

Paper Tigers and Iron Rice Bowls: Industrial Policy and Labor in 20th Century China

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Introduction

This book examines how state strategies for building industry shaped the lives, identities, and solidarities of Chinese workers across the twentieth century. Paper tigers and iron rice bowls are metaphors for the tension at the heart of that story: formidable blueprints that did not always bend materials and people to plan, and a powerful promise of lifetime security that bound labor to the socialist project. By following factories as institutions—places of production, welfare, and politics—we see how industrial policy penetrated daily life, from the rhythm of the work shift to the allocation of housing, from shop-floor discipline to neighborhood stability.

The analysis begins before 1949, when imperial decline, foreign concessions, and war left uneven industrial legacies that the new People's Republic would inherit. The socialist planners of the 1950s mobilized capital and labor on an unprecedented scale, drawing on Soviet templates while improvising Chinese solutions. Work units, or *danwei*, fused employment with welfare, education, and surveillance, turning factories into miniature polities. In this world, wages were only part of compensation; housing, clinics, canteens, and cultural halls formed a social wage that sustained families and secured loyalties, even as it imposed obligations and norms.

Political campaigns coursed through workshop corridors. The Great Leap Forward tested the limits of mass mobilization in industry, while the Cultural Revolution transformed factories into arenas of contention, where workers navigated shifting factions and ideologies even as they kept machines running. Exemplary sites like Daqing and Anshan were held up as models, but imitation often masked local variation. Numbers—plans, quotas, procurement targets—promised rational control, yet soft budgets and chronic shortages demanded continual negotiation between managers, cadres, and workers.

Reform after 1978 did not simply replace plan with market; it rearranged the social architecture that had organized work and life. Experiments in enterprise autonomy, the rise of township and village enterprises, and the opening of special economic zones created new opportunities and new hierarchies. The 1990s restructuring of state-owned enterprises brought privatization, layoffs, and the unraveling of cradle-to-grave welfare for millions. Migrant workers, constrained by the household registration system, powered export booms in dormitory regimes far from their hometowns, forging identities amid mobility, precarity, and legal ambiguity.

Throughout, the book places major industrial centers at the core of its narrative. Shanghai's machine-building plants, the heavy-industrial hubs of Shenyang and Anshan, the steel city of Wuhan, the textile mills of Tianjin, and the workshops of the Pearl River Delta serve as case studies that ground high policy in lived experience. In each site, policy choices interacted with local institutions, gender norms, technologies, and global currents to produce distinctive pathways of development and social order.

Methodologically, the chapters draw on factory newspapers and gazetteers, statistical

yearbooks, policy documents, memoirs, and oral histories. Treating factories as social systems allows us to connect the language of plans and productivity to the textures of everyday life—pay packets and piece rates, dormitory rules and union meetings, petitions and protests. The result is a portrait of industrial transformation that is neither triumphalist nor tragic, but attentive to contradictions: how security could enable initiative yet blunt innovation, how discipline could stabilize production yet stifle voice, and how markets could unleash efficiencies while scattering hard-won protections.

By the end of the century, much had changed: the iron rice bowl had cracked, the danwei retreated, and new labor markets reordered opportunity and risk. Yet the imprint of earlier institutions persisted in expectations of fairness, in the moral economy of the shop floor, and in state strategies for maintaining social stability. *Paper Tigers and Iron Rice Bowls* argues that to understand China's economic rise—and its social tensions—we must keep both the engineering diagrams and the factory gate in view, tracing how blueprints met bodies, and how policy forged, and sometimes frayed, the bonds that held work and society together.

CHAPTER ONE: Legacies of Industry before 1949: Empire, Republic, and War

When the Chinese Communist Party declared the founding of the People's Republic on October 1, 1949, its leaders inherited not a blank slate but a battered inheritance. China's industrial landscape was a patchwork of foreign-owned factories in treaty ports, a scattering of state-sponsored enterprises dating back to the nineteenth century, and a working class forged in harsh conditions that had already produced decades of labor unrest. To understand what came after 1949—the plans, the work units, the campaigns and reforms—it helps to know what the planners were starting with, and how much of it was broken.

Self-Strengthening and the First Chinese Factories

The story of Chinese industry before 1949 begins not with revolution but with desperation. In the 1860s, the Qing dynasty was losing—losing wars, losing territory, and losing confidence. The Opium Wars had battered the empire's prestige, and the Taiping Rebellion had nearly torn it apart from within. A group of Qing officials, most of them scholar-generals, concluded that China needed to adopt some of the military and industrial methods of its Western adversaries. They did not call it a revolution. They called it "self-strengthening" (*zhiqiang*), a phrase carefully chosen to suggest that China was acquiring new tools while preserving old values.

The results were mixed, and often tragic in their unintended consequences. The Jiangnan Arsenal, established in Shanghai in 1865 by Li Hongzhang, was one of the most ambitious early projects. It produced rifles, cannons, and eventually ships. Li Zengxin's arsenal in Tianjin did similar work. The Fuzhou Shipyard, founded in 1866 under Zuo Zongtang, built warships and trained China's first generation of modern engineers and shipbuilders. These enterprises were state-run, staffed in part by foreign advisors, and funded through a combination of customs revenues and provincial levies. They were not factories in the sense that Lancashire or the Ruhr would have recognized; they were military workshops, designed to keep the empire from being carved up further by foreign powers.

But self-strengthening was not limited to arsenals. Zhang Zhidong, the powerful governor-general of Huguang, founded the Hanyang Iron and Steel Works in 1890 near Wuhan. It was, at the time, the largest iron and steel enterprise in all of Asia, and its construction was a spectacle of bureaucratic ambition. Zhang lobbied for years for imperial approval and funding, fought off court critics who saw blast furnaces as a corruption of Confucian values, and eventually opened a plant that, despite chronic inefficiency and quality problems, could at least claim to produce steel. The Hanyang Works would outlast the dynasty that created it, continuing to operate well into the twentieth century and later becoming central to Wuhan's identity as a steel city.

These early enterprises shared certain features that would persist in Chinese industry for decades to come. They were top-down creations, organized by officials rather than entrepreneurs. They depended on state funding and political protection. They struggled with technology transfer—buying foreign equipment without always understanding how to maintain or improve it. And they employed workers under conditions that resembled military service more than free labor. The rhythms of industrial work, the hierarchies of the shop floor, and the expectation that the state would manage production were all present, in embryonic form, in the arsenals and foundries of the late Qing.

Treaty Ports and the Foreign Presence

Self-strengthening enterprises were important as symbols and as precedents, but they were not where most of China's industrial labor took place. By the late nineteenth century, the real centers of modern industry were the treaty ports—cities like Shanghai, Tianjin, Guangzhou, Xiamen, and Qingdao, which had been opened to foreign trade under the "unequal treaties" imposed on China after 1842. Within these ports, foreign concessions—areas governed by foreign municipal councils under extraterritorial legal regimes—became the sites of textile mills, cigarette factories, flour mills, and electricity plants.

Shanghai was the largest and most important of these. By the 1920s, it was one of the busiest ports in the world, and its industrial districts—Yangshupu, Pudong, and the

International Settlement's factory zone—employed hundreds of thousands of workers in cotton mills, silk filatures, and cigarette plants. Many of the largest enterprises were foreign-owned or foreign-managed: the Shanghai Cotton Mill Company, the Japanese-owned textile operations in Hongkou, the British-American Tobacco Company's sprawling factory in Pudong. Chinese workers labored in these plants under conditions that would have been familiar to any Lancashire mill hand of the same era—long hours, low wages, dangerous machinery, and the constant presence of foremen with clipboards and short tempers.

But it was not only foreign capital that built industry in the treaty ports. Chinese entrepreneurs, often from the same merchant classes that had dominated regional trade for centuries, invested in cotton spinning, match manufacturing, cement, and food processing. The Rong family, whose patriarch Rong Yiren would later become vice president of the People's Republic, built a flour and textile empire in Wuxi. The famous "flour king" and "cotton yarn king" titles attached to a handful of industrial families who, by the early twentieth century, were among the wealthiest people in China. Their factories employed thousands and contributed to a modest but real indigenous industrial sector.

The treaty ports were also where China's earliest labor movements took shape. Workers in Shanghai's textile mills went on strike repeatedly in the 1910s and 1920s, often organized by secret societies, student activists, or the infant Chinese Communist Party. The May Thirtieth Movement of 1925, sparked when British police in the Shanghai International Settlement killed Chinese protesters, drew tens of thousands of workers into the streets and showed the potential of industrial labor as a political force. The CCP, founded in 1921, devoted enormous energy to organizing factory workers in Shanghai, Guangzhou, and Wuhan in its early years, seeing the urban proletariat as the vanguard of revolution.

The Republic and the Dream of Industrial Nationhood

The fall of the Qing dynasty in 1911 and the establishment of the Republic of China did not immediately transform China's industrial landscape. The warlord era of the 1910s and 1920s was, if anything, a period of industrial stagnation and decline, as regional militarists fought for control of territory and customs revenues. Some provinces—Manchuria under Zhang Zuolin, for example—invested in railways and mining, but national coordination was essentially nonexistent.

The Nanjing Decade of 1927 to 1937, when the Nationalist Party (Guomindang) under Chiang Kai-shek nominally reunified much of China, marked a more deliberate phase of industrial policy. The government established the National Resources Commission (Ziyuan Weiyuanhui) in 1932, a state planning body that would become one of the blueprints for post-1949 industrialization. The NRC invested in mining, metallurgy, and electrical power, and it began to sketch out plans for heavy industrial development

that, in their logic and ambition, resembled what the Soviets would help implement after 1949. The government also promoted infrastructure—railways, highways, and telegraph lines—that bound the country's fragmented economy together a bit more tightly.

During this decade, Chinese industrial output grew, modestly by global standards but significantly by China's own historical baseline. Cotton textile production expanded. Cement and chemical plants were built. A small but growing class of Chinese engineers and managers gained experience in factory administration. The government experimented with labor legislation, including minimum wage rules and limits on working hours, though enforcement was patchy at best. Shanghai's industrial workforce, meanwhile, continued to grow and to organize, producing a generation of workers and labor leaders who would shape the politics of the wartime and postwar periods.

The "Nation Brand" movement (guohuo yundong) of the 1930s, which urged Chinese consumers to buy Chinese-made goods rather than foreign imports, was both a commercial campaign and a statement of national aspiration. It reflected a widespread belief that China's industrial weakness was a root cause of its political humiliation—that without factories and steel mills, the nation could not defend itself. This belief cut across political lines: Nationalists, Communists, and liberal reformers all agreed that industrialization was essential, even if they disagreed bitterly about who should control it and how it should proceed.

Wartime Disruption and the Great Migration

Then came the war. Japan's invasion of Manchuria in 1931 and its full-scale invasion of China in 1937 devastated the country's nascent industrial base. Shanghai, China's industrial heartland, fell to Japanese forces after months of bitter fighting in the autumn of 1937. Textile mills, factories, and warehouses were bombed, looted, or abandoned as millions of residents fled westward.

What followed was one of the most remarkable industrial migrations in modern history. Factory owners, managers, and workers packed machinery onto barges and trucks and moved up the Yangtze River, into Sichuan, Hunan, and Yunnan, anywhere beyond the reach of Japanese armies. The Nationalist government organized and partially funded this exodus, recognizing that if China's industrial capacity were lost entirely, the war effort would collapse. By some estimates, nearly ten thousand tons of machinery and equipment were relocated to the interior during 1937 and 1938.

In the interior, new factories rose in unlikely places—in Chongqing, the wartime capital, where the banks of the Jialing River became lined with workshops and smokestacks; in Guiyang and Kunming, where refugee engineers improvised production lines with scavenged parts. The conditions were often appalling. Workers

labored under makeshift roofs, with unreliable power supplies and chronic shortages of raw materials. But production did restart. The Minsheng Industrial Corporation, a private shipping and industrial conglomerate, relocated its machinery to Chongqing and continued to produce engines, steel, and textiles. State-owned arsenals and mines, similarly relocated, supplied armaments and raw materials to the wartime military.

The wartime experience had lasting consequences. It demonstrated that Chinese industry could be uprooted, relocated, and rebuilt under extreme duress—a lesson that would prove useful to both Nationalist and Communist planners in the years ahead. It also created a dispersed industrial geography, with pockets of modern industry scattered across the southwestern hinterlands, far from the coastal concentrations that had defined the prewar economy. And it radicalized a generation of workers, who endured wartime privation and inflation while being told to sacrifice for the nation, only to find that the postwar settlements offered them little reward.

Manchukuo: Japan's Industrial Laboratory

While much of China's industry was being dismantled and carried inland, another industrial transformation was underway in the northeast. After Japan established the puppet state of Manchukuo in 1932, it invested heavily in building an industrial base in Manchuria, exploiting the region's rich deposits of coal, iron, and other minerals. The South Manchurian Railway Company, already a massive conglomerate, served as the organizational scaffolding for this effort, directing investment into steel, chemicals, armaments, and electrical power.

Cities like Anshan, with its enormous iron ore deposits and steelworks, and Fushun, with its coal mines, were developed into major industrial centers under Japanese direction. Changchun became the site of a massive automobile assembly plant. By the early 1940s, Manchuria was by far the most heavily industrialized region in China, with a concentration of heavy industry that rivaled anything in Japan itself.

The labor regime in Manchukuo was brutal. Chinese and Korean workers were conscripted, often under coercion, to work in mines and factories under harsh conditions with minimal safety protections. Korean workers, in particular, faced severe discrimination and were subjected to forced labor. The industrial infrastructure was modern, by Chinese standards, but it was built on exploitation and designed to serve Japanese strategic interests rather than the welfare of the local population.

When the war ended in 1945, the Soviet Red Army stripped Manchuria of much of its industrial equipment as war reparations, dismantling and shipping entire factory complexes back to the USSR. What remained, however, was a skeleton of modern industry—blast furnaces, railways, power grids—that would prove invaluable to the Communist forces that moved into Manchuria during the civil war. When the CCP took

control of the region, in some cases intact, the Manchurian industrial base gave them something their rivals in the south did not: a functioning industrial economy on which to build.

Labor Before Liberation

What was life like for China's industrial workers on the eve of 1949? The answer depended enormously on where and when one looked, but certain patterns recur. Hours were long—twelve-hour shifts were common in textile mills, and even longer in mines. Wages were low, often barely sufficient to cover food and rent, and were frequently delayed or paid partly in kind, leaving workers dependent on company stores and employer credit. Safety standards were minimal; industrial accidents, respiratory diseases, and repetitive-injury ailments were pervasive and rarely compensated.

Women and children made up a significant portion of the industrial workforce, particularly in textiles. In Shanghai's cotton mills, young women from rural provinces were recruited under contracts that bound them to the factory for set periods, with dormitory living arrangements that resembled, in some respects, later Communist-era danwei housing. They were, however, far more vulnerable to dismissal, exploitation, and abuse. The patriarchal structures of rural China followed them into the factory, where male foremen wielded near-absolute authority over female workers' lives on and off the shop floor.

Labor organizing was vigorous but dangerous. The CCP's early strength lay in its ability to mobilize factory workers, and Shanghai, Guangzhou, and Wuhan saw waves of strikes in the 1920s and 1930s. But Nationalist repression after 1927, particularly the Shanghai massacre of 1927 in which Chiang Kai-shek's forces killed thousands of Communists and labor activists, decimated the organized labor movement in many cities. Workers who survived the purges operated underground, maintained clandestine networks, and kept alive traditions of collective action that the CCP would later call upon.

In the rural interior, wartime factories drew on a different labor pool—displaced peasants and refugees with little prior industrial experience. These workers brought with them expectations of paternalistic management, whether from the state or from private firms, and often organized along kinship or native-place (tongxiang) lines. The social bonds that would later characterize the danwei system—networks of mutual obligation, shared meals, collective housing—had roots in these wartime communities of displaced workers.

The Communist-Controlled Base Areas

It would be misleading to narrate pre-1949 Chinese industry solely from the

perspective of the treaty ports and the Nationalist government. Throughout the 1930s and 1940s, the Chinese Communist Party controlled large rural base areas—first in the Jiangxi Soviet, then during the Long March, and finally in the "liberated areas" of northern China during the anti-Japanese war. In these areas, the CCP experimented with small-scale industrial production under party control.

The CCP's approach to industry in the base areas was shaped by necessity. Cut off from foreign supplies and domestic markets, the party had to manufacture its own weapons, cloth, and basic goods. The Self-Sufficiency Movement (zili gengsheng yundong), launched in the early 1940s in Yan'an, called on soldiers and civilians alike to spin thread, grow food, and repair equipment. Mao Zedong praised the model soldier and worker who combined productive labor with political study, a prototype of the idealized socialist worker that CCP propaganda would later celebrate on a much larger scale.

These base-area workshops were small, crude, and labor-intensive, but they instilled habits of collective production, political mobilization, and party discipline that the CCP would scale up dramatically after 1949. The experience of running factories under wartime conditions—shortages of everything, the need to improvise, the blurring of political and economic roles—shaped the organizational culture of the early PRC industrial sector.

The Inheritance of 1949

By the time the CCP's armies swept south in 1948 and 1949, China's industrial landscape was a study in contrasts. The coastal treaty-port cities—Shanghai, Tianjin, Qingdao—contained the bulk of the country's modern industry, but much of it was damaged, idle, or owned by foreign firms whose managers and owners were preparing to leave. The Nationalist government had presided over a decade of modest industrial growth, followed by hyperinflation, corruption, and military defeat that left its economic institutions in disarray. Manchuria's heavy industry stood partly intact but partly stripped by the Soviets. The interior hinterland contained scattered wartime factories and base-area workshops that, while small, represented a working model of party-controlled production.

The CCP inherited a working class that was small in proportion to the vast agricultural population but politically experienced, concentrated in identifiable workplaces, and in many cases already organized along party lines. It inherited an industrial geography skewed toward the coast and toward light industry—textiles, food processing, and consumer goods—rather than the heavy industry that the new leadership believed was essential for national power and defense. And it inherited a set of assumptions about the relationship between state, factory, and worker—assumptions about who controlled production, who bore responsibility for workers' welfare, and what the purpose of industry was—that would be tested, adapted, and sometimes violently

ruptured in the decades to come.

The Nationalists had debated whether to prioritize light industry for immediate employment or heavy industry for long-term strategic power. The Japanese had demonstrated, through their exploitation of Manchuria, both the potential and the brutality of concentrated state-driven industrialization. The CCP's own base-area experience had shown that even primitive workshops could be organized under political discipline to produce what was needed. None of these legacies determined exactly what would happen after 1949, but together they set the terms—economic, institutional, and ideological—within which the new state would begin its industrial project. The next chapter would tell how that project took shape.

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