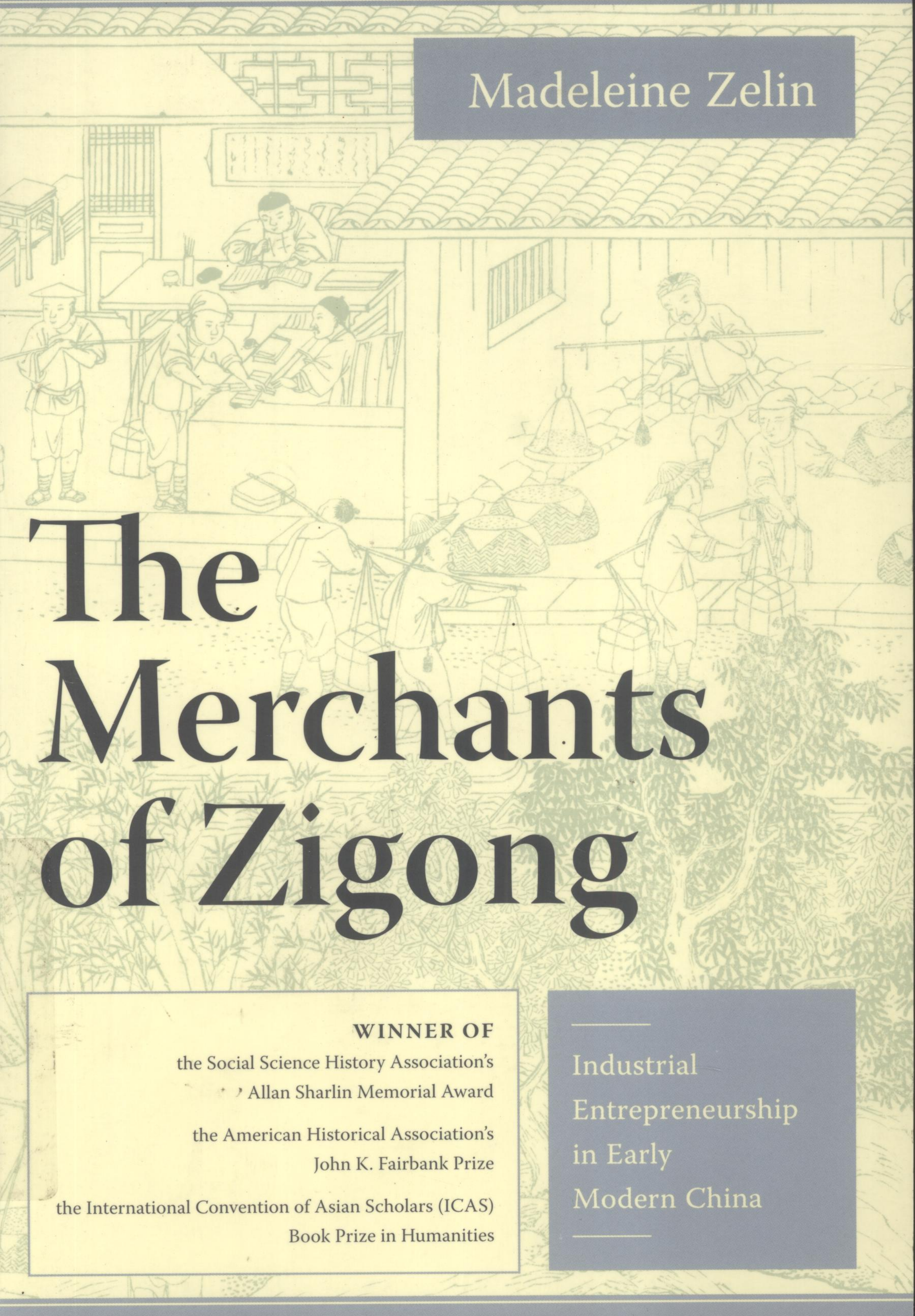

Madeleine Zelin

The Merchants of Zigong

Industrial Entrepreneurship in Early Modern China

WINNER OF
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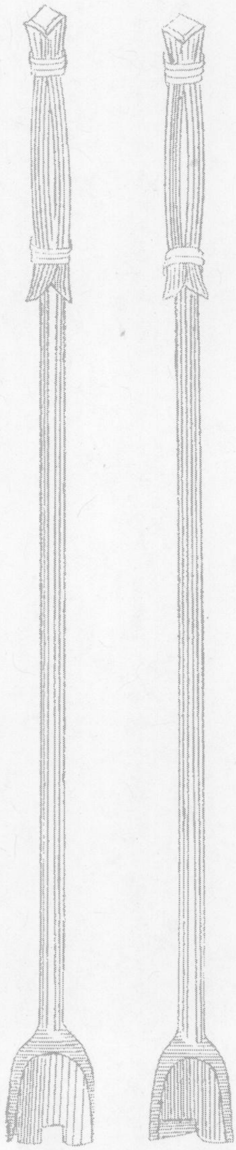

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To my son,

Iain David Zelin Ware

Chinese Weights, Measurements, and Money

CHINESE WEIGHTS, measures, and monetary denominations varied somewhat from place to place. Standard equivalents are generally calculated as follows:

Dan a measure of weight equal to 100 *jin*.
Jin a measure of weight, approximately 1.3 pounds.
Li a measure of distance equal to about one-third of a mile.
Shi a measure of grain sometimes referred to as a picul, approximately 133.3 pounds.
Tael (Chinese = *liang*) a Chinese ounce. Sixteen *liang* equaled one *jin*. Uncoined silver money was measured in taels.
Yuan a Chinese dollar. Used to refer to coined silver money during the late nineteenth and early twentieth centuries and to paper money issued by the Republic of China after 1935.
Zai a standard salt shipping unit equal to between 115,000 and 120,000 *jin* (or approximately 75 to 78 tons).

Preface

Zigong in Chinese History

THIS BOOK recounts the one-hundred-year rise and decline of China's first privately owned high-capital, high-throughput industrial enterprises—the salt manufacturing firms that emerged in the mid-Qing dynasty in the present-day city of Zigong, Sichuan. It is a work of business history. It is also a social history of a discrete merchant community whose deployment of economic, social, and political resources has much to tell us about Chinese urban elite formation at the periphery of empire. The merchants themselves engaged in a number of trades, but their fame was for the production of salt, which by the nineteenth century was made from brine that was drawn from deep wells excavated among the local hills, then transported to furnaces via pipes that traversed the local landscape like giant bamboo roller coasters, and finally distilled in salt pans, many of which were heated by locally mined natural gas.

In their heyday in the late nineteenth and early twentieth centuries, the two towns that made up Zigong—Ziliujing and Gongjing—comprised the largest industrial center in China. Furong, the saltyard that spread across their borders, was responsible for 60 percent of the salt produced in Sichuan. Its workers were among the first men (for this was a male industry) to leave the countryside or small town to work in a factory, not just for a few years or in the agricultural slack season, but full time and for life. Its entrepreneurs, large and small, were pioneers in industrial capital formation and in the development of economies of scale and scope. The most successful built large horizontally and vertically integrated companies that dominated the southern Sichuan economy and made their shareholders among the richest men in China.

In writing about Zigong's salt manufacturers I have had two goals: to better understand the institutions that structured China's indigenous economic development and to try to resituate the history of Chinese business within the larger history of the firm in the nineteenth and early twentieth centuries. It will be clear to anyone who reads about these Chinese industrialists that their experience was only partially transferable. Their success was in part a gift of nature, in the form of rich deposits of brine and natural gas that still form the basis for Zigong's industrial development today. However, the ability of the merchants of Zigong to mobilize capital, develop and utilize new technologies, capture markets, and build and sustain corporate business organizations was only moderately dependent on fortuitous geology. Like entrepreneurs everywhere they labored within a complex of cultural resources and political realities that molded their business behavior and were manipulated by them in the pursuit of profit.

The cultural resources upon which Zigong people drew to build their firms were already important in the structuring of property rights and the organization of various kinds of corporate entities throughout the Chinese-speaking world. They remained important even after the expansion of foreign business in China and the increased movement of Chinese overseas in the latter part of the nineteenth century provided new models for Chinese industry. Inasmuch as the main period of growth at the saltyard occurred before the period of Western influence on Chinese business, the merchants of Zigong provide a rare opportunity to examine Chinese institutions in a purely indigenous "big business" context. Zigong also allows us to track changes in indigenous business organization over time, permitting a more nuanced assessment of the forces that shaped industrial organization, interaction with the regional and national economy, and the actions of business elites in an urban setting that was not dominated by the West and Japan.

Business never operates in a political vacuum. The story of Zigong's prosperous century stretches across three key political transitions in modern Chinese history—the early period of Manchu rule, the imperial political realignment of the post–Taiping Rebellion, and the warlord and Nationalist (Guomindang) republics of the postdynastic period. Although salt had long been a source of revenues for China's rulers, the early Qing government was far too preoccupied with dynastic consolidation to concern itself with extracting the maximum revenues from the salt industry in distant Sichuan. Until the mid-nineteenth century, salt producers at Furong labored under a salt administration that placed few restrictions on the manner in which they conducted their business and allowed far more freedom in the development of market opportunities than was enjoyed by salt producers in eastern and northern China. The Taiping Rebellion (1851–1864), by cutting off trade between central China and the salt production regions of the east coast, suddenly and dramatically expanded their market reach, a condition that was not reversed until the early decades of the twentieth century. Thus, in most respects Sichuan salt manufacturers operated free of external constraints. Even after the imposition of stronger state control over the sale of salt in the late 1870s, Zigong salt production benefited from an expanding market that encouraged new investment and technical innovation.

It is difficult to locate the stifling influence of the "feudal" state of popular Chinese historical narrative in the story of Zigong's Furong saltyard. As I have argued elsewhere, Qing economic policies were relatively benign, limiting neither the movement of capital and workers, nor the entrepreneurial energies of merchants and manufacturers.[1] The success of Zigong's investors in transforming their industry from one of handicraft workshops to large-scale industrial firms also belies long-held beliefs that social structure, the absence of modern banking, and cultural bias against business precluded industrial investment and development in China. As Tim Wright has noted with regard to China's late-nineteenth-century coal mining industry, where there were profits to be made in China there was investment.[2]

Where the economy is concerned, the late imperial state is more notable for what it did not do for industry than what it did to it. In the interests of central communications with the provinces, the Qing state maintained a dense network of roads and watercourses that benefited long-distance trade. However, by the eighteenth century this network fell far behind the needs of China's producers and particularly of those regions far from the centers of maritime trade. In the nineteenth century, a weakened Qing state continued its domestic tradition of economic laissez-vous faire, too late assuming responsibility for infrastructure development and the promotion of industry.

It is easy to blame the last imperial government for a lack of vision in its approach to the challenges China faced from the West and Japan. However, in key areas it performed far better than its successors. The early development of the Furong saltyard took place under conditions of relative political stability (save for the years of the Taiping wars). State enforcement of property rights and contracts compensated in large measure for the absence until the turn of the twentieth century of a state-promulgated commercial law. While salt producers blasted the introduction of commercial taxes on salt in the form of the mid-nineteenth-century *lijin* tax, the Qing tax system as a whole was relatively benign in its extraction of profits from manufacturing and commerce. And despite the demands of Sichuan's competitors, the state did not roll back the Sichuan salt market to its pre-Taiping borders.

The governments that followed the ouster of the Qing dynasty did not do as well for Zigong businessmen. Infrastructure projects that might have helped them diversify their products and participate in the more prosperous trade and manufacturing emerging in the east and northeast did not materialize. Political instability challenged their access to established markets and to inexpensive capital. And the needs of competing militarists for revenues raised the effective tax burden far beyond the limits imposed by the late imperial regime. The stresses placed on business in twentieth-century Zigong did not destroy the saltyard. But they did drive out the marginal producer and change the way business was conducted among those who remained.

Zigong and the History of the Firm

As important as Zigong is to an understanding of Chinese industrial history, it is also a valuable addition to the general investigation of early industrial development and organization worldwide. The problems that Zigong businessmen faced and the choices they made in response will be familiar to economic historians. Prior to the nineteenth century most of the world's merchants and artisans operated within a low-fixed-cost economy in which, as Langlois notes, "profitability depended not on the ownership of tangible assets but on specialized knowledge and the ability to adapt."[3] Manufactures were produced in small workshops and were sold by merchants who handled diverse products and traveled between widely dispersed markets. During the nineteenth century, parts of Western Europe and the United States experienced market growth, which in turn made possible the introduction of larger-scale manufacturing processes. In the United States this industrial development followed the expansion of the domestic market. Elsewhere, it was the result of expansion of overseas trade. Whatever the cause, this change in the size of the market made possible a shift to more capital-intensive production and the integration of the production process. The introduction of factory production, with its higher-cost machinery and larger wage and materials schedules, demanded new ways to finance business.

Zigong's remarkable expansion in the early nineteenth century and its equally swift decline in the late 1920s and early 1930s were also first and foremost the product of market expansion and later contraction. In this case it was state policies governing the regional distribution of salt markets that made feasible investment in deep drilling technologies and stimulated the refinement of those technologies to produce dramatically increased supplies of brine and natural gas. That this market expansion was not the

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result of improvements in transportation or other factors facilitating market integration and the flow of information would become important later on. However, in the early nineteenth century Zigong salt producers found themselves in the same situation as manufacturers of textiles, brewers, miners, and others around the world who saw the opportunities presented by expanding markets and the possibilities for exploiting economies of scale.

How these new industrial enterprises were financed depended on local conditions. For most firms fixed-capital costs were sufficiently low to allow entrepreneurs to rely on individual and joint owner financing and to retain profits for industrial growth. Merchant loans also played a role in providing long- and short-term credit.[4] In the instances where banks played an important part in capital accumulation it was most often not as impersonal lender but as participant in one or more financial-industrial networks bound by kinship. Naomi Lamoreaux has demonstrated the importance of banks as "insider lenders" to early New England textile manufacturers. During the nineteenth century, banks founded by members of prominent New England families became important sources of capital for the business ventures of bank directors and their kin. At the same time, by opening the purchase of bank shares to the general public, these financial-industrial networks were able to expand the pool of money available for industrial development.[5]

At Zigong we will see both patterns at work. In Sichuan the wealthiest merchants were those who controlled the wholesale market in salt. So it is no surprise that some of the earliest efforts at deep drilling in Zigong drew on capital from the large Shaanxi merchant houses that dominated that market. At the same time, entrepreneurs took advantage of other entrenched practices to achieve unprecedented levels of capital investment. Chapter 2 looks in detail at the utilization of kinship organization and the growth of a local share market in Zigong to combine the underemployed capital of numerous local and regional households. Whereas banks acted as intermediaries in the combination of capital in the New England case, in Zigong kinship networks operated directly as poolers of capital, while specialized middlemen facilitated the combination of capital not shared by kin and its management. The basic form of capital accumulation in both instances was the contract-based unlimited liability shareholding company.

The shareholding companies formed at Zigong display characteristics both similar to and different in fundamental ways from those of the firms formed by early-nineteenth-century industrialists in the West. Like the latter, they began as contractual partnerships in which investors shared in profits and losses in proportion to their contribution to the capital fund. A distinctive feature of the Zigong case was the commoditization of shares, which allowed the developers of wells and furnaces to use the share market to extend the life of the firm beyond either the finances or the biological life spans of the original investors. Purchase and sale of shares also gave firms control over inputs to production, which allowed greater flexibility than would outright purchase of production assets.

The absence of state involvement in setting the rules of the game for business organization in Zigong and elsewhere in China is striking. While Zigong businessmen had to contend with the state over taxes and markets, they were left an open field to utilize contracts to shape their businesses and to govern their conduct through a simple set of self-binding regulations, which in turn was enforced in the courts. Unlike England, no constraints were ever placed on the size or capitalization of a partnership. Nor did the state interfere in the relations between capital and labor. Shareholding was governed entirely through contract. As opportunities for economies of scale and from coordination became apparent, Zigong businessmen drew on forms of asset incorporation native to the extended kinship group to organize production units and ensure their longevity beyond the founding generation.

The state's uninterest in regulating the economy during the Qing turns out to have been a double-edged sword. On the one hand, Chinese businesses, in Zigong and elsewhere, were free to govern themselves. Although this gave rise to a plethora of terms for similar activities, the relative homogeneity of Chinese culture and a highly mobile merchant and official class seems to have resulted in similar business practices throughout most of China. On the other hand, without a legislative forum for debate over business practices and the legal forms that would best serve them, business practices were not elevated to the level of the law and problems shared by all businessmen were never resolved by state action. As a result, until 1904 Chinese businesses operated without a law of limited liability or a means to mitigate business debt through a law of bankruptcy.

High fixed capital was not the only distinguishing characteristic of the modern industrial firm. During the course of the second half of the nineteenth century many producers began to integrate forward into marketing and in some cases backward into raw material supply. Scholars disagree on the causes of this phenomenon. Williamson, following Coase, has argued that integration occurs to overcome transaction costs created by imperfect and often asymmetric information.[6] However, the scenario mapped out by Alfred Chandler for firms such as Standard Oil provides the most useful framework for an analysis of the evolution of the firm in Zigong. Chandler emphasizes the development of new technologies, which in turn made possible high capacity or "throughput" production.[7] In the case of the United States, innovation in both transportation and manufacturing contributed to the new business environment. As Langlois reminds us, the first was really a market revolution, "collapsing geographical barriers [and increasing the] integration of the domestic market."[8] It was this expansion of the market that in the United States and elsewhere encouraged investment in new technologies, which in turn made possible unprecedented levels of output. Integration resulted when producers of high-throughput products sought to control both supply and marketing to make optimal use of their capital investment.

In Zigong, the development of highly productive brine wells and the concurrent recognition of the potential of local deposits of natural gas occurred shortly before the advent of the Taiping Rebellion broke open the market for Sichuan salt. Investors with sufficient capital almost overnight became classic high-throughput producers with a virtually unlimited potential market. The absence of technology to store natural gas reinforced the impulse to keep brine flowing to the furnaces. Firms first brought together brine and gas wells and the furnaces that evaporated salt. Firms with brine but insufficient gas used the market to ensure gas supplies through long-term leases and the purchase of gas well shares. Some firms extended their linkages back further by investing in agricultural land to feed the buffalo that pumped the brine and by developing networks that guaranteed access to critical inputs like bamboo, timber, and cable. The largest firms extended their linkages forward as well, creating their own marketing divisions and later investing in the development of brine pipes, both of which gave them advantages over smaller producers. With all the pieces in place, many Zigong furnaces operated 24 hours a day.

Integration requires changes in management. While not all firms experienced the kind of management professionalization to which Chandler attributes the success of the American industrial giants, coordination of various functions subsumed within the integrated firm everywhere led to specialization and hierarchical organization of the various divisions within the firm. Integration also led to the introduction into the management team of persons who were neither shareholders nor shareholders' kin.[9] In Zigong we see this clearly in the hierarchical management structures adopted by large lineage-based firms and signs of a similar transformation of management practices within non-lineage partnerships for which we have fragmented data. Professionalization of managerial training lagged behind advances in organization. Managerial skills continued to be acquired through apprenticeship (not necessarily at the firm where one ultimately worked) and on-the-job experience, with many managers making their careers moving up the hierarchy within one firm. However, evidence from partnership agreements and accounting records suggests a growing recognition of management accountability to shareholders who were themselves not active participants in the activities of the firm.

While integration was responsible for the success of the first generation of salt producers who took advantage of deep-well technology, the story of the merchants of Zigong is not one of linear development. As such, it addresses questions posed by the late-twentieth-century decline of the large integrated industrial firm. The critique of the theory of the firm provided by Naomi R. Lamoreaux, Daniel M. G. Raff, and Peter Temin is useful in this regard.[10] Rather than view industrial integration as inevitable, they lay out the relative advantages and disadvantages of different organizational forms along a continuum from market-based to hierarchically based (i.e., integrated) coordination. Arguing that the choice of firm structure along this continuum is contingent upon numerous factors that change over time, the authors conclude that the large integrated firm is no longer as efficient as it once was. Langlois, who makes a similar argument that nonetheless maintains the basic framework of Chandler's, claims that one of the results of integration was the building of capacities which can later be used to diversify in ways that ultimately lead to the decentralization of many late-twentieth-century firms.[11]

The history of the Zigong saltyard prior to the outbreak of World War II underscores the importance of a multivalent theory of the firm. If we assume the choice of firm organization is based largely on an effort to reduce risk, the integrated salt conglomerate buffered producers against interruptions in supply that would impede the 24-hour-a-day, 30-days-a-month production schedules of Zigong's gas-fired furnaces. As long as they produced, wholesalers could find a market in the expanding Sichuan salt frontier in Yunnan-Guizhou to the south and Hunan-Hubei to the north. Even an increase in salt taxes and a government takeover of marketing did not lead to a structural change in the organization of the industry prior to the end of the nineteenth century.

In the early twentieth century, techniques of solution mining employed to exploit newly discovered rock-salt deposits created new economies of scale and changed the balance of power between owners of brine and owners of gas. With brine prices at all-time lows and less productive brine wells closing every day, the importance of backward supply linkages declined. At the same time, the introduction of steam engines at the yard allowed a new group of investors, latecomers to the field of well exploration, to penetrate the industry on the basis of their control of capital as well as expertise in mechanical engineering and links to pump manufacturers in Hankou and Shanghai.

Probably the most important influence on business organization was the changing political environment of the twentieth century. The fall of the Qing dynasty and its replacement by a succession of unstable military regimes added to the uncertainties under which Zigong's salt industry functioned. Frequent changes to the salt administration exacerbated their effects. By the 1920s militarist competition for salt revenues led to a radical contraction in the legal market for Zigong salt and a dramatic rise in salt taxes. All of these factors influenced the disintegration of the Zigong salt firms, diversification of investment portfolios, and the growing importance of networks in business behavior.

Sources

All students of China's historical economy must face the dilemma posed by inadequate quantitative data, both relating to the economy as a whole and to individual sectors and firms. In the case of Zigong, what survives is in large part the product of that city's special importance to the state as a source of taxes. Among our most important sources on the overall conduct of business and trade, on output, taxation, and production costs are state-sponsored compilations—salt gazetteers, salt administration histories, collections of essays on salt administration, and local and provincial gazetteers. In addition, we are fortunate to have several private surveys of the saltyard, including one large compilation from the turn of the twentieth century and another undertaken in 1928.[12] During the 1990s locally sponsored projects to compile historical gazetteers covering various aspects of Zigong's urban history, particularly during the twentieth century, have also provided valuable information on such matters as the founding of firms, the establishment of local banks, and the transformation of Zigong from a capitalist to a socialist economy.[13]

While quantitative estimates contribute to a number of arguments presented in this study, far more important has been material that contributes to a picture of institutions, associations, and practices within this business community. I was fortunate to have been able to work in the Zigong Municipal Archives, which holds an extensive collection of documents generated by the southern Sichuan salt administration and the Zigong Chamber of Commerce. The latter includes case records from the hundreds of suits filed by Zigong businessmen against the state and against each other. The Archives also has a small collection of salt business accounts and an eclectic collection of documents from the pre-1949 salt companies. Among these are a large number of contracts and other agreements, many of which have been collected in *Zigong yanye qiyue dang'an xuanji (1732–1949)* (Selected

Zigong salt industry contracts and documents [1732–1949]).[14] These have been particularly important in understanding how capital was brought together at the yard, how partnerships were structured, and how business organizations changed over time. Material from the Zigong Municipal Archives reprinted in this collection is cited by the number assigned to each contract as it appears in print. To these were added compilations of documents on specific subjects brought together by Chinese scholars.[15] The many additional materials I was able to find at the Archives are cited according to their archival catalogue number.

This book could not have been written without a third kind of source, one that is increasingly finding its way into the work of Chinese historians. Because of the special problems this genre presents it requires particular mention. Since the 1950s Zigong, like many places in China, has been the focus of intensive efforts to gather the oral (and sometimes written) recollections of people who participated in important events or activities. In the case of Zigong, the building of an industrial center was deemed worthy of such a project, even as the communist state was dismantling its firms and incorporating its personnel into the state-owned sector. Hundreds of memoirs were transcribed during the 1950s and early 1960s; many of them were published in *Zigong wenshiziliao xuanji* and *Sichuan wenshiziliao xuanji* prior to the onset of the Cultural Revolution. The oral history enterprise was halted during the late 1960s and 1970s. However, it was revived in the 1980s and continues to this day. I was fortunate to receive, from colleagues in the Zigong Salt Industry Museum and the gazetteer office, copies of the unabridged originals upon which several of these published oral histories were based, and I have made careful use of them and numerous published (compiled and edited) transcriptions.

Such materials need to be used with caution, as do indeed all materials with which we build our picture of the past. Because the subjects of these memoirs were largely former salt businessmen (including some of the most powerful of the last cohort before the revolution), we should expect that they would feel constrained by their new circumstances and anxious to present themselves in the best possible light. It is also clear that some of these memoirists had axes to grind. They each have their own take on why their businesses succeeded or failed, which government actors were pro- or anti-industry, and who was in the right in particular conflicts and disputes. In each case I have tried to avoid accepting the subjective conclusions of the author, while culling his story for clues to the institutional structures at play, the problems he and others faced, and the choices they made. The opportunity I have had to check and cross-check the information contained in oral histories against contracts, official compilations, nonofficial surveys,

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