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Managing in Rugged Environments: A Case Study of Human Resource Management in Chinese Banks, 1911 to 1945

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Abstract

This study explores the labor management strategies of Chinese banks during a period of significant social and economic instability. It reveals a two-tiered labor market within these banks, where lower-level employees received standard pay and career prospects, aligning with tournament theory to identify skilled workers cost-effectively. By contrast, higher-level roles utilized efficiency wages to motivate senior staff and mitigate moral hazards. Banks also prioritized comprehensive monitoring policies and fostered a harmonious corporate culture rooted in Confucian ethics to ensure the smooth operation of their systems. This approach to labor management was a response to the unique challenges of institutional voids and social transition in emerging markets, offering insights into white-collar management strategies in developing economies.

Keywords: Emerging Markets, Institutional Voids, Chinese Modern Bank, Labor Management, Personnel Policy

1. Introduction

The Visible Hand (Chandler, 1977) explored how American managers at the turn of the 20th century tackled emerging challenges by creating innovative management strategies for Big Business and their employees in a relatively stable environment, where internalization costs were lower than market alternatives (Williamson, 1975). On the other side of the world, China at the time, as described by Maitland and Sammartino (2015), was an extremely rugged environment plagued by foreign invasion, civil war, and revolutionary upheaval (Fairbank, 1983; Shiroyama, 2008). This study examines how Chinese banks, as large service organizations, and their managers developed effective personnel strategies in this context. It does so by examining three pivotal aspects of human resource management (HRM): the design of wage contracts, implementation of monitoring mechanisms, and cultivation of corporate culture.

Literature on the evolution of HRM systems in developed countries is more extensive than that on equivalent topics in emerging markets. As a result, there is growing interest in the dynamics of emerging markets (e.g., Faure, 2006; Tignor, 2007). Factors such as human capital development, the rule of law, property rights, and political stability play significant roles. For instance, access to quality education and healthcare may be more restricted in emerging markets than in developed ones. Developed economies generally boast more mature legal frameworks and stronger adherence to the rule of law. Property protection and intellectual rights tend to be more comprehensive in developed regions. Similarly, political systems and institutions are often more stable in advanced economies than in emerging ones. Given this combination of factors, HRM must respond to these changes, shaping a different landscape in the developing context. Therefore, to maintain its relevance, business history must broaden its focus beyond Europe, North America, and Japan to include the historical narratives of other regions (Jones and Zeitlin, 2008).

We believe that our investigation of early Chinese banks makes distinct contributions to the literature for the following reasons. First, traditional research primarily focuses on how manual laborers are managed in industrial firms, because this is where the historically predominant style of labor management was developed. Nevertheless, these jobs are currently a shrinking portion of employment in most economies. Thus, both scholarly and practical discussions on the management of white-

collar labor forces in various economic sectors such as railways and financial services are necessary[1]. In this regard, investigating clerkship management in Chinese modern banks (CMBs) provides insight into an important issue for emerging economies, which have traditionally been overlooked in the literature. Analyzing the Chinese case may help answer questions about similarities in the growth trajectories of labor management and the forces driving convergence and divergence.

Additionally, as Austin et al. (2017) recently argued, businesses based in developing regions face challenges that are uncommon in advanced economies. Therefore, studying business responses to these distinctive challenges is particularly meaningful. In China, institutional voids and social transitions were the main challenges which led to distinctive responses in terms of labor control[2]. Traditional family based management, capable of handling small-scale native market businesses, has been unable to sustain modern enterprises within a national or even international operational scope. The government's struggle with legitimacy, internal strife, and warlordism in the early 20th century created a power vacuum and political instability, leading to its failure to protect modern banks[3]. The service sector encountered both traditional and new personnel problems as it expanded its business operations nationwide and hired clerks from various, sometimes intractable, backgrounds. On the labor demand side, there was a greater need for well-educated professionals in fields like business, accounting, and finance. Finding individuals with a strong foundation in business arithmetic and experience in enterprise accounting and business transactions within a modern legal framework was difficult. On the supply side, banks in the early 20th century faced an increasingly “new” labor force, mostly educated in middle or high schools, enjoying higher living standards, and more heterogeneous in terms of interests and backgrounds. Conventional paternalistic policies, which had dominated traditional Chinese agrarian-business management for centuries, were no longer appropriate, despite the financial sector’s 2,700-year history (Ye & Pan, 2001, p.12). The need for a management overhaul became essential rather than optional. Additionally, many leading bankers of this era were educated abroad. Primary sources provide ample evidence of Chinese bank managers acquiring management skills from their Western counterparts (Hong, 1986; Jiang, 1988; Shanghai Commercial & Savings Bank, 1949; *Bankers Weekly,* November 6, 1928, p.66). Thus, examining the distinct characteristics of HRM and assessing whether the Chinese approach embodies the "adoption and adaptation" of the Western model could significantly enrich the literature.

Conventional studies in this field have often examined the dynamics between employers and employees in various aspects. First, some studies have concentrated on wage contracts, exploring the economic incentives that encouraged employees to exhibit desirable behaviors and deter fraudulent activities (Seltzer and Merrett, 2000; Benjamin and Thornberg, 2007; Rei, 2014). Scholars have also acknowledged that without effective oversight, standalone strategies were bound to fail. Consequently, numerous studies have emphasized the significance of robust monitoring as a key element in the evolution of labor management [4]. Furthermore, as large-scale enterprises—particularly in industries like railways, steel, and finance—became prominent economic entities during that era, they encountered unique challenges that set them apart from their smaller-scale predecessors. To perform highly specialized tasks, these corporations made substantial investments in specialized human capital (Fitzgerald, 1988, p.40). Consequently, they placed a high value on retaining long-term employees and reducing staff turnover. In this context, loyalty and dedicated service became crucial in HRM, with corporate culture assuming a pivotal role (Fitzgerald, 1988, p.85). This shift has also spurred extensive research into the impact of organizational culture on enhancing HRM (Kaufman, 2008, p.11).

Taking these considerations into account, our study on HRM focuses on three key aspects: wage contract design, monitoring mechanisms, and corporate culture, to understand the prevailing management patterns in the Chinese banking sector. The detailed investigation starts with the wage structure. Our findings suggest that CMBs utilized tournament-type contracts for junior workers, featuring low initial salaries, performance reviews, and advancement prospects, while senior staff received wage premiums and generous compensation packages to incentivize long-term performance. Monitoring was stringent across all levels, reflecting the need for control due to agency problems and sacrificing flexibility for security. By incorporating Confucian ethics, CMBs promoted honesty and integrity, fostering a family-like work atmosphere to reduce fraud and collusion. This study highlights a convergence with Western management practices, but also notes differences, such as reengineered wage structures targeting dependable employees and stringent monitoring adapted to the social and economic environment. Emphasizing discipline and responsibility, CMBs created an authoritarian framework with centralized authority supported by contemporary control mechanisms.

2. Insights from incentive theory into the wage rates, monitoring, and transaction costs

The formulation of employment contracts within the banking sector occurs in a multifaceted environment, diverging significantly from the simplistic wage determination mechanisms of spot markets, which typically rely on piecework or hourly compensation structures (Fama, 1991). This complexity arises from several factors that profoundly influence employee productivity but present substantial challenges in terms of measurement and observation.

First, the individual work habits of employees, which can greatly affect productivity, are often obscure before hiring and can remain elusive even after employment (Sivaramakrishnan, 1994). The difficulty and costs associated with identifying these habits necessitate employment contracts that account for such variability. Furthermore, a worker's productivity is not solely a function of their human capital (Becker, 1962); it is also shaped by their motivation, which can fluctuate over time and across different work environments. Additionally, a myriad of factors—including intrinsic ability, effort level, and the broader work environment, such as prevailing business conditions and behaviors of other employees—affect worker productivity within any given period (Rotemberg, 1994).

Employment roles in the banking industry can be divided into two categories. The first category includes roles characterized by routine, repetitive tasks such as data entry, transaction processing, and record maintenance [5]. These positions require employees to execute standardized procedures with precision and consistency. The nature of these tasks is conducive to quantifiable productivity metrics, enabling straightforward performance evaluations. Conversely, the second category encompasses roles where outcomes are intangible and monitoring is intrinsically more challenging. These positions include strategic planning, risk management, and client relationship management, in which decision-making is contingent on expertise, judgment, and interpersonal skills. Intangible outcomes, such as client satisfaction or long-term risk mitigation, are not immediately evident and resist easy quantification. This necessitates a nuanced approach to performance evaluation that incorporates qualitative assessments and considers long-term impacts. Both types of roles are essential to the operational integrity of a financial institution. However, they demand distinct management strategies to ensure employees are engaged, effective, and aligned

with the institution's overarching objectives.

In this context, the tournament model, among others, is often used to guide incentive plans for roles involving repetitive and monotonous tasks with low monitoring costs[6]. This model engenders a structured competition in which clerks are rewarded for surpassing their peers across various metrics, including productivity, accuracy, and customer service. The reward for winning this contest is a superior position and the associated increment in earnings; hence, the alternative designation of a 'promotion tournament.' Tournament theory is especially effective in scenarios where quantifying labor is costly, yet ranking workers is comparatively straightforward (Lazear and Rosen, 1981; Lazear, 1995).

The application of tournament theory offers several advantages. Primarily, it can incentivize lower-level clerks to enhance their performance by creating a competitive environment that acknowledges and rewards high achievers. Such competition can lead to increased productivity, efficiency, and work quality, which improve the benefits of the bank’s operations. Tournament-based wage incentive schemes also elucidate performance objectives, offering employees a clear understanding of expectations and advancement opportunities within the organization. By offering prospects of promotion and greater remuneration for exceptional performance, tournament theory can motivate clerks to aspire to excellence, potentially diminishing turnover and bolstering employee retention. Moreover, the inherently competitive dynamic of tournament-based incentives fosters an ethos of perpetual improvement and innovation, prompting employees to consistently outdo their peers and ultimately enhance the bank's competitive edge and profitability.

Additionally, tournament contracts have an advantage over other pay systems, particularly in turbulent environments, because they are immune to shared risks that do not alter effort rankings. While individual or common risks, such as personal trauma or adverse economic conditions, might reduce effort in other pay systems, rank-based rewards remain appealing as they are unaffected by these shocks. Other pay methods lacking this relative measure could unfairly penalize workers due to such shocks. This is also why a tournament-style system is desirable in unpredictable social and economic environments (Waldman, 2013). Experiments have shown that, during shared risks, tournaments encourage more effort than fixed or piece-rate pay (Bull et al., 1987).

However, there are specific disadvantages to any incentive scheme modeled as a tournament. First, competition and stress: the combative nature of a promotion

tournament can foster a hostile work environment, increasing stress and strain among employees (Lazear, 1989). Second, reduced cooperation: when individual achievement and rivalry take precedence, employees might prioritize personal gain over team success, hindering collaboration (Drago and Garvey, 1998). Third, there is the risk of resentment: repeated losses in the tournament could lead to bitterness, decreased morale, and lower job satisfaction, leaving employees disheartened and demotivated (Falk et al., 2008).

An alternative form of incentive plan is based on the efficiency wage model. This theory posits that employers can achieve greater productivity from their workers by paying wages that exceed the market-clearing level. This concept is grounded in the recognition that the quality and intensity of a worker's efforts are not solely determined by the minimum wage required to attract a workforce. By offering higher wages, employers can incentivize workers to perform better, thereby increasing overall productivity and efficiency within the firm[7].

In the banking sector, where trust and reliability are paramount, efficiency wages can be particularly beneficial (Murphy and Topel, 1990). High wages make it costly for workers to shirk their duties; if a worker is caught and fired, they lose a high-paying job and may face unemployment. Thus, the fear of unemployment helps keep the workers motivated. While this deterrent effect may be minor for regular staff, who may find another position due to their accumulated human capital and experience, it is more significant for senior managers (Shapiro and Stiglitz, 1984). The job market for top-level bank managers is limited, therefore dismissals for misconduct are more noticeable to other employers. Severe violations of bank rules could result not only in dismissal but also in exclusion from the entire banking industry.

Another advantage of paying efficiency wages is that higher-paid workers are less likely to quit (Krueger and Summers, 1988). In a turbulent economic environment, banks have strong incentives to retain existing staff and maintain low turnover rates due to the relatively high costs of training replacements[8]. Lower turnover rates among banks paying efficiency wages reduce the costs associated with staff departures and replacements. This minimizes disruptions when trained workers leave and new hires need to be trained. Consequently, efficiency wages diminish the quit rate while boosting output and profits (Malcomson, 1999).

Existing research confirms the theoretical implications in the early stages of HRM practices development. By examining personnel records from the Union Bank of

Australia and Williams Deacon's Bank in England at the turn of the 20th century, Seltzer and Merrett (2000) and Seltzer and Frank (2007) showed that employee turnover rates were the highest during the early years of tenure, suggesting a selection process. Additionally, large organizations often had well-defined career ladders, such as those in the US (Sundstrom, 1988), England (Boot, 1991; Heller and Kamleitner, 2014), and Australia (Seltzer and Simons, 2001), with significant premiums attached to higher positions. This induced long-term employment and motivated employees to exhibit positive behaviors (Kingsford, 1970, p.53; MacKinnon, 1994), considered evidence of tournaments for clerks (Hall, 1982). Boot (1991) expanded the research beyond skilled clerks, arguing that the wage system at the Bank of Scotland also applied to its "unskilled servants" with a clearly structured job ladder accessible even to unskilled recruits. Other large service organizations frequently adopted a similar approach, implementing career advancement paths with reasonable internal competition to motivate employees to self-regulate and oversee their performance, as seen in railways (Bagwell, 1963; Drummond, 1989), the Metropolitan Police (Shpayer-Makov, 1991), and US retailing before World War I (Carter and Carter, 1985).

However, at higher levels of the job hierarchy, there are fewer opportunities for promotions, and incentives can only be sustained with a significant wage increase. In other words, salaries, known as efficiency wages, must increase at a progressively higher rate within the job hierarchy (Seltzer and Frank, 2007). Along these lines, Seltzer and Merrett (2000) analyzed wage progression for entry-level groups from 1888 to 1900 at an Australian bank and discovered that the wage progression curve was initially concave for the first 25 to 30 years of employment and then became convex. The upward-sloping wage curve indicated a substantial wage premium offered by the company, with the significant late-career surge for the top 10% of experienced employees a result of efficiency wages within the bank. Wage premiums for senior and seasoned employees were common in the financial industry. Additional studies such as those by Baker et al. (1994) and Treble et al. (2001), also observed a comparable wage trend, where significant salary increases were linked to job position and advancement. This trend led to a substantial loss of lifetime earnings for workers who resigned or were terminated.

Salary arrangements alone provided powerful incentives for workers not to shirk their efforts; however, effective monitoring is essential for any strategy to succeed. Consequently, HRM literature often involves a deep examination of monitoring and

screening mechanisms within banks. Merrett and Seltzer (2000) revealed how a monitoring system worked in an individual bank. Their 1920s case study showed that the company employed two monitoring systems: one for staff appraisals and promotions, and another for daily monitoring to prevent theft and fraud. This finding provides additional evidence that British and Australian banks used comparable internal structures by the late 19th century. According to Keneley's (2006) research on a sizable insurance company, strict monitoring mechanisms were established by 1940. This research demonstrated the interaction between staff screening, promotion ladders, and annual wage reviews. These elements collaborated to prevent and identify employee fraud and theft, two serious forms of opportunistic behavior.

With a well-structured salary system for clerks and efficient monitoring and screening processes in place, the HRM system aimed to operate smoothly. This was intended to reduce transaction costs in large businesses during the shift toward vertical integration, which began in the late 19th century in developed countries, as described by Chandler (1977). It is important to note that actual solutions varied greatly across nations, historical periods, and social contexts, making them far from clear-cut. For example, while research confirmed that position-based and age-related salary arrangements were typical in the banking industry (e.g., McKinlay, 2013; Heller and Kamleitner, 2014), it was also noted that nominal salaries for clerical workers were exceptionally stable in the 19th century as educational attainments became more common (Feinstein, 1988; Flinn, 1974), highlighting the complexity of compensation practices in early HRM. The social environment in which banks operated also influenced their salary plans due to institutional differences. In the US system, information asymmetry was limited because bank directors frequently had firsthand knowledge of local businesses (Sylla, 2020). Conversely, in England, where branches were dispersed over a larger area than in the continental US, banks relied more heavily on the integrity and skills of their employees (Storey et al., 1997). These institutional differences suggest varying policies for designing employee incentives and highlight the need for more comparative studies in both developed and developing contexts, where environmental settings might differ significantly from those described in the existing literature.

3. Data and methods

An abundance of disorganized and fragmented historical information exists on the HRM of CMBs. Available data sources include organizational structures, personnel records, regulations, protocols, and provisions stored in the Shanghai Archives, the Beijing Archives, and the Second Historical Archives of China. Numerous internal publications from these banks, such as Zhong Hang Sheng Huo of the Bank of China and Jiao Hang Tong Xin of the Bank of Communication, along with documents generated by business transactions (e.g., correspondence among branches) provide valuable insights into how CMBs managed their employees and organized personnel activities.

Before presenting the final assembly data, it is imperative to succinctly describe the methodologies employed to transform raw materials into formal data for our quantitative analysis, ensuring rigorous examination and meaningful insights. Given the complexity of our data sources, we utilized the Source Critique methodology to critically evaluate the origins of the historical data (Tennent and Gillett, 2023). This process involves assessing the authenticity, reliability, and potential biases of documents, artifacts, and other historical records. By examining the provenance and purpose of these sources, we could discern the motivations and perspectives of their creators, which is essential for accurate interpretation. Furthermore, to ensure the consistency of the records, we employed another method called triangulation (Lipartito, 2014; Tennent and Gillett, 2023). Triangulation involves cross-verifying findings using multiple sources and types of data. A more comprehensive and nuanced understanding of historical events can be achieved by comparing various records. In our context, we collected numerous textual sources such as banking journals '*The Bank Information*,' '*The Hangzhou City Banking Industry Interbank Quarterly*,' '*Bank Monthly*,' and others. These texts contain extensive material on various small banks to confirm whether the findings align with historical facts. This approach reduces the risks associated with depending on a single, potentially biased source.

By merging methodologies with raw historical materials, we created a comprehensive dataset covering the key aspects of HRM practices in CMBs during the Republican era, from 1911 to 1945. This research period encompasses the rapid growth of CMBs in the 1920s and 1930s, as well as the challenging period from 1938 to 1945 during the Sino-Japanese War, when CMBs operated in an exceptionally difficult social environment. For clarity, the historical materials used in the analysis are listed in Table 1, categorized by type.

Table 1: Data sources

	Historical material	Bank
Archives	Shanghai Archives:	
	Q275	The Shanghai Commercial & Savings Bank (SCSB)
	Q268	The National Commercial Bank, Ltd. (NCB)
	Q279	Ningpo Commerical & Savings Bank (NCSB)
	Beijing Archives:	
	J43	Yien Yieh Commercial Bank (YYCB)
	J51	Beijing branch of the Shanghai Commercial & Savings Bank
	J35	The Provincial Bank of Hoper (PBH)
	The Second History Archives of China:	
	397	Bank of China (BOC)
	398	Bank of Communication (BCM)
Internal publication	*The Bankers Weekly*	--
	Xin Ye You Cheng	The National Commercial Bank, Ltd.
	The Continental Bank Monthly	The Continental Bank (CNB)
	Hai Guang	The Shanghai Commercial & Savings Bank (SCSB)
	Zhong Hang Sheng Huo	Bank of China (BOC)

	Jiao Hang Tong Xin	Bank of Communication (BCM)
	Bank of Communication Monthly	Bank of Communication (BCM)
Secondary materials	Bankers' diary:	
	Bian Baimei's diary	Bank of China (BOC)
	Chen Guangfu's diary	The Shanghai Commercial & Savings Bank (SCSB)
	Published historical materials:	
	Selected Historical Archives from the The Continental Bank	The Continental Bank (CNB)
	Selected Historical Archives from the Kincheng Banking Corporation	Kincheng Banking Corporation (KCB)
	The China & South Sea Bank 1921-1937 Text Version	The China & South Sea Bank (CSSB)
	Selected Historical Archives from The China & South Sea Bank	The China & South Sea Bank (CSSB)
	History Materials of Bank of Communication	Bank of Communication (BCM)
	Further compilation of the archival history of the Bank of Communications 1907-1949	Bank of Communication (BCM)
	The Shanghai Commercial & Savings Bank	The Shanghai Commercial & Savings Bank (SCSB)
	History Materials of The Shanghai Commercial & Savings Bank	The Shanghai Commercial & Savings Bank (SCSB)
	The National Commercial Bank, Ltd.	The National Commercial Bank, Ltd. (NCB)

Note: see texts.

We ultimately compiled a dataset of personnel profiles for 10 major banks from 1900 to 1949, with the information listed in Table 2. These 10 banks were chosen as representative samples not only for the reasons previously mentioned but because they encompass diverse types of banks, and their combined assets represented approximately 60% of the industry[9].

Table 2: Total Asset of the 10 CMBs

Bank Name	Bank type	Total Asset in the 1930s (CN$000')	Percentage in total asset
BOC	C	1,175,462	25.61%
BCM	C	529,351	11.53%
SCSB	M	212,013	4.62%
KCB	M	154,723	3.37%
CSSB	M	131,791	2.87%
CNB	M	120,240	2.62%
YYCB	S	110,423	2.41%
NCB	M	107,332	2.34%
NCSB	M	71,214	1.55%
PBH	P	4,966	0.11%
Total		**3,268,288**	**57.03%**

Note: This table depicts the proportion of total assets held by 10 CMBs. In the first column, the abbreviations BOC, BCM, SCSB, KCB, CSSB, CNB, YYCB, NCB, NCSB, PBH refer to Table 1. The second column displays the bank type in abbreviated form, with more information provided as follows: C refers to Central and chartered banks. M refers to Commercial & Savings Banks. S refers to Specialized Banks. P refers to Province & City Banks. The data in the third and fourth columns were manually calculated. *The Yearbook of Bank 1934-1937* offers information on the balance sheets of approximately 160 banks operating in the 1930s. We gathered these data and compared the total assets of the 10 banks in the table with the total assets of the entire industry.

Source: *Yearbook of Bank 1934-1937*.

Although this study made extensive use of historical materials and secondary sources, we were unable to locate systematic data for all banks because of limited data availability, particularly for small and rural banks. Instead, this study used a sample of a small group of banks to support broad generalizations about the entire banking sector. According to *The Yearbook of Bank*, a key official statistic at the time, total paid-in capital was distributed unevenly among banks in four major categories during the Republic of China period (1912 to 1949): Central and Chartered Banks, Specialized Banks, Commercial & Savings Banks, and Province & City Banks. These four groups constituted the mainstream CMBs, collectively representing a substantial 75% share of aggregate paid-in capital in the banking sector until 1937 (*The Yearbook of Bank*, 1937, p. A.12). Our sample of 10 banks covered all four bank groups at the time, representing the leading banks in each. For instance, the Bank of China (BoC) was the leading bank in the Central Bank group, while another major source of archival materials came from the largest commercial bank, the Shanghai Commercial & Savings Bank (SCSB). Given their size and influence, these banks' management practices and models had significant diffusion effects, greatly impacting the entire sector.

Despite our limited understanding of peripheral banks, there was little evidence to support the existence of institutions that differed significantly from those under discussion. Consequently, while acknowledging this limitation, it was prudent to proceed with the tentative assumption that the human resources (HR) systems of these other banks might resemble those we examined until more comprehensive data are available[10]. Combining these factors ensured that the sample was representative, leading to unbiased conclusions.

4. The environment and challenges to the banking industry

This section presents a concise overview of the social and market characteristics, along with the institutional environment, followed by a discussion of the impact and the challenges these factors posed for bank HRM in China. Its purpose is to provide readers with the foundational knowledge to more comprehensively grasp the topics explored in this article.

The period of the Republic of China (1912 to 1949) was marked by significant transition and upheaval, which had profound effects on its economic and market

structures. The market landscape was profoundly shaped by political instability, regional divisions, and socioeconomic transformations, leading to considerable market fragmentation. Continuous political turmoil, including the warlord era (approximately 1916 to 1928), Japanese invasion (1937 to 1945), and civil war (1945 to 1949), resulted in a fragmented political and economic landscape, with regional authorities controlling local markets and imposing their own economic policies, taxes, and regulations (Fairbank, 1983, p.2). Underdeveloped infrastructure and transportation challenges further hindered the movement of goods, reinforcing regional economic self-containment. Foreign influence in treaty ports and concessions introduced additional market fragmentation, with significant parts of the economy under foreign control. The economy remained predominantly agricultural, with limited industrialization contributing to the divide between urban and rural areas (Fairbank, 1983, p.29). Despite some industrial growth, internal trade barriers and varying regional policies further fragmented the market. Attempts at economic reforms by various governments were often undermined by a lack of resources and the challenges of implementing policies in a divided country, leading to a segmented market landscape with significant disparities and a challenging environment for developing a cohesive national economy.

Despite these challenges, efforts were made to modernize China's economic and legal system during the Republic of China period. The early Republican government attempted to establish a new legal code, drawing inspiration from Western legal systems, particularly that of Germany. In 1928, the Nationalist Government (KMT), led by Chiang Kai-shek, succeeded in reuniting much of China and continued efforts to modernize the legal system, including the promulgation of a new Civil Code in 1930 and other legal reforms. In 1935, a currency reform was implemented to stabilize the currency and centralize monetary policy. Efforts were made to move away from the silver standard and consolidate the various forms of currency in circulation across different regions (Shiroyama, 2008, p.183). Taxation reforms was also undertaken during this period. The KMT aimed to reform the tax system to increase revenue and reduce reliance on foreign loans and aid. This involved implementing a more systematic and equitable tax collection system to support central government expenses[11]. However, the effectiveness of these reforms was limited by ongoing political instability and conflict.

The modern Chinese banking industry emerged amid a turbulent social and economic environment at the turn of the late nineteenth and early twentieth centuries.

In addition to this new domestic modern banking sector, the financial market also comprised traditional native financial institutions and foreign international banks (Cheng, 2003, p.10). The rise of these modern banks as the third pillar of China's financial system was especially strong during the Nanjing decade (1928 to 1937), when China's political unification under the KMT provided the modern Chinese economy with a relatively stable environment for its development. It saw strong growth in the number of banks established, while in contrast to the earlier warlord era, the number of bankruptcies remained low: 124 new modern-style Chinese banks were established and 23 were liquidated from 1928 to 1937, according to Young (1971, p. 264)[12]. The growth of CMBs during this decade did not match that of traditional institutions and foreign banks (Cheng, 2003, p.74). Consequently, this sector became a dominant player in China's financial structure. By 1936, the total assets of CMBs had far surpassed those of native banks and foreign institutions combined[13].

However, social change and the economic climate posed a serious threat to the labor management practices of contemporary Chinese banks. First, the issue of asymmetrical information, which naturally arises in the banking business, was exacerbated by the societal transition (or even upheaval) in China. Workers and managers in the financial services industry often handle large amounts of cash and have some discretion in their tasks or business decisions. This business model is likely to induce opportunistic behavior due to the unequal information setting between employers and employees. Usually, managerial opportunism could be mitigated through effective administrative strategies, such as adequate monitoring. However, such measures might fail or weaken when the cost of communication between the principal and agent is high, or when monitoring is impossible. For example, bad loans were not sufficient to prove a manager's poor decision-making. The loans might have been issued initially by a predecessor, might have failed due to an unstable economy, or were threatened by a local warlord[14]. By the 1930s, the endless civil war following the collapse of the Qing Dynasty in 1911 had created an oppressive atmosphere in major metropolitan areas. In the words of Liang Qichao, a renowned Chinese politician and social activist, people are "hedonistic, and speculative" (*Greater China*, July 12, 1915, p.29). It is not surprising that Chen Guangfu, a distinguished banker at the time, complained in his personal diary of 1928 that "the social transition induced employees' hedonism… it was a great evil of internal management in our bank (He and Xuan, 2016, p.18)". In this context, the problem of opportunistic behavior loomed larger.

Another element contributing to opportunistic behavior in the workplace was people's attitudes toward speculation during periods of social unrest. Shanghai, home to the largest banks, had the most active stock market during the Republic era (Zhu, 2008). The market experienced several booms and busts over decades due to the general economic situation, including the skyrocketing price of silver in the 1930s and the onset of the Pacific War in the 1940s. Bank employees were not immune to this trend of speculation. In fact, numerous reports in the archives detail cases of bank employees stealing money and fleeing after bad investments[15]. In other words, the complexity of banks' labor management activity was amplified by the macro business environment.

The inelastic supply curve of skilled workers and modern education presented an additional challenge to HRM. In the early 20th century, China's educational system transitioned from traditional Confucian-based learning to modern scientific-based education. Thus, the availability of a qualified workforce with the necessary knowledge and expertise in the banking industry was limited. Most candidates for clerical positions in banks had only a secondary school diploma or equivalent qualification (*The Bankers Weekly*, March 13, 1923, p.12). However, secondary education was of low quality, as the educational system had not yet caught up with global trends (*Henan Political Monthly*, January 1935, p.73). Results from university entrance exams were unsatisfactory, particularly in subjects such as Chinese, mathematics, and foreign languages, where insufficient training had occurred (Wang, 2002, p.82). Meanwhile, vocational education developed more slowly than general education and could not provide skilled workers (Wu, 2009, p.318). The Qing government enacted China's first modern education system in 1904. However, it was not until 1922 that a standalone vocational education system emerged during the Republic of China era. This system encountered challenges such as a disjointed curriculum design that did not align with actual career needs and inadequate practical training for students (*Education and Occupation*, March 1, 1937, p.213). An apprentice at the National Commercial Bank noted that both he, a general education graduate, and colleagues with a commerce background felt ill-prepared for the various banking operations compared to what they had learned from textbooks (Xin Ye You Cheng, May 9, 1940). Given that workers lacked expertise due to their undereducated backgrounds, they often required timely and costly training before performing their assigned tasks[16]. Undoubtedly, employers bore these expenses. Therefore, the key question for a firm was the circumstances under which on-the-job training and practice would be be effectively related to costs.

Additionally, most, if not all, hiring activities were conducted without relying on legal enforcement. Once a principal and their agents encountered a dispute, the legal system failed to provide a framework for organizing the employment relationship effectively[17].

The aforementioned factors prompted a request for effective contractual arrangements between employers and employees to reduce opportunism and fraud. Due to the changing external environment, banks tended to establish long-term employment relationships with their clerks and managers to minimize costs. The following analysis, after the data explanation, demonstrates how HR policies and procedures reflected this tendency.

5. Wage scheme and incentives

Salary and compensation designs play a crucial role in incentive engineering. This section systematically analyzes the common wage plans implemented in CMBs. Comparatively, structures that provide job security, opportunities for internal promotion to higher-paying jobs, wages based on seniority, and hierarchical grading systems have been developed in advanced economies, such as Carnegie and US Steel in the US (Jacoby, 1985), Krupp in Germany (McCreary, 1968), and Schneider in France (Vichniac, 1990). However, the most striking aspect of CMBs was the dual labor market, influenced by the broader Chinese environment. Due to the ample supply of unskilled and semi-skilled labor, salaries for routine and entry-level jobs barely met basic needs. For experienced workers, whose contributions were less visible and who had faced information gaps exacerbated by wars and fragmented politics, efficiency wage plans were introduced to motivate senior clerks and managers.

We began our analysis with an employee compensation scheme as a key personnel strategy. Our first step was to examine the wage structures of different banks and consolidate them into a unified framework for comparison. The analysis was complicated by varying hierarchies among banks, as some jobs with essentially the same duties and tasks had different names. This issue had to be addressed before conducting any further analysis by incorporating them into a single framework. Conventional wisdom often defines jobs and hierarchies using job titles (Baker and Holmstrom, 1995), formal organizational charts (Seltzer and Merrett, 2000), or job authority (Stiglitz, 1975). Weighing the advantages and drawbacks of these approaches

along with the nature of our available archival data, we opted to determine job levels based on job titles and their associated content. We noticed that the articles on associations, specific rules, and other personnel documents of CMBs, which included tasks and duty descriptions for each job, were carefully preserved in the archives. The Procedures and Regulations of various banks contain detailed descriptions of the duties associated with each position throughout the hierarchy. We leveraged this data trait to unify the personnel rankings in a straightforward manner using the task descriptions for each role[18]. Table 3 summarizes the classifications within this framework. Based on their positions and responsibilities, the staff were divided into four groups, with the lowest level (first level) at the bottom and the highest level (fourth level) at the top. Column 3 displays the employment distribution in a typical branch of KCB to show how the employees in each ranking were distributed[19]. As can be seen, the branch had 86 full-time employees, of whom 68 (in 79%) were second-level employees responsible for daily tasks and routines. The remaining employees constituted a minority (20%). In addition to apprentices and trainees (4.65%) at the lowest level, 14 branch employees comprised the management team (approximately 15%). To determine whether this personnel distribution was representative, we cross-referenced data from Columns 4 and 5 of two other banks with comparable personnel information. For example, Column 4 shows the staff distribution for different job titles in The National Commercial Bank (NCB). Although the staff structure differed from that of Jincheng Bank (e.g., 60 apprentices and trainees made up more than 11% of the workforce), the distribution of staff followed the same hierarchical pattern. With this consistent hierarchy, the wage scheme and contract incentives could be discussed as a whole, rather than separately.

Table 3: Structure of the staff in CMBs

Hierarchy of the staff	Job & Task		Staff composition of KCB in numbers (in percentage)	Staff composition of NCB in numbers (in percentage)	Staff composition of BCM in numbers (in percentage)
I	Apprentices / Trainees		4 (4.65%)		
		Total:	**4 (4.65%)**	**60 (11.28%)**	**237 (14.33%)**
II	Assistant / Entry-level Clerk		31 (36.05%)		
	Teller / Accountant / Paojie (field personnel)		37 (43.02%)		
		Total:	**68 (79.07%)**	**360 (67.67%)**	**1166 (70.50%)**
III	Team leader / Deputy supervisor		2 (2.33%)		
	Supervisor of cashier department / Supervisor of accountant department / Supervisor of clerical department		4 (4.65%)		
	Supervisor of operations department		1 (1.16%)		
	Assistant manager in sub-branches		1 (1.16%)		
	Manager in sub-branches		2 (2.33%)		

	Assistant manager in branches		1 (1.16%)		
		Total:	**11 (12.79%)**	**71 (13.35%)**	**101 (6.11%)**
IV	Legal advisor / Economic advisor / Secretary in head office / Inspector in head office		2 (2.33%)		
	Deputy manager in branches / Manager in branches		1 (1.16%)		
		Total:	**3 (3.49%)**	**41 (7.71%)**	**150 (9.07%)**

Note: This table illustrates the distribution of employees, number of employees at each level, and their tasks. The abbreviations for KCB, NCB, and BCM refer to Table 1. The second column lists the job titles of workers at various levels in various banks in detail. The third and fourth columns depict the employee composition of the Tianjin branch of KCB in 1942, while the fifth and sixth columns depict the staff structures of NCB and BCM, respectively.

Source: Information on KCB, NCB, and BCM is from Meng and Hei (2010, p.216), *Xing Ye You Cheng* (August 9, 1935, p.3), and Zhang and Yang (2018, pp.1102-1103), respectively.

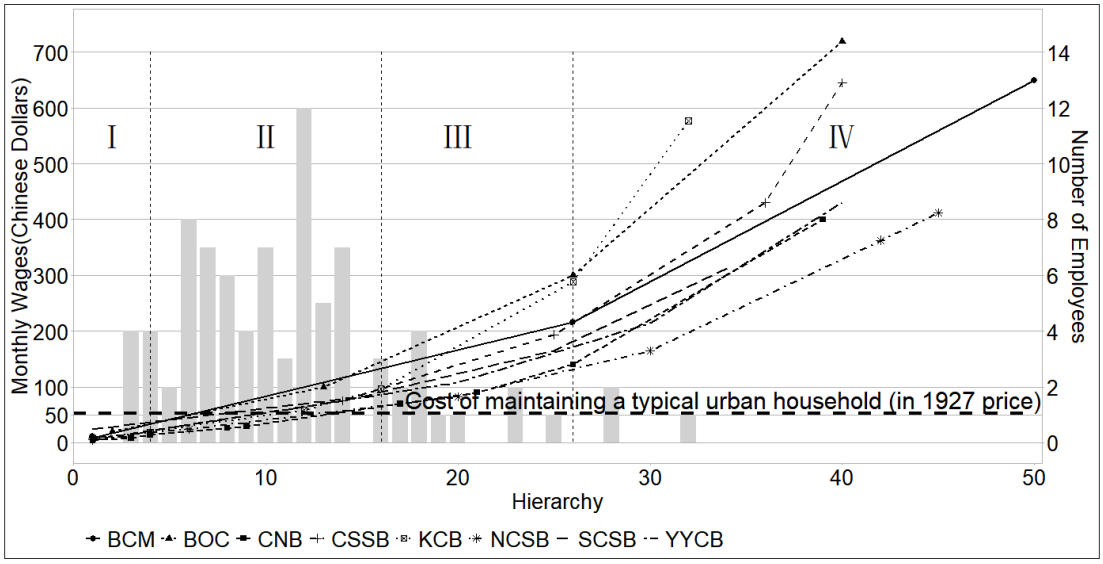


Figure 1. The wage trends of CMBs along job hierarchy

Note: This table displays the pay scale of eight banks, as well as the hierarchical distribution of employees. As different banks had varied arrangements for different workers along the hierarchy, welfare arrangements such as housing, sick pay, and pensions were not included in the computation. However, the salary trend in the figure indicates a low threshold for our assumption given the absence of welfare provisions for low-level employees. The salary patterns would be even clearer in supporting the dual-labor market thesis if additional benefits for regular workers were included. The gray bars represent the number of employees at different levels in the Tianjin branch of KCB in 1942. All prices were adjusted to 1927 price levels. The horizontal dashed line depicts the minimum monthly pay that bank employees required to make ends meet in 1927. The abbreviations BCM, BOC, CNB, CSSB, KCB, NCSB, SCSB, and YYCB refer to Table 1.

Source: Personnel data for the Tianjin branch of KCB were obtained from Meng and Hei (2010, p.216). The salary data about BCM, BOC, CNB, CSSB, KCB, NCSB, SCSB, and YYCB were collected from Head Office of Bank of Communication and the Second Historical Archives of China (1995, p.1427), the Second Historical Archives of China (397(2)748), *the Continental Bank Monthly* (December 25, 1926, p.4), He and Peng (2019, p.108), Meng and Hei (2010, p.191), the Shanghai Archives (Q279-1-117), the Institute of Finance in Shanghai Branch of the People's Bank of China (1990, p.818), and the Beijing Archives (J43-1-7), respectively. Data on living expenses were obtained from Shanghai Archives (U1-10-129).

The pay profiles for different ranks in representative banks are compiled into a single framework in Figure 1. All prices were adjusted to 1927 price levels[20]. The bottom of the wage scale (Level I) included apprentices and trainees who were not considered regular staff and received the lowest pay among bank employees. Depending on their level (from 1 to 3), they received monthly salaries ranging from CN$4 to CN$20. The cash salaries for these workers were the most straightforward of all the wage series paid to banks, as they were not eligible for fringe benefits beyond

their base salary and exhibited minimal variation in cash payments. Consequently, a pay disparity of up to 100 times might have existed between these employees and the most senior bank employees.

The next level in the hierarchical ranking consisted of clerks, who comprised the majority of the bank workforce. According to Hei and Liu (2010, p.46), their day-to-day tasks required little discretion and were experience-driven, meaning that once learned, the occupation offered limited opportunity for further skill and knowledge advancement that could improve a bank's profitability. Their average salaries ranged from CN$30 up to CN$150, depending on their specific level within the range.

Next to the clerical category were the middle management officers and tellers, who took on growing responsibilities within the organization. Due to their significance to the management team, the range of salaries in this group increased significantly from CN$100 to CN$300 per month. At the top of the salary scale were branch managers, whose primary tasks involved the operation, management, and supervision of the bank branch activities. As a reflection of their importance, the wages for managers ranged from CN$100 to CN$600. The wages paid to these roles were significant, with a potential 100-fold wage difference between managers and non-managerial staff. Boqin Chen, a bank veteran who worked at the National Commercial Bank Ltd. for over 20 years, began his career as a junior clerk with a monthly salary of CN$30. Only after being promoted to sub-branch manager in 1942 did his pay increase to over CN$230, nearly eight times that of a regular clerk, in addition to the wide range of benefits attached to his position (Shanghai Archives: Q268-1-312).

Overall, the wage trend exhibits a convex pattern, where pay remained relatively stagnant in the initial years before beginning to rise sharply at a certain point in the salary range. Payment variation widened for senior clerks and middle management personnel, reflecting their complex tasks and increased responsibilities. Thus, such complexity could not be easily reduced to a simple wage series. At the top of the organizational structure, managers earned generous cash payments that were typically ten times greater than those of regular employees. They also experienced the sharpest increase in compensation upon promotion to the next level in the hierarchy.

It is noteworthy that banks had a large number of underpaid workers despite a general reputation for paying fair compensation (Zhang, 1990, p.746). For example, Level I employees, which included apprentices and trainers, comprised over 10% of the labor force in a single bank, but their pay was below average. Table 4 compares the

wages of trainees in the textile and banking industries, revealing that bank apprentices earned, on average, less than textile workers. Theoretically, textile workers were unskilled and generally less educated than bank employees; therefore, their marginal labor productivity was lower. They were compensated on a piece-rate basis in a spot labor market where wages aligned with marginal revenue output. In contrast, the average wage of bank apprentices was lower than that of textile workers. Consequently, trainees' wages were lower than their own marginal revenue output. A comparison of these workers indicated that, at the beginning of their banking careers, apprentices received surprisingly negative skill premiums.

Table 4: Comparison of junior staff salaries across industries (CN$)

Year	Apprentice salary of CMBs level I position avg.	Textile factory Unskilled avg.	Flour factory Unskilled avg.
1927	9.3	15.1	9.42
1929	10.6	14.7	10.57

Note: Bank apprentices' wages represent the average salaries across several banks, including BOC, BCM, CNB, CSSB, and YYCB. The wages of textile factory workers reflected the average wages of workers in Shanghai. The wages of the flour factory workers indicate the average wage of workers in Tianjin.

Source: The BOC data were sourced from the Head Office of the Bank of China and the Second Archives of China (1991, p.2614), while BCM data were obtained from Zhang and Yang (2018, p.1044). Historical records for CNB were derived from Hei and Liu (2010, p.72), CSSB data were drawn from He and Peng (2019, p.123), and YYCB historical materials were sourced from the Beijing Archives (J43-1-7). Regarding textile factories, data were gathered from Wang et al. (1928, p.220) and the Agricultural, Industrial, and Commercial Weekly (March 5, 1929, p.5), while data for flour factories were acquired from Wang (1931).

As another benchmark, whether an individual's wage exceeded the average expenses of a typical household could be an indicator of income level. Following this idea, Figure 1 illustrates the cost of sustaining a typical urban household in 1927 with a horizontal dashed line[21]. This standard effectively divided employees into two groups along the internal hierarchy: those receiving unsustainable pay, primarily low-level clerks (i.e., Level I workers and some Level II employees), and the remaining employees. The proportion of underpaid employees was not negligible in banks. The histogram in Figure 1 illustrates the distribution of KCB employees in 1942 according to their position in the personnel hierarchy. As shown, up to 40.7% of workers

experienced underpayment, which is a unique phenomenon compared to their counterparts in the service sectors of developed countries[22]. At the other end of the range, most middle management and senior staff, along with some Level II clerks, received significantly higher payments than the industry average. A well-known banker during the Republican era, Chen Guangfu, wrote in his diary that the average pay for managers and skilled workers in the banking sector was astonishingly high, only slightly below that of the Chinese Marine Customs, which was considered the benchmark for quality work in China.

The distinguishing characteristic of the wage scheme was the division of the labor market within the internal organization: while most seasoned employees received pay premiums, a sizable portion of junior staff experienced payment discrimination. This finding challenges the conventional wisdom that bank employees were generally well-paid, which was thought to incentivize their efforts and attract skilled labor (Lan, 2013, p.164). The analysis clearly indicates that the spot market did not determine wages. This phenomenon prompts intriguing but unanswered questions, including why and how the sector's segmented salary structure was maintained for decades.

Existing literature indicates that the segmented structure resulted from the job context in general (Doeringer and Piore, 1971). Spot wages were often designed for jobs that were easily monitored and had trackable outcomes (Armstrong and Stephens, 2005, p.291). In contrast, creative tasks or work outcomes that are difficult to observe often received a wage premium, both theoretically (Stiglitz, 1975; Lazear and Rosen, 1981; Carmichael, 1983) and empirically (Oyer and Schaefer, 2002; Cappelli and Cascio, 1991; Haeck and Verboven, 2012). In the banking scenario, job content was divided into two types by nature (Merrett and Seltzer, 2000). The daily tasks of clerks working at low levels mainly involved repetitive and monotonous tasks (*Zhong Hang Sheng Huo*, August 1, 1933, p.325). This allowed for easy and continuous supervision to monitor their productivity. Banks were not required to pay high salaries to deter shirking in these positions by theory. Any type of employee misconduct was quickly discovered, and the offender was disciplined. Therefore, banks' top priority for those in lower-ranking positions and new hires was not to increase productivity and reduce shirking; rather, selecting low-cost, quality employees was the primary goal[23]. Consequently, compensation for new entrants was depressed to below-average levels and could barely cover their living expenses for years. To keep them on track and prevent them from quitting, a comprehensive set of benefits, such as complimentary

boarding and lodging, was provided during their initial career stage[24].

From the employees' point of view, cash payments were not a priority for bank employees during their first few years on the job, as long as a minimum standard of living was maintained, since they were young and typically did not have a family to support[25].

Additionally, the lack of a robust and effective vocational education system left bank clerks unprepared for their roles, preventing them from starting work efficiently as soon as they were hired[26]. Instead, they received additional on-the-job training to become proficient in their positions. Most workers found this training beneficial for their future career development. They were also aware that a promising career awaited them once they had passed the challenging early stages of their careers.

In this way, below-average wages for low-level positions were sustained. As employers, banks enjoyed a de facto trial period for new recruits, which allowed them to select capable workers at a low expense. During this trial period, any misconduct by clerks was easily detected and led to dismissal, keeping the sunk cost of training at a minimum. On the other hand, accepting a low-paid job with attractive prospects was also in the employees' best interests. Although the initial payment was lower than that of unskilled laborers, these office clerks gained at least an entry ticket to a job with bright prospects. They received generous compensation and a predictable career outlook as long as they navigated the first phase of their careers without engaging in misconduct. Therefore, it is rational that they endured three to five years of hardship in exchange for a stable and optimistic employment outlook.

While this strategy was effective for new recruits without work experience, it was unsuitable for seasoned workers and bank veterans. For clerks at the upper part of Level II to Level IV, their jobs began to involve tasks requiring numerous independent actions, which brought greater responsibility and corresponding discretion. Monitoring these actions was particularly difficult, and the outcomes of decision-making could be intractable. Consider, for instance, the supervisor of the accounting department (job at Level III) in NCB. One of the manager's responsibilities included "detecting errors from books of account, transaction documents and receipts… [these errors] should be recorded in the minute book and requested to be corrected by the competent sections"[27]. Consequently, they were required to "evaluate business transactions in terms of their profit and loss status, and assess their significance." Although the guidelines for decision-making were clearly established, these directives were inherently incomplete

and could not cover all foreseeable circumstances or replace interpersonal relationships among departments. Consequently, opportunism might arise from this discretion.

One method of ensuring compliance was through efficiency wage models, in which firms paid workers a premium above the market rate (Shapiro and Stiglitz, 1984). Fuchs (2007) argued that wage premiums attenuate moral hazard, while Akerlof and Katz (1989) noted that individuals are less likely to act opportunistically if the wage benefits outweigh the opportunity cost of being caught. These models offered an analytical framework for discussing agent opportunism and evaluating the contracts presented to senior employees. The wage schemes used by CMBs were similar; each of these positions paid more than the standard office salary. The premium given to these factors was significant. The salary for a Level IV deputy manager in a sub-branch was CN$2880 per year; however, the following year, it increased to CN$3120 (*Bank of Communication Monthly*, August 25, 1924, p.2). Along with other benefits such as housing, transportation, and meal allowances, the Level III supervisor of the cashier department in Table 3 received CN$1,920 annually (*Bank of Communication Monthly*, May 15, 1923, p.20). Additionally, experienced clerks below Level III were paid generously, with annual salaries exceeding CN$960[28]. For comparison, an urban survey in the 1920s suggested that the average living expenses for a five-person family were CN$792 (Tang, 1926, p.184). Salaries with significant premiums increased over employment, suggesting an efficiency wage. Furthermore, anecdotal evidence supports the efficiency wage model. During an inspection tour in Jinan in 1930, Chen Guangfu, the general manager of SCSB, discovered that some of the bank's employees had not mastered the local dialect. On December 17, he dined with the branch manager of Jinan, Gong Xianglin, and said, "Regardless of their salary requirements, the bank should hire more talented people... the employees of the bank should overcome the language barrier." (He and Xuan, 2016, p.55).

In summary, the Chinese banking literature argues that the high wages given to bank employees resulted from both attracting talent and maintaining loyalty (Lan, 2013, p.164). Our analysis indicates that the CMB wage scheme had a more delicate design as a response to the social environment. Salaried compensation was insufficient to meet the basic needs of those performing routine tasks with easily verifiable results. On the other hand, efficiency wage plans effectively motivated experienced workers whose efforts were difficult to trace. Instead of maintaining a rigid, one-dimensional salary structure, it created an internal dual-labor market, where entry-level positions like

apprentices and trainees were employed routinely, while a more specialized and professional grade was reserved for employees with career advancement opportunities.

6. Monitoring and personnel control

Monitoring and screening measures complemented financial incentives in exerting control over employees. This section examines the monitoring policies implemented across CMBs, showing that, like their Western counterparts, CMBs established comprehensive systems for annual staff appraisals and day-to-day monitoring to detect shirking, internal fraud, and theft. Notably, certain features unique to CMBs reflected adaptations to the specific Chinese context.

One such feature was the extreme stringency of referrals during the recruitment process. Globally, referrals in 20th-century bank recruitment were considered a rigorous approach to pre-employment screening and risk management (Seltzer and Merrett, 2000; Fernandez and Weinberg, 1997). However, in China, CMBs required referrals to assume unlimited liability—an uncommon practice in Western banks. By implementing referrals with unlimited liability, CMBs significantly strengthened ethical conduct, mitigated the risk of employee misconduct, and ensured accountability within their workforce. Another distinctive feature was centralized decision-making. In CMBs, loan approvals and other significant transaction decisions necessitated headquarters' consent, in contrast to Western banks, where branch managers were typically accorded more autonomy and discretion (Seltzer, 2011; Storey et al., 1997).

Effective monitoring began before employment. At this stage, employers targeted candidates from undesirable backgrounds or with insufficient abilities. Since all banks followed the same hiring strategy—placing most new hires in entry-level positions and allowing them to advance through the ranks—recruiting young clerks was the primary focus of bank hiring[29]. Employers' used several strategies to filter out the best workers. First, candidates had to meet the minimum qualifications of secondary degrees or their equivalents. This initial requirement ensured that applicants had basic skills in writing, general business knowledge, and arithmetic. Given China's context, where the national literacy rate was only 76%, this standard was not low[30]. Social surveys indicated a skilled labor supply in general. In 1928, over 73% of urban residents in Nanjing, the nation's capital, were illiterate (*Education and Occupation*, January 1, 1930, p.9). Youths who had completed secondary education by the age of 20 made up only 0.517%

of the entire population in Zhejiang Province, another of China's most developed regions (*Education and Occupation*, January 1, 1930, p.13).

To confirm that job applicants were in good health and free of infectious diseases, they had to undergo a medical exam. This high standard objectively ensured the quality of the candidate, streamlining subsequent selection steps and reducing hiring costs. Once identified as qualified candidates, applicants were required to take an entrance exam. We collected entrance exams from eight banks between 1933 to 1936 to summarize common themes. Although these exams varied in format, they all included tests on Chinese, business arithmetic, basic accounting, and English writing and reading. The following are some examples of typical exam questions:

- *If a thousand dollars is deposited in a savings bank at the interest rate of one cent per week, and the principal and interest are not withdrawn, then what is the total amount of principal and interest after three years? After six years[31]?*
- *Explain the economic terms: economic goods; purchasing power; utility[32].*
- *What is the difference between a central bank and commercial banks[33]?*

These examples show that the test was challenging and that obtaining a satisfactory score was not easy. In other words, the exam assessed both the candidate's academic background and abilities, as passing would have been nearly impossible without prior study of these topics. As a compulsory screening tool, the exam played a further role in selecting quality bank employees. The average acceptance rate for the entrance exam was low. In 1933, the Bank of Communication held a hiring exam due to a shortage of junior officers. Of over 300 participants, only 38 were accepted—a rate just above 10% (*Jiao Hang Tong Xin*, January 31, p.121). Other banks had similarly low acceptance rates during the same period[34].

The final barrier set by the banks against adverse selection was the use of referrals (guarantors). Referrals were commonly used in traditional Chinese businesses (Zhou, 2011). In the famous Shanxi Piaohao (literally 'draft banks'), “the manager and other employees must have referrals with reputation and credibility to commence the employment,” and “with this device combining with traditional ethical constraints… fraud and cheating became rare in the business” (Huang and Shanxi Branch of China People's Bank, 2002, p.611). The CMBs appeared to inherit this legacy from their

financial predecessors and further developed the referral system according to their own practices, without a uniform version. The principle remained the same: "the guarantor shall be fully liable for any loss suffered by the bank, regardless of the amount of the loss… regardless of whether the insured intended to commit fraud or was negligent in its business" (*The Bankers Weekly*, January 19, 1937, p.11). Notably, referrals in this context assumed unlimited liability, a provision not uncommon within the banking industry (Sun and Xiong, 2013). Employers used this arrangement to screen candidates with strong social networks[35]. Since referrals in this context assumed full responsibility for the insured person, no one wanted to vouch for someone of bad character. The outcomes of this policy were clear. In 1935, the SCSB conducted a survey on employee theft and fraud over the decade from 1920 to 1934. The report listed 76 incidents of fraud, amounting to over CN$880,000. Among these, 68 were documented in detail. These cases allowed us to understand the functions of referrals in problematic situations. According to these reports, in more than half of the fraudulent cases (36), banks recovered money through referrals. In 19 cases, referrals covered the total fraud losses, accounting for 16% of the total fraud amount[36].

The above discussion outlined the monitoring steps taken by bankers to reduce asymmetric information before signing contracts with their employees. Ensuring that monitoring agents acted in the firm's best interests, rather than their own, once employment began presented another challenge. While reducing moral hazard is a dominant theme in economic literature, the problem was amplified by the social environment in China. Given the intermittent traffic and communication in urban areas during the research period, too much was left to the discretion of employees in sub-branches[37]. In such situations, businesses devised efficient solutions to address issues like remote monitoring and other screening concerns arising from this discretion.

Internal monitoring strategies can be classified into three groups. Companies first established stringent rules and specific guidelines to ensure that all activities adhered to institutional arrangements, making employees aware of the opportunity costs if they engaged in misconduct. This series of regulations covered all business processes in banks, from daily managerial issues and clerk training to sensitive accounting processes. Table 5 lists the rules and regulations of Jincheng Bank, a reputable commercial bank at the time, for illustration. Although such regulations were common in Western countries, the regulations in modern banks were far more comprehensive and tedious than those in their traditional counterparts, where human

resource practices were largely informal and ad hoc (*Qian Ye Yue Kan*, March 1921, p.30). Hiring, promotions, and other HR decisions were often based on personal relationships (Wilson and Yang, 2016), familial ties (Shanghai Branch of The People's Bank of China, 1960, p.483), or the recommendations of trusted individuals (Huang and Shanxi Branch of China People's Bank, 2002, p.613). There was a strong emphasis on loyalty and personal trustworthiness given the absence of formal regulatory oversight and the reliance on personal networks for business operations (Yao, 1990). In contrast, the internal personnel regulations shown here suggest that CMBs operated under a framework of formal, impersonal personnel regulations. The returns from relatively thorough regulations regarding personnel monitoring were twofold. First, they provided clear guidelines and principles for business tasks and transactions, allowing employees to know precisely what they could and could not do from day one. Second, these provisions served as instruments of deterrence. Anyone who broke the law would be held accountable, increasing the opportunity costs of employee misconduct. Opportunistic behavior not only created personal liability for employees but also significantly impacted their social networks. Regulations commonly contained explicit provisions such as "each employee of the bank shall have a guarantor, except for the general manager, who shall be jointly and severally liable for any loss incurred by the bank as a result of his/her violation"[38].

Table 5: A summary of the major personnel regulations and instructions of KCB

regulation item	provision summary
Locking time and door access (since 1917)	For safety reasons, the general manager of Kincheng Bank sets the bank access hours for staff members at the headquarters.
General article of KCB (since 1917)	Establishing the basic principles of the company's business and HRM, providing guidelines regarding employees' responsibility in each position, and setting inspection protocols.
Audit regulations[39] (January 1937)	The regulation contains provisions regarding the principle, daily business audit, field audit, internal review, and sub-branch audit.
Accounting Regulations (Revised in July 1937)	A revision of the previous accounting rules. The content covers setting up accounting items, detailing assets and liabilities, calculating interests, and addressing

miscellaneous topics.

Source: Meng and Hei (2010, pp.64-86)

The second institutional arrangement for personnel screening and control within banks involved ongoing appraisal and assessment throughout the hierarchy. Employees at Levels I and II (as shown in Table 3) faced annual reviews by their managers. These reviews, typically conducted by a supervisor, served as an important basis for decisions regarding transfers, promotions, and dismissals[40].

Additionally, the handling of sensitive tasks, such as bookkeeping and cash management, was specified in the corresponding instructions following the double-control policy. The idea was that two employees independently performed sensitive transitions, with both responsible for any potential losses. Other cash transactions, such as accessing the gold vault or safes, also required two key holders from different clerks[41]. This strict separation policy aimed to reduce the risk of collusion, thereby decreasing the chance of fraud[42]. This policy was also extended to the managerial level. Sub-branch managers, responsible for implementing local operational practices with discretion, were also largely under the supervision of the headquarters. In Western practices, these managers often had the authority to make loan decisions, (Seltzer and Frank, 2007; Seltzer and Sammartino, 2009). However, in the Chinese context, this authority was partly shared with headquarters. Any business decisions regarding loans, overdrafts, or other transactions that may have impacted profitability or entailed risks had to be reported to headquarters for evaluation and approval. The anecdotal evidence is extensive. Yanbang Hong, a newly appointed sub-branch manager of the National Commercial Bank, Ltd. in Zhengzhou, assumed his duties in November 1923. Within just two months, his correspondence with headquarters exceeded 10 exchanges, each assigned a reference number for record-keeping. This correspondence covered many aspects of the bank's daily operations, such as industrial lending, local surveys, and mortgage insurance[43]. Evidence suggests that the agents' discretion was partly taken over by the principal (head office). While this approach allows a firm to control the opportunistic tendencies of its managers, doing so is expensive[44]. The circumstances under which such monitoring procedures were effective in terms of cost were then established.

In addition to the vigorous screening of staff members and managers, the audit department was a fundamental component of a typical headquarters. The audit

department was autonomous, and the chief auditor was usually appointed by the principal director, who reported to the bank board[45]. Acting on behalf of the principal, the audit department covered the firm-wide accounting records, business transactions, and other related activities of the sub-branches[46].

Taken together, these parameters explain why the monitoring structure was successful. In short, it is unlikely that any single strategy would have succeeded alone. Instead, success depended on the application of a judicious mixture of all the policies described above.

7. Cultivation of the corporate culture

While corporate culture is critical to contemporary business operations, its formation, expression, and maintenance vary significantly across industries and regions (Kotter and Heskett, 2008, p.7). This section underscores the importance of strong moral character and dedication among CMB employees. These institutions fostered a corporate culture deeply rooted in Confucian principles, nurturing an extended family environment characterized by paternalistic care and stringent centralized control. In contrast to the Western emphasis on *esprit de corps*, (e.g., Heller, 2008), Chinese banks embraced an extended family model in which employers assumed a paternal role. This approach resulted in a more authoritarian and hierarchical structure than the progressively balanced organizational culture of Western banks. Consequently, during crises, CMBs opted for salary reductions and freezing seniority rather than resorting to layoffs, thereby ensuring organizational stability and emphasizing shared sacrifices and continuity. Conversely, Western banks typically resorted to layoffs in similar circumstances to minimize costs (Seltzer, 2010). These differences illustrate how CMBs tailored their practices to the distinct sociocultural and historical context of China, leveraging traditional values to craft a unique organizational identity and maintain internal stability.

Despite the systematic introduction of institutional design in modern organizational management (Chandler, 1977), corporations—especially large bureaucracies like railways and banks—required employees with strong moral character, spirit, and dedication that extend beyond the workplace into a broader social context. This was evident in the practices of British railway companies during the Victorian Era (Fitzgerald, 1988, p.184). These companies invested heavily in welfare

and maintained a large internal labor market in response to the macro environment and social transitions, placing great value on long-term employees and aiming for a low turnover rate (Fitzgerald, 1988, p.11). Therefore, loyalty and service were crucial, with corporate culture playing a significant role in achieving these objectives.

Furthermore, the internal culture of an organization played a crucial role in fulfilling certain purposes to improve and uphold the formal structure of the business. As discussed previously, tournament-based wage plans were commonly implemented in CMBs to motivate average employees to perform routine tasks. This approach promoted effort and performance with minimal supervision costs but required fine-tuning to prevent adverse effects. A notable concern was that such competitive environments might foster excessive rivalry, leading to an unpleasant rat race (Ehrenberg and Smith, 2014, p.383). The greater the difference in rewards, the more tempted participants were to engage in behavior detrimental to others' success. Hence, a large prize spread was a double-edged sword—it not only drove intense effort, but might also have led to undermining behavior. This is where corporate culture played a pivotal role in the day-to-day operations of firms. By fostering a dominant culture in which employees developed a profound attachment to the organization, detrimental competition and sabotage were effectively curtailed.

In response to the driving forces behind the development of organizational culture, CMBs universally adopted an extended family culture, featuring an ideology of enlightened paternalism based on Confucian principles. Employers took on a paternal role, assuming responsibility for the welfare of their employees, often by providing housing, schools, recreational facilities, healthcare, pensions, and other services, making them feel like family members. In return, leaders could align employees with the firm’s strategy by creating a strong sense of value that emphasized discipline and loyalty.

This was apparent at every stage of the implementation required to cultivate a business-oriented environment. It began with younger employees. Before beginning their jobs in the bank, "apprentices and junior recruiters must take a training session up to 6 months followed by a period of internships" (*Hai Guang*, June 15, 1946, p.80). During this period, no compensation was provided, but the bank offered complimentary lodging and catering. CMBs aimed to "create a relatively isolated environment, in which the members learn and know each other,"[47] in addition to considering the costs and benefits of vocational training. Each employee was assigned a supervisor who was

normally a veteran at the bank. In addition to answering questions about bank procedures, the supervisor was responsible for the off-duty lives of employees, investigating their living conditions and family histories (*Xing Ye You Cheng*, September 9, 1936, p.20). Given that the average age of the employees was 20[48], the instructors played a de facto parental role. No other evidence expresses the objective of CMBs to organize a lengthy and expensive training period for new employees better than the speech by Zuxun Wang, a former sub-branch manager at the Bank of China. He said that, “trust, integrity, honesty, and circumspection are the attributes we expect from you [new employees in the boot camp] … they are essential to your future development in our bank.” (*Zhong Hang Sheng Huo*, October 15, 1932, p.86). While these character traits are fundamental to Confucian philosophy, it is also clear that CMBs used this social legacy to establish standards of behavior that served the principal's best interests.

Another striking aspect of the banks’ culture was the intention to construct a corporate space where the boundaries between private and public, as well as personal and professional, were largely erased. An observation of the BoC during the late 1920s, along with other Chinese-owned contemporary businesses, showed that it initiated the construction of residential complexes for its staff in several cities. The bank claimed that dormitory compounds brought many advantages: "order," "convenience in management," "friendship," "unity as a group," and "uniformity in thinking." These advantages were especially important "during an emergency," such as a military coup or bandit raids (*Zhong Hang Sheng Huo*, August 15, 1932, p.58). Nonetheless, the BoC’s Tianjin compound was a fully fenced area with the main gates prominently marked with the bank's name and logo, clearly indicating the corporation's extensive influence on the everyday lives of its employees. As the bank aimed to create a self-contained environment, BoC employees had little reason to venture outside the gates of their well-designed urban compounds. Similar conditions prevailed in other cities. Eventually, employees developed such a profound attachment to the corporate home that they "would be reluctant ever to leave."(*Zhong Hang Sheng Huo*, October 15, 1932, p.89)

Personnel culture was also clearly reflected in this upheaval. The Sino-Japanese War, which lasted from 1937 to 1945, caused significant social and economic shock. In traditionally economically developed regions like Shanghai, China's largest financial hub, the war destroyed the economy. CMBs were severely affected, causing a decline

in their businesses in these areas. Panel A of Table 6 illustrates the impact of the Sino-Japanese War on the SCSB and BCM businesses. Both banks were among China's largest financial institutions. Before the war in 1935, they operated 79 and 117 branches, respectively. However, it was not until three years had passed that their branches began to shrink drastically, especially in traditional hotspots of economic development like the Yangtze Delta. From July 1937 to September 1945, both institutions experienced organizational streamlining in Eastern China, which was heavily impacted by the war. The SCSB eliminated or relocated 66 out of its 79 branches, while the BCM was forced to withdraw 87 out of 117. As a base for fighting against the Japanese, the KMT relocated its central government to southwestern China during the war. In response, the two banks opened 20 and 36 new branches, respectively, in the southwestern region. However, neither the size nor number of branches could compare to those from the years prior to World War II.

In such circumstances, laying off redundant employees was a common practice for companies facing risks or economic turbulence to reduce costs. However, CMBs chose different human resource strategies to cope with the crisis. Two key policies were implemented. First, banks opted for salary deductions to lower personnel costs, as shown in Panel B of Table 6. Both companies were familiar with these policies. A tiered wage deduction system was introduced, with top managers being the most affected by the policy. Managers in the SCSB earning over CN$400 monthly experienced a reduction of 60%, while the salaries of regular staff earning CN$100 in the BCM barely changed. Although the implications of these deductions were multifaceted, they reflected the implicit moral code within the organization. Employees with lower salaries received more support, while those with higher earnings contributed more. In the end, "...the pain and suffering must be shared by members of the big family [the bank]"[49]. In line with this idea, banks offered another option for those who were unwilling or unable to relocate inter-regionally. Panel C of Table 6 summarizes the policy for employees in various banks. The basic idea was to suspend seniority, which was expensive for banks. This measure, in conjunction with the wage deduction scheme, reflected the CMBs' organizational philosophy. Therefore, the organizational structure remained stable despite the shocks of the war. The statistics for the average employees per branch and turnover rates for the SCSB and BCM during the war are presented in Panel D of Table 6. As shown, these figures remained remarkably stable due to personnel reactions to the conflict. By cultivating a sense of belonging, employees'

interests became unintentionally aligned with those of the banks. Thus, this internal stability likely had a significant impact on bank profitability and sustainability.

Table 6: Organizational changes and personnel policies of CMBs in wartime

Panel A: Organizational Change		
	SCSB (1937.7-1945.9)	BCM (1937.7-1939.7)
# branches before the war (by 1937)	79	117
# new established branches	20	36
local clustering of new branches	Southwestern	Southwestern
# eliminated branches	66	87
areas of eliminated branches	Eastern (Yangtze Delta)	Eastern (Yangtze Delta)
Panel B: Tiering salary reduction in percentage		
	the rate of tiered deduction	
Salary range	SCSB	KCB
401-500	60%	25%
301-400	50%	20%
201-300	30%	15%
101-200	20%	10%
<100	10%	0%
Panel C: Seniority freezing for workers on leave		
	Policy summary	Duration of leaving bank
SCSB	Seniority was frozen for those employees who were unable to move with the bank to a safe location during the war. Once they return to the bank, their seniority will remain the same as it was before they left[50].	Return on demand
CSSB		One year
PBH		One year
BCM[51]		--
KCB		Seniority lengthens time. Maximum 2 years.
Panel D: Turnover of employees		
	SCSB	BCM
# employees/branch before the war (by 1937)	24	18
# employees/branch during the war	26	12
Annual employee turnover rate per branch	+1.41%	-5.04%

Note: This table shows the measures taken by CMBs and personnel statistics during the war. Panel A depicts the organizational changes in CMBs during the war, while Panels B and C show the personnel statistics in response to the war. Panel D compares bank turnover rates during the war. Data on the number of SCSB and BCM employees during the war were based on 1945 and 1938, respectively. The abbreviations BCM, SCSB, CSSB, PBH, KCB, and NCB refer to Table 1.

Source: In Panel A, the data about the number of SCSB and BCM branches in 1937 were obtained from the Economic Research Office of the Bank of China (1937, A12-A13). The data on SCSB and BCM were collected from He and Xuan (2015, pp.422-423), and the Second Historical Archives of China (398(2)709), respectively. In Panel B, the data on SCSB and KCB were gathered from He and Xuan

(2015, pp. 83-84), Meng and Hei (2010), p.200), respectively. In Panel C, the data on SCSB, CSSB, PBH, and KCB were obtained from He and Xuan (2015, p.84), Hei and Xia (2013, p.104), Beijing Archives (J35-1-62), and Beijing Archives (J41-1-1/2), respectively. In Panel D, the SCSB and BCM data were taken from He and Xuan (2015, p.360) and the Second Historical Archives of China (398(2)712), respectively.

Overall, these actions aimed to establish homogeneous social groups. When employees considered themselves as part of a "family," it reduced opportunistic behavior and alleviated shortcomings in internal management practices. This approach echoed Mandell's description of large American corporations in the early 20th century, highlighting the significance of the family concept. While China's organizational culture shared fundamental similarities with its Western counterparts, it notably differed in structure and construction. As Lipartito (2008) noted, official values must draw inspiration from the cultural materials available to construct an organizational identity that is well received by most employees. In the West, the early 20th century marked the beginning of a gradual shift toward a more balanced approach to organizational culture—one that considered both the needs and well-being of employees as well as the imperatives of business success. Consequently, paternalistic practices could be viewed as partly benevolent and progressive, aiming to improve the lives of workers while opposing the growth of labor unions and the establishment of labor laws[52]. In contrast, practices in China, unencumbered by the drive for workers' rights, exaggerated the emphasis on discipline, responsibility, and unwavering obedience, rooted in the enduring relevance of specific Confucian ethical standards. This aimed for an authoritarian framework in which all types of authority, supported by modern control mechanisms, were concentrated at the highest level (Yeh, 1995). Evidently, the ideology based on imperial tradition was well received by employees, since Confucian principles have guided decisions and ensured stability in social hierarchy and obligations for centuries (Blay et al., 2018)[53]. CMBs benefited from this social quality by reducing collusion and the need for close monitoring through an ethical, interdependent system that fostered an intimate family environment. Meanwhile, members of this "family," as defined by Confucius norms, adhered to the same beliefs, fulfilled organizational duties, and received support and protection from the group.

Anecdotal evidence suggests the success, at least in part, of corporate culture within banks. In a personal diary, Boqin Chen, a sub-branch manager of the NCB,

shared a narrative with his colleagues in 1924. He wrote:

> *It happened that there was a huge amount of money that had been put on deposit for the Jifeng Silk Factory that was due to be returned, and the total amount of cash was about 300,000 yuan, including the old deposit. Due to the limited conditions, the Zhengzhou branch office at that time did not have a treasury and was not equipped with a safe, so the cash was piled up under Hong [his colleague]'s bed, and the banknotes were placed in two drawers next to his bed. Also, I remember one time, I brought 50,000 cash and went to the Bank of China to deposit the money ... but unexpectedly the Bank of China did not want to receive more interbank deposits… we had no choice…but take the space under bed as a cash bank*[54].

Given that Boqin Chen's monthly salary in 1924 was CN$40, there was a strong incentive to steal and commit fraud[55]. However, this did not occur during his challenging career. He concluded, "based solely on friendly connections, people [colleagues] get along with one another. Mutual assistance comes after a harmonious relationship, and solidarity follows mutual assistance [within the bank]... this kind of affection cannot be quantified by money or power."[56] This example may be ideal, yet it highlights the value of harmonious interpersonal relationships within a company and the impact of banks' attempts to foster a family-life environment for employees.

8. Conclusion

Most historical studies on white-collar management have focused on industries in countries with broad stability over decades and adherence to the rule of law (e.g., Boot, 1991; Howlett, 2004; van den Broek, 2011). However, HRM in emerging markets like China in the early 20th century had to contend with social unrest, power vacuums, and autocratic governments. This created a fundamentally different dynamic compared to their Western counterparts. This study aims to address the research gap in emerging markets by providing a detailed analysis of labor control in the modern Chinese banking industry during the first few decades of the 20th century.

This article emphasizes the management elements of CMBs to contextualize both the adoption and adaption of the Western model. There were tendencies in the

contract structure toward modern service enterprises, such as internal labor market arrangements characterized by wage discrimination along job hierarchy and seniority. However, we emphasize that banks' policies were pragmatic in their acceptance of the Western model, rather than imposing a normative framework to regulate employees' practices. This pragmatic approach was also reflected in the monitoring of clerks and managers. Specific rules and guidelines were established for all employees, regardless of their ranking, which have been long absent from traditional Chinese businesses. However, in contrast to their colleagues in the West, senior managers lost discretion and autonomy in response to social turbulence and opportunism, sacrificing prospective commercial opportunities.

CMBs also made efforts to cultivate a corporate culture based on Confucian ethics. The fundamental aim was to establish a uniform social group within a company, in which employees feel like a family. Once bank employees created a "caring" environment, there would be less need for close surveillance, thereby minimizing the agency problem and control costs.

This sector-wide case study provides valuable information into HRM in the modern service industry in China, suggesting that different contexts in emerging markets drove both divergent and convergent business responses. It also suggests that policy adaptation, rather than adoption, constituted a relatively successful development of HR policy in the modern service sector. However, we acknowledge that this investigation sets a lower bound on understanding HR issues and expects future work, including more quantitative evaluation of these efforts.

Notes

1. Blue- and white-collar labor management differed greatly. Blue-collar workers were closely supervised, focused on specific tasks, and often belonged to labor unions involved in negotiations. White-collar workers had more autonomy, managing their tasks and schedules, emphasizing professional development and advancement within organizational structures. Valuable surveys of white-collar labor management are emerging in business history; for example, Masrani et al. (2021) and McKinlay (2013).
2. In the early 20th century, China underwent significant changes like the end of the Qing Dynasty, warlord rule, a rise in nationalism, and political struggles (Fairbank, 1983, p.2). This led to cultural revival and economic modernization attempts but faced obstacles, including Japanese aggression. This eventually led to the founding of the People's Republic of China in 1949 (Fairbank and Feuerwerker, 1986, p.10). The following background section provides detailed information on the Chinese social background and modern Chinese banking for reference.
3. Information on social and institutional environment are provided in the background section.
4. Specifically, the banking and railway sectors, which emerged as the first large-scale service industries in the late 19th and early 20th centuries, have been the subject of various papers, such as Seltzer and Merrett (2000), Fitzgerald (1988), and Baron et al. (1988), which shed light on the practices of monitoring and supervision within these sectors in Australia, England, and the US.
5. This phenomenon is universal in the service industry. Studies based on different contexts confirmed the dual nature of banking jobs in both developing and developed countries, such as Boot (1991), Merrett and Seltzer (2000), and Murphy (2010).
6. Law firms frequently utilized relative performance measures to assess their employees using a tournament model, resulting in a "rat race" (Landers et al., 1996).
7. The efficiency wage model, primarily proposed by Shapiro and Stiglitz (1984), serves as the foundation for numerous empirical studies such as Leonard (1987) and Machin and Manning (1992).
8. We provide a detailed discussion of the social environment’s impact on long-term employment in the background section.
9. The Bank of China’s Economic Research Office compiled an overview of the country's banks from 1934 to 1937 and published *The Yearbook of Bank* 1934 to 1937. CMBs are divided into six categories: Central and chartered banks, Commercial & Savings banks, Province & City banks, Specialized banks, Farmers & Industry banks, and overseas Chinese banks. Our sample includes all types of banks, except Farmers &

Industry banks, and overseas Chinese banks. The proportions of these two categories were negligible, and affected our findings.

10. The subsample is also considered because CMBs are subject to similar constraints and business scopes. Corporate policies may diffuse through the banking networks within a sector. This claim is supported by recent studies such as those by Fracassi (2017) and Kong and Ploeckl (2022).
11. Please refer to tariff policy (Boecking, 2017, p.118), salt tax (Xu and Xu, 2022), and income tax (Xu and Xu, 2016) for further details.
12. Liquidation resulted mainly from the global recession and stagnation of the global economy, particularly from 1933 to 1937. A summary and brief discussion of bank liquidations can be found in the Economic Research Office of the Bank of China (1937, A.22–A.24).
13. According to Cheng (2003, p.78), CMBs accounted for more than 81% of the total assets measured by assets in balance sheets within the entire banking sector by 1936. In comparison, foreign banks and native institutions constituted only a small proportion of the sample (11% and 9%, respectively).
14. There is ample evidence that bankers or managers complained about local authorities or warlords intervening in their business decisions. For example, Wang Junren, deputy manager of the BOC in Chongqing, complained about the interference of government financial restrictions on the proper operation of banks. (Cultural and Historical Data Committee of Tianjin Municipal Committee of the CPPCC, 2008, p.96)
15. The SCSB documented a total fraud of over CN880,000 from 1920 to 1934 (He and Xuan, 2015, p. 442).
16. We provide a detailed analysis of employee training in the following sections to show that training is not only essential but also part of a judicious mixture of all policies against agency problems.
17. In 1926, employees in Guangzhou's banking sector petitioned for wage increases and were met with resistance from their employers. In response, all banking personnel in Guangzhou orchestrated large-scale strike actions to voice their grievances (*The Bankers Weekly*, January 4, 1927, p.68). These incidents of labor unrest were not isolated occurrences but rather part of a recurring pattern, such as the 1927 strike by bank employees in Hankou (*The Banker Semi-monthly*, April 1, 1927, p.76) and the 1929 strike by workers in the flour industry in Wuxi (*The Bankers Weekly*, July 16, 1929, p.61).
18. The archival materials used in the job classification are detailed in the data section.
19. We used the Tianjin branch of the Kincheng Banking Corporation to determine the number of workers at each level (Meng and Hei, 2010, p.216).

20. China has not been nominally unified since the establishment of the Nanjing National Government in 1927. Since then, social statistics have been collected more efficiently across the nation. Price indices are more inclusive. As a result, we adjusted all prices to the 1927 prices.

21. The Shanghai concession provides a series of investigations of white-collar on their monthly budgets and expenses. These surveys suggest that the monthly minimum cost to sustain a household was around CN$50 in 1927 price (Shanghai Archives: U1-10-129). Likewise, we found some correspondence from employees to the banks, complaining about the hardships caused by their salaries (Institute of Finance in Shanghai Branch of the People's Bank of China, 1983, p.676).

22. The comparison is based on recent historical research on banking and other service sectors in developed countries, such as Seltzer and Merrett (2000) and Howlett (2004).

23. An example can be seen in March 1933, when the Beijing branch manager stated at CNB's first conference, "the objective of bank recruitment is to find qualified candidates... in order to save money, the bank should not recruit extensively for skills we do not require."(Hei and Liu, 2010, p.140).

24. CMBs extended various benefits to employees, covering diverse aspects of their lives. Taking the BOC as an example, it established dedicated staff dormitories equipped with amenities, including kindergartens, primary schools, and recreational facilities, catering to the needs of employees and their children's education (Bank of China Historical Source Compilation Committee, 1995, p.173). Furthermore, the bank provided educational assistance to the children of its staff members, aiming to alleviate their financial burdens (Bank of China Historical Source Compilation Committee, 1995, p.185). Similar welfare provisions could be observed in other banks such as the BCM (Zhang and Yang, 2018, p.1444), CSSB (Hei and Xia, 2013, p.110), and SCSB (He and Xuan, 2015, p.360).

25. According to the Bank of Communication Monthly, the average age of a new recruit for CMBs was 20 (see note 44). In extreme cases, the age ceiling was 30 in the NCB (He and Li, 2016, p.142).

26. The vocational education system in China during the early 20th century faced several challenges that impacted bank clerks' readiness to start their daily work immediately. One issue was that vocational education, which began to take shape in the late Qing Dynasty, focused on imparting practical skills and Western technologies (Wang, 2008). However, the integration of this education with the actual needs of the job market, including the banking sector, was limited. Moreover, during this time, China was undergoing significant political, social, and economic changes. Educational reforms and the establishment of vocational schools were part of an effort to modernize the

country and catch up with industrialized Western nations. Despite these efforts, the vocational education system was still in its infancy and lacked standardization and a clear connection to labor market demand (Schulte, 2013). Additionally, the early vocational education system in China was often underfunded and lacked qualified teachers, which further hindered the ability of graduates, including bank clerks, to be fully prepared for their roles upon entering the workforce. The curriculum may not have been aligned with the practical skills needed in banking such as accounting, financial analysis, and customer service (Stewart, 2015).

27. Article 27, Section 2, office rule of the accountant department of the NCB (He and Li, 2016, p.93).
28. For example, a senior clerk of Hankou branch, who was 40 years old, at Level II earned CN$960 per year in the BCM (*Bank of Communication Monthly*, April 15, 1923, p.25).
29. The strategy was proven by modern economic theorists as an optimal strategy compared to its alternatives, such as bonding and non-compensating wage differentials (Huck et al., 2011).
30. In 1936, the national illiteracy rate in China was 76%. Although the illiteracy rate fell to 56% in 1943, this high illiteracy rate increased the cost of finding talented employees for banks (Wang, 2010, p.97).
31. *Chou Miu Yue Kan*, June 15, 1936, p.117.
32. *Shanghai Law School Business Quarterly*, April 1, 1934, p.28.
33. *Chou Miu Yue Kan*, September 15, 1934, p.112.
34. For instance, in September 1934, the Shanghai Silk Industry Commercial and Savings Bank initiated a nationwide recruitment drive for trainees, attracting more than 300 applicants for entrance exams. However, only 20 individuals were ultimately admitted, reflecting a pass rate of 6.7% (*Chou Miu Yue Kan*, November 15, 1934, p.156).
35. Strong social networks existed among CMBs (Kong and Ploeckl, 2022; Li and Li, 2022). Hensvik and Skans (2016) demonstrated that banks also benefited from mutual referrals from internal employees, which allowed CMBs to hire more productive employees at a lower cost.
36. Shanghai Archives: Q65-2-60-1
37. A typical example is Chen Boqin, a sub-branch manager of the NCB in Zhengzhou, a major city in central China. In his 1934 diary, he wrote that “Zhengzhou is the regional transportation hub and the intersection of two main railroads. Therefore, it has traditionally been a battleground in warlord conflicts... there were both large and small wars every year during the years I worked in Zhengzhou… normal times were very convenient for traffic, but during a war, communication and logistics were often hindered…” (*Xing Ye You Cheng*, March 9, 1934, p.12)

38. This example was extracted from the Office Regulation of the KCB, Section 2, February, 1921.
39. The previous version was included in the General article of the KCB 1917 version. The revised audit regulations were extended into a new draft due to the importance of monitoring.
40. Beijing Archives: J43-1-5
41. Article 60, Section 4, Chapter 1, Office Regulation of the KCB (Meng and Hei, 2010, p.101).
42. Section 7 describes the office routines of the KCB's Tianjin branch in 1921. (Meng and Hei, 2010, p.80)
43. Shanghai Archives: Q268-1-572, Q268-1-571, Q268-1-431
44. For top management, the principal-agent issue became less of a concern, because the highest-ranking directors were also significant shareholders in banks (Lan, 2016). This was especially true in our samples, which consisted of large commercial banks (Hei and Xia, 2013, p.1; Institute of Finance in Shanghai Branch of the People's Bank of China, 1990, p.14; Zhang and Yang, 2018, p.30). Therefore, the discussion centered on middle-level managers who were not simultaneously shareholders.
45. Article 47, Section 5, the general regulation of the NCB (Shanghai Archives: Q268).
46. Article 15, Section 4, the organizational protocol of the NCB (Shanghai Archives: Q268).
47. The BOC mandated that trainees reside and consume meals in the bank (Second Historical Archives of China: 397(2)748). Dai Zhijie, General Secretary of the headquarters, explained that this helped strengthen the bond between the trainees and the bank and unite the bank staff at the opening ceremony for the trainees of the Qingdao branch of the BOC on August 7, 1932 (*Zhong Hang Sheng Huo*, October 15, 1932, p. 86).
48. From 1923 to 1924, the *Bank of Communications Monthly* published the names, ages, and positions of newly recruited employees every month. These data served as the basis for calculating the average age of new trainees.
49. On March 7, 1929, Tan Li, General Manager, spoke at the first banking matters meeting at the CNB headquarters (Hei and Liu, 2010, p.114).
50. This statement summarizes the rules for each bank. Information about SCSB, CSSB, PBH, and KCB was obtained from He and Xuan (2015, p.84), Hei and Xia (2013, p.104), the Beijing Archives (J35-1-62), and the Beijing Archives (J41-1-1/2). The history of the BCM can be found in Note 47.
51. Although there were no regulations directly related to freezing seniority for workers on leave, we found that in 1939, the BCM agreed to freeze seniority at the request of

Jiang Entao, the supervisor of the sub-branch accounting office (*Bank of Communication Monthly*, January, 1939, p.13). This implies that the BCM imposed similar policies.

52. Extensive research has offered systematic descriptive and analytical analyses to support this argument, such as those by Fitzgerald (1988, p.69), Gospel (1992, p.26), Kaufman (2008, p.11), and Mandell (2002, p.8).

53. Confucian norms in management are rooted in Confucianism and prioritize ethical leadership, respect for hierarchy, relationships, employee well-being, and learning and development. These norms advocate virtuous leadership, hierarchical respect, harmonious relationships, and a nurturing work environment, ultimately promoting ethical conduct, mutual respect, and collective well-being in organizations.

54. *Xing Ye You Cheng*, September 9, 1936, p.9.

55. Boqin Chen's compensation records were collected from the Shanghai Archives (Q268-1-312).

56. *Xing Ye You Cheng*, January 9, 1934, p.15.

References

Akerlof, G. A., & Katz, L. F. (1989). Workers' Trust Funds and the Logic of Wage Profiles. The Quarterly Journal of Economics, 104(3), 525–536.

Andrew Seltzer. (2010). Did firms cut nominal wages in a deflationary environment? Explorations in Economic History, 47(1), 112–125.

Andrew Seltzer. (2011). Wage and Incentives in the Late 19th and Early 20th Century Australian Banking Industry. International Journal of Development and Conflict, 01(01), 11–26.

Andrew Seltzer & André Sammartino. (2009). Internal Labour Markets: Evidence From Two Large Australian Employers. Australian Economic History Review, 49(2), 107–137.

Andrew Seltzer & David Merrett. (2000). Personnel Policies at the Union Bank of Australia: Evidence from the 1888–1900 Entry Cohorts. Journal of Labor Economics, 18(4), 573–613.

Andrew Seltzer & Jeff Frank. (2007). Promotion tournaments and white collar careers: Evidence from Williams Deacon's Bank, 1890 1941. Oxford Economic Papers, 59(Supplement 1), i49–i72.

Andrew Seltzer & Kenneth Simons. (2001). Salaries and Career Opportunities in the Banking Industry: Evidence from the Personnel Records of the Union Bank of Australia. Explorations in Economic History, 38(2), 195–224.

Armstrong, M., & Stephens, T. (2005). A Handbook of Employee Reward Management and Practice. Kogan Page Publishers.

Austin, G., Dávila, C., & Jones, G. (2017). The Alternative Business History: Business in Emerging Markets. Business History Review, 91(3), 537–569.

Bagwell, P. S. (1963). The Railwaymen: Volume 1: The History of the National Union of Railwaymen. Routledge.

Baker, G., Gibbs, M., & Holmstrom, B. (1994). The Internal Economics of the Firm: Evidence from Personnel Data. The Quarterly Journal of Economics, 109(4), 881–919.

Baker, G., & Holmstrom, B. (1995). Internal Labor Markets: Too Many Theories, Too Few Facts. The American Economic Review, 85(2), 255–259.

Bank of China Historical Source Compilation Committee. (1995). Zhong Guo Yin Hang Hang Shi (history of the Bank of China). Chinese Financial Publishing House.

Baron, J. N., Jennings, P. D., & Dobbin, F. R. (1988). Mission Control? The Development of Personnel Systems in U.S. Industry. American Sociological Review, 53(4), 497.

Becker, G. S. (1962). Investment in Human Capital: A Theoretical Analysis. Journal of Political Economy, 70(5, Part 2), 9–49.

Benjamin, D. K., & Thornberg, C. (2007). Organization and incentives in the age of sail. Explorations in Economic History, 44(2), 317–341.

Blay, A. D., Gooden, E. S., Mellon, M. J., & Stevens, D. E. (2018). The Usefulness of Social Norm Theory in Empirical Business Ethics Research: A Review and Suggestions for Future Research. Journal of Business Ethics, 152(1), 191–206.

Boecking, F. (2017). Nationalist Tariff Policy and the Import Trade. In No Great Wall (pp. 118–158). Harvard University Asia Center.

Boot, H. (1991). Salaries and Career Earnings in the Bank-of-Scotland, 1730-1880. Economic History Review, 44(4), 629–653.

Bull, C., Schotter, A., & Weigelt, K. (1987). Tournaments and Piece Rates: An Experimental Study. Journal of Political Economy, 95(1), 1–33.

Cappelli, P., & Cascio, W. F. (1991). Why Some Jobs Command Wage Premiums: A Test of Career Tournament and Internal Labor Market Hypotheses. Academy of Management Journal, 34(4), 848–868.

Carmichael, L. (1983). Firm-Specific Human Capital and Promotion Ladders. The Bell Journal of Economics, 14(1), 251–258.

Carter, M. J., & Carter, S. B. (1985). Internal Labor Markets in Retailing: The Early Years. ILR Review, 38(4), 586–598.

Chandler, A. D. (1977). The visible hand: The managerial revolution in American business. Belknap Press.

Cheng, L. (2003). Banking in modern China: Entrepreneurs, professional managers, and the development of Chinese banks, 1897 - 1937. Cambridge University Press.

Cultural and Historical Data Committee of Tianjin Municipal Committee of the CPPCC, & Tianjin Branch of Banke of China. (2008). Bian Bai Mei Ri Ji Di San Juan (Bian Baimei's diary, Volume 3). Tianjin Ancient Books Publishing House.

David Merrett & Andrew Seltzer. (2000). Work in the Financial Services Industry and Worker Monitoring: A Study of the Union Bank of Australia in the 1920s. Business History, 42(3), 133–152.

Doeringer, P. B., & Piore, M. J. (1971). Internal labor-markets and manpower analysis. Heath Lexington Books.

Drago, R., & Garvey, G. T. (1998). Incentives for Helping on the Job: Theory and Evidence. Journal of Labor Economics, 16(1), 1–25.

Drummond, D. (1989). 'Specifically Designed'? Employers' Labour Strategies and Worker Responses in British Railway Workshops, 1838–1914. Business History.

Ehrenberg, R. G., & Smith, R. S. (2014). Modern Labor Economics: Theory and Public Policy. Prentice Hall.

Economic Research Office of the Bank of China. (1937). The Yearbook of Bank (1934-1937). Economic Research Office of the Bank of China.

Fairbank, J. K. (Ed.). (1983). The Cambridge History of China: Volume 12: Republican China, 1912–1949 (Vol. 12). Cambridge University Press.

Fairbank, J. K., & Feuerwerker, A. (Eds.). (1986). The Cambridge History of China: Volume 13: Republican China 1912–1949 (Vol. 13). Cambridge University Press.

Falk, A., Fehr, E., & Huffman, D. (2008). The Power and Limits of Tournament Incentives.

Fama, E. F. (1991). Time, Salary, and Incentive Payoffs in Labor Contracts. Journal of Labor Economics, 9(1), 25–44.

Faure, D. (2006). China and Capitalism: A History of Business Enterprise in Modern China. Hong Kong University Press.

Feinstein, C. (1988). The Rise and Fall of the Williamson Curve. The Journal of Economic History, 48(3), 699–729.

Fernandez, R. M., & Weinberg, N. (1997). Sifting and Sorting: Personal Contacts and Hiring in a Retail Bank. American Sociological Review, 62(6), 883–902.

Fitzgerald, R. (1988). British Labour Management & Industrial Welfare 1846-1939. Croom Helm.

Flinn, M. W. (1974). Trends in Real Wages, 1750-1850. The Economic History Review, 27(3), 395–413.

Fracassi, C. (2017). Corporate Finance Policies and Social Networks. Management Science, 63(8), 2420–2438.

Fuchs, W. (2007). Contracting with Repeated Moral Hazard and Private Evaluations. American Economic Review, 97(4), 1432–1448.

Gospel, H. (1992). Markets, Firms and the Management of Labour in Modern Britain. Cambridge University Press.

Haeck, C., & Verboven, F. (2012). The Internal Economics of a University: Evidence from Personnel Data. Journal of Labor Economics, 30(3), 591–626.

Hall, R. E. (1982). The Importance of Lifetime Jobs in the U.S. Economy. The American Economic Review, 72(4), 716–724.

He, P., & Li, L. (2016). Zhe Jiang Xin Ye Yin Hang （The National Commercial Bank, Ltd.）. Shanghai Far East Publishers.

He, P., & Peng, S. (2019). Zhong Nan Yin Hang 1921-1937 Wen Zi Ban (The China & South Sea Bank 1921-1937 Text Version). Shanghai Far East Press.

He, P., & Xuan, G. (2015). Shang Hai Shang Ye Chu Xu Yin Hang (The Shanghai Commercial & Savings Bank). Shanghai Far East Press.

He, P., & Xuan, G. (2016). Chen Guang Fu Ri Ji Yan Lun Ji (A collection of remarks from Chen Guangfu's diary). Shanghai Far East Publishers.

Head Office of Bank of China, & The Second Historical Archives of China. (1991). Zhong Guo Yin Hang Hang Shi Zi Liao Hui Bian 1912-1949 (Compilation of the archival history of the Bank of China 1912-1949). The Achives Press.

Head Office of Bank of Communication, & The Second Historical Archives of China. (1995). Jiao Tong Yin Hang Shi Liao 1907-1949 (History Materials of Bank of Communication). China Finance Publishing House.

Hei, G., & Liu, Q. (2010). Da Lu Yin Hang Dang An Shi Liao Xuan Bian（Selected Historical Archives From the The Continental Bank）. Tianjin People's Press.

Hei, G., & Xia, X. (2013). Zhong Nan Yin Hang Dang An Shi Liao Xuan Bian (Selected Historical Archives From The China & South Sea Bank). Tianjin People's Press.

Heller, M. (2008). Sport, bureaucracies and London clerks 1880–1939. The International Journal of the History of Sport.

Heller, M., & Kamleitner, B. (2014). Salaries and promotion opportunities in the English banking industry, 1890–1936: A rejoinder. Business History.

Hensvik, L., & Skans, O. N. (2016). Social Networks, Employee Selection, and Labor Market Outcomes. Journal of Labor Economics, 34(4), 825–867.

Hong, J. (1986). Zhang Jia Ao Yu Zhong Guo Yin Hang (Kia-ngau Chang and Bank of China). Modern Chinese History Studies, 5.

Howlett, P. (2004). The internal labour dynamics of the Great Eastern Railway Company, 1870–1913. The Economic History Review, 57(2), 396–422.

Huang, J., & Shanxi Branch of China People's Bank. (2002). Shan Xi Piao Hao Shi Liao. Shanxi Economic Press.

Institute of Finance in Shanghai Branch of the People's Bank of China. (1983). Jin Cheng Yin Hang Shi Liao (The History Material of Kincheng Banking Corporation). Shanghai People's Press.

Institute of Finance in Shanghai Branch of the People's Bank of China. (1990). Shang Hai Shang Ye Chu Xu Yin Hang Shi Liao(History Materials of The Shanghai Commercial & Savings Bank). Shanghai People's Press.

Jacoby, S. M. (1985). Employing Bureaucracy: Managers, Unions, and the Transformation of Work in American Industry, 1900-1945. Columbia University Press.

Jiang, S. (1988). Lue Lun Chen Guang Fu Dui Shang Hai Yin Hang De Guan Li (Brief discussion on Chen Guangfu's management of Shanghai Commercial & Savings Bank). Modern Chinese History Studies, 5.

Jones, G., & Zeitlin, J. (Eds.). (2008). The Oxford Handbook of Business History. Oxford University Press.

Kaufman, B. E. (2008). Managing the human factor: The early years of human resource management in American industry (1. publ). ILR Press.

Keneley, M. J. (2006). In the service of the society: The labour management practices of an Australian life Insurer to 1940. Business History.

Kingsford, P. W. (1970). Victorian Railwaymen: Emergence and Growth of Railway Labour 1830-1870. Routledge.

Kotter, J. P., & Heskett, J. L. (2008). Corporate Culture and Performance. Simon and Schuster.

Krueger, A. B., & Summers, L. H. (1988). Efficiency Wages and the Inter-Industry Wage Structure. Econometrica, 56(2), 259–293.

Lan, R. (2013). Study on the Gradual Transformation of the Banking System in Modern China. China Renmin University Press.

Lan, R. (2016). Analysis on the Change and Impact of Bankers Group in Modern China. Research in Chinese Economic History, 3, 75–88.

Landers, R. M., Rebitzer, J. B., & Taylor, L. J. (1996). Rat Race Redux: Adverse Selection in the Determination of Work Hours in Law Firms. The American Economic Review, 86(3), 329–348.

Lazear, E. P. (1989). Pay Equality and Industrial Politics. Journal of Political Economy, 97(3), 561–580.

Lazear, E. P. (1995). A Jobs-Based Analysis of Labor Markets. The American Economic Review, 85(2), 260–265.

Lazear, E. P., & Rosen, S. (1981). Rank-Order Tournaments as Optimum Labor Contracts. Journal of Political Economy, 89(5), 841–864.

Leonard, J. S. (1987). Carrots and Sticks: Pay, Supervision, and Turnover. Journal of Labor Economics, 5(4, Part 2), S136–S152.

Li, Y., & Li, K. (2022). Social Capital and Salary Difference in Modern China——The Analysis based on Shanghai Commercial Savings Bank. Research in Chinese Economic History, 4, 87–108.

Lingyu Kong & Florian Ploeckl. (2022). Modern Chinese banking networks during the Republican Era. Business History, 64(4), 655–681.

Lipartito, K. (2008). Business Culture. In G. Jones & J. Zeitlin (Eds.), The Oxford Handbook of Business History (1st ed., pp. 603–628). Oxford University Press.

Lipartito, K. (2014). Historical sources and data. In M. Bucheli & D. Wadhwani (Eds.), Organizations in time: History, theory, methods (pp. 284–304). Oxford University Press.

Machin, S., & Manning, A. (1992). Testing Dynamic Models of Worker Effort. Journal of Labor Economics, 10(3), 288–305.

MacKinnon, M. (1994). The Great War and the Canadian Labour Market: Railway workers 1903–39. In G. Grantham & M. MacKinnon (Eds.), Labour Market Evolution. Routledge.

Maitland, E., & Sammartino, A. (2015). Decision making and uncertainty: The role of heuristics and experience in assessing a politically hazardous environment. Strategic Management Journal, 36(10), 1554–1578.

Malcomson, J. M. (1999). Chapter 35 Individual employment contracts. In Handbook of Labor Economics (Vol. 3, pp. 2291–2372). Elsevier.

Mandell, N. (2002). The Corporation as Family: The Gendering of Corporate Welfare, 1890-1930. The University of North Carolina Press.

Masrani, S. K., Perriton, L., & McKinlay, A. (2021). Getting together, living together, thinking together: Management development at Tata Sons 1940–1960. Business History, 63(1), 127–145.

McCreary, E. C. (1968). Social Welfare and Business: The Krupp Welfare Program, 1860-1914. Business History Review, 42(1), 24–49.

McKinlay, A. (2013). Banking, bureaucracy and the career: The curious case of Mr Notman. Business History, 55(3), 431–447.

Meng, X., & Hei, G. (2010). Jin Cheng Yin Hang Dang An Shi Liao Xuan Bian（Selected Historical Archives From the Kincheng Banking Corporation）. Tianjin People’s Press.

Murphy, A. L. (2010). Learning the business of banking: The management of the Bank of England’s first tellers. Business History, 52(1), 150–168.

Murphy, K. M., & Topel, R. H. (1990). Efficiency Wages Reconsidered: Theory and Evidence. In Y. Weiss & G. Fishelson (Eds.), Advances in the Theory and Measurement of Unemployment (pp. 204–240). Palgrave Macmillan UK.

Oyer, P., & Schaefer, S. (2002). Litigation Costs and Returns to Experience. American Economic Review, 92(3), 683–705.

Rei, C. (2014). Careers and wages in the Dutch East India Company. Cliometrica, 8(1), 27–48.

Rotemberg, J. J. (1994). Human Relations in the Workplace. Journal of Political Economy, 102(4), 684–717.

Schulte, B. (2013). Unwelcome stranger to the system: Vocational education in early twentieth-century China. Comparative Education, 49(2), 226–241.

Shanghai Branch of The People's Bank of China. (1960). Shang Hai Qian Zhuang Shi Liao (Historical Materials of Shanghai Qianzhuang).

Shanghai Commercial & Saving Bank. (1949). Chen Guang Fu Xian Sheng Yan Lun Ji (Collected Speeches of Mr. Chen Guangfu). Shanghai Commercial & Saving Bank.

Shapiro, C., & Stiglitz, J. E. (1984). Equilibrium Unemployment as a Worker Discipline Device. The American Economic Review, 74(3), 433–444.

Shiroyama, T. (2008). China during the Great Depression: Market, state, and the world economy, 1929-1937. Harvard University Asia Center: Distributed by Harvard University Press.

Shpayer-Makov, H. (1991). Career Prospects in the London Metropolitan Police in the Early Twentieth Century. Journal of Historical Sociology, 4(4), 380–408.

Sivaramakrishnan, K. (1994). Information Asymmetry, Participation, and Long-Term Contracts. Management Science, 40(10), 1228–1244.

Steffen Huck, Andrew J Seltzer, & Brian Wallace. (2011). Deferred Compensation in Multiperiod Labor Contracts: An Experimental Test of Lazear's Model. American Economic Review, 101(2), 819–843.

Stewart, V. (2015). Made in China: Challenge and Innovation in China's Vocational Education and Training System. International Comparative Study of Leading Vocational Education Systems. National Center on Education and the Economy.

Stiglitz, J. E. (1975). Incentives, Risk, and Information: Notes Towards a Theory of Hierarchy. The Bell Journal of Economics, 6(2), 552–579.

Storey, J., Cressey, P., Morris, T., & Wilkinson, A. (1997). Changing employment practices in UK banking: Case studies. Personnel Review, 26(1/2), 24–42.

Sun, J., & Xiong, J. (2013). The Evolution of Banking Credit Insurance System in Modern China:A Modern Economic Approach. Researh of Institutional Economics, 1, 78–99.

Sundstrom, W. A. (1988). Internal labor markets before World War I: On-the-job training and employee promotion. Explorations in Economic History, 25(4), 424–445.

Sylla, R. (2020). From exceptional to normal: Changes in the structure of US banking since 1920. Financial History Review, 27(3), 361–375.

Tang, H. (1926). Zhong Guo Lao Dong Wen Ti (Labor Issue in China). Guang Hua Shu Ju.

Tennent, K. D., & Gillett, A. G. (2023). How to research in an archive. In S. Decker & M. F. William (Eds.), Handbook of historical methods for management (pp. 104–120). Edward Elgar Publishing.

Tignor, R. L. (2007). The Business Firm in Africa. The Business History Review, 81(1), 87–110.

Treble, J., van Gameren, E., Bridges, S., & Barmby, T. (2001). The internal economics of the firm: Further evidence from personnel data. Labour Economics, 8(5), 531–552.

van den Broek, D. (2011). Strapping, as well as numerate: Occupational identity, masculinity and the aesthetics of nineteenth-century banking. Business History, 53(3), 289–301.

Vichniac, J. E. (1990). The management of labor: The British and French iron and steel industries, 1860-1918. Greenwich, Conn.: JAI Press.

Waldman, M. (2013). Theory and Evidence in Internal Labor Markets. In R. Gibbons & J. Roberts (Eds.), The Handbook of Organizational Economics (pp. 520–572). Princeton University Press.

Wang, X. (2002). A Study of the High School Education at the End of the Qing Dynasty and in the Period of the Republic of China. East China Normal University Press.

Wang, X. (2008). Vocational Education in China. 3(2).

Wang, Y. (2010). Min Guo Jiao Yu Tong Ji Zi Liao Hui Bian Di Si Ce (Compilation of statistics on education in the Republic of China, Vol.4). National Library of China Publishing House.

Williamson, O. E. (1975). Markets and Hierarchies: Analysis and Antitrust Implications, A Study in the Economics of Internal Organization. The Free Press.

Wilson, C., & Yang, F. (2016). Shanxi Piaohao and Shanghai Qianzhuang: A comparison of the two main banking systems of nineteenth-century China. Business History, 58(3), 433–452.

Wu, Y. (2009). Research on the Industry Education Institution in Late Qing Dynasty. Educational Science Publishing House.

Xu, X., & Xu, Y. (2022). State finance, merchant stake, and foreign interests: The certificate system in the Chinese salt administration, 1912–1949. Business History, 0(0), 1–22.

Xu, Y., & Xu, X. (2016). Taxation and state-building: The tax reform under the Nationalist Government in China, 1928–1949. Accounting, Organizations and Society, 48, 17–30.

Yao, H. (1990). Jin Dai Han Kou Qian Zhuang Yan Jiu (Research on Modern Hankou Qianzhuang). Historical Research, 2.

Ye, S., & Pan, L. (2001). Zhong Guo Gu Jin Dai Jin Rong Shi (Financial History of Ancient and Modern China). Fudan Univerisity Press.

Yeh, W.-H. (1995). Corporate Space, Communal Time: Everyday Life in Shanghai's Bank of China. The American Historical Review, 100(1), 97–112.

Young, A. N. (1971). China's nation-building effort, 1927-1937 (Vol. 104). Hoover Institution Press.

Zhang, Y., & Yang, D. (2018). Jiao Tong Yin Hang Shi Liao Xu Bian 1907-1949 (Further compilation of the archival history of the Bank of Communications 1907-1949). Fudan Univerisity Press.

Zhang, Z. (1990). Jin Dai Shang Hai Cheng Shi Yan Jiu (The Study of Modern Shanghai). Shanghai People's Press.

Zhou Jinzhang. (2011). On Commercial Guarantors of Beijing during the period of Republic of China. Social Science of Beijing, 3, 92–97.

Zhu, Y. (2008). A Study on the Characteristics of the Stock Market in Modern China. Economic Research Journal, 3, 150–160.