grade of material from a specific supplier at a designated price, they could sometimes adulterate them in the production process or resell them and purchase cheaper ones.

This problem became even more serious in the late 1990s, for a combination of reasons. With pushed-down prices and lower-tier suppliers not getting paid regularly, it was more difficult for subcontractors to make profits or cover costs. In addition, SVW's internal restructuring pushed many subcontractors down the subcontracting hierarchy or out of it, exaggerating the already serious glut of potential subcontractors. Though SGM created new demand, its standards were even higher than SVW. (Most of its parts were still imported, and most of what was produced locally was done by a few of the most advanced SVW first-tier subcontractors.) The collapse of the motorcycle and bicycle markets caused many of those subcontractors to try to get into the auto industry, which they perceived as lucrative and stable (B6). Given this glut, SOEs now took advantage of small

enterprises by trapping them into working for a loss or switching to other suppliers if they would not. In the past, subcontractors in stable relationships had been much more likely to go by the rules and to honor given specifications, because everyone was assured of making a nice profit and because there was every expectation that the business would be continuous. Now, small enterprises were more likely to assume the subcontracting relationship was temporary and that they would be paid only in part and very late, if at all. This gave them an incentive and justification to cheat on specifications, just when SVW was making a major attempt to upgrade product quality. As a result, Hongbao was closed to the outside (*fengbi shi shengchan*), almost like a military operation, with extremely strict management. It was ordered to purchase all of its components from other first-tier SVW suppliers and was not allowed to subcontract anything (A22).

Though the Hongbao case was a little extreme, due to the prevalence of piracy in Touqiao, other interviews in the auto sector confirmed the same tendency toward reverticalization via restructuring. One Shanghai SOE had made all of the jacks for the Santana until the late 1990s. Production started at several thousand units in 1987, so this factory lost money for the first few years. Production increased rapidly to 50,000 units in 1990, after which the SOE earned substantial profits. Fast growth continued until 1996, then began to shrink after 1998. The SOE had subcontracted production from the beginning. Subcontracting reached a peak in 1993 with more than twenty TVEs, almost all of which were located in the same county. By 1995, almost all production was subcontracted out, and this factory mostly did assembly, but in 1995, it started to reinternalize production functions (*ba ta shouhuilai*). It did this in two phases. In 1995, just after SVW approved a "one part, two suppliers" competitor, this SOE reinternalized all metal-stamping and pressing operations, purchasing the equipment necessary to do so. In 1998, when the new competitor was given 20 percent of its production, it brought back everything else, and by the end of that year, it was performing all suboperations itself except painting. According to the general manager, he followed this course of action for three reasons. First, echoing the case of Hongbao described above, he could better control quality. "This way, SVW only has to control one factory, instead of many. SVW is trying to control quality this way and does not want us to have any subcontractors." Second, although TVEs had lower labor costs, with each worker costing from 200 to 300 yuan less per month, after paying for TVE profits and overhead, it was not worth it to subcontract to them.

Even though this factory had to pay for some machinery, it was still more economical in the long run. This reason is related to the third and final one, which is that he reinternalized operations in order to feed his own surplus workers, because he could not fire them. If he subcontracted, he would have to pay salaries for both unused SOE labor and productive TVE labor, and the lower TVE costs could not make up the difference. He knew of many factories that were doing this, in the auto sector as well as others, and emphasized that was now a very widespread trend in Shanghai (A23).

Indeed, although sector-specific forces were pushing reverticalization through restructuring in the auto sector, the same phenomenon was occurring in other sectors, suggesting the trend was much wider and even that there was a structural tendency toward reverticalization in China's late 1990s industrial economy. One important subcontractor for Shuanglu Refrigerators contracted production operations to 15 other TVEs when business was at a peak. Shuanglu was now producing only small quantities, but this enterprise had picked up a lot of other business in addition to filling small orders for Shuanglu. But now it had no subcontractors at all. The manager explained that he preferred to do everything internally if he could in order to solve the local labor problem. "We are not an SOE, and we can fire our workers if we want, but the local township government must find a way to provide for the livelihood of locals. If we fired them, the township government would be under tremendous pressure to find a way to support them anyway. So, if subcontracted labor cost 400 yuan per month per employee, and our cost is 700, we would still hire our own rather than subcontract out, just to solve our local labor problem" (R12).

While some SOEs reverticalized in response to the collapse of their markets and other enterprises did so to by restructuring in order to upgrade, control quality, or control costs, smaller enterprises started to internalize operations simply as a way to hold on to profits. One second-tier subcontractor, a TVE in Pudong, manufactured the mechanism that squirts cleaning fluid on auto windshields. According to its manager:

> the large auto SOEs subcontracted a lot of these kinds of products to TVEs, so now there are many factories in China making the same product. Market competition is very stiff and profits are very low. If you contract component production to other enterprises, then part of your profit is earned by them. Also, if you take it back [*shou huilai*], then the overall price can be lowered, and you have a competitive advantage (A18).

To meet this challenge, he planned to produce more of the components he needed rather than purchasing them from someone else. In the early 1990s, his price had been higher because he subcontracted out all of the subcomponents and performed only final assembly. Now he did the assembly as well as producing some of the components. He used to have five or six subcontractors (*waixie chang*), but had since reduced that number to three. He had eliminated one supplier by purchasing the necessary plastic injection equipment to make the windshield-cleaner container, a function he had earlier subcontracted to another TVE. He was still subcontracting the production of metal components, but planned to purchase machinery and internalize those functions, as well. He would continue to purchase some items on the market such as electrical wire and other standard parts (A18).

A TVE from the meters-and-instruments sector was operating by a similar logic. It produced all of its own components and had no specialty subcontracting whatsoever. When I asked the manager whether he would subcontract if he became too busy to keep up with orders, he said he would rather find a way to expand. He explained that the manufacturing techniques for meter components had been mature since the early 1990s and thus were widely available. His profits were so low that subcontracting out any of the work would not leave him enough value added from which to take profit (I5).

In sum, the growing glut of rural subcontractors made subcontracting work even cheaper and more attractive than before. At the same time, restructuring in the auto sector should have enlarged the second and third tiers, creating new opportunities for many displaced enterprises. But reduced demand engendered a countervailing tendency—firms at all levels internalized as many production functions as possible. In the postsocialist context of fixed or partially fixed labor, SOEs and TVEs with shrinking markets found it more economical to use their own labor, even if it was more expensive, than to contract out. And as competition for subcontracting work pushed prices and profit margins ever downward, enterprises with access to work were pushed to produce as much as possible, to take thinner profits off larger volume instead of the thicker profits of yesteryear. These two logics were intertwined and mutually reinforcing—reverticalization threw even more subcontractors out of work, which fed the subcontractor glut and increased competition for subcontracting work, which pushed profit margins down and exacerbated the original incentive to reverticalize. Paradoxically, the increased role of market forces had resulted in a renewed tendency toward verticalization in China's late reform economy and—contrary to mainstream understandings

of free markets, in which firms should be able to choose when and with whom to do business—was trapping subcontractors in particular relationships.

3. "Half-Bankrupt"

Local governments usually subsidized redundant TVEs for a while, but when they were no longer able or willing to do so, an official slogan afforded them four basic options, known as *guan ting bing zhuan*—close, stop (suspend production), merge, or change (business lines). Closed and stopped enterprises were almost ubiquitous by the end of 1999.[4] Of 509 enterprises that I interviewed or attempted to contact, 66 were confirmed to have gone bankrupt (closed). While that represented only 13 percent of the total enterprises, an additional 26 enterprises claimed they were "stopped" (5.1 percent); 136 did not answer (26.7 percent); 140 were categorized as "other" (27.5 percent); and 14 claimed they were doing poorly.

I coded an enterprise "no answer" if it did not answer the telephone after three attempted calls at different times on different days. In my experience, healthy enterprises always answered the phone or at least had some kind of answering machine or switching service. Enterprises that did not answer until the second or third attempt were usually closed or stopped. In the cases where I was able to follow up on "no answer" enterprises, for example by inquiring with others in the same locality or the same sector or by passing by the enterprise personally, they were almost invariably closed or stopped.

Enterprises coded as "other" represented a variety of contact experiences in which someone did answer the phone, but it was at a private house or an unrelated company. If the answering party knew of the fate of the enterprise, I recorded the enterprise accordingly; I left an enterprise in this category if the answering party knew nothing of the enterprise. While some telephone numbers were changed due to infrastructural upgrading in the late 1990s, I did contact hundreds of enterprises at their original phone numbers in all parts of the Shanghai suburbs. And when I was able to follow up on "other" enterprises, as with the "no answer" enterprises above, they almost invariably had closed or stopped.

In short, most of the "no answer" and "other" enterprises were probably closed or stopped. A full 18 percent were confirmed to be either closed or stopped (92 enterprises). But if all of the "no answer," "other," and "doing poorly" enterprises are included, the number of closed or stopped enterprises rises to 382, or 75 percent. I arrived at

a more conservative estimate by halving the weight of the "no answer," "other," and "doing poorly" enterprises, in which case the number of closed and stopped enterprises falls to 237, or 46.5 percent.[5] Based on my experiences in the field, I believe the latter estimate to be much too conservative, and I am most comfortable estimating that between 60 and 70 percent of the enterprises I attempted to contact were closed or stopped.

The number of stopped enterprises was probably much higher than those that had been completely closed. The distinction between closed and stopped enterprises was vague. Even the vocabulary managers used was confusing, because they employed a variety of terms interchangeably: *daobi* (bankrupt); *guanle* (closed); *xieye* (stopped working); *ban daobi* (half-bankrupt, a colloquial expression, usually accompanied by an ironic smile); and *tingle* (stopped). Four of the five terms were used interchangeably to refer to enterprises that had either been closed or stopped; only "half-bankrupt" was used to describe enterprises that were stopped but not closed. The distinction that I make is that stopped enterprises differed from those that had been closed because they still existed as an entity, a pool of resources that could be mobilized to process an order. Stopped enterprises might still answer their phones, might have some people around during the interview, and might still have tiny orders from the struggling factories they used to subcontract for. But essentially, they were biding their time.

Stopped and half-bankrupt enterprises employed a number of strategies to keep the door open until, or just in case, new business came along. One typical strategy is illustrated by a small, dirty, and run-down factory located next to a major transportation canal. This TVE, established in 1984, specialized in cleaning rust off boat hulls until it began making parts for Yichu motorcycle mufflers in 1988.

> We stopped [the motorcycle business] in 1996 because business was so bad, and now we are looking for any kind of business. Right now we are trying to get into a new business line, a small contract making the bases for tables and lamps, but we will not necessarily get it. In the last few years, we have stayed open by reverting to our old business, cleaning boats. We are not making any money, but it's helping us keep the doors open and reduce costs until we can find something new (M5).

But many enterprises did not even have this kind of business to which to revert. Some could hold on by collecting rent for factory space. One village-owned factory began subcontracting the manufacture of 20 to 30 parts for Yichu motorcycle shock absorbers in 1989. "We

are still filling orders for Yichu, but this amounts to less than 10,000 yuan per month [US $1,200], not nearly enough to cover costs. Other than that, we have no business at all right now, but we are looking. The only other income we have is from renting out factory space, which Sundiro [a private motorcycle producer from Hainan Province, with a large plant in the Shanghai suburbs] uses as a warehouse for its motorcycle frames." The motorcycle frames were manufactured in Jiangdu, a city located several hours away in neighboring Jiangsu Province (M11). Likewise, another TVE used to subcontract for the Shuanglu Refrigerator #2 Branch Plant, which was located in the same township. When Shuanglu closed the branch plant in 1997, this subcontractor went "half-bankrupt." Now it keeps a small part of the original factory space, where it stores its equipment and does a little business, and rents out most of the factory space to the branch plant of a successful, unrelated Shanghai SOE (R11). Finally, a village-owned enterprise that used to perform simple value-added labor for the Shanghai Flywheel #2 Factory (bicycle sector) had no business and was unable to find any because the skill levels of its workers were too low. They made a little money renting out factory space to *waidiren*, or migrant workers from poor inland provinces, who had come to work in the factories or subcontract farming land from locals. (See chapter 6 for a more complete discussion.) Factory space had been converted to makeshift living quarters, weeds were growing up through cracks in the driveway concrete, and children and chickens were running everywhere (B7).

The strategies employed by stopped and half-bankrupt enterprises to stay in business often dovetailed with and contributed to other trends, accelerating many of the processes we already have examined. Many enterprises sold off machinery and equipment, a desperate move made only immediately before (or after) a factory went bankrupt. Other factories scooped these up for a fraction of their worth. As we saw, for example, the TVE in Pudong manufacturing the mechanism that squirts cleaning fluids on auto windshields used to subcontract production of the plastic fluid container, but it had recently internalized that production step by purchasing the necessary equipment from a bankrupt TVE. As the manager explained it:

> A friend of mine who used to specialize in plastics imported special equipment from Hong Kong, but he was soon phased out of production [*taotai le*] because his prices were too high. He was forced to sell the equipment at a fraction of the original purchasing price. There are bankrupt TVEs all over the place now. I just purchased two pieces of

> old equipment, the plastic injection equipment we need to make the fluid tanks ourselves. I purchased them from two TVEs in the area that specialized in plastic injection. I knew they were going bankrupt, and kept an eye on them. The original price of the equipment was 300,000 yuan, but I got both pieces for 30,000 (A18).

Debt deferral by stopped and half-bankrupt enterprises was another strategy they employed to stay in business that contributed to the processes of decline across the sectors. Stopped enterprises were typically owed money by their former customers, but many also owed money to their own former subcontractors and suppliers. These stopped enterprises tried to stay open longer by avoiding paying off debts. Often, when I tried to contact these enterprises by phone, I got the sort of runaround that debt collectors experience when making dunning phone calls. When calling enterprises to arrange interviews, I would often have to call several times, on different days and at different times, before anyone would answer. The managers of stopped enterprises were often not there at all. Typically, they were at home, working in their fields, at another job, or on the road trying to recover debt and/or find new business. When someone did answer, they might not identify themselves or the enterprise; instead, there would be a long pause, and then they would ask who I was and what I wanted. After explaining myself at great length, I would sometimes be told that this was in fact that enterprise and that the speaker was indeed the manager I was looking for, but that the factory was stopped. But just as often, I would be told that the speaker had never heard of this enterprise or that manager, that such an enterprise had never existed in their township, or that this was a personal number. These may have been true in some cases. But over time I developed the habit of asking for the manager by name (rather than the enterprise, when I was using listings from the industrial census). There were instances in which the speaker would immediately identify himself as the listed manager, only to claim he had never heard of the listed enterprise.

These practices surprised me, because I had expected enterprises in such dire straits would be desperate to talk to outsiders who might bring them business.[6] When I asked several more forthcoming interviewees why people were so dodgy when answering the phone, they laughed and explained that almost all enterprises owed money to someone (including themselves, two admitted), and that one of the most common strategies for avoiding payment or confrontation over the debt was simply to avoid being contacted. Because I was a stranger,

they could never be sure who I might be working for, regardless of how I identified myself.[7]

A final strategy available to troubled enterprises was to save funds by temporarily laying off workers. The manager of a large SOE producer of refrigerator compressors lamented that he had no new business and had had to deal with shrinking production by laying off workers (either *xiagang*, meaning laying off workers, or *lungang*, having laborers work on alternate days). He went on to say that the enterprise's rural subcontractors were coping in the same way (R10). Interviewed subcontractors confirmed these practices. The motorcycle subcontractor that had gone back to cleaning boats shrank from more than 70 workers in 1994 to fewer than 20, and most of those were surplus (M5). Another shrank from more than 200 workers to fewer than 50 over the same period (M6). Many managers of stopped or half-bankrupt enterprises did not even bother to answer this question numerically—they simply said "our workers come and work when we have orders to fill" (M16).

This was viable as a temporary measure because of the nature of the rural workforce. An important reason that half-bankrupt enterprises could remain in these holding patterns was that their villager-workers had many ways to cope while their TVEs sat idle. Some were able to find other jobs or were allocated by their township governments to other factories (M6), but most were not so fortunate. The economy was in general recession in the late 1990s, and new job creation was minimal. Also, the industrial economies of many townships or villages had come to revolve around one sector, and when those sectors collapsed, it was common for all of the local enterprises to slide downward at once. Even where this kind of geographical concentration was not the case, most managers observed that "all of the TVEs around here are going bankrupt, and this is causing a huge batch of unemployment (*yi da pi de shiye*)" (A18). Finally, most rural laborers remained relatively unskilled and thus offered nothing special to the job market.

Rural laborers did have a number of ways to support themselves, at least for a while, under these circumstances. First, most lived in houses they owned, built as recently as the late 1980s or early 1990s when the rural industrial economy was strong (A5). Second, most had accumulated savings during that period. One manager explained that every family in his township had savings, some only 10,000 to 20,000 yuan, but others as much as several million (A22). Third, many of these laid-off workers received unemployment benefits from the local governments owning the TVEs they used to work for. In

rural Shanghai, these payments (*xiagangfei*) varied, but were approximately 150 to 200 yuan per month (M4, M5, R12). While not enough to live on, in combination with other resources it helped.

Peasant status (*nongmin*) also contributed to the social reproduction of laid-off workers, because households still cultivated agricultural land under the Household Responsibility System. A manager in rural Qingpu said "all of our workers are peasants and have their own land" (R11). A manager in a Nanhui County township explained that "in this kind of place, when workers are *xiagang* they cultivate their fields. Even I have fields that I cultivate myself. Most of our workers come and work when we have orders. The rest of the time they work their fields. You cannot do this in the city, where there are no fields" (M16). Yet another TVE manager explained how this helped his workers get by until new business was found. Although this TVE was originally a first-tier subcontractor, there were several months without much business after Shuanglu collapsed. "We had to lay off all of our workers and could only pay them 150 to 200 yuan per month, which was not enough to get by on. They farmed and some found temporary work to get by. As soon as we landed the new business with Pioneer (*zhuanye*), we brought them all back" (R12).

However, while most of Shanghai's villagers still had allocated family land in the late 1990s, in the quickly developing areas closer to the city center, this was often no longer true. While agricultural land was still (in principle) inalienable, they could be compelled by eminent domain (*zheng*) to relinquish land for infrastructure projects or the construction of new factories. If they were compensated with monthly payments, they would be unaffected by an industrial downturn (R14, M11). But one of the most common forms of compensation was to secure them employment in the new factory, thus replacing their farm income with industrial wages. (This practice is known as *zhengdigong*.) As described in chapter 3, this practice was a very common feature of the establishment of SOE-TVE joint venture (*lianying*) factories. In one case, a 50–50 joint venture resulted in the local government holding on to its land-use rights. Only 40 employees came over from the SOE, mostly in technical and management positions. According to the agreement, the remaining three hundred workers were all to be local, in order to help the local government provide for the displaced villagers. When their land was taken away, the young were compensated with jobs in the new factory, while the old were given pensions and *laobao* (health coverage) (R4). In this situation, the workers were laid off with a *xiagangfei*, but no land to cultivate. One Pudong TVE manager complained that "people in

this area are really out of luck [*zhen daomei*]. All of the TVEs are going bankrupt, causing a wave of unemployment. It is difficult to find work, and there is no cultivable land around here for them to go back to" (A18).

Where workers had not been displaced from the land, they often subcontracted cultivation of their land to migrants from poorer inland provinces. While the ratio of subcontracted land was low in some towns and villages, in others it was as high as 90 percent. In the late 1990s, local villagers increasingly saw this as the most advantageous arrangement from them—earning the higher and usually easier industrial wages, and earning rent off their land without having to cultivate it. The manager of one declining motorcycle sector TVE explained that everyone in the village still had land, but that well over half was subcontracted. The problem created when laid-off workers could not find other employment or return to cultivate their land was a temporary one—the same manager explained that, in his village at least, most of the land contracts were for only one year (M11).

A more difficult problem may have been presented by the falling market prices for vegetables and other fresh farm produce in Shanghai. Many villagers preferred to cultivate fruits and vegetables because the profit margins were much higher than rice. But prices—and profits—had been falling for a number of reasons. One of the most commonly cited was infrastructure improvements. The new network of highways and freeways meant that cheaper agricultural products could be brought from areas of China with lower rent and production costs. Another reason was the success of the Vegetable Basket Project (*cailanzi gongcheng*, a municipal government program designed to ensure year-round delivery of fresh vegetables to urban citizens) implemented since the mid-1980s. Finally, because most of the vast number of laid-off rural workers returned to cultivation and focused on vegetables with higher profit margins, supply outstripped demand and prices fell. According to some estimates, prices had fallen 50 percent since 1997 (LG10, LG14, LG23).

4. Changing Time, Changing Space

The huge army of subcontractors that had been both the effect and the measure of the success of the SOE-TVE nexus now became the cause of its unraveling, or at least crucially enabled and shaped how and why it unraveled. The processes of localization, relocalization, and exclusion before the sectoral crises had set up the region for a spectacular crash. Then, the glut of subcontractors and the way that

production capacity had taken the form of a sea of disparate and external units, rather than concentrated and internalized ones, enabled the SOEs to push down prices. It also enabled the SOEs to negotiate the tricky business of downsizing without laying off their own workers. The region's success had contributed to its downfall in more ways than one. While everyone was affected, in a sense the countryside was taking the fall for the mistakes of the city.

The stark shift from one subcontracting regime to another was simultaneously a complex reordering of time and space. Delayed and partial payments to subcontractors meant the SOEs could turn over capital more quickly, and faster turnover cycles generate profits just as effectively as pushing down prices. But this came at the expense of slower cycles for rural subcontractors, and had the effect of displacing profits from subcontractors to the SOEs.

This retemporalization of circuits of capital cannot be separated from their concomitant respatialization—these processes were two sides of the same coin. That is to say, new practices and emergent tendencies were reworking the set of urban-rural connections established by the SOE-TVE nexus in the 1980s. In its most overt form, respatialization occurred when beleaguered SOEs started to switch to cheaper private subcontractors in other provinces, thus breaking out of the heavily localized and relocalized formation. But as we will see, the most important change was not only the respatialization of those subcontracting relations per se, but the reworking of the places linked together by these spatial relations, as well. In other words, places were transformed as the spatial relations between them were reworked. As we will see in chapter 5, rural localities turned themselves inside out just to maintain their hitherto profitable, but now drastically altered, relations with urban capital.

5

"Finding a Way Out"

By the late 1990s, well over half the subcontractors in these industries were in some form of bankruptcy or another and struggling to stay open. Those still working were forced to accept deteriorating terms in order to hold on to their positions in hitherto profitable commodity chains. Indeed, many now labored for greatly reduced profit, if any at all. Lacking the power to improve existing relationships, managers hoped to recapture their comfortable positions, or at least to stay open as profitable enterprises, by finding new customers in either the same or different lines of business. But "finding a way out" (*zhao yige chulu*) was the single most difficult obstacle they faced in the postcrisis environment. The second was getting paid. Why were some enterprises able to continue in a world of shrinking orders, reverticalization, and simultaneous crises when so many could not? Did they use the same channels, logics, and strategies as before? Or had the structures of opportunity changed?

Managers told me that unlike before, everything operated according to market logics now and that they based business decisions solely on general categories such as price, efficiency, competition, and quality. But within a few minutes, when I asked them to recount their own difficulties and how they had attempted to overcome them, the discussion would shift to the specificities of arrangements between particular enterprises. In this key they now told stories in which personal relationships, or *guanxi*, clearly played a leading role. Most slid easily between the two poles, but the few who noticed this shift became bewildered.[1] I was puzzled, as well. It seemed that both were true at the same time. Clearly, an important shift was occurring, but if noneconomic logics were being driven out by ongoing marketization, why did this "cultural" form continue to come up in almost every interview? The more managers insisted that it was gone, the more it seemed it must still be an issue or at the very least that it was only in the process of diminishing, but not yet gone. Was *guanxi*

still important? If so, how could its salience survive in the context of markedly increased market pressure and competition? For that matter, was it a surviving vestige of a premodern or precapitalist remnant, or was it somehow being produced or reproduced within the system? Either way, what were the implications for the SOE-TVE nexus?

1. "FINDING A WAY OUT"

As we've just seen, when the SOE-TVE nexus started to unravel, subcontractors deployed a number of practices designed to keep their doors open until they could *zhao yige chulu*. They reverted to previous business lines, avoided payment of debt, rented out factory space, sold equipment, and laid off workers. They were waiting for business to pick up in their original sectors (a possibility that was not perceived optimistically) or looking for new business opportunities in different sectors. Some enterprises did find new business, but many more had not when I interviewed them in 1999.

As we've also just seen, subcontractors held on as long as they could. They filled smaller and smaller orders (with decreasing likelihood of ever being compensated) while looking for new business opportunities. Opportunities within the same sector were usually few. In the refrigerator sector, Shuanglu went bankrupt rather quickly, while Shangling was still producing in late 1999. But former Shuanglu subcontractors were not finding new work subcontracting for Shangling. With Shangling's own reduced production, it already had difficulty supporting its own subcontractors. Had Shangling rapidly expanded production to take over Shuanglu's market share, it might have absorbed some of Shuanglu's production capacity. But both SOEs were losing market share to brands from other parts of China. And subcontractors from both production systems had little chance to find new work with those new brands. Unlike the 1980s, by the late 1990s, Shanghai subcontractors no longer offered special skills and know-how to producers in other provinces.

A second manufacturer also existed in the motorcycle sector—Sundiro, a private company from Hainan Province in southern China. But one manager complained that Sundiro paid too low and too slowly: less than 60 percent of what Yichu paid for the same parts, and payment was delayed at least three months, if not longer. Yichu, on the other hand, had always paid in full every month (M11). Sundiro took advantage of the Yichu suppliers that did begin to subcontract for it. "When they moved the factory here from Hainan, they relied completely on the subcontractors to finance it. Some of those factories

had no way out [*meiyou chulu*] with Yichu collapsing. So Sundiro would use their product, but then not pay them for more than a year, thus financing their own relocation and expansion" (A20).

The difficulties that enterprises experienced trying to find new work were exacerbated by the new tendency toward reverticalization (see chapter 4). Within their own industrial sector, they faced stiff competition from other factories that used to subcontract for the same SOE. Subcontractors from the lowest tiers faced the most severe competition, because they usually did not possess particularly specialized skills or machinery. But even first-tier, specialized subcontractors faced intense competition—the "one part, two suppliers" system meant that at least one other factory had been trained in the same skills and equipped with similar machinery.

Unable to stay in the same sector, many enterprises began looking for opportunities to switch to similar sectors. Finding a new line of business (*zhuanye*) was one of the four options traditionally available to struggling collectively owned enterprises (the other three being to close, stop, or merge). But the very fact that a wide range of sectors were facing the same difficulties at the same time made it more difficult to do so. For example, the market in the bicycle sector had been going down for three years. According to one manager, during that time, at least 50 percent of the bike factories in the area tried to change to manufacturing motorcycle or auto parts, because the required skills and equipment were similar. But few were successful. The remaining 50 percent were still producing bike parts, but were doing very badly (*xinxin kuku de*), meaning that most were getting by on tiny orders or were "half-bankrupt" (B6).

Further exacerbating the difficulties that managers encountered in looking for new business opportunities or in making the necessary changes within their factories to accommodate the new circumstances was simply their inexperience in such matters. As we saw in chapter 3, a rather surprising number of TVEs had subcontracted for only one SOE customer. Once that relationship was established, little effort went into searching for new outlets, and the relationships resembled those that prevailed in the old planned economy more than those of a new market economy. Few managers developed a very strong sense of market competition or the need to adapt to changing market pressures. As a result, when the SOE-TVE nexus began to collapse, most had never anticipated the possibility, and few had the necessary skills and knowledge to find or switch business lines quickly.

The story of a TVE that eventually did "find a way out" illustrates the situation well. In 1990, this village-owned enterprise began

subcontracting for the Shanghai Sewing Machine Platform Parts Factory, which in turn subcontracted for two Shanghai SOEs. With rapidly shrinking production and growing price pressure, Shanghai Platform could no longer afford to produce the platforms itself, so it subcontracted the work to the TVE and kept a share of the profit. Shanghai Platform supplied all of the materials, and the TVE performed simple value-added labor for which it received a fee (*jiagongfei*). The TVE had never subcontracted for other enterprises and did not purchase its own materials, sell its own product, or even negotiate prices, so the manager learned little about purchasing or marketing.

Business was good for a few years, but as it shrank, the manager tried to think of new business lines. We've seen the results of his initial efforts in chapter 4, where the attempt ended in a protracted marathon of litigation. Two brothers from Ningbo promised to introduce the manager to a large contract to make medical syringe lids, and then the elder brother absconded with his money. In spite of being cheated, though, the TVE manager believed that the syringe-lid product had potential, and he kept trying to produce them. But in the words of the manager who later replaced him, "he had the right idea, and he even identified a promising niche. But his way of thinking was old. He only understood the planned economy, not the new market economy, so he encountered all kinds of problems and lost a lot of money" (S5). He did not understand the product or material markets, so he purchased molds too expensively that turned out to be useless. He purchased materials that turned out to be inadequate. Neither he nor his workers possessed the necessary production skills, and it never occurred to him to hire someone who did. Not understanding the strict production and quality requirements for medical supplies (for example, the product consists of a plastic and an aluminum part, which must be assembled under sterilized conditions), he produced a lot of defective goods. He filled a series of large orders with a bad product. When it was returned, he lost more money.

Because this enterprise was a TVE, however, the local government played a role. At first, the township helped him, diverting more than US $100,000 in local funds to keep the enterprise going. It also helped him secure a special bank loan worth more than US $70,000, under a government program designed to assist new projects (*xin xiangmu*). But by 1996, the enterprise has lost nearly US $250,000, and the township intervened by placing the manager of a successful local TVE in charge of this one. The original manager was retained on a contractual basis, but unable to learn from the new manager, he was completely removed in early 1999. The new manager turned the

business around, and while it remained technically insolvent (its debt was still greater than the worth of its capital), turnover was exceeding costs, and some of the debt was being repaid (S5).

The interviewee did not know how the previous manager met the two brothers from Ningbo but pointed out that simply finding—meeting—people who could offer new business opportunities was one of the most difficult problems for struggling enterprises. There was still a relative, but not absolute lack of information channels that managers could use to identify potential new customers and contracts. Around suburban Shanghai, it was very common to see spray-painted signs on walls near major thoroughfares advertising factories that could perform one type of production or another. Such advertisements were so ubiquitous as to suggest that some found business this way, but no one I interviewed mentioned this as a source of new business.

Sector-specific trade shows became more important in the late 1990s. In the bicycle sector, many factories had come to rely on annual shows. One TVE began producing bicycle flywheels for customers it found at the annual show in Hangzhou in 1991 and depended heavily on shows for new customers (B5). I attended the Twentieth Annual Zhejiang Province Bicycle Components Trade Show in Hangzhou in October 1999. Originally a parts-ordering meeting (*peitaohui*, see chapter 3) under the planned economy, its function had evolved into a forum for enterprises to find potential business partners. It was still organized by the Zhejiang Province Bicycle Industry Coordination Council (Zhejiangsheng Zixingche Hangye Xiehui), in cooperation with the national-level China Bicycle Industry Coordination Council (Zhongguo Zixingche Xiehui). Not open to the general public, it drew more than 150 participating enterprises and even more visitors. It is held every year, as is an even larger show every fall in Jiangsu Province (B14).

The Zhejiang Province Bicycle Industry Coordination Council publishes a sector journal called *Zhejiang Bicycle*. A classified publication (*neibu fahang*), it features articles about the state of the domestic and export bicycle markets, various successful or "model" enterprises, and what they have done to succeed. It also features ads. Other sectors have similar journals. Some that I consulted in the Shanghai Municipal Library included the *Shanghai Automobile News* (*Shanghai Qiche Bao*), *Automobile and Parts* (*Qiche yu Peijian*), *Motorcycle Information* (*Motuoche Xinxi*), and *China Bicycle* (*Zhongguo Zixingche*). Likewise, there has been much evolution in recent years in publications designed to help enterprises or others identify potential

business partners. In the 1980s, telephone directories as we know them did not exist. Rather, there were books that listed all of the work units (*danwei*) in Shanghai (or China) and their phone numbers. In 1996, the Shanghai Automotive Industry Corporation (Group) published a telephone directory of all the factories belonging to the group, but for dissemination within the group only. The Shanghai Municipal Telephone Directory Company began publishing in the mid-1990s and by 1998 was producing the *Shanghai Yellow Pages: Commercial/Industrial Directory*. The most complete and systematic listing I could find was the *Complete Listing of Shanghai Industrial Enterprises* (*Shanghai Shi Gongye Qiye Daquan*). In 1995, the latter was in its third edition, but I have never been able to find a more recent edition.

But while some interviewees said they relied on trade shows or ads placed in industry journals or newspapers to find new business, no interviewees mentioned these other types of directories or listings as helpful. The most frequently cited source of new business was introductions relying on *guanxi*. "Journal ads have helped us find some business, but they are clearly second to *guanxi*. *Guanxi* is the most important for us" (B3). Many of the stories about enterprises finding a "way out" through *guanxi* were similar to those described by Guthrie (1998), in which, as in the United States or anywhere else in the world, it was important to have a lot of contacts who could introduce one to business opportunities.

For example, a TVE in Pudong was one of the earliest subcontractors for Yichu, producing motor parts since 1986. When Yichu began to collapse, the TVE reacted at first by laying off workers, reducing from 60 employees in 1995 to 35 in 1997. They began looking for alternative business in 1996. After casting around for a while, the manager talked to an old friend from the same village, who now worked for a large Shanghai SOE that produced cranes for handling shipping containers. (Port machinery is an important industry in Shanghai.) After discussing possibilities, the friend introduced him. The SOE originally had another supplier for a particular component, but the quality was too low, and they wanted to find a new supplier. Because the crane part specifications were much simpler to meet than the motorcycle engine parts that the TVE produced for Yichu, it was relatively simple to get the business. They began with a sample in 1996 and then sold a small quantity in 1997. Order size increased slightly in 1998 and 1999, and although the production of crane parts still did not amount to much in 1999, combined with

infrequent small orders from Yichu, it has been enough to keep the TVE in business (M4).

Likewise, a TVE in Luodian Township, Baoshan District, relied on friends twice to find new business. Established in the late 1970s, by the late 1980s it was manufacturing front-wheel and rear-wheel axle assemblies for Phoenix and Forever bicycles. Its best year ever was 1989, but with the bicycle industry doing so well, 1990 brought a flood of new entrants. When prices and quantities started to fall in 1991 (albeit temporarily), the manager started to worry. Just at that time a Taiwanese company manufacturing children's bikes established a joint venture nearby, in Caowang Township, Jiading District. The person appointed by Caowang to help the Taiwanese get established was an old friend of the TVE manager. Accordingly, in 1992 the TVE became the first subcontractor for the Taiwanese joint venture, making the front gear assembly for children's bicycles. The business went well until 1998. But the Taiwanese had brought old equipment instead of the latest, most up-to-date equipment originally promised. By putting the price of new equipment on the books, they made a lot of money from depreciation. Angered, the local government did not renew the tax holiday promised in the original agreement. In 1998, owing money to many suppliers, the Taiwanese suddenly moved his factory to the Philippines. The half of the enterprise owned by the local township had some market and tried to continue, but it was burdened by a large bank loan from the joint-venture era. It repaid the loan with the understanding that the bank would then issue it a new one. The bank did not, considering the TVE a poor risk, and the business closed. The manager of this TVE, through friends in the industry and also the Annual Bicycle Parts Show (described above), found small orders here and there from bicycle assemblers in Zhejiang Province, but not enough to be profitable. Then, in late 1998, another friend working for Hangtien (a large central-government-level aerospace SOE, which had branched out into civilian or *minpin* products in the 1980s) introduced him to another potential business partner. This friend had good *guanxi* with someone working for a trading company in Shanghai that specialized in contracting and exporting products to IKEA stores all over the world. On account of that *guanxi*, this TVE switched to making clothes hooks and shelf brackets for export. In late 1999, IKEA accounted for half of its business, but this portion of its operations was expanding rapidly, and bicycle subcontracting was diminishing steadily (B8).

While friends and relatives were the most common source of new business, introductions through government channels were also important (though these two were often indistinguishable). Township governments and the careers of their cadres are closely linked to the fortunes of their TVEs. The land and fiscal reforms of the early 1980s put great pressure on local governments to generate revenues through local industrialization, success at which quickly became the path to bureaucratic advancement for cadres (Oi 1999). To the degree that the 1994 tax reforms were implemented in any given locale during the second half of the 1990s, local governments had direct access to a smaller share of enterprise profits. But since local budgets still relied on enterprise taxes, cadres continued to have a strong incentive to support local factories (LG9, LG12, LG13). A similar logic applied to newly privatized enterprises (*siying qiye*; see chapter 6), which likewise paid industry taxes that helped fill local coffers (LG12, R14, I6). Finally, local governments felt some responsibility to take care of the local labor force by providing jobs and to this end did everything possible to support local factories (R12). In some cases, they did so to prevent locals from going to the township government or even to the Shanghai Municipal Government to demand jobs or money (S5).

Many local governments set up economic coordination offices specifically responsible for attracting new business (LG6, LG12). But more commonly, factories were introduced to new partners through the personal contacts of local officials. For example, a TVE in Jiading District performed much of the metal stamping for Shuanglu Refrigerator until the latter went bankrupt. In 1996, quantities were reduced, and by 1998, there was no production at all. Its laid-off workers farmed their own fields, received 150 to 200 yuan per month from the local government, and got by on savings until the TVE hired them back after about six months. In 1997 and 1998, Pioneer negotiated and then set up a factory to make small speakers in the township, beginning production in early 1999. The party secretary of the township introduced the Japanese management of the Pioneer factory to the manager of this and other struggling local TVEs. The Pioneer factory now had four subcontractors in China, all of them TVEs belonging to this township. The manager said that providing subcontracting work to local factories was one of the demands that local officials made during negotiations with Pioneer, but he would not elaborate (R12).

Some TVEs developed vertical relationships with various types of government entities above and beyond their own local governments. A TVE in Nanhui County made motorcycle parts for Yichu from

1988 until 1997. As production crashed in 1996, they beseeched Yichu managers to help them find new business. One introduced the TVE to the Shanghai Tractor Engine Factory, a large SOE belonging to the same holding company as Yichu Motorcycle and Shanghai Volkswagen. Shanghai Tractor responded by externalizing the production of parts boxes (*zhouzhuan xiang*) for their assembly line by subcontracting it to this TVE (MP4). However, not all factories received this kind of assistance. An SOE sewing machine factory also located in Nanhui County had seen declining business since the mid-1990s. It then lost a huge portion of its original revenue, which came from customers in Southeast Asia, when the Asian economic crisis hit at the end of 1997. A manager claimed that the administrative overseer (*zhuguan bumen*), the Shanghai Textile Bureau, had not helped them at all to find new business and that they had been left to their own resources. The factory was on the verge of bankruptcy, and the manager had little hope of finding a way out (SM/C6, 6/5/00 phone call).

In the early 1980s, the Jiading County government developed a high-profile plan to capitalize on the rapidly growing bicycle market (the SOEs under the Shanghai Municipal Government, Yongjiu, and Fenghuang, could not keep up with demand) by creating its own Feixiang brand of bicycles. A number of TVEs in that county applied for permission to participate in the plan, one of which was designated the Shanghai Municipal Jiading County No. 2 Bicycle Parts Factory. Production started in 1983 and grew until the 1990s. Through the process of putting together the bicycle production system and participating in this county-level project for so many years, the TVE managers developed good *guanxi* with many county officials. The TVE had also been granted many township, county, and municipal-level awards in recognition of its contributions. When business fell off temporarily in the early 1990s, county government officials coordinated with municipal government officials to convert Feixiang into a branch plant for Yongjiu. At the same time, these officials arranged for the No. 2 Bicycle Parts TVE to begin subcontracting for Yongjiu, as well. But by 1998, Yongjiu business had dropped off so much that the TVE stopped production. Over the next year, its managers sought out the county officials with whom they had developed *guanxi* in the past and asked for help finding new business. The Shanghai auto industry, led by SVW, though falling administratively under the Shanghai Economic Commission, is centered in Jiading County. As it grew in the late 1980s and early 1990s to become one of the most successful industries in the Shanghai municipality and the leading

industry in Jiading County, county economic officials had become increasingly involved. It took little time for them to find a factory that could subcontract the production of auto components to this bicycle TVE (B13, B4).

Another case illustrates the instrumental use of vertical ties to government entities to find new business. A factory used to manufacture evaporators for Shuanglu Refrigerator until the latter went bankrupt. Located in rural Qingpu County, the enterprise was not a TVE, but the wholly-owned collective filial of a large Shanghai SOE (*dachang de jiti*). When it became clear that Shuanglu would not recover, it started to market its evaporators to refrigerator producers in other parts of China. In spite of good quality, it was forced to bid at cost to get contracts. Even then, it could get only spot contracts—it was too difficult to break into their preexisting systems. In early 1998 the mother company decided to help it look for unfilled market niches with similar products in an effort to break out of total reliance on refrigerator evaporators. It conducted a market study of the air-conditioner market, since that required evaporators similar in technology to those used in refrigerators. The study showed there were already too many factories competing to make evaporators for home air conditioners. Next it examined the growing market for auto air conditioners, but SVW already had one member plant in its group (*gongtongti*) and one outside competitor, the Hangtien plant where I interviewed in Pudong. Each plant made its own evaporators, and the specifications were quite high: It would have been difficult for this collective to meet the specifications at a lower cost at the time, though it intended to try later.

One niche that did seem to offer an opportunity was air conditioners for buses. After identifying this niche, the next step was to look for a way to meet the top managers of the targeted bus factory through old *guanxi* networks. Asking around, they eventually discovered that one of the top managers of their own SOE had at one time, before his current appointment, worked together with one of the current bus factory managers at a different SOE. They had a good friendship (*ganqing hen hao*) and had maintained contact over the years. Dinners and gifts were arranged, and after a few rounds of introductions, they began the process of producing samples. Approximately six months had elapsed while identifying a potential niche. It had taken another six months to mobilize their *guanxi* channels and establish a relationship with the appropriate managers in the bus factory, and it took six additional months to go through the sample process and begin production. The manager emphasized

that in this process, identifying and mobilizing old *guanxi* had been very important (R11).

The *guanxi* stories related thus far are illustrative of what Guthrie (1998) called *guanxi* as opposed to *guanxixue*, or *guanxi* practice. For him, the former imply social relations, that is, "establishing good business relations," while the latter imply "the use of these social relationships to make exchanges, manufacture indebtedness, or accomplish tasks" (265–66). Guthrie argued that there was a growing distinction in management practices between these two often conflated institutions. The former, often equated with the importance of knowing people and having a lot of contacts in order to be successful at business, was seen by Guthrie's managers as "critical for market economies and successful business practice" (266). Meanwhile, the latter was constructed negatively as "deviant" and "crooked" practices from which industrial managers were "increasingly distancing themselves" (266): "the competitiveness of industrial markets and the (relatively) close monitoring of large-scale industrial and commercial organizations by the state make these economic actors shy away from the "deviant [and inefficient] winds" of the gift economy" (267). However, as we will see, it is not always so easy to distinguish between the two cultural practices.

With the hardening of budget constraints, Guthrie found the use of *guanxixue* to be on the decline with the hardening of budget constraints. Managers are "forced to consider business decisions that make the most economic sense. They can ill afford to make decisions that are based on social relations if these decisions make less economic sense than those based on assessment of economic factors (price, quality, efficiency, etc.)" (267). While my findings would seem to contradict his, in some ways (as will become apparent) they are complementary, because there are important differences in our studies. He interviewed mostly SOE managers, while most of the stories related here came from interviews with TVEs and private enterprises that subcontract for SOEs. His model predicted greater conformity with the new market norms (and thus reliance on *guanxi* but not the negative *guanxixue*) by enterprises overseen by higher levels of local government (i.e., SOEs). Though not explored in his study, his model thus predicts (or at least allows for) the greater use of *guanxixue* by subcontractors that I found. In addition, he conducted his fieldwork during the more halcyon days of fast growth (1994–95), when a growing pie was big enough to be shared by all, whereas I interviewed in Shanghai during a recession, immediately after the onslaught of both the surplus economy and the Asian crisis.

At any rate, for the managers I interviewed, *guanxi* was much more important than just introductions through contacts and "establishing good business relations." The manager of the Pudong TVE described earlier that made a mechanism to squirt cleaning fluid on auto windshields related how he had "saved" a struggling village-owned enterprise that had been on the "brink of bankruptcy." He had subcontracted the manufacture of some small metal parts to a friend for several years. That friend met a Taiwanese boss who made fishing reels for export, a quickly growing business. With the auto TVE's business barely surviving and order quantities and profits dropping over time, the friend decided to produce the fishing reel parts, as well. Business expanded rapidly, and soon he was operating at capacity and no longer was interested in subcontracting for the auto TVE. The TVE manager subsequently had to find a new subcontractor. He quickly discovered that he had a wide range of potential partners from which to choose. In his words, "there are so many small factories in Shanghai and in nearby provinces on the verge of stopping (*chuyu tingchan xian*) or bankruptcy (*mianlin daobi*) that competition has become very fierce" (A18). He mentioned to one of his raw-material suppliers that he had lost one of his subcontractors. That supplier passed the news on to some enterprises that had been his customers before business began to fail. To his great surprise, the TVE manager was soon inundated with calls and visits.[2] Not knowing what to do, he told everyone he would get back to them after considering the matter. In the end, he chose a failing, village-owned TVE that had subcontracted bicycle parts for the Shanghai Children's Bicycle Factory, an SOE that failed in 1996 (see interview B12). He was introduced to that enterprise by his brother-in-law, a native of that village, who was in turn related to the village enterprise manager.

When I asked why he chose that enterprise over so many potential others, he merely replied, "*guanxi*." I pretended not to understand, hoping he would elaborate. He explained that most of the enterprises that approached him would have been able to perform the subcontracting he needed, because it was relatively simple. So he simply chose the enterprise with whom he had the best *guanxi*. "One generally chooses those with whom one has better *guanxi* to do business. Good money circulation and other types of support all depend on good *guanxi*. The effects of *guanxi* are huge, and it has always been that way" (A18). While on the surface this looks the same as *guanxi* as opposed to *guanxixue*, it is important to note how the process

functioned from the point of view of the subcontractor, who could get this business (in the face of intense competition) only through the application of *guanxixue*.

The Baoshan TVE that now manufactured clothes hooks and shelf brackets for IKEA got that job through *guanxi*—the manager was introduced by friends. After that initial introduction and after it produced a satisfactory sample, orders of steadily increasing size followed. He said that quality, price, and service were what mattered in keeping the relationship. But he emphasized that he had to have *guanxi* just to get the opportunity to do the sample in the first place. When I asked him to elaborate, he explained that "there are so many companies wanting this business, you cannot just call them up and ask for it. If you do, they will ignore you, not answer your call, refer you to dead ends to get rid of you, and so on. They will only really talk to you if you are introduced through some kind of *guanxi*—otherwise, why should they bother? What's in it for them? [*dui tamen you shenme haochu?*]" (B8).

A village-owned TVE in Pudong started as a workshop sewing gloves in 1975. At first, it used a Japanese-brand industrial sewing machine (Little Flying Horse, *Xiao Feima*), but those were very slow. In 1982, it switched to a faster model manufactured by the Shanghai Textile Machinery No. 3 Factory, an SOE located in Xinchang Township, Nanhui County, but belonging to the Shanghai Textile Bureau. By 1988, the glove business was doing so well that the township decided to expand by establishing a new TVE to produce metal sewing machine parts for the Nanhui SOE. At that time the village head (*cunzhang*) convinced some retiring technicians from the Nanhui factory to come over and help them get started. (Before that, Nanhui had made those parts themselves.) Business was very good, and the new TVE grew until 1993. After that, business began to decline. In 1995, it still showed a profit, but by 1996 and 1997, the township increasingly felt it would not be able to continue to rely on the SOE. When the Asian crisis struck in late 1997 (half of the end market for Nanhui had been Southeast Asia), business dropped precipitously.

In 1997 and 1998, Nanhui asked it to fill some small orders, but it did not want to because Nanhui still owed payment for orders filled in 1996 and 1997. The TVE manager had only a little experience with the market: This TVE had never had other customers, because there was a clause in its subcontracting agreement with Nanhui that it could not do other business. The manager had done some of the

purchasing of raw materials. Nanhui had preferred that it purchase some of its own materials, financed with its own capital, rather than with that of the Nanhui SOE. (In return, it received a slightly higher fee.) Still, the manager admitted that he had found himself at a loss when business began to deteriorate. Officials of the village and township governments above him knew of his plight, and though they actively sought new opportunities for the TVE, there were simply not enough to go around. They looked for opportunities for the TVE to subcontract (either specialties or capacity) for other TVEs in the same township, but most were facing downturns, as well.

In the meantime, the manager put out the word on his own personal *guanxi* networks, and eventually word came back to him of an opportunity. His elder brother had asked his teacher if he knew of any subcontracting opportunities, and the latter promised to ask around. It turned out that one of his ex-students was now a leading cadre (*fuzeren*) at the Shanghai SOE of more than five hundred employees that had found a lucrative niche producing dental examination stands for export to Italy (see chapter 4). Introductions were made, and they began subcontracting after a quick sample process to prove their ability. The manager elaborated that "it would have been impossible to get the business without this *guanxi*, and everything is like that now. You must have *guanxi* to get in to almost any business these days. Everyone wants to feed their own."

Seeking clarification, I asked how *guanxi* compared in importance with other factors for enterprises attempting to find new business (*zhuanye*). He said that other factors are of course important:

> [E]verything is the market economy now, it isn't like before with the planned economy. So you have to maintain certain quality standards. And price is important too, because everyone is competing. But quality and price are not enough—even if you meet the requirements for those, you must have *guanxi* to get the business. Enterprises with business [*you shengyi keyi zuo*], if they don't make it themselves, then they have their choice of qualified subcontractors, and they always go with *guanxi*. In fact, it is common for them to have several possible subcontractors, all with *guanxi*, asking for their business. The choice can be difficult. I heard of one case where competing factions within the management of an SOE fought over getting their own *guanxi* subcontractors in. In our case, the [SOE] manager had another factory that had some kind of *guanxi* trying to get the same work. But the *guanxi* between the manager and his teacher, and in turn between the teacher and my elder brother, was quite strong, and that is why we got it (S6).

2. Making a Way Out, Part 1: Payments Revisited

As demonstrated in the last section, *guanxi* played a deciding role in determining who got the relatively scarce opportunities to subcontract production for a larger firm. But as we saw in the previous chapter, one of the crucial issues facing enterprises, once they found work, was getting paid for it. Debt collection could be facilitated if one had *guanxi* with someone inside the debtor enterprise. But *guanxi* also played a role with regard to payment in the context of shaping how enterprises searched for a way out or tried to change sectors to find new business. In this context, as the manager just quoted said, those enterprises *that did have some choice* regarding with whom they would do business relied heavily on *guanxi* to choose partners they knew and could trust.

Before describing this role played by *guanx*i, it is necessary to revisit briefly the payment environment. Written contracts and other legal mechanisms did in fact exist to enforce payment but were widely considered ineffective and practically useless. Still, most interviewees claimed to use written contracts to cover their subcontracting relationships. For example, the party secretary of the Shanghai Refrigerator Compressor Factory, a large SOE, said that all of their contracts were written, all in the same format. The contracts were usually for six months and included price, quantity, specifications and quality tolerances, and delivery and payment schedules. They also stipulated that the terms could be changed according to the needs of the SOE. Contract enforcement took place in the jurisdiction where the contract was signed, so they signed all of their contracts in Shanghai. He agreed that this reflected their relative power over subcontractors, but said they had never experienced a problem with broken contracts (*weiyue*), because their subcontractors needed their business and thus conformed to their needs (R10).

Contracts seemed particularly associated with the rise of the new economy. An enterprise manager from the sewing machine sector had been partly successful in changing business lines. He described his original relationship with an SOE-TVE joint venture in Songjiang County as "old *guanxi*," explaining that he still produced for them even though there was a payment problem, and he emphasized that they did not use written contracts. Sixty percent of his business still consisted of producing whatever quantities the original SOE required. He sharply contrasted that business with

the remaining 40 percent, business with new customers in which he always used written contracts (S8).

Although every manager I queried claimed to use written contracts, however, many said that the contracts were not practically enforceable. The payment problem (*fukuan wenti*) was huge. One manager complained that lawsuits took forever in the courts and that collection was difficult, even if you won. Although his enterprise had written contracts with all of its customers, he seldom bothered to seek enforcement through the court system when a large enterprise failed to pay (R11).

In its attempt to deal with the triangle debt problem, in which an enterprise owes money to its suppliers because another enterprise owes money to it, the central government introduced a new law of negotiable instruments (a checking law, or *piaojufa*). One SOE manager explained that this law was introduced in 1997 or 1998 and that it was already having a positive impact on the triangle debt problem. Essentially, the enterprise manager must sign the payment check (*piaoju*) and would be thrown in jail if the enterprise defaulted on the payment (O9).

Only two other enterprises I interviewed had even heard of the new law, and they were divided about its usefulness. The first was the bicycle subcontractor now producing for IKEA. That manager claimed that all of the payments he received were done by either cash or payment check. He preferred to work in the export sector because he would get paid rather than doing business for local companies who preferred not to use cash or a payment check. "Local companies will give you an order for 10,000 yuan but then pay only 8,000, saying they will pay the rest with the next order. They do the same on the next order, and soon a huge debt is accumulated" (B8). The other subcontractor found the new law to be just as ineffective as contracts had been before. He had never used it, because "even if you use a payment check and end up suing, you do not know how much money you will get. If you sue for 100,000 yuan, in the end, you will win an award of, say, 60,000. But the lawyer costs 30,000. You have now completely destroyed your *guanxi* with that company and maybe even gotten a reputation as someone who sues and makes trouble. You would have been better off settling for 30,000 in the first place and writing off the remaining 70,000" (B11).

Lacking effective legal enforcement of contracts, many managers tried to limit their exposure to debt by choosing carefully the enterprises with whom they did business. For example, the few enterprises

that discussed the use of payment checks had mixed stories about how it affected their choice of customers. The SOE manager said, "I refuse to do business with potential customers that are afraid to sign, because that means their credit or reputation (*xinyu*) is not good. If for some reason it is important to do business with them anyhow, then I will fill one or two very small orders to see how that goes—do they pay on time?" (O9). But another manager had never used payment checks: "No trust. If someone comes to me and wants to supply for me, but wants me to sign a payment check, then it makes me feel cold and uncomfortable. Yes, *ganqing* is still very important." (B11) *Ganqing*, often translated as "sentiment" or "affection," is usually considered to be the affective component of *guanxi* (Yang 1994; Kipnis 1997, 7–9).

Some managers noted that the payment problem affected the type of enterprise with whom they conducted business. The manager who did not use written contracts to cover the 60 percent of his turnover produced for his old SOE customer said that the remaining 40 percent of his business was spread among five main customers, all of them wholly owned foreign enterprises or joint ventures from Japan and Hong Kong. He did not want to do business with any SOEs because of payment problems (S8). An SOE manager described the serious debt problem faced by his enterprise: His factory was owed 30 million yuan (*yingshoukuan*) by a few hundred companies. He had sued dozens of them but had little hope of recovering much of it. The problem affected the way he did business: "We do more and more business with TVEs and less and less with SOEs. SOEs feel they do not have to return the money; they ignore you when you ask for it, and so on. But TVEs—especially a lot of them that are private enterprises now—are concerned about their credit reputation and pay punctually" (O7).

But even more salient in the interviews than shifting the type of enterprises with whom they did business was the attention that managers now paid to the *xinyu* of potential partners. For example, one manager stated that *guanxi* had been crucial in helping him find new business opportunities: "Without *guanxi*, we wouldn't have gotten these opportunities." He continued that *guanxi* was equally important in deciding whether to do business with someone. "*Ganqing* and *guanxi* are now very important. Old friends with good reputations are trustworthy. And because we are all from the same sector [*tonghang*], so we see all the same people at meetings, and so on. It would be very embarrassing [*buhao yisi*] if we did not pay. We are

afraid to make business with people we don't know—what if they don't pay or you have other problems?" (B9). As another manager explained:

> [R]eputation has become very important in deciding with whom we do business, and this is one way that *guanxi* is much more important than it used to be. Under the planned economy, the manager just acted like a robot—once the party had programmed him correctly, he just followed the instructions, got materials through allocation, made the stuff, and sent it back up. Now the manager must solve all the problems, including getting raw materials and marketing the output, and I rely much more heavily than before on *guanxi* to do so. One of the most important aspects is creditworthiness [*xinyu*], deciding who and who not to do business with. I can trust my friends, and it is important to have a lot of friends in all different places" (O7).

He gave one example of a credit for one million yuan that he had recently extended to a friend who owned his own company. "The loan was between friends, so there were no formalities, no written contract. Because he is my friend, so I know it will be repaid" (O7).

3. Making a Way Out, Part 2: A New Phoenix Rising From the Ashes?

In addition to determining who got subcontracting work, and—for enterprises with some choice—affecting with whom one did business, *guanxi* also came to play a crucial role for enterprises seeking a way out by making an end product, rather than relying on making components for a larger enterprise with its own product and market. With reference to Guthrie's distinction, the use of *guanxi* described in the previous section resembled—and in many cases was—*guanxi* as opposed to *guanxixue*. In many ways, the credit reputation of an enterprise was just a network of contacts providing relevant market information. But credit reputation came to play a more active role for firms trying to make a way out rather than trying to find a way out.

The majority of enterprises I interviewed spoke of finding new business in terms of finding someone else for whom to subcontract. But some, especially in the bicycle sector, were constructing new production systems out of the pieces of the old, without an SOE or large joint venture acting as the head of the system. As one manager said, "the size of the cake is not changing, just who gets to eat it. The children's bicycle market is not getting larger or smaller. If one assembler [*tou*] goes under, the market is still there. Someone else

fills in the gap, and the suppliers all go to the new guy" (B11). This manager had formerly been a manager of the Shanghai Children's Bicycle Factory, a large SOE that finally went bankrupt in 1996. After the SOE went bankrupt, he established this private (*siying*) enterprise and began assembling children's bicycles in 1998. I found his factory by accident: I was trying to contact a bicycle parts TVE listed in the industrial census. That TVE had gone bankrupt, and this manager had rented the plant (the phone number had not changed) from the township government. Unlike so many of the factories I visited, this one was quite busy, with two or three production lines running. The manager was quite proud of his success. His factory had a total of 24 subcontractors, most of them in the Shanghai suburbs and the rest in nearby Zhejiang and Jiangsu Provinces. Almost all of those subcontractors were old friends from when he was a manager at the Shanghai Children's Bicycle Factory, and almost all had subcontracted for that factory.

In the early to mid 1980s, the Shanghai government had ordered the Children's Bicycle SOE to support and raise a batch of TVEs. (This had also been in the interest of the SOE at the time.) His factory cultivated about 20 TVEs in the Shanghai suburbs, and he himself had been responsible for contact with many of them. Of the original 20, about half had been shut down completely and about half still existed in some form or another. The ones still in existence were mostly still making bicycle parts, and most of them had been converted to private enterprises. When this manager established his assembly plant, the first thing he did was to reestablish contact with those factories, because *guanxi* was absolutely crucial for *xinyu*:

> *Guanxi* has been absolutely critical to our success. All of my suppliers are old friends. Without them I could not have even started this business. Because we did business together for so many years, we are old friends and trust each other. *Guanxi* is most important during the development period of the new enterprise. Once your *xinyu* is good and you are big, you can start to work with strangers (B11).

He had a long list of desperate suppliers who had come and knocked on his door, but he preferred to work with his old friends.

> *Guanxi* is important for TVEs to find new business, the single most important factor. I could find new suppliers that I do not know right now, for example in Zhejiang. It is easy to go and find them. But probably they are making for someone else with slightly different specifications, and thus it is a lot of trouble, they would have to set up new

> molds and such. And unless you already have established a very good reputation [*xinyu*], they probably are not willing to produce for you. They may demand cash in advance [for purchasing their raw materials], or at least full payment on delivery. A few even asked me to sign a payment check, which I don't like. When just starting out it was too much for me to pay everything in advance, to carry all of that inventory myself. So it would be very difficult to just start an enterprise like this from scratch without a lot of *guanxi* (B11).

In addition to credit, he also mentioned that production technique and skills were very important to him. Original bike parts factories had the advantage because of their specialized skills and equipment. "Some children's bicycle factories have anywhere from 40 to 60 subcontractors; they set up two or three factories per part, but we don't do it that way—we just have good relations with them and don't need the trouble. Good friends, credit no problem, get the quality right and maintain it, and concentrate on business. It's less hassle than managing a larger group of suppliers." In his case, a big network of old friends with equipped and experienced parts factories had been crucial: "You cannot be missing a single component or have one arriving late or in poor quality" (B11).

Another bicycle start-up in Zhejiang Province helps illustrate these dynamics. That enterprise, established as a private enterprise in 1988 with five people, had grown to a few hundred employees. Its first product was brake cables for one of the bicycle SOEs. (That SOE maintained four or five small factories for the same part.) In 1990, the founder began to add customers until there were five. After that, there was no longer room to expand, because there was only so much market. When the SOEs began to experience triangle debt problems and no longer paid promptly and in full, he started to think about a way out and then began to make bicycles with his own brand name. At first, he bought all of the components (except the brake cables) from about 50 suppliers, all of which had developed as subcontractors for the large bicycle SOEs. At least 70 percent were TVEs, the rest were SOEs, and almost all were in the Shanghai area. At that time, the main SOEs were still producing in large quantities, but most of their subcontractors had excess capacity and could sell to him.

In those days, the founder had no *xinyu*. He used cash at the beginning, going from supplier to supplier and buying the parts he needed. "A lot of the time, cash was not enough—you had to have a friend with personal *guanxi* in a particular factory introduce you if you wanted to purchase parts, even if you go the factory yourself

and are paying cash for the parts on the spot." He had the great fortune to be assisted in this by the former purchasing manager of one of the large bicycle SOEs. The purchasing manager, still on good terms with subcontractors in the area, allied himself with the start-up manager and introduced and recommended him to all of his old friends. Over time, the start-up manager developed good *guanxi* with those suppliers, and as his orders grew and through interaction over time, he developed a good reputation. Now that he was larger and had a reputation, he no longer had to pay cash, parts were delivered to his factory rather than him picking them up, and he cleared his accounts through the bank each month. So *guanxi* was absolutely crucial to him when he was starting up. But it was just as important now for small factories that wanted to subcontract for him: "They have to have the price, quality, and service, but even with those, subcontractors generally must be introduced through *guanxi*. There are so many small factories that want to subcontract for me, and so many of them can meet my price, quality, and service requirements, so why bother if the business does not come through *guanxi* channels?" (B15).

Of the six target sectors, only the bicycle sector seemed to develop this kind of small start-up dynamic. The required scale economies were too large in the auto sector. After the price wars and industry shake-out of the 1990s, the refrigerator sector was increasingly dominated by a few brands, which in turn were increasingly being challenged by a few joint ventures. The sewing machine sector had shifted completely from household sewing machines to industrial ones, and the latter market was dominated in Shanghai by a handful of large factories. In the motorcycle sector, a large private assembler had moved into the Shanghai area (one that grew up in Hainan, the southernmost province in China) but used the existing supplier base to finance expansion, not to get started. One interviewee described a potential start-up, a small group of technicians that left Yichu and were trying to establish a private assembly plant in a Nanhui County township. They were industry insiders who understood production and knew all of the Yichu subcontractors. Although his own factory was barely surviving (it was the one that had found new work making port container crane parts for an SOE after Yichu's demise), he did not dare to produce for the new start-up. "They don't have *xinyu*. I knew them when they worked for Yichu, and they seem OK, but I don't know what they will be like running a company on their own. They don't have much money, they are private, and it is hard to say whether they will pay or not" (M4).

4. THE SHIFTING LOCUS OF *GUANXI* PRACTICE

In the strategies that stopped enterprises employed to find or make new opportunities for themselves, *guanxi* thus played important roles in shaping the reproduction and restructuring of the subcontracting systems in the new surplus economy: enabling subcontractors to secure payment in the context of triangle debt; determining which surplus subcontractors found new work and which do not, and, conversely, for those enterprises that had choice, influencing the decision whether to subcontract for a particular enterprise or not; and finally, enabling start-ups to find subcontractors before they had established a credit reputation.

But merely noting examples of the existence of *guanxi* is not in itself very useful, because so many studies have correctly pointed out that the use of contacts and connections is so important (and ubiquitous) to the conduct of business anywhere in the world: "There is nothing special about China in this way of doing business," according to a Shanghai industrial manager quoted in Guthrie (1998, 254). Hsing (1994) thus argues that it is important to define how *guanxi* operates in a particular context and how, specifically, that makes a difference.

On the issue of how *guanxi* operates, two studies argue against its importance as a "deep-seated cultural fact of Chinese society" in the context of economic decision making. The first, by Jinn-yuh Hsu and AnnaLee Saxenian (2000), argued that attempts to explain Chinese business forms in terms of "*guanxi* capitalism" are "oversocialized" and tend to overlook the importance of technological expertise and production capability. On the issue of when the existence of *guanxi* makes a difference, they allow that *guanxi* does play a role in the economy, primarily in the spread of market information and in the diffusion of technology learning, but conclude that since the economy is composed primarily of competing worlds of production, rather than of interpersonal relationships, *guanxi* cannot replace the importance of technological expertise and production capacity in the firm. In other words, the embeddedness of a regional economy in interpersonal relationships cannot trump the importance of the "economic question" (Storper and Salais 1997). Differing patterns of embedded interpersonal relationships can have different implications for incremental change, but in a market environment, they cannot take the place of the imperative to produce technologically competent products, on time, within competitive cost structures. With regard to Shanghai industry, this would lead one to the conclusion that with

increased market pressure, Chinese managers would be less inclined to offer work to acquaintances based solely on strong *guanxi*.

And Guthrie's study posits *guanxi* as an institutionally defined system, rather than a "deep-seated cultural fact of Chinese society" (Guthrie 1998, 255). As we have seen, in distinguishing *guanxi* from *guanxixue*, Guthrie demonstrates that use of the latter was declining in significance for SOE managers. His framework, though different from that of Hsu and Saxenian, similarly suggests that *guanxi*, as a culturally Chinese aspect of economic behavior, makes a difference only when it leads economic actors to make decisions that are not rational in the face of economic considerations.

But interviewing at a later time, in a lower stratum of the industrial hierarchy, I encountered many examples of the perseverance of this type of *guanxi* practice—the perseverance not just of *guanxi* but of *guanxixue* in the putatively rational and rationalized market economy. The manager of one of the refrigerator subcontractors claimed that he would internalize production, rather than subcontract outside of the village, even though his own labor would cost more, in order to provide local jobs (R12). Others claimed that *guanxi* considerations affected price and quality (B9, S8). And as I noted, the very insistence of SOE managers that *guanxixue* was no longer important implies that it was only in the process of diminishing. But for the most part, interviewees never claimed to be ignoring economic logic and demands when choosing business partners. In fact, most of the evidence went the other way. Most managers increasingly avoided allowing *guanxi* to influence business decisions. For example, one manager did not consider it important to subcontract locally, because quality and price were much more important. "If you give business to a friend or to protect local labor and the quality is bad, you go down, and they go down too" (M4).

However, here is where it becomes difficult to distinguish between *guanxi*, mere connections, and *guanxixue*, the use of *guanxi* to secure advantages in business. Since managers were not ignoring economic considerations in lieu of *guanxi* influences, one could argue that *guanxi* was indeed no longer playing an important role in the economy. My research would seem to concur with Guthrie's conclusion that, much more than before, price, quality, and efficiency were more important than *guanxi* considerations when making economic decisions. And this was true even of the lower-tier TVEs and private enterprises that, being further from the government, his findings suggest would have higher levels of *guanxi* practice than the higher-level SOEs closer to the government. Seen from this point of view, one

could say that the use of *guanxixue* had indeed diminished significantly in the face of increased marketization. But, at the same time, another form of *guanxixue* was playing an absolutely critical role in shaping the economic context: Because the application of *guanxixue* to the contours of social *guanxi* relationships largely determined who got business in the new surplus economy, it is equally possible to argue that the use of *guanxixue* had not diminished at all, but rather had taken on a new set of tasks and roles, or that the site of its practice had shifted.

While my interviews suggest concurrence with Guthrie that *guanxixue* is playing a diminishing role in the face of increased regulation and institutionalization of the economy in the day-to-day operation of business (especially at the higher SOE level), I did not find that *guanxixue* was declining in significance so much as shifting in locus. My research points to *guanxixue* as an institutional mechanism to guide the allocation of resources in the face of shortages. Yang (1994) and Bian (1994) both focused on the use of *guanxixue* to take care of administrative procedures (*ban shouxu*) in an environment where that was difficult to accomplish and to acquire hard-to-get goods in the socialist shortage economy. Guthrie correctly points out that "if one element of guanxi practice [*guanxixue*] for industrial managers under the command economy was the necessity of gaining access to distribution channels (input and output) which were controlled by state officials under that system, officials in China's transitional economy have no such control over the distribution of resources and products" (1998, 267). While it is arguable that state officials did have some control of this sort throughout much of the transitional economy (aspects of the plan still existed in Shanghai until the early 1990s; see chapter 3), my interviews also suggest that attaining these particular ends—taking care of procedures and access to allocation channels—no longer relied much on *guanxixue*. Managers indeed related countless tales of having to use *guanxi* and *guanxixue* to obtain raw materials and take care of administrative procedures in the 1980s and even the early 1990s. *Guanxixue* at that time meant that one person got access to scarce raw materials at the expense of another, based on a *guanxi* relationship. But their stories about finding the factories to which or for which they subcontracted in the 1980s invariably took on the flavor of *guanxi*, as opposed to *guanxixue*. From the tone of their stories, it is clear they had difficulty obtaining raw materials but no difficulties finding factories for which to subcontract. However, they told the opposite story for the late 1990s. Obtaining raw materials was no longer an issue but finding a subcontracting opportunity

required stronger *guanxi* than one's competitors. With the shift from a shortage to a surplus economy, the main locus of *guanxixue* shifted as well, to the procurement of business.

Hsu and Saxenian argue that the importance of technological knowledge and manufacturing capacity embedded in the firm force managers to overlook *guanxi* considerations in interfirm relations: If the imperative of the economic question is not met, the firm will not be competitive and will not survive. But it is important to note that their study examines the production of silicon wafers and semiconductors, whereas my study examined factories producing simple metal parts. While the quality/price factor is increasingly important, given the glut of small factories able to meet these conditions, *guanxixue* is playing the crucial deciding role in deciding which ones will get business. One refrigerator parts manager, when asked about the relative importance of *guanxi* versus other factors, answered that "you must grasp both (*liang shou dou yao ying*) in order to survive" (R11).

So while market competition had indeed taken on much greater importance in China's industrial economy, increased marketization shifted the importance of *guanxixue* to a new set of activities rather than forcing it out of existence. Guthrie viewed *guanxi* as an "institutionally defined system—a system that depends on the institutional structure of society rather than on culture—that was changing in stride with the institutional changes of the reform era" (1998, 255). I agree that it was indeed changing in that way and argue that as economic reforms deepen, that is, as the institutional structures of society and the economy change over time, practices such as *guanxi* will shift, as well. But there is a difference between shifting and declining in significance. In this case, the shift from shortage to surplus economy engendered a shift in the locus of *guanxixue.* This shift in the locus of *guanxixue* was part and parcel of the restructuring of industrial networks in the late 1990s and, as we will see, of the restructuring of the SOE-TVE nexus of urban-rural relations.

5. Networked Perspectives

Shifting the unit of analysis away from firms, markets, and the state to focus instead on the networks and the social and spatial divisions of labor in which firms and sectors are embedded produces new perspectives not just on the choices open to subcontractors in the unravelling SOE-TVE nexus during China's transition to capitalism but on the choices open to enterprises in problematic relationships in general. At first glance, their new calculative matrix appears to follow the classic

and nuanced formulation of Albert O. Hirschman (1970), in which firms in deteriorating relationships can exercise one of three options: exit (escape from the relationship), voice (communicate so as to repair the relationship), or loyalty (adhere to the relationship). But while Hirschman takes uneven market power seriously, his atomistic ontology views firms as standing alone, like islands in a sea of markets. The relational ontology and network approach of this book open a new perspective: voice and loyalty amount to different versions of the same thing—staying in an existing relationship. And exit divides into two possibilities rather than one—join a different network or make a new one for yourself. The triad of exit, voice, loyalty is replaced by an altered version: stay, join, or make.

More radically, Hirschman's ontology of discrete firms in seas of markets amounts to a very weak and undialectical notion of embeddedness. It assumes an almost total separation of economy and society. In the next chapter, we will see just how badly this decontextualized formula can miss the mark. It overlooks the possibility of a form of loyalty far more extreme than simply accepting deteriorating terms: that of enterprises completely transforming themselves—in effect turning themselves and their localities inside out—in order to stay in the relationship. Increased market pressure on subcontracting relationships forced a radical reworking of their entire social context and fabric in order to resolve itself.

6

Reworking the Rural

As we have just seen, enterprises faced with the task of finding or making a way out of the relationships of the unraveling SOE-TVE nexus had three options. They could stay in their current network, even if that meant producing at cost or even below or getting trapped in cycles of debt. They could join another network by switching to a different manufacturer (i.e., from VW to GM) or a different product line (i.e., from bicycles to motorcycles). Or they could make a new network, often by reassembling the pieces of shattered production systems. In this new troika—stay, join, or make—the third option becomes visible only because we have approached firms not as discrete entities, but as nodes in complex webs of embedded resources and capacities. These resources and capacities produced in situ by earlier rounds of industrial growth remain when the web gets blown apart. They can be regathered and recombined in new forms. The preceding firms and forms disappear, but the resources remain. Network restructuring altered the survival tactics available to subcontractors. It also changed the terms and conventions of SOE-TVE relationships and made crises more manageable for some SOEs. But even more consequential still, it altered the very substrate in which the networks were embedded, changing it in ways that constituted a fundamental turning point in the region's political economy and the development of capitalism in China.

The most visible form assumed by this turning point, this transformation of the substrate, was the widespread appearance of privately owned enterprises. While almost none had existed in the mid-1990s, only a few years later, they constituted a significant and increasing proportion of subcontractors in these six industrial sectors. The more of them I visited, the more it became clear that very few were private start-ups that had out-competed TVEs and taken their places in the commodity chains. Rather, most of them were TVEs that had

been converted recently to privately owned enterprises. Reforms in the 1980s and early 1990s in the form of conversion to joint-stock cooperatives had not altered TVE property relations. Nor had they changed the conventions or terms of the relationships between urban SOEs and their rural subcontractors. But a much deeper round of enterprise reform was fully under way by the late 1990s, and while it may appear that state and local government initiatives instigated widespread TVE conversions, upon closer inspection, it becomes clear that the real force behind enterprise privatization—the wind filling the sails—was network restructuring driven by the onslaught of the surplus economy.

Privatization—primitive accumulation, for Marx—is a fundamental part of any transition to capitalism. But an overly narrow focus on the unique event of the switch from collective to private ownership belies the ongoing deepening of capitalist relations. TVE privatization was an extremely important turning point in itself, but the radical restructuring of urban-rural networks did more than create property rights. In sweeping away the set of industrial linkages that had allowed rural localities and their workers to retain a significant portion of the value they produced, it also swept away the rural labor regime that had been forged and consolidated in the late 1980s. The restructuring of networks transformed rural property relations, rural class relations, the regional regime of accumulation, and the dialectical relationship between the country and the city.

1. PRIVATIZING RURAL SHANGHAI

Shanghai and its Sunan (Yangzi River Delta) hinterland were not bastions of private enterprise during the 1980s and 1990s, as was the Wenzhou area in southern Zhejiang Province.[1] Most of the startling industrialization of the region took the form of either SOE or TVE growth, and a very sizable portion of that was created through subcontracting linkages between them.[2] While academics debated whether public ownership created distorting inefficiencies or the growth miracle, in the late 1980s, the Chinese government initiated a process of delinking the party from control of government organizations and enterprises (Liu and Zhu 2000, 3–4). That round of experimentation with delinkage ended with the Tiananmen Incident in 1989, and the 1990s saw a reassertion of party control over government administration, but the process of delinkage from enterprise management continued. Especially in the late 1990s, with a dramatic shift toward free-market ideology and Premier Zhu Rongji favoring

privatization as a cure for the problems of state-owned enterprises, the pace of TVE privatization accelerated.

The privatization of TVEs occurred in four phases. The earliest phase, in the early to mid-1980s, consisted of contracting management to an individual executive (*chengbao*) in an effort to strengthen profit incentives for management. There were cases where this happened, but it also encouraged pilfering and corruption, and as in sharecropping arrangements, discouraged sustainable growth and development. The second phase began in the late 1980s with the advent of the joint-stock cooperative system (*gufen hezuo zhi*), in which shares were sold to TVE managers and workers. This phase was uneven at best and slowed considerably in the early 1990s, only to enter a third phase in the mid-1990s with a renewed effort at pushing forward the joint-stock cooperative system. Finally, a fourth wave of privatization started in 1997 or 1998 in the form of TVE conversions to privately owned enterprises (*siying qiye*). At that time, as part of much larger processes of economic and enterprise restructuring, the government policy became, in the words of the new owner of a recently privatized TVE, "if you want it, buy it; otherwise, close it" (I5).

a. Management Contracting

Management contracting started in the early 1980s. It entailed the township or village government contracting the management of a local TVE to an entrepreneur. While in areas such as Zhejiang Province this often served as a front for the officially discouraged private entrepreneurship (an individual would start up a private factory under the guise of contracting the management of a TVE), this was seldom the case in Jiangsu and Shanghai, where it was more likely that the enterprise already existed. Contract types were of a bewildering variety, but they were intended to provide a profit incentive to the individual manager, thus enhancing enterprise efficiency. While it did have this effect in many cases, it could also have negative side effects. True property rights were not transferred to the manager, and he could never be certain his contract would be renewed. It was therefore often in his best interest to sacrifice long-term efficiency and sustainability in favor of short-term gain.

One local official described these incentives and their effects by comparing two local TVEs. Both were established at roughly the same time under the same conditions with approximately equal capital and efficiency and were contracted out under similar terms. Since their establishment, the first enterprise had doubled in size, while the

second had tripled. In the late 1990s, both were ordered to convert to joint-stock cooperatives by selling shares to the managers and workers. In order to purchase a controlling share (about one-third), the manager of the second enterprise now had to pay much more than the manager of the first. "His enterprise got bigger because he didn't waste as much and was very careful with expenses, while the first enterprise grew less because that boss wasted a lot of money through his expense account. The second boss feels it is unfair. The enterprise is one-third his, but he still doesn't own it totally, so now he wastes money like crazy" (LG4).

b. Joint-Stock Cooperatives

The second phase of privatization, TVE conversions to joint-stock cooperatives, started in the late 1980s. The actual conversion process was bewilderingly complex and could differ substantially from township to township and even from enterprise to enterprise, but the basic principle was that the enterprise issued equity or stock to its managers and workers. It can be illustrated here by the conversion of a first-tier auto sector subcontractor. Originally established in 1958 during the Great Leap Forward to make farming implements, in 1970, it began to make rear-view mirrors. By 1996, it was the largest producer of them in China, with 1,080 workers and 176 million yuan turnover ($21.3 million), was listed on the Shanghai Stock Exchange, and was officially recognized as a "key enterprise" (*zhongdian qiye*) by Jinshan County. With so much official recognition, it is safe to assume that the details of its conversion (as related to me by the general manager), whether true or not, must approximate the official party line on joint-stock cooperative conversions at the time of the interview (summer 1997).

When the factory was owned by the township, investment and other decisions came from one direction only—from the top down. Now, following central government enterprise laws (*gongsi fa*), decisions came from both the township and from within the enterprise. Workers and staff (*zhigong*) slowly started to become shareholders when they purchased shares worth 100,000 yuan ($12,000) in 1989. Investment was voluntary, and each worker could decide how much to invest. Most invested that first year, some as little as 100 yuan ($12), and the average investment was 500 yuan ($60). It was expected that workers and staff would be reluctant to invest in a new and novel program. To encourage investment, the Jinshan County government designated the enterprise an "experimental work unit" (*shidian*

danwei) for the implementation of joint-stock cooperatives. This designation reduced the amount of profit the TVE would have to remit upward (*shangjiao*, this was before implementation of the 1994 tax reform), allowing it to pay a 38 percent bonus on all shares. Over time, workers and staff invested increasing amounts, so that by the end of 1996, they held 42 percent of the equity of the enterprise, with the township government still holding 58 percent. It was expected that the amount of equity held by the holding board (*chiguhui*, a committee established in 1995 to represent the internal stockholders) would soon surpass 51 percent, at which time the board of directors (*dongshihui*) would replace the township government as the main decision-making body. The board of directors consisted of seven persons, three appointed by the township government and three elected from within the workers and staff. (The seventh was the secretary.)

A more comprehensive portrait of the distribution of profits within the joint-stock cooperative system was supplied by the manager of a Jiading County TVE. That enterprise first paid an enterprise income tax of 33 percent on gross profit to the local tax office.[3] Of the remaining 67 percent, 10 percent went to the public benefit fund (*gongyijin*, a kind of welfare fund that the factory labor union committee spends as it sees fit on worker welfare), 23.5 percent went to expanding production capacity, and the remaining 33.5 percent was distributed in one of two ways. Sixty percent of it (20 percent of the original gross profit) was distributed as stock (*songgu*), increasing the size of the enterprise capital, and the last 40 percent (13.5 percent of gross profit) was distributed in cash payments. In early 1999, 32 percent of the enterprise was owned by its workers and 68 percent was still owned by the capital management company (*zichan jingying gongsi*). The latter was controlled by the capital management committee of the local government (*zichan guanli weiyuanhui*—the chair was the local party secretary and its vice-chair was the mayor), which decided how to allocate the township's share of profits (A13).

The extent and effect of joint-stock conversions were limited. They were experimental at first, not universal, and as late as 1992 had been extended to only 593 enterprises in all of Shanghai, mostly TVEs (Whiting 1999, 196). Started in the late 1980s as part of a wider policy effort to separate local government from the economy (*zhengqi fenkai*), it is unlikely that local governments ever intended to relinquish control of their enterprises. Even the "model enterprise" conversions described above did not shift any real decision-making authority away from the townships. An authoritative study found the first phase of conversions was little more than a veiled technique for

raising capital from within the enterprise, with very little decision-making authority transferred away from local governments. As late as 1992, local governments were required to retain at least 50 percent of ownership, and the stated motivation for the experiments was to raise capital internally in order to speed up economic development[4] rather than "increasing enterprise autonomy or improving enterprise efficiency" (Whiting 1999, 197 n. 112). My interviews did not explore these issues, but use of this method to raise capital internally resonates strongly with findings presented in chapter 1, where I argued that TVE self-financing enabled the production systems to expand much more than would have been possible if the resources for expansion had come solely from the SOEs. Furthermore, in spite of the seeming duplicitousness of local governments implementing conversions in order to expand production capacity, it is likely to have been welcomed by workers, given the phenomenal growth of most of these enterprises in the 1980s and early 1990s and the lack of other investment outlets for their savings.

But in interviews I conducted in the late 1990s, managers discussed the aims of joint-stock conversions in terms of increasing enterprise efficiency rather than in terms of raising capital or shifting ownership and control.[5] The most appropriate distribution of shares, that is, exactly what distribution of shares among workers, managers, and local governments would result in the greatest efficiency, was a topic of discussion and consideration among local officials and managers. Interview discussions reflected the extent to which public ownership of TVEs made them like small SOEs in certain respects: one interviewee explained that if a manager did not control a high enough share of ownership, he might not care enough about profits (A13). The owner of a private enterprise assembling children's bicycles described his most important competitor as a "township enterprise that had grown so large that it was starting to seem like an SOE—too big and not very flexible. I heard that this year they are going to begin a joint-stock conversion, giving out stocks to employees and so on, in order to enliven (*gao huo*) the enterprise" (B11). Another manager explained that his township had ordered them to initiate the joint-stock cooperative process in order to conform to the party line and to increase efficiency, but that rather than moving toward full manager/worker ownership, it had reached an equilibrium that it did not intend to alter in the foreseeable future. Formed out of three village TVEs in 1990 to supply SVW, it began the conversion to a joint-stock cooperative in 1994. The net capital (*jing zichan*) of the enterprise in 1999 was 41 million yuan ($4.9 million), 89 percent of which was

owned by the township government, with the remaining 11 percent owned by employees. Each share was worth 1 yuan; thus, there were 41 million shares. Everyone in the factory had shares, which were purchased, rather than given, but the distribution was uneven: the general manager owned 150,000 shares, the assistant general manager 100,000 shares, and the average worker 20,000 shares (A11).

When asked why local governments still had a strong interest in maintaining large shares of ownership, the manager of the industrial corporation of a Baoshan County township countered that the official policy at that time (1999) was for local governments to divest themselves of their enterprises and that he was happy to do so.[6] He now focused on providing local enterprises with a conducive investment environment and on collecting a share of enterprise income taxes. The township no longer carried the risks associated with ownership, but nevertheless collected a percentage of profits. This new attitude reflected not only shifts in policy, but also the township's recent problems with bankrupt TVEs (LG12).

Other local officials and even some enterprise managers (I6) echoed this new orientation, but most managers told a somewhat different story. For example, the manager of a partially privatized enterprise explained that the township still had a strong interest in maintaining a large share of ownership due to the importance of the discretionary funds emanating from its share of profits (A13). As late as 1999, I encountered only one case in which enterprise ownership had been effectively transferred to management and workers through this method. (S5: 78 percent owned by management and workers, 22 percent by the township.)

Overall, the pattern that emerged from my interviews was one of local governments holding on to large, key, successful TVEs rather than divesting them. In spite of the general recession and the recent decline of these sectors, 15 of the 18 joint-stock enterprises that I contacted were doing very well or fairly well, while only three were bankrupt or doing badly. The survival and/or success rate of this type of enterprise was remarkably different from the general sample of my study.

The impression that local governments were primarily targeting successful enterprises for conversion is confirmed by closer inspection of the interviews themselves. All four of the enterprises in the auto sector were first-tier subcontractors, and two of the three enterprises in the bicycle sector began conversion several years before the sector encountered difficulties. Nine out of the twelve interviewed were important breadwinners for their local governments (two out of the

twelve were SOEs), and all twelve were rather large. (The smallest had 68 employees when conversion was initiated, while the rest had more than 100, and the largest more than 1,000 employees.)

This observed pattern is part of a larger process of industrial restructuring known as "grasping the large, letting go of the small" (*zhuada fangxiao*). *Zhuada fangxiao* was (and still is—So 2009) one of the most important strategies employed by the central government to reform its SOEs. Large, but especially successful SOEs are shored up and consolidated, while smaller and unprofitable SOEs are closed, "sent down" to lower levels of government, or sold off to private entrepreneurs (Li 1998). But the process was employed by local governments, as well, who held onto control of larger, more successful enterprises while letting go of smaller and unsuccessful ones. Susan Whiting reported that this slogan became official policy in Shanghai's Songjiang County at the end of 1996 as county officials indicated "their goal of maintaining control and income rights over a select group of large enterprises, while transferring property rights over the remaining enterprises to private individuals" (1999, 198).[7] For example, in 1999, one official explained that just as the central government was trying to create 500 large enterprises, Jiading County had decided to create 71 large enterprises and eventually let go of the rest (LG4).

In sum, the joint-stock cooperatives were not fundamentally different from the original TVEs. They increased enterprise efficiency to some extent, but they did not represent any real shift in decision-making authority or control. They altered the local distribution of industrial surplus, perhaps increasing slightly the share going to workers and management at the expense of the local government, but they did not change in any significant way the cost structure of the TVE, the labor regime, or how surplus was shared between the locality and the extralocal SOEs for whom they subcontracted. Though TVE conversions to joint-stock cooperatives started much earlier, that phenomenon was not nearly as pronounced as the more recent wave of "letting go" of TVEs by converting them to privately owned enterprises. And it was with the conversion of TVEs to privately owned enterprises that there was finally a fundamental and substantive shift.

c. Privately Owned Enterprises

Privately owned enterprises were systematically discouraged in the Shanghai area until the late 1990s (Whiting 1999, 193–94). As late

as 1994, local scholars could write that the relative weight of privately owned enterprises in the Shanghai economy was very slight (*bizhong hen xiao*) and that there existed a huge gap (*cunzai zhe hen da chaju*) in their scale, quantity, and overall effect on the economy when compared with other provinces and large cities (Xie and Ling 1994, 32). In late 1997, an official from the Shanghai District and County Industry Management Bureau told me that almost all of Shanghai's industrial output was still produced by SOEs and TVEs. Privately owned enterprises, important in other parts of China, were just starting to play a role in Shanghai (MG6).

The unimportance of private enterprises before the late 1990s is also strongly confirmed by a breakdown of the more precise (and for my study, relevant) sectoral data presented in the census. Private enterprises represented 13.4 percent of total listed enterprises in 1995, ranging from 9 percent in the bicycle sector to 15 percent in the auto and motorcycle sectors (Table 1.1). But they represented only 1 to 1.5 percent of the total labor force in these sectors (including main plant workers) and less than 1 percent (0.28 to 0.46 percent) of total turnover (Tables 1.4, 1.5). In contrast, TVEs still constituted the lion's share of each sector. Four of the six sectors were approximately 70 percent collective (TVEs and SOE-TVE joint-ventures), ranging from a low of 57 percent in the meters and instruments sector to a high of 74 percent in the motorcycle sector. These ratios were similarly reflected in interviews, as in this typical statement that the Forever Bicycle SOE had "more than 100 subcontractors during the 1980–93 period, while Forever and Phoenix together had at least thirty or forty subcontractors here in Pudong alone. All of these were TVEs, and pretty much all of their subcontractors were TVEs" (B1).

But enterprise reform progressed rapidly in the 1990s, and by the end of the decade, there were few "pure" SOE or TVE enterprises remaining.[8] The number of existing TVEs was decreasing rapidly, and in 1999, I encountered fewer and fewer pure TVEs, in part because so many were being converted to other forms of ownership, including joint-stock cooperatives. Changing classifications make it difficult to trace these changes statistically, but a picture does emerge. At the most general level, nearly 70 percent of Shanghai's district and county enterprises had undergone some type of ownership reform (*gaizhi*) by the end of 1997 (*Shanghaishi quxian gongye guanliju zhengce yanjiushi* 1998, 3, 43).[9] An official from the Jiading County Statistics Bureau likewise reported that approximately 95 percent of all collective enterprises in that county had been converted to some other form of ownership by early 1999 (LG4), while the Minhang District

reported a conversion rate of 86 percent (Li 1998, 6, 10). One source provided more detail, indicating that 13,845 of Shanghai's rural collectives, or 72.5 percent of 19,100 total, had undergone some form of conversion by May 1998 (apparently leaving a total of 5,255 traditional, unreformed TVEs). Of the reformed enterprises, 5,084 were converted to joint-stock cooperatives (*gufen hezuozhi*, 36.7 percent of reformed enterprises); 1,008 were converted to limited liability companies (*youxian zeren gongsi*, 7.3 percent); 551 were converted to some form of foreign joint venture (*jiajie wei zhongwai hezi*, 4 percent); 1,002 entered equity market transactions (*jinru chanquan shichang jiaoyi*, 7.2 percent); and 2,838 were merged or rented out (*jianbing, zulin*, 20.5 percent) (Pan 1998,5, 17).[10]

But here it is important to note that most of these reformed TVEs were still fundamentally TVEs. While the form of ownership may have changed, the entities possessing ownership generally had not. The case of joint-stock cooperatives (36.7 percent) has been discussed above. The limited liability companies (7.3 percent) I encountered were primarily owned by asset management companies, which in turn were controlled by local governments. It is similarly arguable that a significant proportion of ownership of the merged, rented out, or equity market enterprises was still controlled by local governments, as were the Chinese side of the foreign joint ventures. Supporting this nuance was the 1998 claim, by the vice-director of the Shanghai Municipal Agriculture Committee, that most industrial output and sales income in rural Shanghai was still concentrated in the rural collective sector (TVEs), though the importance of "foreign and private capital" was increasing rapidly (Pan 1998,5, 18).

By all accounts, the number of private enterprises was increasing rapidly, and at first glance it appears that most of Shanghai's economy must have been privatized during the 1990s. According to municipal government statistics, there were 39,819 private enterprises in Shanghai in 1995, of which 62.8 percent, or 24,991, were in the rural suburbs (*Shanghai jingji Nianjian* 1996). The total increased to 53,583 in 1996 (Chen 1998,2, 25). Compared with Shanghai's total of 19,100 TVEs reported in 1998, a 1998 total of 20,462 private enterprises in Songjiang County alone seems overwhelming. However, fully 18,822 (92 percent) of the latter were restaurants or involved in retail sales and the provision of services. That still leaves 1,494 private enterprises in Songjiang County involved in some kind of manufacturing (Zhang 1999,1, 43). The relative weight of private enterprises was indeed increasing rapidly—in 1997, private enterprises accounted for 27 percent of industrial output in Qingpu County (Yao

1998,11, 34). Likewise, the relative share of output of collective, foreign, and private enterprises in Shanghai's suburban counties and districts shifted from 86:12:2 in 1992 to 60:25:15 in 1998 (Chen 1998,4, 9).

The rapid statistical rise of private enterprises gives the impression that Shanghai's countryside was full of individual entrepreneurs jumping into production. Evidence from my interviews suggests that these enterprises must have been new, because most of the enterprises listed as private in the 1995 census (i.e., enterprises that had been established as private enterprises in the first place sometime in the 1980s or early 1990s) had disappeared by the end of the 1990s. Of the 46 enterprises listed as privately owned that I tried to contact (32 percent of the sample universe), I managed to interview only 3,[11] and I could get additional information over the telephone from only 5, for a total of 8. Of those 8 enterprises, 5 claimed to be doing well, while the remaining 3 said that they were bankrupt, stopped, or doing very poorly. But out of 38 for which I gathered no information, a full 34 were categorized as either "other" or "no answer." These categories denote a variety of contact-attempt experiences, but all point toward a very high likelihood that the enterprises in question no longer existed.[12]

While few of the private enterprises I encountered in 1998 and 1999 were survivors from the pre-1995 period (only three out of eighteen interviewed), neither were many of them new start-ups created by entrepreneurial individuals. Rather, they were TVEs that had been converted to private enterprises in the late 1990s.[13] Twenty-seven of the enterprises listed as TVEs (twenty-six) or SOE-TVE JVs (one) in the 1995 *Census* had subsequently been converted to privately owned enterprises. Of those twenty-seven enterprises, I interviewed fifteen,[14] and I got additional information over the telephone from eleven more, for a total of twenty-six. Sixteen of the twenty-seven TVEs had stopped and gone bankrupt before being purchased by the current managers and thus being converted to privately owned enterprises. Arguably, these enterprises represented the fate of small, unsuccessful enterprises under the "hold onto the big, let go of the small" policy in which enterprises that were not closed were sold off, often to their managers. Of the fifteen where I formally interviewed managers, only one was from the automobile sector (a relatively healthy sector), but it was a second-tier subcontractor. (No first-tier subcontractors were privatized, except by conversion to joint-stock cooperative.) Five, four, and three of the enterprises, respectively, were from the severely downturned bicycle, meters and instruments,

and motorcycle sectors, while the refrigerator and sewing machine sectors had one each. And while official statistics do not disclose the number of bankruptcies, it is worth repeating here that of the 366 target sector TVEs I attempted to contact in 1999, as many as 60 to 70 percent had been closed.

Anecdotal evidence from interviews suggests that this phenomenon was far more widespread than just in the 15 enterprises I interviewed. One owner explained that this was the current trend for TVEs. He had been manager of a village-owned enterprise established in 1970 to make textile machinery parts. In 1986, it became one of the earliest subcontractors for Yichu motorcycles, and business expanded rapidly until 1997. But when the motorcycle sector suddenly crashed, the village government no longer wanted the enterprise and sold it to him (M4). Another enterprise had been an agricultural tool workshop until the 1980s and then a village-owned enterprise until the bicycle sector collapsed, the TVE went bankrupt, and the manager purchased it in 1998. He said that there were six TVEs in his village, but that four of them had already been converted to private enterprises (B8). The manager of a village-owned subcontractor for Yichu also bought out his TVE when it went bankrupt and said that all of the TVEs in his village had been closed or purchased by their managers (M11). Conversely, the manager of one village-owned TVE said his enterprise would not be sold off, because it was doing pretty well. (It had become a joint-stock cooperative.) He clarified this statement by saying that a very high number of the TVEs in Jiading County were being privatized, but that they were the TVEs that were basically bankrupt and doing poorly (B3). The manager of an SOE that supplied plastic raw materials (PVC and BOPP) to downstream manufacturers explained that before 1995, most of his customers had been SOEs. Most of his customers were TVEs now, but almost all of those were private enterprises that until recently had been TVEs (O7). Finally, the manager of a former Yichu subcontractor that had brought up at least ten TVEs with its own development said that he no longer had any SOE suppliers. His TVE suppliers were the same enterprises as before, but most of them had now been converted to private enterprises (M10).

In most cases, the continuities between the defunct TVEs and the new private enterprises were striking. The new enterprises were located in the same facilities as the defunct TVEs, and the nameplates at the gate may or may not have been changed. Managers and workers still wore the original company clothing, often displaying the name of the TVE. Managers even used their original business cards (in

some cases the name of the new private enterprise was stamped on the back of the original), and newly printed cards often featured both the name of the TVE and the new enterprise.

2. Marketization and Privatization

The picture that emerges from these data seems to confirm the pattern of *zhuada fangxiao*—"grasp the large, let go of the small." Although this had become official policy by the late 1990s, with the official line to managers of small enterprises becoming "if you want it, buy it; otherwise close it" (I5), the evidence shows that government policy was not the primary factor driving the privatization of TVEs. Interviews suggest that which enterprises shifted and which did not (which were "held onto" and which were closed or privatized) was up to the discretion of local governments. This could be simply due to uneven implementation and local resistance (there is a long tradition of this recorded in the literature), but, as will be seen, it also opens a space for the possibility that the larger, structural forces of the development of capitalism were pushing the changes, with government policy following in their wake. In other words, it was increased marketization that brought about privatization rather than vice versa. Restructuring of the SOE-TVE nexus as a result of ongoing marketization was the driving force behind the widespread bankruptcy of TVEs (see chapters 4 and 5). This section will provide evidence from interviews that it was shifts in subcontracting patterns that were in turn pushing—even forcing—local governments to privatize their TVEs.

The *zhuada fangxiao* policy was implemented unevenly.[15] I encountered large numbers of enterprises that had not been sold or closed. One obvious reason to keep a TVE open would be if the local government perceived it to have future potential. A TVE that originally subcontracted for the Feixiang brand of bicycles (established by Jiading County in the early 1980s to take advantage of surging market demand left unfilled by the Shanghai SOEs) went bankrupt in 1998, but had not been closed. When asked why not, the manager explained that he and the other managers had good *guanxi* with officials at the county level, because the bicycle project had been a high-profile one in the 1980s, before the auto industry became the focus of Jiading County industry. He implied that this old *guanxi* allowed them to stay open until they found new business and that their high stature before the decline of the bicycle sector carried over, lending them the air of a TVE with potential. Indeed, county-level officials

had recently produced an opportunity for them to begin manufacturing auto parts for the SVW Santana (B13).

Size may also be a factor, as in the case of a large bicycle subcontractor, a village-owned enterprise that had lost most of its business. The enterprise had converted to a joint-stock cooperative, with the village government still retaining control, but the money raised internally had essentially been squandered in an attempt to shift to a new line of business after the bicycle sector collapsed. The manager said that most of the enterprises in their area that were doing poorly were being sold off, but that he did not expect his enterprise to be privatized anytime soon. When asked why not, he simply replied "too large" and refused to elaborate. His enterprise had been very large during the heyday of the bicycle sector, but he claimed that he still employed 240 local residents (B3).

Claiming that the enterprise was too large to be privatized could simply mean that the enterprise was too large to find a capable (and interested) buyer. When the business failed for a second-tier subcontractor in the sewing machine sector, the manager tried unsuccessfully to switch to a new line of business. He failed because he was "too used to doing things the old way, the planned economy, and could not understand the new market economy." After a few years of patience, the local government replaced him with a younger manager who had successfully turned around another failing TVE in the same township. This manager was now handling two enterprises at the same time. His first enterprise, the success story, had been converted to a joint-stock cooperative, with him and many of the workers eagerly buying a controlling share of the enterprise. (The manager himself controlled the largest single block with 30 percent, the workers 48 percent, while the township retained only 22 percent.) The township also hoped to divest itself of the second, failing enterprise. But because that enterprise continued to lose money and was heavily in debt, the workers refused to purchase shares. Still, the township was keeping that enterprise open, confident that the manager could turn it around, as well. The manager believed the workers would buy shares once he had (S5). While in this case the potential of the enterprise played an important role, the unwillingness of the workers to purchase was also crucial. The manager of a former bicycle parts subcontractor explained that his ailing village-owned enterprise had not been privatized for the same reason: "For 200,000 to 300,000 yuan, you can buy a small factory, but not this one. Who will buy it?" (B1).

But while the size of the enterprise—the inability to find a capable and willing buyer for an enterprise that large—might help explain why

these enterprises had not been privatized, the labor problem of local officials seems the best way to explain why local governments did not simply close them. On the one hand, local governments would like to divest themselves of their labor burden: One manager explained that his TVE was converted to a joint-stock company in 1998. While a portion of the ownership was retained by the township, most of the ownership was now private. "They did this because the government wanted to shake off its burden [*guojia yao shuai baofu*]" (A18). On the other hand, local governments have to walk a line between "shaking off the labor burden" and taking care of local villagers. In the case of the bicycle subcontractor, the manager explained that the reason why the local government was keeping him open was not because it still hoped for a turnaround. Nor did it continue to benefit from enterprise revenues. In fact, the local government was losing money on the enterprise. But it was keeping the enterprise open and did not wish to privatize it because a significant portion of his labor force was surplus. "Of more than two hundred workers here, at least one-third are redundant. If I bought the factory, the first thing I would do, of course, would be to lay them off. So the township won't let us convert" (B1). The manager of the former sewing machine subcontractor expressed similar reasons. The local government could not privatize it because his workers refused to buy shares. But it also did not close the enterprise (though it was still losing money and heavily in debt), because, as the manager explained, "even more importantly, the township government wants to keep it open because they want to keep the workers employed. Otherwise, they are afraid the workers will go to the township government, or even the Shanghai municipal government, to demand jobs or money" (S5). He implied that this happens frequently but would not elaborate.

These stories suggest that local governments are essentially acting in accordance with their own perceived interests and not merely following the dictates of policy. Given the labor problem, they would keep enterprises open if possible. But faced with such widespread downturns, local governments were simply unable to carry the burden. The most important factor pushing local governments to divest themselves of small enterprises was the burden they presented once their business went bad rather than central government policy.

This account—that broad sectoral downturns led to TVE bankruptcies, which in turn drove local governments to divest—captures an important part of the dynamic. But it presents a passive narrative of local townships reacting to forces beyond their control and leaves out crucial facets of the process. First, it misses the important role

that agents at both the urban SOE and the rural TVE levels played in actively restructuring their commodity chains in order to remain or become competitive in the new market environment. Second, it downplays the fundamental role that industry restructurings played in the privatization of TVEs. It is not just that sectoral downturns caused bankruptcies. There is evidence SOEs and other enterprises that subcontracted out actively shifted to private subcontractors in order to lower production costs. This shift, in turn, pushed enterprises at the local level to privatize. Third, while the neoliberal literature argues that clearer property rights at the local level induce greater economic efficiency, what was really at stake was the rural labor regime that emerged with the SOE-TVE nexus in the 1980s.

Coeval with the trend toward reducing the number of subcontractors in favor of internalization and reverticalization described in chapter 4 was a trend at all levels of the production hierarchies toward subcontracting to private enterprises. While no manager would say that his enterprise was consciously switching subcontracting relations from TVEs to private enterprises, in the new environment of the surplus economy, all enterprises were forced to look for ways to lower costs. Because the cost structure of private enterprises was inherently lower than that of TVEs (see below), many factories were subcontracting to an increasing proportion of private enterprises. With private enterprises outbidding TVEs, many TVEs suddenly found themselves without work, facing bankruptcy, and under further pressure to convert. Local governments could sometimes forestall their bankruptcy, but in many cases, they closed and converted their TVEs precisely in order to hold onto or to capture subcontracting opportunities.

In the early 1980s, Forever Bicycle established three large joint ventures (*lianying*) with townships in nearby Baoshan County. It broke off the joint ventures with all three in the late 1990s as it lost market share and reduced production. Forever did not reinternalize production functions as quantities shrank, however, unlike other enterprises. Rather, while the former TVE joint venture where I interviewed continued to fill small orders, almost all of the parts it previously produced were now being made by small private factories that used to be bicycle subcontracting TVEs before they converted (B9).

An enterprise illustrating this trend was the private entrepreneur who used to be a manager in the Shanghai Children's Bicycle Factory, an SOE that went bankrupt in 1996. His factory assembled children's bicycles using components purchased from more than 20 suppliers. At first, the manager described his suppliers as TVEs, but then corrected himself. "A lot of our suppliers are TVEs that used to supply

the bicycle SOEs, that's how I knew them. The managers were old friends. But the TVEs that used to supply the SOEs are bankrupt now. Now they are private enterprises" (B11).

Most of the managers interviewed revealed the same sense of continuity between the defunct TVEs and the private enterprises that had replaced them. The manager of a sewing machine SOE said that of his 85 subcontractors, fewer than 10 percent were SOEs, and the rest were TVEs. He then pointed out that what he was calling TVEs were all becoming private enterprises. When I asked if there was a trend toward subcontracting more to one of the three types of enterprise, he said that the number of private enterprises was increasing in proportion to the number of TVEs, but only because so many TVEs were converting to private enterprises. He immediately stressed that he was not dumping any TVEs in favor of private subcontractors. Further, his relationship and manner of doing business with his subcontractors was not changing noticeably, because after the TVEs were privatized, he was still dealing with the same manager (S1).

A former subcontractor from the motorcycle sector told a slightly different story. Between 1985 and 1995, motorcycle prices and parts prices with Yichu never changed. But since 1996, new motorcycle prices had fallen from 10,000 yuan to 6,000 yuan. While in the past Yichu had never negotiated subcontracting prices,

> now when they give orders the price is very low, and they leave very little room to negotiate. They can always find someone to do it at even lower prices—especially private enterprises. By private enterprises I mean TVEs that have converted to private enterprises. They have lower costs than TVEs because they do not have the same social obligations. So in the Yichu subcontracting system there is a trend toward private enterprises. (M6)

Another manager in the motorcycle sector said that the Yichu main factory was still doing mostly final assembly. Yichu had not internalized much of its parts production, "because they can't make a lot of the parts. So they have gone out and found a whole new batch of [cheaper] small private factories" (M16). A third TVE manager said that Yichu used to be 30 percent of his turnover, but now most of his business was with Jinan, a successful motorcycle manufacturer in Shandong Province. When asked why, he said that Yichu was changing a lot of its suppliers to ones more willing to lower prices, usually private enterprises (M10).

Finally, a second-tier subcontractor in the auto sector embodied several of these trends at once. This was the former TVE in Pudong

that produced an assembly to squirt soapy water to clean windshields, and it was large enough that the township government converted it to a joint-stock cooperative rather than closing it. The manager was taking advantage of widespread TVE bankruptcies in the area to purchase equipment on the cheap, allowing him to internalize several production functions and reduce the number of his own subcontractors. Even as it shrank, the constitution of his subcontracting system was changing, as well: "We have half as many subcontractors as in the early 1990s. Back then they were all TVEs, but now all of them are privatized TVEs." When I asked if this was a widespread trend, he said yes. "TVEs can't compete anymore. With all those social obligations, they are more expensive than private enterprises. So only private enterprises can get the contracts now. So a lot of TVEs are going bankrupt. And the ones that aren't, are converting to private enterprises as fast as they can." When I asked if this was true in all sectors, he said that he thought so and specifically mentioned bicycles and motorcycles. (He seemed more familiar with these sectors, and his township had TVE subcontractors in both sectors.) I then asked about the auto sector, pointing out that his TVE had not been fully privatized and that many of the first-tier SVW subcontractors I had interviewed had been converted to joint-stock cooperatives, with local governments retaining control. He replied, "grasping the large, and letting go of the small [*zhuada fangxiao*]—the first tier auto subcontractors are all huge; they are too big to sell off. And besides, the local governments will never let go of those enterprises; they make too much money!" When I pushed further, he explained that there had been a noticeable shift to private enterprises subcontractors in the auto industry, but in the second tier, not the first (A18).

Before proceeding, it is important to recall briefly the labor regime that emerged with the SOE-TVE nexus in the 1980s. While TVEs were celebrated in the literature as the harbingers of the market economy that grew up outside the planned economy, they did not operate in an environment of fully developed labor markets. In fact, their relationship to labor came to resemble that of the SOEs in many important aspects. Because chapter 1 discussed this in more detail, this section will focus only on what managers referred to as the "social obligations" of TVEs as hindrances to continued development.

As just mentioned, one manager argued that the trend in Yichu was toward subcontracting to private enterprises, rather than to TVEs, because private enterprises had fewer social obligations (M6). Another manager from the motorcycle sector complained that his TVE had a very heavy social burden, because it had to care for

60 or 70 retired people. "Private enterprises do not have these burdens. They don't have to pay as many fees to the government, and they don't have to pay for extra people" (M16). Other TVEs that had lain off redundant workers were required to pay them a monthly fee (*xiagangfei*) to help them with living costs, even though they were not working. One "stopped" TVE from the refrigerator sector paid its laid-off workers between 150 yuan and 200 yuan per month for over a year, until it was fortunate enough to find new business and reemploy them (R12).

In significant ways then, the TVEs were a product of and absorbed important aspects of the socialist economy. One "model" TVE in the meters and instruments sector was given an award for having the best "spiritual civilization" in its township because of a campaign it initiated in 1991 called "spiritual civilization, material civilization" (*jingshen wenming, wuzhi wenming*). The walls of the manager's office were lined with plaques and awards. That factory began holding an art festival for the entertainment of its workers once every two years and at the time of the interview in late 1999 had already held three. In 1995, the factory took all of its employees on a weeklong sight-seeing trip to Beijing—more than two hundred people at an average cost of 1,000 yuan per person (I6).

Some managers even compared TVEs to SOEs, pointing out that they were far less efficient than private enterprises. One tried to explain why a large and successful TVE in his township had gone bankrupt. "They had a big organization, too many people. For a component their production cost might be 5 yuan, but a small factory could make it for 3—lower production costs and higher profit" (A22). Another manager in the same township filled in the details. He explained that it had been an extremely "upright" TVE (*zhenggui*), a model TVE that represented the ideal of "the enterprise running society" (*qiye ban shehui*). By this he meant that the enterprise managed a huge cafeteria and a nursery and provided several other social-welfare functions. This combined with several layers of management to create a heavy load for the workers of the enterprise.

> There were too many managers, not many workers. From the managers, to the assistant managers, to the workers, to those who cooked and swept the bathrooms, everyone wanted money. But it was a case of there not being enough gruel to go around for so many monks [*seng duo zhou shao*]. By the end, there were only one hundred workers out of several hundred people—with everyone eating out of the same big pot, they couldn't make money. (A19)

This expression—"everyone eating out of the same big pot" (*chi da guo fan*), a common aphorism referring to the socialist ideal of everyone receiving equal treatment regardless of performance—was used by many managers to denote the socialist, as opposed to the free-market, nature of TVEs. One scholar echoed these observations, referring to the "many TVEs that had adopted the enterprise system of traditional planned economy SOEs" as "number two, or secondary, SOEs" (Chen 1998, 2, 25).

Managers also pointed out that TVEs were not as flexible as private enterprises. "Why did Number One [a local auto parts TVE] go bankrupt? The planned economy, products weren't right for the market, had to shift products but they couldn't. Small enterprises are more lively and flexible [*linghuo*]. Number One had too many managers, it wasn't easy to do something new. Smaller factories can produce more quickly, and they can shift much more quickly" (A22). A manager of a new private enterprise in the bicycle sector described his factory as "very flexible. We can change models in a week or so, much more flexible than a TVE." He went on to describe one of his biggest competitors, a TVE producing a brand of children's bicycles in Kunshan, Jiangsu Province. "They also make a line of kids' products, including beds, diapers, and strollers. They are a collective enterprise—owned by a township—but now they are very big, so big that they are starting to seem like an SOE, too big and not very flexible. I heard this year they will try to convert to a joint-stock cooperative, give out stocks to employees to try to enliven the factory" (B11).

The need for lower prices and greater competitiveness compelled manufacturers to reduce production costs by pushing down subcontracting fees or switching to cheaper subcontractors. In many cases, this led to TVEs going bankrupt and being sold at very low prices to their managers, who then tried to find new business and hang on until something came along (see chapter 5). But other cases illustrate even more clearly the underlying structural logic that caused commodity-chain restructuring to drive TVE privatization. In these cases, local cadres took the initiative to break up TVEs, closed them, and then reopened them as private enterprises in the same line of business. On the one hand, this process represented a corrupt hollowing out of public ownership (see Oi and Walder 1999, 17), but when examined in the context of the restructuring of the commodity chains, it becomes apparent that these actions followed necessarily from their restructuring.

A case based on three interviews in one township makes the point. While the versions differed slightly, all three interviewees told a similar

story of how the local TVEs were privatized. According to one, the township had four TVEs producing auto parts. In the mid-1990s, all four went bankrupt because they were carrying too heavy a social burden and were not flexible enough in the new market environment. "Now, there are no TVEs left in this township; everything is private." He went on to describe the fate of the factory with which he was most familiar: "After it went bankrupt, several of the cadres immediately left and started their own private enterprises. They sold the TVE's equipment to themselves very cheaply to use in their new private factories. They even rented out the old factory space to themselves at a low price. They kept doing the same business as before. In all, that TVE broke up into more than ten small private enterprises" (A19). Another local manager said that originally there were several TVEs, but that all of them had been split up into private enterprises: "After the TVEs were split up, the new [private-enterprise] factories bought up their machinery for very low prices, maybe 25 percent of cost, and rented out the factory space very cheaply." Unlike the first manager, who had said the TVEs went bankrupt due to inefficiencies before being split up, this one said that "it was not necessarily inefficient big factories that split up, sometimes ones that were doing very well split up, too" (M16). The third local manager likewise related how local TVEs had gone bankrupt and then split into several private enterprises. He said one of the original TVEs had gone bankrupt, was split into four or five small factories, and then sold its equipment and rented its factory space to those factories at very low prices. But his story differed slightly when I sought clarification. When I asked if the original TVE cadres had bought the equipment and established the small factories, he said that the "cadres had already gotten rich [*dangguan de zao jiu facaile*]." When pushed further, he hinted that the cadres had started their own small factories even before the TVEs had gone bankrupt, running them at the same time as they managed the TVEs and using TVE machinery, plant, and workers for production runs (A22).

Examples from other sectors tell similar stories of TVEs being split into several private enterprises. In Nanhui County, one township-owned TVE had produced meters since the 1980s, making a lot of money for the local government. After it went bankrupt in the mid-1990s, it had been split up into several private enterprises making various types of meters (I10). A village-owned TVE in another part of the county had subcontracted for the Shanghai Number Four Sewing Machine Factory, stopping and going bankrupt only when Number Four no longer had business in 1997. It was "reformed in 1998, with

the collective part all laid off, and the rest becoming several small private enterprises doing different things. None of them do sewing machines anymore, but one does some kind of machinery for the new airport" (S9).[16]

All of the managers in these interviews mentioned the high social burdens of the TVEs, especially the need to take care of large numbers of villagers who were residents of the township or village, including the difficulties of laying them off, the need to pay fees to laid-off workers (*xiagangfei*), and the high costs of the various social-welfare programs associated with the "enterprise running society" (*qiye ban shehui*). Implicit in these complaints was the fact of imperfect labor markets: TVE managers seemed obligated to take care of local resident villager-workers. This entailed two practices in particular: not laying off local workers and not hiring outsiders.

These are burdens that did not accrue to the new private enterprise factories.[17] Private enterprises were not part of the old planned economy in the institutional and ideological ways that TVEs were. Private managers could hire and fire workers at will and were not obligated to provide social and welfare supports and services to their workers. As described above, the manager of one TVE explained that the township government did not allow him to privatize because it knew he would immediately lay off 50 to 100 surplus workers (B1). The manager of another recently converted village-owned TVE boasted that after he bought the factory, productivity soared because he laid off most of the original workers (B2).

One of the most salient aspects of this new labor regime manifested itself in the widespread hiring of nonlocal labor (*waidiren*, usually migrants from the poorest inland provinces, such as Anhui, northern Jiangsu, Jiangxi, and so on). Many of the private enterprises where I interviewed employed mostly nonlocal workers. The manager who increased his productivity by laying off most of the original workers now employed twenty 20 to 30 young women. When I asked about them, the manager waved his hand dismissively and said "outsiders" (B2). Another newly established private enterprise assembling children's bicycles employed nonlocal labor. The manager showed me the factory floor, where the three production lines were operated by 40 to 50 workers, all of whom were nonlocal. Most were quite young, and many were probably teenagers. They were paid a piece rate and made less than 500 yuan per month, compared with 700 yuan per month, the average wage for local laborers. They lived in the Number 4 building of the factory and ate all of their meals in the factory cafeteria for an undisclosed monthly fee (B11).

It is now possible to put together these pieces to assemble a picture of how commodity chain restructuring drove widespread TVE conversions in the countryside. With the restructuring came the emergence of not only a new property regime, with vast and fundamental implications to be explored in the next section, but also a new labor regime that essentially favored capital—especially urban capital—at the expense of rural labor and livelihoods. The last vestiges of the socialist planned economy and its protections for labor and locality were being washed away.

3. The New Countryside

Rural industrialization through TVE growth in the 1980s had enriched the Chinese countryside, especially in areas such as the Yangzi River Delta. Agricultural decollectivization played an important role in improving villager fortunes, but rural industrialization made the decisive difference. Though rural industry was often started in order to subsidize agriculture, by the late 1980s and early 1990s, it had completely outstripped this initial function. By the 1990s, industry provided the lion's share of rural government revenues and personal incomes. Industrial revenues enabled local governments to rebuild townships and villages with new roads, new government buildings, new hospitals and schools, large modern factory facilities, and so on. One source indicates TVEs as the origin of 50.3 percent of rural household income in 1997 (Ju and Wang 1998, 5, 7). Income from factory jobs enabled villagers to move beyond their dreams of being able to purchase bicycles, sewing machines, and radios. Now they built huge new multistory houses and purchased televisions, washing machines, refrigerators, and other modern appliances.

In a strange twist of fate, given the way that Maoist policies starkly separated the urban and rural spheres of China in a system that strongly favored city dwellers, there is evidence to suggest that Shanghai's villagers were briefly better off than urbanites in the late 1980s and early 1990s. This golden age of high villager incomes and income growth in rural Shanghai was a direct result of the SOE-TVE nexus, one of the most important institutions mediating villager experiences of China's developing industrial economy. But the shift to a new regime of subcontractor relations reordered the economic fortunes of rural localities and villagers.

The statistical evidence on rural incomes is mixed. One official source that purports to analyze the Shanghai economy for 1998 and make predictions for 1999 (*Shanghai jingji fenxi yu yuce keti zhu*

1999) discussed rural income trends up until 1997 but oddly ignored 1998 and did not make predictions for 1999. This is typical in official Chinese publications when news is bad. (Chinese government statistics almost always show positive trends only.) A similar book from the previous year with the same publisher and almost the same title (it is apparently meant to be an annual series) predicted that rural per capita *consumption* would increase yearly from 4,548 yuan in 1997 to 7,222 yuan in 2000 (53), only to state elsewhere that whereas urban incomes would increase in 1997 compared with 1995 and 1996 levels, it would be difficult for rural per capita *net incomes* to recover their 1995 and 1996 growth rates (*Shanghai jingji zengzhang qushi yu yuce fenxi keti zu* 1998, 34).

There is stronger statistical evidence to support the slipping fortunes of rural localities. While aggregate statistics may have continued to show overall growth in rural Shanghai, it must be remembered that the geography of postsocialist industrialization was uneven. Some localities continued to develop even as others collapsed. Still, one study argued that the village-level economy in Qingpu County was going downhill (*zou xiapolu*) in 1997. Profits from village-level TVEs were 17.3 percent lower than in 1996 and fully 191 out of 318 administrative villages (60.1 percent) were running deficits (*Qingpu xianwei xianfu yanjiushi* 1998,7, 11).

Available statistics present a mixed picture, but the evidence from interviews is clearer and enables a series of reasonable assertions. As rural governments held onto large enterprises and let go of small ones, an increasing proportion of villagers were employed by private enterprises. While the remaining large TVEs—especially first-tier subcontractors in more successful industrial systems such as Shanghai Volkswagen and GM Buick—seemed to be maintaining respectable profit and wage rates, they generally embodied high levels of technical capability and were, for the most part, irreplaceable parts of their respective production systems. Their situation contrasted sharply with that of most privately owned factories, so many of which were born out of the remains of bankrupt TVEs and were attempting to survive in the context of a huge glut of lower-tier subcontractors. Many of these firms found themselves at such a disadvantage when negotiating with larger factories that they ended up producing at or below cost, trapped into doing so by cycles of debt. This restructuring of interfirm relations dovetailed with the coeval restructuring of rural labor markets, because TVEs were increasingly able to both hire nonlocal labor and to shed their heavy "social obligations" to local villagers by going bankrupt and reopening as private enterprises.

Previous chapters have demonstrated the devastating effects of increasing marketization on particular industrial sectors and their constituent enterprises. The same processes wreaked havoc on the rural localities. The process of expanding and elaborating the division of labor embodied in the construction of the SOE-TVE nexus in the 1980s enmeshed entire townships and villages in particular industrial sectors. This practice was very profitable as long as the sector in question was growing—local officials and managers were eager to localize ever greater portions of particular production processes and to create local factories rather than subcontract functions out to enterprises in other localities. But when these sectors began to shrink, collapse, or at least experience intense restructuring, the path of devastation followed the commodity chains downward, as well. The first round of geographical industrialization thus laid the spatial tracks later followed by the crisis.

The stories of three localities enmeshed in four industrial sectors illustrate this pattern and some of its variations. The first was a township in Qingpu County that became specialized in the bicycle sector. Well before conducting my first interview there, other TVE managers in the same sector had told me I should go there, because it was famous as a "base" in the bicycle industry (*zixingche jidi*). Though it was not the richest township I visited, the downtown area had obviously received substantial infrastructural investment within the last ten years, and new multistory buildings and houses were the norm. The manager I interviewed repeated throughout the interview that times had been very good under the planned economy (*jihua jingji*), and everyone had been well off until the arrival of the market economy (*shichang jingji*) in the mid-1990s. The township had relied heavily on the bicycle sector, with at least five TVEs subcontracting the production of components for Shanghai SOEs. (The factory in question worked for Forever initially, then Phoenix from 1993 to 1995.) His TVE had started subcontracting in the sector after being introduced through the *guanxi* of a friend, and he implied that an official in the local government had good connections with the Shanghai SOEs. At the time of the interview in 1999, two of the TVEs were bankrupt and closed. Of the remaining two, both were doing very poorly. His own TVE had gone bankrupt, and the local government had ordered him to buy it or close it, so he bought it. I asked if he had changed business lines, but he said no: "We are not doing auto parts or anything; we are too low skill and cannot do anything else." He said he was still producing in small batches for the SOE, but the factory looked as if it had not been active at all for at least a few years (B7).

The *Census* listed this enterprise as employing 70 workers in 1995 and listed four more local bicycle enterprises employing 495 additional workers.

I interviewed the managers of three different enterprises in a second township in Nanhui County that had become highly concentrated in the motorcycle sector. One said that Yichu Motorcycle had six subcontractors in Nanhui County, with three of them concentrated in this township (M5), while another (M7) claimed that there had been four (the *Census* listed eleven enterprises for Nanhui County, with five in this township). None of the three attempted to explain how the township had become so dependent on the motorcycle sector, but two said they had connected to Yichu through the *guanxi* of friends (M5, M6). All three of the TVEs had gone bankrupt in the late 1990s: one was completely stopped and closed (M6), one was trying to get into a new line of business making lamp bases (M5), and the third now made motorcycle parts for the unauthorized parts market (M7). All three claimed that all of the other motorcycle subcontractors in the area were bankrupt. These three TVEs employed just over 300 workers at their peak in the mid-1990s, and the other two listed in the *Census* employed an additional 92 workers. Coincidentally, the same township also had an SOE that had been established in 1970 to produce industrial sewing machines for the Shanghai Textile Bureau. It employed 300 relocated workers from Shanghai and more than 200 local villagers at its peak in 1990. But when I spoke to the manager in June 2000, the factory had no business at all, had completely stopped producing, and had laid off (*xiagang*) almost all of its employees. Its one subcontractor in the same township, a metalworks TVE, had gone bankrupt, as well, and was still unable to find new business (S-C6).

The third locality, a village in Qingpu County became specialized in the refrigerator sector after Shuanglu established an SOE-TVE joint venture (*gong-nong lianying*) there. Originally just a parts subcontractor, the local TVE was very efficient and profitable and had developed close relations with the urban SOE. The refrigerator market was growing quickly, and Shuanglu wanted to increase production and productivity and get a share of the TVEs high profits. So in 1988, Shuanglu purchased the TVE and established the Number Two Branch Plant (R17). The local government soon invested large sums to develop additional, locally owned TVEs to produce a variety of parts for the branch plant, thus capturing even greater revenues and profits. One source claimed that the village established five or six local subcontractors (A20), while village locals told me that almost

all of the TVEs in the village had depended on the branch plant. The village was so successful that it was listed as the third-richest in the entire county. The village secretary was bestowed the title of "advanced" (*xianjin*: meritorious or exemplary) for three consecutive years, and his official residence status (*hukou*) was transferred from rural (*nongmin*) to urban (*jumin*), a great privilege (A20). Later, when Shuanglu's business began to shrink, it closed the branch plant and moved essential equipment back to the main factory. The branch plant went bankrupt, soon to be followed by the local TVEs that were dependent upon it. At its peak, the branch plant employed 500 to 600 workers. (The *Census* lists 439; only two others are listed in the *Census*, with a combined workforce of 180 additional workers.) About half of the branch plant employees were from the SOE. These were laid off with a small living stipend (*xiagangfei*). The rest were local villagers hired under contracts with clauses stating, in effect, that the factory could lay them off if needed (R11).

The economies of all three localities were devastated. Each saw widespread bankruptcies of once-successful TVEs and hundreds or thousands of workers laid off in the targeted sectors alone. One manager in the motorcycle township said, "This township is doing very badly now; there is almost no business for anyone" (S-C6). Another pointed out that "everyone here is out of work [*xiagang*]—just a few years ago the streets were almost completely empty during the day, everyone was in the factories. Now the streets are full and people have nothing to do" (M6). Indeed, the streets were literally full of people who appeared to have nothing to do on a workday afternoon. Many had set up tables and chairs on the sidewalk and were playing cards or mahjong. "When Yichu stopped, it left a lot of debt—a lot of factories did not collect their money. Now there is no business, everyone is laid off, and all the locals are simply cultivating their fields or trying to find odd jobs" (M7). The refrigerator village, once one of the wealthiest in its county, was officially declared an "impoverished" or "hardship" village by the Shanghai municipal government at the end of 1998 (A20: *pinkun cun*: an official designation allowing it to be eligible for certain types of aid).

This phenomenon was hardly limited to these three localities. One manager explained that "this situation, where one subcontractor fails and takes down a series of others with it, is extremely common and widespread" (A20). Another expressed dismay that all of the TVEs in his area were going bankrupt and closing, causing "a huge batch of unemployment [*yi da pi de shiye*]. It's especially tough around here [in Pudong near urban Shanghai], because the villagers don't have

land anymore, and it's difficult to find work now" (A18). Chapters 4 and 5 have documented the difficulties encountered by TVEs trying to stay open. Those TVEs, and the commodity chains in which they participated, constituted the institutions mediating between China's industrial markets and rural villagers. This round of restructuring had a particularly devastating effect on the latter.

4. Conclusion

Earlier efforts at the privatization of TVE property rights did not really change anything. True privatization did not begin until the *zhuada fangxiao* policy of the late 1990s, when local governments consolidated and held onto larger, more successful enterprises and let go of small and unsuccessful ones. Local governments exercised wide discretion in selecting not only which enterprises to let go, but also if and when to let them go. The major impetus behind the widespread letting go of TVEs in the late 1990s—"buy it or close it"—was the restructuring of the sectoral commodity chains, driven by the shift from a shortage to a surplus economy.

It was thus not TVE privatization per se that was so important—formal property relations do not always define the distribution of risks and rewards. More important was the effect of the circuits of capital and the circuits of power they constituted. What emerges is a picture of an utterly transformed rural Shanghai. The old SOE-TVE nexus regime that allowed localities to retain significant industrial revenues had been swept away (the notable exception being remnants in the auto sector), along with the rural labor regime that provided local workers with good wages and substantial social and welfare benefits. Lingering TVEs or newly converted private enterprises, if they could play the *guanxi* game and get new business, were often reduced to producing at or below cost and subsequently were trapped in cycles of debt. A vast surplus army of rural workers and factory units waited to take their place if they decided to exit an undesirable relationship.

Some new investment was taking place, and it would increase again in the early 2000s, but its sources and effects on rural development and fortunes would be shaped by the new configuration of rural property rights. Henceforth, new investment would be largely private, and an important source would be former TVE managers, villagers, or local government officials that had accumulated enough capital over the previous decade to wrest control of their TVEs. But not all of these new private enterprises would make it through the hard times of the late 1990s, and there would be fewer other villagers around with the

resources to take advantage of the next upswing. More often than not, the sources of new investment were urban or international rather than local. Already, urban and foreign capital was sweeping down on a distressed countryside in waves, taking advantage of the new economic landscape, scooping up manufacturing equipment, factory facilities, and skilled and experienced labor at far below their production costs and hiring cheap, nonlocal labor to fill in the gaps. Whatever profits were to be made were remitted to the urban sources of the investment, while the countryside was left deriving some income from the low wages, low rents, and ostensibly, whatever enterprise income taxes local governments might manage to collect.

Conclusion

The regional economy had come a long way. The "big and complete, small and complete" industries of the 1970s and 1980s had been replaced by networked production systems supplying consumer goods to China's growing domestic markets. But by the end of the 1990s, the SOE-TVE nexus that had flourished and benefited both city and country during the transition from plan to market was gone. This did not signal the end of economic growth, much less the end of history. Rather than a return to the golden age, however, new rounds of investment and growth would usher in a colder set of realities for TVEs and SOEs alike.

The outlines of what was to come were already observable in the ways rural localities were coping with the crisis at the end of the 1990s. In the "bicycle base" township in Qingpu, local residents primarily occupied themselves cultivating their own fields. The stopped factory I interviewed there was earning a little money renting its space as makeshift living quarters for nonlocal workers (the children of which constantly interrupted my interview with the manager, having never seen a foreigner; the factory yard was full of their chickens). These nonlocal workers mostly had factory jobs, the two main sources of which were a large piano factory, recently opened just across the road by a Hong Kong company, and a bicycle parts factory just down the road. The latter had been another of the many bicycle parts TVEs in the township until it went bankrupt and was then purchased by an investor from Shanghai (B7).

The refrigerator village was once again involved in the refrigerator sector. A new factory occupied the plant of a TVE that had gone bankrupt in 1997—one of the local TVEs that had been established to supply the Shuanglu Branch Plant. Even the phone number was the same as the original TVE, and it was only upon arrival that I learned it was a wholly unrelated enterprise. The new enterprise, a branch plant of another Shanghai SOE, had spun off from an older branch plant in Suzhou, in neighboring Jiangsu Province, about three times the distance from the Shanghai urban center. That branch plant had

been established in the 1980s in Suzhou in order to take advantage of lower costs. At the time, Suzhou was better connected to Shanghai via railway than most areas of suburban Shanghai were by road, and education and skill levels were higher and costs were lower there. By the late 1990s, however, the branch plant was becoming too large, and new facilities were needed to produce a line of evaporators with higher technical specifications. The Suzhou plant continued to make the old lines, and this enterprise was established in the refrigerator village in 1998 to produce the new lines. The refrigerator village, located next to the new Shanghai-Suzhou freeway, was now more convenient than Suzhou.

But proximity was not the key reason this village was selected to be the site of the new branch plant. First, the new factory employed about 60 workers, 80 percent of whom were ex-employees of either the original TVE or the Shuanglu branch plant itself. When the Shuanglu factories went bankrupt, some workers went elsewhere to find employment, but most stayed in the village and returned to farming. Management knew this village was full of unemployed workers with training and experience producing refrigerator parts, and when hiring, they especially looked for ex-workers from those two factories. Given the large pool of unemployed, management was able to choose the best former workers, with many others in reserve. Their location choice thus tapped an unemployed, cheap, and skilled surplus labor pool. Second, the original TVE was actually only "half-bankrupt" and still maintained a small part of the factory space, from which it conducted tiny amounts of business. Its principal source of income derived from renting factory space to the new enterprise. Because of the glut of failing subcontractors, the SOE was able to negotiate a very low rent for the building and facilities, far cheaper than building new ones (R11).

New rounds of investment had arrived to both the bicycle township and the refrigerator village, unlike the motorcycle township where the villagers continued to languish. But in both cases the sources of new investment were nonlocal: private entrepreneurs from Hong Kong and urban Shanghai and a Shanghai SOE. The establishment of the Sundiro Motorcycle Factory in 1996 illustrates another way external investors were taking advantage of the crises. Begun as a private enterprise in faraway Hainan, China's southernmost province, Sundiro now had four large assembly factories scattered around China. The Jiading township where Sundiro located its Shanghai factory had only one motorcycle subcontractor listed in the 1995 census, but there had been many other Yichu subcontractors in the immediate

area. Sundiro employed only nonlocal labor, gained proximity to the Shanghai market, and took advantage of Yichu's crash to pay its beleaguered subcontractors only 60 percent of what they had previously earned. In addition, Sundiro paid only several months after delivery, whereas Yichu had paid monthly (M11). One former subcontractor complained that "when Sundiro moved its factory to Shanghai, it depended on the money of [Yichu's] subcontractors. Big factories all do that now, using the capital of small factories to develop. The small factory pays for the raw materials, delivers the parts, but then doesn't get paid for sometimes as much as a year" (A20).

This was the new environment, then, when foreign direct investment started to pour into the Shanghai and Yangzi River Delta region, increasing rapidly in the late 1990s and then soaring between 2000 and 2005. Growing numbers of joint ventures between foreign companies and TVEs should have been strengthening the rural economy, injecting much-needed capital and technical know-how, and providing access to new markets. However, these new factories employed nonlocal labor for low wages, and took advantage of the glut of unused factory space and equipment to negotiate low prices. More importantly, ownership control and profits went mostly to the foreign enterprises. According to the vice director of the Shanghai District and County Industrial Management Bureau, foreign joint ventures with Shanghai TVEs were becoming very widespread in the late 1990s. "But the problem is, the TVE share is usually less than 10 percent" (MG6). In one high-profile case, a TVE (itself a joint venture with two urban companies) entered into a joint venture with Delphi Packard Electric.[1] The American automobile parts company controlled 60 percent, while the three Chinese entities divided the remaining 40 percent (A8). A consultant familiar with such cases confided that the foreign companies were not interested in forming local partnerships—rather, they wanted just enough local involvement to ensure that local governments would smooth the way for profitable operations. Some localities had stronger bargaining positions than others, and were able to win at least nominal shares in exchange for access to labor, facilities, and assurance of a lucrative operating environment.[2] One township, in exchange for allowing Pioneer to establish a large assembly plant, was able to secure new business for some of its beleaguered TVEs. All of the Pioneer plant's subcontracting in China went to three or four local TVEs, including a Shuanglu Refrigerator subcontractor that had been stopped for about a year (R12). Needless to say, private enterprises typically had even less bargaining power than the weakened but remaining TVEs.

The final twists in this rural story would not become fully apparent until I visited again in 2005 and 2010. With each visit I found fewer of the original factories. Municipal government and industry insiders told me that except for large subcontractors in the automobile industry (those which had been "grasped" rather than "let go"), the subcontracting factories of the 1980s and 1990s were gone. What was left of the sewing machine and bicycle sectors still subcontracted to many former TVEs, but to very few in Shanghai, a few more in Jiangsu, and the majority in Zhejiang. In parallel with our earlier story, this was not a straightforward case of Shanghai's privatized, former TVE subcontractors having been directly outcompeted by private entrepreneurs in Zhejiang (so many of which were themselves privatized TVEs that had started by subcontracting sewing machine or bicycle parts for Shanghai SOEs). Rather, many of the TVEs I encountered when they were "half-bankrupt" in the late 1990s, or the private enterprises into which they converted, were scooped up eventually by urban or international investors who sold off the machinery and equipment and developed the land for windfall profits. In fact, as Shanghai and other Sunan cities developed and the value of land increased, many local government or private owners that had survived the crises of the late 1990s found it more worthwhile to close their factories and develop the land.[3]

In 2010, municipal government and industry insiders told me that in retrospect, the SOE crises of the late 1990s—the shift from shortage to surplus—marked an important turning point for Shanghai. Reportedly the deputy party secretary responsible for the Shanghai economy in those years, Huang Qifan, after much deliberation over how to respond to those crises, decided that Shanghai must continue to develop its manufacturing industries. Under his direction elaborate plans were drawn up in 1998 focusing on ten pillar industries, but by 2002–03 it was clear that Shanghai's manufacturing sector was not recovering (except for the automobile industry). The government and party in Shanghai started to rethink its strategy. Huang Qifan was shunted horizontally out of Shanghai, and when the eleventh Five Year Plan was announced in 2005 Shanghai shifted emphasis to six pillar sectors (rather than industries). Except for the automobile and select high-tech industries, the late 1990s marked the watershed after which emphasis shifted wholeheartedly to developing the tertiary industries envisioned in the 1990 plans for opening the Pudong New Area. Those plans had never envisioned the phasing out of manufacturing (aside from moving factories out of the city, and upgrading to higher value-added and technology-intensive industries), but

had expected to let the finance and other service industries grow up alongside manufacturing.

Furthermore, many of the SOEs I studied were listed on the Shanghai stock market in the late 1990s.[4] When its crisis had become severe, Shuanglu Refrigerator was merged with Baimao, an SOE under the same asset management company (previously, the same industrial bureau). Baimao was listed on the stock market, but after its business was no longer viable it was purchased as a *kongke* (empty shell) by a company from Zhejiang. The latter used Baimao's listed status to raise capital on the stock market, and then used those funds to build apartments on the prime urban land where the original Shuanglu factory had stood. Forever Bicycle had also been listed in the late 1990s, and after its crash its empty shell purchased by a villager that had made a fortune manufacturing bowling balls. He used the empty shell to raise capital for land and real estate development, while capitalizing on what remained of the Forever reputation to market a small number of bicycles and mopeds. Meanwhile the Shangling factory, built in 1996, still stood empty and rundown. Insiders suspected that its listed, empty shell would soon be purchased, the factory torn down and the land developed. After all was said and done, the new industries had swallowed up and reutilized the pieces of the old in unexpected ways, resulting in ignoble ends to these once noble industries.

* * *

The main argument of this book—that the shift from shortage to surplus economy surplus caused SOE crises, which in turn drove the restructuring of industrial networks and the privatization of many of the region's TVEs—opens new questions and suggests further research. For example, we know that SOE to TVE subcontracting was also important around Beijing and Tianjin, and Jiangsu cities such as Suzhou and Wuxi. However, we know less about the nature of those networks. Did they develop subcontracting conventions similar to Shanghai, follow the same developmental trajectories, or end in the same way? Can the TVE privatization argument presented here apply to TVEs in those regions as well? Did the shift from shortage to surplus affect SOEs in those cities in the same way? In addition, the regional question is left open: this book suggests that crisis-driven TVE privatizations preceded the influx of external capital into the region; this need be only partially true for it to be a significant contribution.

A network approach serves to shift perspectives and illuminate dynamics once obscured, but it must be remembered that networks are a unit of analysis, a methodology or an approach rather than a theory, and that the networks themselves did not cause the changes we have observed. Rather, the proximate cause for the transformations described in this book was the onslaught of new market forces after the mid-1990s, which in turn was driven by deeper structural tendencies: the logic of accumulation of capital, and the continuous reproduction of China's industrial enterprises and sectors on ever larger scales.[5] The fact that network membership and conventions remained stable for so long indicates that the shift from plan to market entailed a two-step process. Ending allocation was only the first step of the process—productive capacity had to catch up with demand to end the shortage tendencies of the planned economy and complete the transition. This second step suggests a new dimension to post-socialist transitions, one that is largely missed by studies of China's transition to a market economy.

Situating the analysis in terms of the dynamics of growth and accumulation illuminates how the SOE-TVE nexus came into being and the forms it assumed as industries grew. It helps explain how a regime of accumulation outgrew itself and caused its own, rather sudden undoing. As circulating capital (value in motion) is slowed down and fixed as use-values in the landscape, accumulation literally materializes economic growth in the production of space; the size of the economic pie increases in spatially specific ways that matter to the outcomes of development trajectories. Filtered through the matrix of local developmental states, accumulation produced a class of would-be manager-entrepreneurs that could take control of TVEs, or reassemble the embedded resources left over after TVE failures. But it also produced the glut of subcontracting capacity that undermined the field for everyone involved, helping to create the conditions that devalued the economic landscape and facilitated the entrance of external capital.

Reframing the question of China's transformations in terms of capital accumulation and the ongoing—though not necessarily teleological or linear—deepening of the division of labor and of capital-labor relations it can engender need not imply a straight-line, teleological transition from socialism to capitalism. The processes of transitions themselves are too varied, the outcomes are too varied, and more to the point, there are no fixed endpoints or outcomes. The shifts I have described are not absolute or as clearly demarcated as may be suggested by the linearized and schematized presentation, but they

represent a fundamental turning point in transformational trend and structural tendency. How they will play out in the future cannot be easily read off the existing institutional and structural configuration. The agrarian transition is far from complete, as is the postsocialist one, and the trajectory of each is constantly shaped by political struggles. The questions of land and labor markets are far from resolved. However, political struggles will not be the only force at work. They must be understood within the context of how structural forces such as the accumulation of capital reshape the playing field itself—the arenas in which the political struggles take place.

On a final note, throughout this book I have privileged what managers *did* rather than what they *thought*—their material practices over their ideal conceptions, or in essence, networks over markets. Even as they conceptualized their transactions in terms of the market, to a significant extent, they acted as if those markets were particular networks of firms. That is, they experienced the abstractness of market forces as the concreteness of network practices and experienced the concreteness of market forces through fuzzy, socialized, network relations. Caught between thinking of their practices in terms of production relations at one moment and exchange relations at the next, they faced first this way and then that.[6] Put another way, they were caught between understanding their business practices in terms of "material relations between persons and social relations between things," on the one hand, and understanding them as "social relations between people" on the other. The former is what Marx described as the commodity fetish, the way production becomes submerged and hidden under the frothy surface of market exchange (Marx 1967, 166). It is interesting to note that as the locus of the practice of *guanxi* was moving out of the realm of exchange into that of production, discourse—the network of terms that managers used to understand and negotiate transactions between enterprises—was shifting from the realm of production into that of exchange. But cast in such general terms, these are classic ingredients in historically specific transitions to capitalism. Underlying this shift was a change in the relations between places, suggesting that the experience of the commodity fetish could be mediated through relations between places and even produced through the experience of changes in the relations between places: social relations between people were now perceived as material relations between places and social relations between things.

Appendix 1: Methodology

Through institutional affiliation with Shanghai Academy of Social Sciences (SASS), I gained access to local scholars familiar with Shanghai's urban, rural, and industrial economies. They provided background information and invaluable explanations, but more importantly, they were my only channel for introductions to SOE managers and municipal and local government officials. I was also introduced to some enterprises in the Hangzhou area by the Zhejiang Academy of Social Sciences.

My original research design called for an in-depth exploration of two or three commodity chains in each of three sectors by conducting twenty to thirty interviews along each chain. I had expected SOE managers to introduce me to their subcontractors, because during my preliminary research in 1997 managers from both the automobile and refrigerator sectors had taken me personally to interview subcontractors. In 1999, however, managers generally refused to introduce me to their subcontractors, thus stalling the "snowball sample" that I had expected to rely upon to generate interviews. Only the manager from the refrigerator SOE introduced me to additional subcontractors, until his board prevented him from doing so in the wake of the US bombing of the Chinese embassy in Belgrade in May 1999. For several months, I attempted to work with SASS to develop a time-space matrix detailing changes in the subcontracting systems of two SOEs, but this also produced poor results (though the process was very instructive). After several months I abandoned that strategy and went on a spree of interviews with rural county and township officials (interviews that SASS was able to arrange for me) until I could devise another technique.

Eventually, I discovered a book of enterprise listings, the *Complete Listings of Municipal Shanghai Industrial Enterprises* (*Shanghai shi gongye qiye daquan*, hereafter "the census").[1] The result of an industrial census conducted by the Shanghai municipal government in 1995, it lists 34,000 industrial enterprises in the city of Shanghai and its ten suburban counties. It claims to be the most complete

ever published and was by far the most complete source I could find. Unlike more recent census data that include only enterprises with annual sales exceeding 5 million yuan (He and Wang 2010, 328), this census included all identifiable enterprises, no matter how small. Enterprises are listed by sector, and each listing includes the enterprise name, address, telephone number, manager's name, enterprise scale (large, medium, small), enterprise type (i.e., SOE, collective, foreign joint venture, SOE-collective joint venture, or private), number of employees, turnover, and product type.

First, I broke down the census information into spatial patterns. I gave each enterprise entry a code number, and then for each sector I drew a gridlike table. I created six columns, one for each of the six ownership types found in the census (state-owned, collective, joint venture, SOE-collective joint venture, private, and other). I then created eleven rows, one each for urban Shanghai and its ten rural counties (Baoshan, Chongming, Fengxian, Jiading, Jinshan, Minhang, Nanhui, Pudong, Qingpu, and Songjiang). I plotted each enterprise into the box representing its location and ownership type. The six tables gave me a first approximation at a data set (chapter 1 analyzes this data in other ways).

Using the census, I attempted to contact nearly five hundred enterprises on my own. I chose enterprises at random from the census listings in the six target sectors, but quickly found that SOEs and urban collectives seldom granted interviews. They insisted that I go through official channels, an annoying, inefficient, and generally ineffective process. While I thus tried to call a sample of urban SOEs and collectives in each sector, I focused more effort on rural enterprises, where I had a much higher success rate. Using information from the census, I also tried to interview groups of enterprises clustered by product subcomponent, location, or both. I had to abandon the idea of generating complete and systematic network maps of each sector; now I aimed to develop as complete a picture as possible using information gathered during the interviews and by triangulating or comparing data from each interview with information from other interviews. With this in mind, I found it fruitful to ask not just about the vertical subcontracting system but also the particular place in which an enterprise was embedded. Townships with a factory in one target sector often had factories subcontracting for another. Because these factories were part of the same local system, managers from one usually knew something about the others: for example, I learned some of the most important information about the refrigerator sector during interviews in the automobile and motorcycle sectors. I

thus used pieces from all of the different interviews to piece together as coherent and plausible an account as the interviews and my own observations would allow.

Enterprise interview questions focused on factory histories and the evolution of their links with other firms. I also paid special attention to the relationships between changes in subcontracting arrangements and product and material markets, labor markets, and shifts in ownership structure and government policy. I developed an interview questionnaire but used it only as an initial guide for myself (see appendix II). I seldom showed it to interviewees and did not always ask every question. Trial and error taught me that it was best to begin with a few simple questions and then to let the interviewee speak. From time to time, I would steer our discussion toward topics of concern to me. This enabled me to develop a better rapport with interviewees and to pursue information in those areas most familiar to him or her. Formal interview time averaged approximately 2 to 2.5 hours and was frequently followed by lunch or dinner. I did not record the interviews, but took notes. I did not take notes during meals—instead, I would try to remember relevant information for later. Discussions often became less formal, and this was sometimes the most productive part of the interview. Immediately after leaving each interview, I would try to complete the notes, often sitting on the ground outside the factory to fill in details. In most cases, I typed the notes into my computer each night, before details and impressions had a chance to fade. I conducted most interviews alone, though someone accompanied me to most of the interviews that had been arranged by SASS. For one month in 1999, I hired two university students to accompany me to interviews (one at a time, on alternating days). Their main task was to take notes during interviews, which we then transcribed together the same night.

After returning from the field, I constructed a database including all of the enterprises I had attempted to contact through any means (including SASS), including those that had granted interviews. The total was 510 enterprises, of which I had visited and conducted formal interviews with 104. Of the remaining 405 (all of which were direct attempts using the census), 33 enterprises told me enough over the telephone that I feel comfortable considering them phone interviews (for example, I learned something of the history and circumstances of the factory). I recorded everything I could learn from each contact attempt, and for a large number of enterprises, I learned whether they had been closed, gone bankrupt, been privatized, or had changed

product sectors. This data was quite useful for establishing the patterns described in chapters 4 through 6. Of these 138 enterprise interviews, 35 were with urban SOEs, 6 were with urban subcontractors, and 96 were rural subcontractors (1 enterprise fit none of these categories). These are divided among the 6 sectors as follows:*

Table A.1 Fieldwork Interviews, Shanghai Region, 1997–2000

Sector	Total Census Listings	I tried to contact	# of SOEs interviewed	# of urban collectives interviewed	# of rural enterprises interviewed
Automobile	457	186	7		16 + (15)
Bicycle	157	60	3		16 + (2)
Meters	188	67	4		5 + (3)
Motorcycle	141	75	4	3	10 + (4)
Refrigerator	55	59	9	2	7 + (5)
Sew. Machine	90	63	0 + (1)	1	7 + (3)
Others			7		3
Totals	1088	510	34 + (1)	6	64 + (32)

*Numbers in parentheses denote additional phone interviews.

It is important here to recognize some of the ways that questions of access distorted my planned methodology. First, by focusing on commodity chains as the unit of analysis and looking across six industrial sectors, I sacrificed some of the empirical richness and historical depth of a study of the dynamics of one or two sectors. In addition, this approach tends to focus attention on the dynamics of connections *between* places and thus risks missing important dynamics and processes *within* particular places. This is not necessarily a weakness inherent in the commodity chain approach, but it was difficult for SASS to arrange for me to study particular places or enterprises in depth over an extended period of time. I would have liked to conduct detailed interviews with local government officials in particular townships—for example, where I discovered clusters of enterprises in particular target sectors. Second, I was not able to conduct a commodity-chain analysis in as much detail as I would have liked. Rather than interview large numbers of subcontractors grouped around particular subcomponents of given products, problems of access forced me simply to interview as many subcontractors as I could in each sector. Though I tried to use the census data to target clusters (product or component type was sometimes evident from the enterprise

name or listed products, though listings were often too vague to be helpful), not all enterprises that I contacted were willing to be interviewed, and I settled for whoever would grant me an interview. In spite of this, the high number of interviews and careful triangulation enabled me to develop a comprehensive understanding of the dynamics across these sectors.

Appendix 2: Interview Questions

1. Ownership structure: If your enterprise is an SOE, which bureau (*zhuguan bumen*) did it belong to originally? Now? Which enterprise group (*jituan*)? When did the bureau become an asset holding company? Joint venture? When was it listed on the stock market? Please make a chart of the administrative structure. If a TVE, which township/village? Has the form of ownership (property rights) changed? If so, to what, when, why, and how?
2. Scale: what was the turnover of your enterprise for given years? How many product units? How many employees?
3. Main products: how many products, what are they, how has this changed over time (more products over time, less)?
4. How much production was for one customer? How many customers? Changes over time?
5. What did the production structure look like before subcontracting?
6. When did your enterprise begin subcontracting?
7. Describe the evolution of the subcontracting system: growth of total subcontractors over time (number of suppliers for given years—what were major turning points?)
8. Among your subcontractors, how many were SOEs, TVEs, and private enterprises (*siying qiye*, or *getihu*)? How did this ratio change over time?
9. Location of suppliers, and how did this change over time?

SOEs: Within the same department, bureau, or enterprise group?
Belonging to other departments, bureaus, or enterprise groups?
District level?
Non-local?
TVEs: Shanghai counties?
Jiangsu?
Zhejiang?
Other?
Private: Where?

10. What percentage of total production was purchased as opposed to produced, and how did this change over time? (percentage of value-added?)
11. Why did you begin subcontracting? (space, capacity, specialty, labor, state directives?)
12. Which components did/do you subcontract? How did/do you decide which components to subcontract? Does this differ from other enterprises in your sector, or other kinds of enterprises?
13. How did you decide how many subcontracting suppliers to set up and maintain?
14. How were subcontracting decisions made: why subcontract to TVEs rather than SOEs, or vice versa? (Cheaper? Personal *guanxi* ties? State?)
15. What difference did location make? Did it matter whether they were rural Shanghai as opposed to Jiangsu or Zhejiang?
16. Were TVEs important to your growth in the 1980s and 1990s? Why? How and why has this importance changed since then?
17. Did your enterprise take the initiative to form these subcontracting linkages? Did the supplier come to you or did the local state initiate the relationship? Was this different for SOEs and TVEs? When and how did this change over time? (If one of the first two, then how was it initiated, how did you find each other, what were the initial arrangements and how did they change over time? If the third, what work unit (*danwei*) and what person was responsible? What role did they play in setting up the relationship?)
18. Did you change suppliers frequently? Why or why not? What measures were taken to ensure a steady supply base?
19. Of upstream suppliers, how much of their production tended to be for you? Did/does this vary across enterprise type?
20. As an organization as a whole, has subcontracting enabled you to grow? Increase productivity? Specialize? Compete? Upgrade?
21. Who is responsible for handling your subcontractors now? Who was before? Names for further interviews. Can I interview some current or former suppliers?
22. How did your firm deal with rapid growth (both upstream and downstream)? By increasing the number of suppliers for given components, or did existing suppliers expand production to keep up with you? How did your upstream suppliers and downstream customers deal with this?
23. When did your sector experience downturns: what, how serious, and how did you deal with it? To suppliers: did you temporarily lay off workers, wait it out, do nothing, look for new business? To

customers: where you have more than one supplier per component, did you shrink business with each one evenly? Take turns? Cut one off? How did you make these decisions?

24. Were/are there other enterprises making the same product in Shanghai at that time? Did your enterprise subcontract production for them? Did any of the suppliers overlap?
25. Does the government set or control prices for your products? Those of your suppliers? If so, which entity (*danwei*)? If not, when did it stop, and how were prices set before?
26. Did you negotiate prices with customers and suppliers? When did you start? Does the way prices are set or negotiated vary with different types of suppliers?
27. What role did the state play in coordinating (*xietiao*) transactions between enterprises (which entity?)? Introductions, negotiations, dispute resolution between you and downstream? Upstream? How is this different for SOEs and TVEs? Local and nonlocal TVEs? Local and nonlocal SOEs? How has the state role changed? Does it play a larger or smaller role?
28. Have you ever had a dispute with another enterprise? What happened, how was it resolved?
29. Are contracts written? Always, or when did this start? Are contracts with SOEs and TVEs different? What about other types of enterprises?
30. In case of dispute, how are contracts enforced, or disputes resolved? How does this differ for different types of enterprise?
31. For enterprises that have changed product sectors: Why? What is the history of how you changed sectors? What factors enabled you to do so? What about other enterprises in the original sector or in your jurisdiction—how many went bankrupt, how many are still working in the same sector, how many have changed, and what factors prevented (or enabled) them from doing so?

Notes

Introduction

1. Studies of China's economy and industry typically focus on topics such as gradual reform versus "big-bang" theories of postsocialist transitions (Naughton 1995; Nolan 1996; ; Sachs and Woo 1994; Shirk 1993; Woo 1998; World Bank 1991, 1996), enterprises of a particular ownership type (Guthrie 1999; Oi 1999; Tsai 2007), state-firm dynamics in particular industries (Harwit 1995; Liu 2005; Steinfeld 1998; Thun 2006), the impact of managerial changes on enterprise performance (Guthrie 1998; Yusuf *et al.* 2006), foreign direct investment (Huang 2003), enterprise privatization (Huang 2008; Yusuf *et al.* 2006), finance reform (Shih 2008), or innovation and competitiveness (Steinfeld 2010; Zhou 2007). A small number of case studies are beginning to change by applying network approaches to study the extension of SOE networks (Li 2002), the localization of MNC supplier networks in the automobile industry (Liu and Dicken 2006; Liu and Yeung 2008; Sit and Liu 2000; Yeung and Li 2000;), local networked economies (Chen 2007; Christerson and Lever-Tracy 1997; Wei 2009; Wei and Gu 2010; Wei, Lu, and Chen 2009), transnational networks (Chen 2005; Hsing 1998), interfirm transactions (Guthrie 1997, Lee 2007), the formation of enterprise groups (Keister 2000; Marukawa 1995), and technological upgrading (Steinfeld 2004; Zhou 2007). Earlier applications of network analysis to postsocialist transitions in Eastern Europe include Grabher 1993; Grabher and Stark 1997; Smith and Swain 1998; Stark 1992, 1996.
2. Best 1990; Block 1990; Coe *et al.* 2008; Granovetter 1985; Hamilton and Biggart 1988; Harrison 1994; North 1990; Orru, Biggart and Hamilton 1997; Piore and Sabel 1984; Putnam 1993; Saxenian 1994; Sayer and Walker 1992; Scott 1988; Storper 1995; Storper and Calais 1997; Storper and Walker 1989; Williamson 1975, 1985;. These theoretical trends were reinforced by developments in the real world: the rise of East Asia's economies challenged the nonidentity of equity and efficiency assumed by economics, forcing scholars to acknowledge that their networked industrial structures had as much to do with their competitiveness as national industrial policies or cheap labor. The discovery of flexible networks of small, specialized manufacturers in Los Angeles (Scott 1983) and in what has come to be known as the "Third Italy"—the

fast-growing northeastern part of the country, as opposed to the poor south and traditionally rich northwest (Piore and Sabel 1984)—brought attention to the competitiveness of production networks embedded in industrial districts similar to those described by Alfred Marshall (1919).

Analyses of midlevel economic institutions incorporate social and cultural forms in different ways, which for our purposes fall into two broad camps. A Weberian approach argues that self-organizing mechanisms derive from larger macrosocietal authority structures. Variations of the latter, even within an ostensibly "Confucian" East Asia, are used to explain variations in network topologies between countries (Castells 1996; Hamilton and Biggart 1988; Orru, Biggart, and Hamilton 1997). This approach has been influential in describing the postwar successes of capitalist industrialization in East Asia, but critiqued for failing to delineate adequately the connections between national authority structures and specific network mechanisms. Just as importantly, it falls back on timeless, essentialized, and thus deeply problematic versions of national cultures to explain its cases, leaving it poorly equipped to understand how networks might change or even be created in the first place (Buck 2000). I seek to avoid explanations based on static and essentialized cultural forms by employing cultural approaches that privilege material practice and process over authority or other ideal conceptions (Berry 1993; Foucault 1978, 1984; Gluck and Tsing 2009; Greenhalgh 1994; Vlastos 1998).

3. Friedland *et al.* 1981; Friedland 1984; Mintz 1985; Hopkins and Wallerstein 1994; Gereffi and Korzeniewicz 1994; Hughes and Reimer 2004; Bair 2005, 2008.
4. Massey 1994; Watts 1994; Hart 1997, 2002; Leslie and Reimer 1999; Dicken *et al.* 2001; Sheppard 2002; Smith *et al.* 2002; Lee *et al.* 2004; Coe et al. 2004; Peck 2005; Bair 2005; Berndt and Boeckler 2009; MacKinnon et al. 2009. Both the network and commodity chain literatures, and the relationship between them, are far too complex to explore fully here. But I believe this description captures their essence, and this will be taken up again in the conclusion.
5. This combination of approaches led me to conduct semistructured interviews with as many factories as possible in the same or related chains and networks and learn as much as I could about their interfirm networks. Between 1997 and 2000, I interviewed the managers of 41 urban and 96 rural enterprises. I conducted most of the interviews onsite in 1999 and 2000, with follow-up interviews in 2005 and 2010. I asked each factory what product it made, its structural position in its chain or network (subcomponent, final assembly, etc.), where the other enterprises in the network were located geographically, and a series of questions designed to reveal the economic and power dynamics of each network. To avoid the trap of merely mapping these networks (Peck 2005, 133), I adopted a processual approach, combining the synchronic/structural "opportunity

to see everything all together, to understand the interconnections" with the diachronic/narrative "dynamics which push on the narrative flow" (Massey 2005, 37). In other words, I also focused on the history of each factory and its interfirm networks and how each had changed with shifts in product, material and labor markets, ownership structures, and government policies. Because each factory belonged to, and was embedded in and constitutive of a given locality, I interviewed local officials responsible for industry and agriculture to gain a better understanding of each node, and to triangulate information. Many local officials had ascended from positions in local factories, and often knew the histories of the factories better than the current managers. I interviewed at least 44 officials of the Shanghai Municipal Government, the governments of suburban counties, townships, or villages, and local scholars. Finally, because these sets of networks actually existed within specific product sectors, those sectors and their dynamics became focal points for my research as well (see appendix I for more detail about who I contacted and how, as well as methodology and fieldwork; appendix II has a complete list of interview questions).

6. The causes and effects of the shortage tendencies of planned economies are discussed more fully in chapters 1 and 3. For a general discussion, see Kornai 1980, 1992; Verdery 1996. For discussion of this phenomenon in China, see Naughton 1995; Riskin 1987.
7. The TVEs of the Sunan Model were truly collectively owned and operated enterprises; the presence of "red-hat" enterprises—private enterprises registered as TVEs to gain state protection—was minimal and almost nonexistent in Shanghai's regional hinterland (Huang 2008; Zhou and Zhang 1994).
8. It should be clear that this book does not attempt to make claims for all of China, but rather it attempts to grasp the specific circumstances of the developmental trajectories of an important swath of industries in one of China's most important regional economies. Nor does it try to account for all of TVE privatization, which was driven by many factors, but for the very significant group of TVEs in Shanghai and Sunan that were part of the SOE-TVE nexus.
9. I thus see networks as sharing characteristics with the machines or assemblages of Deleuze and Guattari (1987; Ong and Collier 2005), the cyborgs of Haraway (1991), and the quasi-objects of actor-network theory (Latour 1993; Law and Hassard 1999). Furthermore, the use of binaries such as before and after, or the planned economy and the market economy, risks erasing the long process between them and its effects and implies an endpoint (Lin 2006), so I hasten to emphasize that I am not arguing that there was a straight-line, teleological transition from socialism to capitalism. The processes of transition were too varied, the outcomes were too varied, and more to the point, there are no fixed endpoints or outcomes. The shifts I describe are not absolute or as clearly

demarcated as may be suggested by my rather schematized presentation, as will become apparent in the text of the book. In part this is because the genealogical approach I employed, situating narratives in the histories of factories, sectors, and places "lays to rest traditional theoretical worries about so-called linear history, theories of stages, and teleological historiography" (Foucault, 1984; Jameson, 1991: 3). Finally, the categories of urban and rural, while denoting very different lifeworlds and structures, also tend to elide important mutual constitutions (Lefebvre 1991, 2003; Williams 1973).

10. Here a region is not defined in terms of administrative jurisdictions but rather, as has become customary in human geography, by the spatial extent of the economic phenomenon of analytical interest (Pred 1984; Pudup 1988; Saxenian 1994; Storper and Walker 1989). Human geography emphasizes the ways that space is more than a passive container for human activity (Lefebvre 1991; Soja 1989; Storper and Walker 1989).
11. Beginning in the 1950s, agriculture was collectivized and squeezed to provide capital destined for state investment in heavy-industry SOEs. Based on the Soviet model, this was to be the motor of development. Rural industry was discouraged so as not to divert resources from the SOE sector (though at times the state allowed, but never invested in, small factories to supply farm implements and other simple manufactures for local consumption). In addition, systems of household registration and food rationing controlled migration and mobility and tied people to their urban SOE work units or rural collectives (Selden 1993).
12. This book will use the designations current at the time of the bulk of the fieldwork in the late 1990s.
13. The Wenzhou Model, based on networks of small privately owned factories, was located in the far south of Zhejiang; the northern part of Zhejiang that stretches north and east from Hangzhou toward Shanghai was part of the Sunan Model. The TVEs of the Sunan Model were truly collectively owned and operated enterprises; the presence of "red-hat" enterprises—private enterprises registered as TVEs to gain state protection—was minimal and almost nonexistent in Shanghai's regional hinterland (Huang 2008; Zhou and Zhang 1994).
14. For similar examples, see Christiansen 1992; Sonobe and Otsuka 2004. For Kunshan, located between Shanghai and Suzhou, see Wang *et al.* 1990 and Marton 2000, both cited in Wei 2002, 1738. For Beijing and Tianjin, see Almanac of China's Industry 1949–1984, cited in Naughton 1995, 155.
15. This was done to some extent after 1964, but for the different reasons of helping less advanced areas, and as part of the Third Front campaign to strategically redistribute industries. See Naughton 1991.
16. Qualifications are in order but do not affect the analysis. Foreign joint ventures with Shanghai SOEs were important in the automobile, motorcycle, and refrigerator sectors. But foreign partners limited involvement

to initial transfer of product and manufacturing technology and equipment. The efforts of German engineers at SVW to improve quality are famous, but even informal accounts from both the German and Chinese sides are emphatic that no German money was used, and that expansion was funded out of profits in China (Posth 2008; Yin 1999).

17. Of these enterprises and sectors, Phoenix exported some bicycles while Forever did not, and there was some export of industrial sewing machines. Automobiles, motorcycles, refrigerators, and meters and instruments from this part of China were not exported until well into the 2000s.
18. Chapter 1 presents a history of each sector and evidence for its significance to the municipal government. The importance of these sectors belies any argument that they may not be representative of Shanghai's industrial economy because of their similarities—all six sectors manufacture machinelike products consisting of large numbers of metal components, and their end products (with the exception of meters and instruments) are consumer durables—or because of the exclusion from the study of Shanghai's famous textile sector, as well as its important heavy-industry sectors, such as steel and petrochemicals.
19. See note 9 above.

1 Connecting the Urban and the Rural: Shanghai's SOEs and TVEs

1. Not everything in the prereform economy was governed by the plan. Not all factors and commodities were allocated by the plan, and not all transactions were handled through the planning bureaucracy. However, plan allocation was clearly the dominant mode of operation, especially at the heights of industry represented by Shanghai's SOEs (Donnithorne 1967; Riskin 1987).
2. For a more general account of the *tiaotiao kuaikuai* phenomenon, see Lieberthal 1995. For more general accounts of the shortage tendencies and other logics of planned economies, see Kornai 1980, 1992; Verdery 1996.
3. Successful enterprises of this type sometimes grew quite large and were eventually relocated under the jurisdiction of the appropriate industrial bureau (Donnithorne 1967, 231).
4. Managers often referred to these factories as underneath them or as internal to their systems. To give just one example, 1995 enterprise census data suggest that 13 percent of bicycle subcontracting turnover went to urban subcontractors (including urban collectives), as opposed to 25 percent to rural subcontractors (ostensibly outside the system)—see below. One high-ranking manager in the bicycle system agreed with those figures and said that the bicycle system produced about 75 percent of its value-added internally, purchasing about 25 percent externally (B4). See also Naughton 1995, 165–66.

5. Yang et al. (1991) also lists several rounds of government-directed adjustments and rationalizations. See pp. 25–26, 181–82.
6. See Zweig (1989) for a discussion of how political pressure from radical "policy winds" during the Cultural Revolution perversely motivated rural cadres to develop local industries.
7. See Huang (1990) for an early description of urban-rural subcontracting driving rural growth and industrialization before the reform period.
8. Thanks to a suggestion by Doug Guthrie, though he used a different source, *The Directory of Chinese Organizations and Institutions* (*Zhongguo qishiye minglu quanshu*), which listed 8,800 organizations in Shanghai by sector and was last updated in 1992 (Guthrie 1999, 222, 226).
9. There were some small factories making three-wheeled motorcycles for handicapped people, but they had no subcontractors and are not considered in this study.
10. My impression of this sector is that relatively low barriers to entry, due to ease of manufacture and high market demand in the early 1990s, motivated a much higher number of people to leave their enterprises and start their own companies than in any of the other sectors. This is reflected in the very high number of private enterprises, both urban and rural.
11. It may seem odd that rural subcontractors, usually deemed to be more labor intensive and less capital intensive than urban enterprises, apparently produced more turnover with less labor than their urban counterparts, as suggested by this data. While it is impossible to tell from this data, this result may reflect greater labor inefficiency in the urban sector, in spite of higher capital intensity. The total turnover (yuan) per worker was 109,241/119,041, urban/rural. It varied by sector: auto, 130,298/155,746; bicycle, 46,905/57,102; motorcycle, 98,304/95,025; refrigerator, 70,062/161,706; sewing machine, 37,076/79,984; and meters 35,070/62,377.
12. Many of those may have closed and reopened as new enterprises. See chapter 5.
13. Over time, I came to believe that underreporting of specialized urban factories was one of only two shortcomings of the census data, the other being the underreporting of second-tier village-level subcontractors. See chapter 2.
14. The specific products under study were the largest or among the largest contributors to each of their respective industrial bureaus or holding companies. Because I estimate that the average contribution of rural TVEs to total added value in these sectors was one-third, these sectors probably contributed closer to 133 billion yuan, or 37 percent, to Shanghai's total output.
15. Note that of 141 listed enterprises, I excluded five from the data sort. As I noted above, these were small enterprises that manufactured three-wheeled motorcycles for handicapped persons and apparently engaged in

little subcontracting of their own. (I encountered no Yichu subcontractors who produced for these as well—I suspect that they are "small and complete.")

16. Much of this discussion is based on Harwit (1995, 98–102) but was fully corroborated by several of my interviews in Shanghai.
17. While the specialized factories had become relatively proficient at particular products, introducing new products or upgrading products to more difficult technical specifications or higher quality standards (as was often engendered by SVW or the SOE-foreign joint ventures in the 1980s) put the specialized factories under pressure to upgrade quickly, as well. When they could not or when the capital or technical requirements of the new components or processes were too high, subcontracting often went to SOEs in other sectors, or even in other parts of China, with the appropriate expertise. One of the most prominent examples of this was SVW localization subcontracting going to the military Third Front SOEs in western China, but there were many other examples, as well. Most managers who commented on this agreed that the technical capabilities of TVEs, at least initially, were generally lower than SOEs (M13, R1).
18. These enterprises were part of the Third Front movement in the 1960s, when Mao ordered strategic industries to relocate to hidden and dispersed locations in case of invasion by the United States or the Soviet Union. See Naughton 1991.
19. Chapter 2 will present evidence that at least 70 to 80 percent of the value of SVW's product was being produced in the Shanghai area by the late 1990s.
20. Due to economic retrenchment after the 1989 Tiananmen Incident.
21. At such an early date, before communes had been disbanded, these enterprises were cooperative enterprises (*hezuo qiye*) under the local communes. "It was cooperation (*hezuo*) and joint capital (*hezi*) between Forever Bicycle and the local commune. Later it became a *lianying qiye*, with the local side (*nong*) being the village government" (B9).
22. At least one interview revealed that the Textile Bureau had its own factories as early as 1970. It is thus possible that the Light Industry Bureau, responsible for household machines, did not produce industrial ones until the 1980s.
23. Two different sources said Shanggong had about ten branch plants, but I found a 1999 telephone book listing for a Number Twenty-Four Branch Plant, so probably there are more.
24. This was very common. Shanghainese expertise was expected to contribute to national industrialization: During the first two Five Year Plans alone, at least half a million Shanghai workers and technicians, one thousand complete factories, and part of Jiaotong University were all moved to various inland locations (Yu 1990, 8). See also Yusuf 1997.
25. The manager added that a lot of these TVEs are now becoming private enterprises (*siying qiye*). See chapter 6.

26. See the previous note.
27. Listed in the census as an SOE with 5,008 workers and a 406 million yuan turnover. The census lists three rural branch plants of Xiechang identifiable by name.
28. Listed in the census as an urban collective with 1,778 workers and a 100 million yuan turnover. I interviewed one manager of a Pudong TVE that had subcontracted for Jiangwan since 1988, but he would not discuss Jiangwan's subcontracting base.
29. Chongji (listed in the census as a foreign joint venture, with 158 workers and a 59 million yuan turnover) started as a joint venture between a Japanese company and Shanggong, established in Songjiang County in the early 1990s. It later became independent (*duzi qiye*), owned wholly by the Japanese. When the joint venture was established, Shanggong introduced Chongji to subcontractors: "All of the Chongji subcontractors were actually Shanggong subcontractors" (S7).
30. Note also the comments by I5: "In the 1980s, it was pure planned economy, as for purchasing, [the SOEs] just had the specialized factories under them do value-added parts."
31. Although such enterprises were popular in Zhejiang, especially in the Wenzhou area, I encountered only two examples in the Shanghai area, and both were in the meters sector, established in the early 1990s.

2 THE GEOGRAPHY OF THE DEEPENING DIVISION OF LABOR

1. Huang argues "the main reason for dispersing parts of the production process to the rural areas was to get rid of money-losing or low-return operations. Lower wages made those operations viable for the rural units, even if they were not for the state enterprises" (1990, 259).
2. Later in the interview, he changed those figures to 14 yuan if made by the SOE, eight yuan if produced by a TVE, which would sell it to the SOE for ten yuan.
3. One source lists nominal annual TVE wages in 1989 as 63 percent of urban collective wages and 58 percent of SOE wages (Li Weiyi 1991, 130, cited in Naughton 1995, 149).
4. David Zweig reported that "after the State Council raised the status of rural enterprises in 1984, city governments and rural officials were called on to establish economic linkages between these two industrial sectors." Locally, in Jiangsu Province, this meant that "in 1986, all factories in Nanjing with output of over 3 million yuan had to help rural industry" (Zweig 1997, 263). Another researcher reported that "following the political line of the time," many local governments "forcefully" organized "cooperative ventures between SOEs and collective firms" as a "political task" (Gore 1998, 137).
5. See chapter 3 for a much more detailed discussion.

6. One of the enterprises reported that it still paid 20 percent of profit in the form of a fee to the township government, and 0.7 percent of turnover to the township government to support agriculture (*yi gong bu nong*).
7. While costs associated with distance were a commonly listed factor, it was surprising how many managers did not mention it at all. I suspect, and chapter 3 argues in much greater detail, that cost was an important, but not an overriding, concern during the shortage economy of the 1980s.
8. Though many did complain about regulations that required a given amount of green space (*luhua*) or garden area that had to be developed and maintained around each rural factory. The exact surface area was determined by formula, based on the square footage of the factory.
9. Some of this subcontracting may have been ordered from Beijing. Bureaucratic rivalries and jealousies, combined with the need to ensure support for the Shanghai project (Harwit 1995), may have put pressure on those in charge of SVW to spread money-making opportunities around. However, it stands to reason that Shanghai's factories were not prepared for the new tasks, and aerospace factories at the central government level were probably the most capable at the time.
10. The Shanghai-Ningbo Freeway was completed in 1999, which would have cut this time to about four hours. In January 2002, plans were announced for a new bridge across Hangzhou Bay that has since reduced this time to three hours.
11. The importance and role of *guanxi* in the elaboration of these subcontracting networks may be more complex than was related to me. For example, my contact at Shangling Refrigerator suggested that when new factory directors are appointed to SOEs, they frequently switch many of the subcontractors to factories with whom they have personal *guanxi*. He said, however, that Shangling had not done this (R7). Another source, a private Taiwanese entrepreneur who had supplied Yichu Motorcycle briefly before its collapse (M15), implied that factional infighting had been rife: "Inside Yichu, there were a lot of factions (*paixi*), and it affected personnel decisions. Every time someone was put in charge of a department, he would expel people from other factions and bring in his own" (M15). While he did not relate this to subcontracting switches like the Shangling informant, the institutional logic is the same. This aspect of *guanxi* may have affected the elaboration and evolution of these subcontracting networks. But as I document extensively in chapter 3, I detected very few changes in these subcontracting systems (including that of Shangling) before the late 1990s, which suggests that this practice may not have been as widespread as one would guess.
12. Other studies have pointed out that local officials make selective and strategic choices that allow them to pursue their own goals while satisfying various political pressures. For example, "local investment behavior

cannot be characterized simply as 'defiance' of or compliance with central investment directives. Instead, local officials comply selectively and strategically" (Huang 1996, 9. See also Zweig 1989).

13. As noted above, there is reason to believe that the census underreported these (typically small) lower-tier subcontractors. I include here only information that was provided or clearly ascertainable. I did not guess when enterprises provided no information or second-guess information that seemed wrong. For example, only 12 enterprises explicitly reported no subcontractors, and I did not include in this category any of the many additional small factories that were apparently at the bottom of their hierarchies but that provided no information. Likewise, I interviewed many large factories that I believe must have had subcontractors, but whose managers would not discuss the subject. In the few cases where a manager contradicted himself, I included a low average of the two sets of information. Finally, when the subcontracting systems had changed over time, I included the figures from the height of their business cycles in the early 1990s, before the surplus economy crashed.
14. These were often described as suppliers of raw materials, rather than as subcontractors, but all are included due to the impossibility of desegregating many of the interview descriptions.
15. Again, it was very difficult to elicit data on this topic, because managers were reluctant to discuss their subcontractors in detail. Between guesses, hints, and suggestions by people I came to know (and some of the more forthcoming managers that I interviewed), I reached the conclusion that factories usually owed money to their subcontractors in the late 1990s and were thus reluctant to let me know their whereabouts. Or managers feared that I was seeking subcontractors for foreign multinationals, in which case their subcontractors might be stolen away from them.
16. "Local" here refers to being located within the same or a subordinate bureaucratic area. For example, all subcontractors located within greater Shanghai would be considered local for a first-tier Shanghai SOE, as would all village-owned subcontractors if their village was subordinate to the township controlling the township-owned enterprise for which they subcontracted.
17. While nearly all of my interviews were with management from enterprises belonging to the six targeted product sectors, factories I encountered in related sectors were engaged in similar subcontracting patterns. For example, it was apparent that one township contiguous with municipal Shanghai was connected to Aite, a Shanghai SOE that produces industrial air conditioners. The main road in the township was named Aite Road (*Aite Lu*), and overhead banners announced the partnership. The manager of a TVE subcontractor for Shuanglu Refrigerator in that township told me that a large TVE there had been subcontracting for Aite since the 1980s. In turn, more than half of the 20 factories in the township subcontracted for that TVE. The Shuanglu Refrigerator factory where I interviewed did not have local subcontractors itself—when Shuanglu

transferred certain production functions to this TVE in 1992, it also transferred the relationship with 15 Shanghai TVEs that had performed suboperations to those functions, none of which were local. But after Shuanglu and this TVE went bankrupt in the late 1990s, the township convinced Pioneer, a Japanese speaker manufacturer that had recently established a factory in the township, to subcontract to the bankrupt refrigerator manufacturer. That Pioneer factory has only four subcontractors in China, all of which are located in this township (R12).

I also interviewed the manager of a TVE that produced its own brand of household (gas) water heaters. He said,

> We used to make our own waterboxes (*xuixiang*), the big metal box that holds the water inside the water heater. They are very simple—the only technical requirement is that water does not leak out. As we were growing quickly (we had about 1000 workers then), we didn't want to continue making this particular part, because it was slowing down our potential growth. It was better to subcontract it and use our labor for other stuff, like the final assembly (*zongzhuang*). So we subcontracted the waterboxes to a TVE in [a nearby township]. That TVE was already making this product for a rival firm in Nanjing, that's why we went to them. But they treated Nanjing as their priority and us second. Sometimes we were left waiting for parts. So I decided to have a local TVE make the part. I chose one that used to sell fertilizer (O6).

Other local TVEs now specialized in making the plastic bubble-sheets and cardboard cartons for the packaging, and three more manufacture sub-components such as screws and other small parts (O6).

18. SGM, a U.S. $1.5 billion factory in Pudong, is a 50/50 joint-venture between General Motors and the Shanghai Automobile Industry Corporation (SAIC), an SOE which is also the Chinese partner in the SVW joint venture. SGM started production in 1999 with 43 percent local content. The local-content target was 62 percent for 2000 and 80 percent for 2001. With more stringent quality demands than SVW for its high-end passenger sedan, it was forced to raise the level of local suppliers before relying on them.
19. China's largest motorcycle producer in the 1980s and much of the 1990s was an SOE named Jialing in Chongqing, Sichuan Province.
20. Sic. Production teams disappeared with decollectivization and local government restructuring in the early 1980s, in which production teams became villages, and brigades and communes became townships. Yangjing Township is located in Pudong, just across the river from the original Shangling Factory. In the early 1990s, Shangling had built a large new factory in that township.
21. This phenomenon of verticalization in order to maximize local profits and employment became very important in the late 1990s, as is fully documented in chapter 4. Here, just a few examples are given, in order to begin illustrating the logic.

3 FAILURE OF THE REGIONAL SYSTEM

1. Not entirely accurate. See Weng and Yu 1997.
2. Note that another interviewee referred to the meetings for his (refrigerator) sector as the Nationwide Household Electrical Appliance Ordering Meeting (Quanguo Jiayong Dianqi Dinghuohui), organized by the Wujin Jiaodian Gongsi, which he stated was a system under the Central Planning Commission (every place had one) (R14).
3. Note that the Shanghai SOE manager said the plan was important until 1995. This suggests that more peripheral enterprises were taken off the plan earlier than the large stalwarts of Shanghai industry.
4. Even now, they hold a kind of purchasing meeting with their steady suppliers, but it is held at their factory. Also the price terms are set by the two parties, rather than the government, usually with a contract specifying a provisional price (*zanding jia*), which can be altered if costs change.
5. For a good review, see Weng and Yu 1997. For a more recent account, see Yusuf et al. 2006.
6. See histories of the SOEs, including those for Shangling (Shanghai Shangling Electrical Appliance Corporation 1996) and Yichu (*"Xingfu zhi lu" bianzuan weiyuanhui* 1994).
7. Data was not gathered from the remaining interviews. Disaggregated by sector, one customer/more than one customer: auto, 20/11; motorcycle, 14/5; refrigerator, 11/4; sewing machines, 10/0; bicycles, 10/5; and meters and instruments, 2/4.
8. Note that this data itself is skewed by sector. The more successful automobile sector contained the lion's share of enterprises that were doing well, while the sectors most severely struck by the surplus economy (motorcycles, refrigerators, and bicycles) contained a preponderance of enterprises that were doing poorly.

Table 3.1 Undiversified versus Diversified Subcontractors by Sector

Sector	Undiversified		Diversified	
	Well	Poorly	Well	Poorly
Automobile	16	5	11	0
Bicycle	2	8	4	1
Meters	1	1	4	0
Motorcycle	2	12	3	2
Refrigerator	1	10	2	2
Sewing Machine	5	5	0	0
Totals	27	41	24	5

Source: Author's interviews.

9. Chongji, which started in the early 1990s, was originally a joint venture between Shanggong and a Japanese company. Located in Songjiang, it later became wholly owned by the Japanese company.

10. Chapters 4, 5, and 6 below will explore the fate and strategies of these enterprises in greater detail.
11. Chapter 2 outlines how localities tended to cluster around particular commodity chains, and chapter 6 describes how these economies then fell like dominoes when the surplus economy hit the sectors in question.
12. Many lower-tier factories were being left out because of SGM's insistence on US.-quality levels that were difficult to attain for even the best of SVW's suppliers. Even SVW's largest suppliers were scrambling to upgrade in time. SGM's 50 percent joint-venture partner, SAIC, is also the Chinese counterpart for the SVW joint venture. One of the most important factors leading SGM to locate in Shanghai was the presence of SVW's supplier base, and SAIC was very active in directing SGM to appropriate local suppliers.
13. The Third Front was the location of military and strategic industries in remote mountainous areas in the 1960s as part of preparations for war with the United States, the USSR, or both. See Naughton 1991.
14. A local scholar believed that this kind of impact, due to the dual agro-industrial identity of workers, was greater in the 1980s and diminished during the 1990s as local villagers increasingly leased their land to migrants from poorer inland areas and engaged solely in industrial labor.
15. No doubt, many by expanding their own base, as described in chapter 2.
16. I learned of one only instance of switching a supplier in the Shangling system. See below.
17. Again, one could argue that the high number of stopped or bankrupt enterprises in the late 1990s prevented access to subcontractors who might have told different stories, that is, of being dropped in the early 1990s as their SOE switched to cheaper suppliers. Certainly some were dropped for quality reasons, and some of those may have gone completely out of existence by the time I conducted fieldwork. But I encountered very little evidence to support this claim, whether in the statements of SOE or TVE managers, local officials, or Shanghai scholars. Using the census, very few of the subcontractors I contacted in 1999 had been phased out. Those subcontractors were listed in 1995, so at least between 1994 or so and 1999, links had mostly been severed due to crashing demand and the radical restructuring after the surplus economy.
18. For the seminal articulation of this point, see Kornai 1980. Also see Kornai 1992; Naughton 1995; and Verdery 1996.
19. See Qin 1999; Zhang and Bao 1999; *Zhongguo gongye fazhan baogao 1999*; Zhu 1998.
20. As noted before, air compressors are the most critical component of a refrigerator, representing up to 40 percent of the total cost of production and are also the most difficult to make. The Chinese market is supplied by about 15 enterprises, most of them joint ventures with Japanese and Italian companies (R17).
21. It seems one of the most important factors here was not to limit competition per se, but rather to control the importation of production lines. By

the end of 1984, various enterprises had contracted or were negotiating to import enough production lines to increase annual national production capacity by 13.5 million units, far outstripping demand and thus representing a wasteful allocation of scarce foreign reserves. See Liu and Jiang 1996.

22. Among other things, designation as a "fixed-point" manufacturer ensured access to allocated materials at the lower "plan price," very important in the shortage economy of the 1980s and early 1990s and to cheap government credit (R18).
23. These figures obtained by interviews with industry insiders. Other sources vary, but the dynamic is the same. One government source reports 9.8 million units produced in 1996 (*Zhongguo gongye fazhan baogao 1999*, 421); another source lists total capacity at 12 million units, production in 1997 and 1998 at 5 million units, and sales at 4.5 million units (Zhang and Bao 1999, 6).
24. This figure does not include all of the small factories assembling motors and parts made by others. In 1999, the former general manager of Yichu estimated a total of three hundred to four hundred factories in China (M1).
25. The economy retracted noticeably after the 1989 Tiananmen Incident, but rebounded strongly after Deng's "southern tour" in 1992.
26. Production figures for the domestic market totaled 33,611,800 units in 1996 and 29,992,900 in 1997 (*Zhongguo gongye fazhan baogao 1999*, 423).
27. At least one interview revealed that the Textile Bureau had its own factories as early as 1970. It is thus possible that the Light Industry Bureau, responsible for household machines, did not produce industrial ones until the 1980s.
28. This factory was not the same as SVW. The Chinese partner in the SVW joint venture was the overseeing administrative unit (*zhuguan bumen*) of the Shanghai Automobile Factory. The latter was the original auto factory in Shanghai.
29. Enterprise reform in the late 1990s pressured local governments to reduce the number of loss-making enterprises. In this example, combining two loss-making (essentially bankrupt) enterprises resulted in statistics showing one bad enterprise instead of two—a 50 percent reduction in the number of bad enterprises! And finally, sweeping both of the failing enterprises under one profitable one with profits higher than their losses resulted in statistics showing one profitable enterprise, zero failing enterprises. "A bureaucrat got his promotion!"

4 THE NEXUS UNRAVELS

1. The SOEs also started to switch—or threaten to switch—orders to private enterprises. This will be explored in chapter 6.

2. The SOEs also started to switch—or threaten to switch—orders to private enterprises. This will be explored in chapter 6.
3. Verticalization occurs when the different steps involved in manufacturing a given commodity—such as the value-added processing or assembly of subcomponents—are concentrated under one factory roof or under the same ownership (Sayer and Walker 1992, 111).
4. I encountered only small numbers of enterprises that had merged or changed business lines. Mergers seemed driven by political as much as economic concerns. One county merged several failing enterprises into some of its successful auto industry subcontractors, which were expected to help the former turn around, manage their money problems, and most importantly, take care of their "labor problem" (A21). Changing business lines presented a number of challenges that will be explored in chapter 5.
5. To arrive at the more conservative estimate in which the weight of the "no answer," "other," and "doing poorly" enterprises was halved, I added 136 "no answer" + 140 "other" + 14 "doing poorly," for a total of 290 enterprises. The result is then halved, 290 / 2 = 145. This result was then added to 92, the number of confirmed stopped and closed enterprises, for a total of 237 enterprises, or 46.5 percent. For a breakdown by sector:

Table 4.1 Estimating Enterprise Bankruptcies

Sector	Attempted	Bankrupt	Stopped	No Answer	Other	Doing Poorly
Auto	187	10	7	60	49	0
Bicycle	60	9	2	19	16	4
Meters	67	2	3	17	23	2
Mtrcycle	73	10	8	20	21	0
Refrig	59	25	2	7	6	7
Sew Mac.	63	10	4	13	25	1
Totals	509	66	26	136	140	14

Source: Author's interviews.

The sectoral rates of closed or stopped enterprises, calculating the low and high ends of the range as above, were as follows:

Table 4.2 Bankruptcies Rates by Sector, High and Low Range Estimates

Sector	Low Range	High Range
Automobile	38%	67%
Bicycle	51%	83%
Meters	39%	70%
Motorcycle	53%	81%
Refrigerator	63%	80%
Sewing Machine	53%	84%

Source: Author's interviews.

6. Many managers made it very clear during the interview that they had only agreed to my visit because they believed that I might bring them some business. Few believed that I was simply a PhD candidate from UC Berkeley conducting a research project on the history and development of particular industrial sectors in Shanghai, which is how I presented myself. Most seemed to believe that I represented a foreign firm or, in one of the worst cases, that I was spying for foreign firms or the US government.
7. Many interviewees arrived only after I did. The people who received me would say I could not possibly have arranged an interview with the manager on that day because he was out of town, but to wait and see what they could do. Some very junior office staff member would then question me for a while, confirming my identity and purpose—and that I had come alone. After a while he would leave, and the manager would soon appear for the appointment.

5 "FINDING A WAY OUT"

1. Following Karl Polanyi's classic formulation in *The Great Transformation* (1944), was society now embedded in the market or were markets still embedded in society?
2. I asked what sectors these enterprises were originally from, and he answered that they came from all different sectors. Without my prodding, he mentioned the motorcycle and bicycle sectors. I asked if any had been from refrigerators (no), sewing machines (yes, one), meters and instruments (no), auto (yes, a few private entrepreneurs from Touqiao). He went on to clarify that some had been making other unrelated things. Finally, he answered another question by confirming that most had grown up as subcontractors for Shanghai SOEs (A18).

6 REWORKING THE RURAL

1. For more on the Wenzhou Model, see Parris 1993.
2. This research project was originally designed to examine the SOE-TVE nexus rather than the privatization phenomenon per se. Because I was more interested in interviewing subcontractors in particular sectors than particular types of firms, out of 138 total enterprise interviews, 18 were with private enterprises, and 12 were with joint-stock cooperative enterprises. I attempted contact with 46 enterprises that were originally established as private, and I interviewed three. Of those I attempted to contact, 5 said they were doing well, including all three that I interviewed. Beyond those 3, I learned a little information from 8 more. Out of the 43 that I did not interview, I categorized 34 as "no answer" or "other." The number that said they were bankrupt, stopped, or doing badly totaled 3. I attempted to contact 27 listed collective enterprises that had been since

converted to private enterprises (one used to be an SOE-TVE joint venture). I interviewed 15, distributed as follows: auto, 1; bicycle, 5; meters, 4; motorcycle, 3; refrigerator, 1; and sewing machine, 1. Six of those interviewed said they went bankrupt before purchase. Of the remaining 12, 10 went bankrupt before the purchase. Beyond the 15 interviews, I learned additional information from 11 (out of 12). Of the 27, 8 said they were doing well or so-so, while 2 said they were stopped or doing badly. Finally, I attempted to contact 20 listed joint-stock cooperatives and interviewed 12. Of the 20, 17 used to be collectives (TVEs), 1 had been a SOE-TVE joint venture, and 2 SOEs. The distributions were as follows: auto, 4; bicycle, 3; meters, 2; motorcycle, 0; refrigerator, 1; and sewing machine, 2. Of those 20, 15 said they are doing well or so-so, while only 3 were bankrupt or doing badly.

3. That is, to the *shuiwusuo*, the local branch of the national tax system after the 1994 tax reforms. This money is sent up to the national treasury and later redistributed.
4. Deng's "Southern Tour" in 1992 restored political legitimacy to speeding up development after the political retrenchment and economic slowdown in the aftermath of the 1989 Tiananmen Incident.
5. I attempted to contact 20 enterprises that were listed in the census as joint-stock cooperatives, interviewed management at 12, and gathered additional information from 6 more, thus totaling 18. Because the census was published in 1995, these would have been enterprises that had at least initiated the conversion process by that time.
6. A township industrial corporation is essentially a holding company that owns the local TVEs. It is owned by the local government under the jurisdiction of the township economic commission.
7. Jean Oi also encountered "reports that in 1996 a directive was sent down from the Ministry of Agriculture ordering that all township- and village-owned enterprises under a certain value were to be sold" (1999, 88n).
8. This chapter will not deal with SOE reform, which has been summarized in chapters 1 through 3. For good summaries of the history of SOE reform in Shanghai, see Weng and Yu 1997; Yusuf et al. 2006.
9. District and county enterprises include those enterprises under the jurisdiction of Shanghai's ten municipal districts, in addition to those under the ten suburban districts and counties.
10. Note that statistics for the number of bankrupt, stopped, closed, or otherwise unoperated TVEs are not presented.
11. All three said they were doing well.
12. See chapter 4 for a complete description and explanation of these categories.
13. These results are of course biased, because I relied so heavily on the 1995 census to select and contact enterprises. But as the following discussion will show, there is very strong evidence that my assertions hold true, at least within the targeted industrial sectors.

14. Distributed as follows: auto, 1; bicycle, 5; meters, 4; motorcycle, 3; refrigerator, 1; and sewing machines, 1.
15. Indeed, local governments were encouraged to carry out reforms with local conditions in mind. A common phrase in the Shanghai party literature about TVE reform in the late 1990s was *yinqi zhiyi*, a variation on *yindi zhiyi*, meaning to suit measures to local conditions, or in the adapted usage, particular enterprises. David Zweig also reported uneven implementation of this policy in Nantong and Jiangjiagang, two cities in Jiangsu Province (see Oi 1999, 88n).
16. The Pudong International Airport was being constructed nearby at the time.
17. But note that in the late 1990s, local governments seemed acutely aware of the problem and were experimenting with remedies. One "key enterprise" in the auto sector had also been designated an "experimental unit" by the county government and was experimenting with a tiered labor structure in order to reduce the burden of its labor force. Of 1,080 workers, about one-third were designated fixed workers (*gudinggong*) or contract workers (*hetonggong*), usually skilled workers or managers who had held important posts for at least three to five years. The remaining two-thirds were temporary (*linshigong*). Before 1997, fixed and temporary workers had all enjoyed full benefits, including retirement, and all had the right to purchase shares in the joint-stock cooperative. Beginning in 1997, temporary workers no longer received any benefits other than wages and could no longer purchase equity unless they became contract workers. Three criteria determined whether a temporary worker could be redesignated as a contract worker: three years' time working for the enterprise (*gangling*), position (*gangwei*), and qualification or quality of work (A5).

CONCLUSION

1. In the late 1990s as many as 60 foreign companies established joint ventures with Shanghai automobile parts producers (Yeung and Li 2000, 632), and GM Delphi alone had established at least 11 (Sit and Liu 2000, 666). A foreign consultant in Shanghai told me that GM was ordering its US suppliers to form joint ventures with Shanghai suppliers and localize production as quickly as possible.
2. See Hsing 1998, Smart 2000, and Wu 2001 for more detailed analyses of this phenomenon.
3. Industrial land would have been transferred out of agricultural use before the factories were built, so this land was prime for real estate development. See Lin 2009, Hsing 2010.
4. Many of these SOEs were preparing to be listed while I conducted fieldwork in 1999, even as their business was in decline. One municipal government official confided that SOEs had been instructed to avoid

interviews by foreign researchers like myself, lest news of the poor financial situation of these enterprises reach the press.

5. The sectoral crises of the SOEs represented much more than downturned business cycles: they were crises of overcapacity and overproduction, one form of crisis of over-accumulation of capital (Harvey 1982).
6. This recalls Pareto's phrase "words like bats" in reference to Marx, whose dialectical words looked to him "now like birds, now like mice" (Ollman 1971).

APPENDIX 1 METHODOLOGY

1. Thanks to a suggestion by Doug Guthrie, though he used a different source. *The Directory of Chinese Organizations and Institutions* (*Zhongguo qishiye minglu quanshu*) listed 8,800 organizations in Shanghai by sector and was last updated in 1992 (Guthrie 1999, 222, 226).

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