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Pak K. Auyeung

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> Pak K. Auyeung GRIFFITH UNIVERSITY

A COMPARATIVE STUDY OF ACCOUNTING ADAPTATION: CHINA AND JAPAN DURING THE NINETEENTH CENTURY

Abstract: This study attempts to examine why western accounting was adopted in one Asian country, Japan, and not in another, China, when modern accounting methods were brought to the East during the mid-19th century. The explanation offered is socio-cultural. China was characterized by centralized political power, a society resistant to change, an anti-merchant policy and narrow-based learning. In contrast, Japan had dispersed structures of political power, a society receptive to change, a pro-merchant policy and broad-based learning. In China, the emphasis was to preserve harmony and integration in accord with mainstream Chinese ideology which had created a highly stable and tradition-oriented society. Chinese enterprises that operated within this institutional framework were unlikely to adopt western-style double-entry bookkeeping. In Japan there was no specifically institutionalized anti-capitalist doctrine to prevent the rise of industrialism and the adoption of modern accounting.

INTRODUCTION

Accounting development is highly dependent on environmental circumstances and conditions. The main purpose of this paper is to examine why two countries reacted differently to common external influences. A comparative study is presented of the effects of political and socio-cultural structures on accounting development in China and Japan. The specific question addressed in this paper is why was western accounting adopted in Japan but not in China during the mid-19th century – a time when modern accounting methods were brought to the East?

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According to Baladouni "the origin, content, or mode of being of accounting was found to be based on cultural and social forces" [Baladouni, 1979, pp. 326-327]. Culture is a complex phenomenon and can be viewed from different perspectives. One view is: "The genuine culture . . . is the expression of a richly varied and vet somehow unified and consistent attitude towards life" [Sapir, 1960, p. 90]. Parsons constantly identified culture with values. He defined the cultural system as a "normative pattern-structure of values" [Parsons, 1951, p. 37], "culture provides the standards (value orientations) that are applied in evaluative processes" [ibid., 1953, p. 16]. The term 'cultural framework', when applied to accounting, designates the particular set of institutions in a society which, while remaining an integral part of the larger culture, represents those aspects of general social life which are most influential in shaping the course of accounting activity [Baladouni, 1979].

Changes in the cultural framework imply alterations to a particular institution or set of institutions which have consequences for the general orientation of accounting. Hatfield [1950] attempted to explain accounting development by analyzing accounting issues in terms of their cultural and social content. Other work following this approach include Scott's [1931] The Cultural Significance of Accounts, Deinzer's [1965] Development of Accounting Thought, and Chatfield's [1973] A History of Accounting Thought. This research tradition has also been applied by researchers of Asian accounting history. For example, Fujita [1991] used a sociological framework to show how Japanese accounting principles developed in their unique social environment. Someya [1996] demonstrated that accounting is a function of the environment in which it operates, while Auyeung [2000] highlighted the importance of socio-cultural influence on accounting developments of China during the 19th and early 20th centuries.

The differential responses of China and Japan to the influence of 'western' accounting provides an important historical illustration of the fact that the mere existence of 'advanced' accounting knowledge is not a sufficient condition for its implementation, particularly if the social environment required for the widespread application of this knowledge is lacking. There existed considerable social and cultural interaction between China and Japan from the 7th century and many Chinese cultural features were transferred and instituted in Japan by the imperial government [Fairbank et al., 1973; Nakamura, 1997]. In spite of this cultural link, the two countries embarked on very

different paths during the mid-19th century when the West [in the form of the British, French, and Dutch] extended its political, economic, and social influence to the Far East. Japan experienced accounting modernization, while China encountered accounting stagnation [Someya, 1989; Gardella, 1995; Auyeung, 2000]. The primary reason for the different responses to western infiltration in the two countries lay in their separate complex political and sociological frameworks. Behind an outward similarity, Chinese and Japanese societies differed significantly. This study seeks to identify and discuss the structures of these two societies that encouraged one to pursue a path of capitalistic development and receptivity to 'modern' accounting while the other was resistant.

Previous Literature: There have been several previous historical studies of Chinese accounting systems. These have primarily adopted a technical perspective. Of particular significance was Fu's [1968] dissertation which investigated the Western Zhou Dynasty's (1122-771 B.C.) accounting system. Guo's [1982, 1986, 1988] books have also extended our knowledge of Chinese accounting from the earliest times to the 20th century. Hsu's dissertation [1988a] described the accounting systems of Chinese merchants in Nagasaki, while Zhao's book [1992] and Lu's thesis [1999] represent a continuation of Guo's research. Auveung's thesis [2000] examined the influence of environmental changes on accounting development in China. Book-length studies of Japanese accounting history have been written by Ogura [1962], Aoki [1976], Kawahara [1977], Hisano [1987], Fujita [1991], Chiba [1992] and Someya [1996]. Articles describing Chinese and Japanese accounting systems include contributions by Otte [1928], Huang [1934], Ding [1935], Shimme [1937], Nishikawa [1956], Ogura [1960], Fujita [1966], Fu [1969, 1971], Ba [1976], Cheng [1980], Taketera [1980], Gardella [1982, 1992, 1995], Taketera and Nisikawa [1984], Zhao [1987], Chiba [1987], Hsu [1988b, 1991], Someya [1989], Fu [1989], Cooke [1991], Lin [1992], Chen [1993], Zhong [1993], Aiken and Lu [1993a, 1993b, 1993c, 1998], McKinnon [1994], Sasaki [1995], Chen [1998], Rvoji [2000], Camfferman and Cooke [2001] and Yamaguchi [2001].

In spite of these voluminous publications, most work to date has described the development of accounting practices. Despite the efforts of a few researchers little is known about the relationship between socio-cultural change and the development of accounting in China and Japan. There are no previous studies

which compare accounting developments in the two countries during the 19th century. China and Japan are juxtaposed in this comparative study, the main objective of which is to examine the history of accounting in the context of the unique political and socio-cultural traditions of China and Japan. In this way we may shed light on the intriguing question, why did Japan embark on accounting modernization, while China did not? By addressing this question the paper seeks to contribute to the growing literature on comparative international accounting history.

WESTERN ACCOUNTING PRACTICES

While the East was in the pre-modern stage of economic development during the 18th century, several western countries were entering the early phases of industrialization. This proved a significant stimulus to accounting development. As Littleton asserted, commerce and industry "led men to expand doubleentry bookkeeping into accounting" [1966, p. 368]. The main features of 19th-century financial accounting in the West were a distinction between capital and revenue expenditure, the valuation of fixed assets, the adoption of depreciation accounting, the application of the accruals, going concern, consistency, prudence and matching concepts, the use of more sophisticated methods of profit measurement and financial procedures, and the recognition of internal control. These features comprise 'modern western accounting' for the purposes of this paper. Apart from the common use of Hindu-Indian numerals these features were absent in indigenous Chinese and Japanese bookkeeping systems.

With the increasing importance of joint stock companies in the capitalist economy the development of accounting practices in the industrial West was significantly influenced by the need to report to shareholders. In company accounting, profit measurement was important in two respects. First, profit data was significant because it was prudent not to distribute dividends to shareholders in excess of profits. Second, the periodic profit figure came to be regarded by shareholders as a summary of the results of management performance. In the more complex economy of the 19th century, financial information was also required by potential investors and creditors. Profit measurement assumed considerable importance and its computation was advanced by the development of accounting for prepayments and accruals [Edey and Panitpakdi, 1956; Chatfield, 1973; Yamey, 1977].

With the advent of industrial capitalism, investment in fixed assets assumed greater significance. The direct effects of this in western accounting included the increasing importance of distinguishing between capital and revenue expenditures, and writing down systematically the cost of fixed assets. Littleton [1966] pointed out that although depreciation was not a clear concept in writings of the 18th century, it was increasingly applied in practice. For example, an annual depreciation of five per cent on buildings and eight per cent on steam engines were found in the accounts of Boulton and Watt in the late 18th century [also Roll, 1930]. During the 19th century, depreciation was more generally applied and considerable discussion centered around the allocation of expenditures between capital and revenue accounts, and the appropriate methods for calculating depreciation [Saliero, 1915].

Western accounting systems tended to make use of specialized subsidiary books for the purpose of keeping details out of the general journal and the general ledger. The use of subsidiary books was accompanied by periodic postings of totals to control accounts in the general ledger [Yamey, 1977]. The use of subsidiary ledgers and control accounts not only relieved the general ledger of a mass of detail, but also contributed to internal control through the division of labor and periodic reconciliation of the subsidiary ledger with the related control account. By facilitating the division of bookkeeping duties, western bookkeeping reduced the risk of error and made it more difficult to falsify the books and conceal fraud.¹

ACCOUNTING STAGNATION IN CHINA

The development of advanced western accounting methods, especially during the 19th century, had a profound effect in Japan, but no impact in China. This and the following section examine the state of accounting in the two countries previous to offering an explanation of their different reactions to modern western accounting.

Indigenous Accounting Systems: The Chinese accounting system was fairly well established in the government sector as early as the Western Zhou Dynasty (1122-771 B.C.). During this period

¹ As well as more sophisticated financial accounting, there was also progress in the development of cost accounting during industrialization [Solomons, 1952]. This is beyond the scope of the current study.

there was sophisticated budgetary control and single-entry bookkeeping systems. The so-called *sanzhufa* ('three-pillar balancing method'), was introduced to enable the imperial court to keep track of government assets. The reporting format focused on the balance of surplus or net assets at the end of the accounting period, as shown in the equation: revenues *minus* disbursements *equals* surplus. The name, 'three-pillar balancing method', captured the relationship between the three variables used in this method.

As a result of economic growth, the private sector subsequently took the lead in accounting development, and businessmen were largely responsible for introducing the improved shizhufa ('four-pillar balancing method') during the Tang Dynasty (A.D. 618-907). This method took into account the balance brought forward from the previous period and the reporting format focused on the relationship of the four variables shown in the equation: opening balance plus revenues minus disbursements equals closing balance. An important accounting innovation emerged during the mid-15th century when the sanjiao zhang ('three-leg bookkeeping method') was created. This contained features of both single-entry and double-entry record keeping. The recording method earned the name 'three legs' because double-entry was used for recording credit transactions and single-entry for recording cash transactions [Guo, 1988; Lu, 1999; Auveung, 2000].

In the late Ming Dynasty (1368-1644) and the early Qing Dynasty (1644-1911) a more sophisticated accounting technique, the *longmen zhang* ('dragon-gate bookkeeping method') was created. This was a primitive double-entry system with two main advantages. It facilitated the accuracy of the account books by periodically balancing the books and extracting a trial balance, and it also permitted profit determination. The characteristic feature of dragon-gate bookkeeping can be seen in the equation: revenues *minus* disbursements *equals* assets *minus* owners' equity and liabilities. Both sides of the equation by implication measured profit on a cash basis.

The next milestone in Chinese accounting was the development of the *shijiao zhang* ('four-leg bookkeeping method') in the 18th century. The new method was also known as the *tiandi panzhang* ('heaven-and-earth bookkeeping method') in Taiwan (Hsu, 1988a). This was an improvement on previous methods because broader account classification and greater use of subsidiary records accommodated more complex and a larger volume of transactions. Under the four-leg bookkeeping method all

transactions, both cash and non-cash, were recorded in the journals and posted to the ledgers using double-entry procedures. The term 'four-leg' was used to distinguish this extension of the double-entry technique from the preceding 'three-leg' method [Guo, 1988; Lu, 1999; Auyeung, 2000].

The introduction of double-entry methods represented significant accounting innovations in China. However, despite their usefulness, these techniques were not commonly employed even by substantial businesses. In the private sector, the majority of commercial firms and banks employed the four-pillar balancing method, irrespective of the size of the organization. Its users included Shanxi merchants, the gonghang (13 Chinese firms in Guangzhou), Xijiang silk merchants, and wholesalers and retailers in Shanghai. Major firms that adopted the four-pillar balancing method included the Deging Commercial Bank, the Hangfeng Fabrics Company, the Tongvidian, the Sanshanhang Wukee, and the Manlonghao. Further, only a minority of small and medium-sized firms used the three-leg bookkeeping method, and a limited number of large-scale businesses used the double-entry dragon-gate bookkeeping and four-leg bookkeeping methods. Overall, the indigenous accounting systems were, by and large, perceived as adequate for a commercially active pre-modern society [Huang, 1934; Guo, 1988; Lu, 1999; Auveung, 2000].

Emergence of Corporations: After the First Opium War in 1840, foreign merchants came to China and established businesses in the treaty ports. They contributed to China's early industrialization by providing new technology and overseas market connections. They also brought managerial and accounting skills. Many foreign merchants traded with the Chinese through compradores, who acted either as salaried employees or independent agents. Through their contacts compradores were exposed to modern western entrepreneurial and accounting skills.

China's relation with the West was marked by contradictions. It benefited from the foreign incursion, but suffered from the consequences of 'imperialist exploitation'. In order to resist foreign invasion China after 1840 strengthened its military capabilities through the construction of armament and military-support industries. Thus, much of the early investment in modern machinery was closely linked to China's military needs. Feuerwerker [1958] estimated that about a dozen *kuantu shangpan* (government supervised and merchant managed) joint-stock enterprises were established and six of which formed

the basis of China's eventual industrialization. The first Chinese steamship company, the China Merchants' Steam Navigation Company (CMSN), was established in 1873, followed by the first modern mine, the Kaiping Coal Mines, in 1877; the first telegraph company, the Imperial Telegraph Administration, in 1880; and an ambitious iron and steel enterprise, the Hanyeping Coal and Iron Company, in 1889.

China's industrialization during the mid-19th century was accompanied by the import of western science and technology in order to develop military capability. This impacted on the business environment in two ways: the emergence of joint-stock companies and the use of high-cost fixed capital in production. For example, following the offer of its shares to the public, the paid-up capital of CMSN increased from 476,000 taels (Chinese currency) in 1874 to two million taels in 1884. Other officially initiated joint-stock companies followed suit such as the Shanghai Cotton Cloth Mill [Feuerwerker, 1958; Lai, 1994]. Other instances of industrial development included the Hanyeping Coal and Iron Company which manufactured iron and steel using modern equipment purchased from Europe in 1894, that is, two years before the Japanese government built an iron and steel works at Yawata [Thomas, 1984]. The Kaiping Coal Mines also purchased capital equipment from abroad. Its total capital expenditure reached 2 million taels in 1882 and 2.3 million taels in 1891 [Sun, 1957].

Deficiencies of Traditional Accounting Systems: These major changes posed a challenge to indigenous accounting techniques in China. They implied an extension from bookkeeping to financial reporting. With the separation of ownership and control in joint-stock companies management was obliged to prepare and present to owners periodic reports, including a profit and loss statement. The accurate computation of periodic profit was also required to determine dividends. Further, the increased capital investment required that attention be paid to fixed-asset and depreciation accounting, and the growth of large-scale companies required accounting techniques to enhance internal control.

The indigenous bookkeeping systems appeared to be deficient for accounting in joint-stock companies and other large-scale enterprises using capital equipment. Auyeung [2000] identifies a number of reasons for this. First, there was a tradition of confidence in the honesty of managers. Chinese businessmen did not keep formal source documents of transactions. However, as the scale of business operations expanded,

the traditional concept of management based on personal trust per se could not be relied upon. Second, the Chinese recording procedures were unsystematic and disorderly. The Chinese numerals used to record transactions in books of account were not aligned by rank value and arithmetical calculations could not be performed on the pages of a journal or ledger. The pages of these books were not numbered sequentially and there was no cross-referencing system. The efficiency of the abacus also came into question when large enterprises had to record voluminous transactions, involving large sums of money. In view of their weaknesses, the indigenous bookkeeping systems were of limited use as a basis for internal control.

Third, profit measurement was not of crucial concern in the pre-1840 era when businesses were small and comprised proprietorships, partnerships, and lineages, and the business was run by an owner-manager familiar with day-to-day operations. The traditional systems were based on cash accounting. not on accruals and depreciation. There was no distinction between capital and revenue expenditure. The cost of capital equipment was treated as an expense and no separate accounts were kept for fixed assets in the ledger. A few companies such as the Da Longjing (Big Dragon Well) salt mine, calculated an amount for unexpired expenditures on an arbitrary basis and included the amount as revenue. As a result, realized as well as unrealized amounts, and capital as well as revenue expenditures could be included in the calculation of profit or loss. Charges for depreciation were exceptional despite the increasing employment of capital in sectors such as mining and transportation

Retention of Traditional Accounting Systems: Given the deficiencies of the indigenous accounting systems, the appropriateness of the modern western system for joint stock industrial enterprises, and the commercial and financial interaction between China and the West, one might have expected the adoption of western accounting technologies in China. However, this was not the case. Materials kept in the Beijing City Archives suggest that a majority of commercial and industrial firms in the second half of the 19th century continued to adopt the single-entry four-pillar balancing method. A small minority used the partial double-entry three-leg bookkeeping method, and a few large enterprises used the dragon-gate or the double-entry four-leg bookkeeping method. Many of these methods remained in use during the early 20th century, even in large-scale enterprises which had acquired machinery from the industrial West.

Examples included the CMSN, the Kaiping Coal Mines, the Hanyeping Coal and Iron Company, and the Shanghai Cotton Cloth Mill [Ding, 1935; Ge, 1986; Guo, 1988; Lai, 1994; Gardella, 1995; Auyeung, 2000].

The prevalence of traditional accounting systems was found to be incompatible with the existence of joint-stock companies in China. For example, the Kaiping Coal Mines failed to comply with the requirement in its prospectus to issue yearly accounts to shareholders and did not pay any dividends during its first ten years. The British consul attributed this to "the fault in bookkeeping" (British Consular Reports from Tientsin, 1876-1912, 1885, p. 3). In the late 1880s, Kaiping was in financial difficulties and this gave the British an opportunity to assume control of the enterprise and place the accounting function in foreign hands [Sun, 1957; Carlson, 1971]. Similar difficulties were experienced by the CMSN. To overcome the problems arising from the limitations of its accounting system, the CMSN paid a fixed annual dividend of ten per cent to its ordinary shareholders irrespective of performance and was exempted from issuing formal financial reports [Lai, 1994]. Inevitably, CMSN's accounting system came under heavy criticism as it became clear that external providers of funds were not receiving sufficient financial information. In 1885, the Board of Revenue demanded an imperial decree to order an investigation into the accounting books of the company [Feuerwerker, 1958]. Moreover, defalcation often occurred in large-scale enterprises because of the complete lack of internal control.² Not surprisingly, from 1884, the opportunity to gain mercantile support for private investment in kuantu shangpan joint-stock enterprises vanished [Chan, 1996].

ACCOUNTING MODERNIZATION IN JAPAN

Indigenous Accounting Systems: Before the introduction of western accounting techniques Japan had its own long-established bookkeeping methods. As explained later, there was no source of centralized political or economic power in pre-modern Japan. Rather, power was fragmented and concentrated locally. Reflecting this configuration, there were no nation-wide uniform accounting systems during the Edo Era (1603-1867). Instead, separate bookkeeping methods were developed and kept secret

² For example, Tang Jingxing and Xu Run, Directors of the CMSN, misappropriated company funds and were forced to resign.

by independent economic powers, such as the Tomiyama, the Tanabes, the Nakais, the Hyogos, the Kondohs, the Honmas, the Hasegawas, the Ishimotos, the Onos, the Kohnoikes, and the Mitsuis.

In spite of this secrecy, some bookkeeping manuals were prepared and preserved by mercantile families. These have been analyzed by accounting historians, such as Ogura [1960, 1962] and Kawahara [1977]. According to Kawahara [1977], the Tomiyama bookkeeping system of 1615-1640 encompassed dual calculations. First, proprietors' equities at the end of the year equaled the difference between assets and liabilities at the end of the year. Second, proprietors' equities at the end of the year equaled proprietors' equities at the beginning of the year plus revenues and minus expenses for the year. The Tanabes produced three financial reports during the early 19th century, namely, a report of assets and liabilities, a report on net income comparing the opening and closing balances of net assets, and a summary of revenues and expenditures. The Tanabe family owned many iron forges in the Izumo province and some used more than 30 books as a basis for preparing a periodic statement of inventory [Nishikawa, 1956; Someya, 1989].

During the late 18th and early 19th centuries the accounting records of the Nakais, the so-called "Ledger of good Fortune", showed a duality of entry with each transaction recorded in two books, thus showing features of double-entry bookkeeping. The Nakais also defined *tokuyo* (profit) as residual profit, that is the net operating profit in excess of a certain rate of return on capital. Taketera and Nisikawa's [1984] examination of the books of the House of Mitsui during the Tokugawa Era (1603-1867) shows the dual method of profit calculation: the first based on revenues minus expenses and the second on assets minus opening net worth and liabilities. Ogura's [1960, 1962] studies show that there were some common features of the indigenous methods even though they were developed independently.

Although the double-entry concept was applied, most Japanese merchants practiced single-entry bookkeeping, called the *daifukucho*. Four account books — the sales day book (*uricho*), the purchases day book (*kaicho*), the cash book (*kingindeiricho*), and the ledger (*daifukucho*) — were commonly used. There was no systematic classification of accounts, nor any distinction between capital and revenue expenditures, and the cash basis of accounting was adopted. As in China, the indigenous accounting systems were adequate in a feudal economy where production

and distribution were on a small scale [Nishikawa, 1956; Someya, 1989].

Once its ports were opened to the United States in 1854, Japan responded to the Occident challenge with much greater speed than China. The Meiji Government (1868-1912) established a radically altered set of political and economic institutions based on western models in an attempt to modernize the country. Many Japanese students went overseas to learn western science, technology, economics, and entrepreneurial skills. Foreign consultants visited Japan in increasing numbers to give advice on national development. Energetic efforts were made by the government not only to modernize strategic sectors, such as transport, communications, iron, steel, the army and navy, but also to establish non-strategic consumer industries. The first steamship, Chivodagata, was built in 1866 and the first railway was constructed in 1872. Arsenals, shipyards, machine shops, and schools of science and technology were established using foreign capital equipment. Factories were built and equipped with imported machinery to produce silk, cement, glass, sugar, chemicals, and a variety of consumer goods, and most of these ventures were eventually sold to businessmen at reduced prices [Smith, 1955]. The Japanese private sector eagerly responded to these government-supported efforts and attempted to branch out into new fields. In particular, the first mechanical silkreeling plant was built by private entrepreneurs in 1870. In the mid-1880s, the cotton industry was developed almost wholly by private capital [Crawcour, 1989].

Accounting Modernization: During the Meiji 'great leap forward' of the mid-19th century, indigenous bookkeeping methods were found to be inadequate for industrial enterprises using advanced western machinery and production methods. Unlike China, Japan responded quickly to the changing environment. Accounting modernization took place and western-style double-entry bookkeeping was introduced as the foundation on which a capitalist economy could develop. Changes in the latter part of the 19th century are described by Someya [1989] and Ryoji [2000] as an accounting "revolution". French, British, and Dutch accounting systems were significant influences in this revolution. The Yokosuka Steel Plant, for example, recruited a French naval accountant as its chief accountant. In 1865, he implemented the contemporary French general ledger scheme of accounts and French accounting principles. In order to facilitate the transfer of French accounting and business knowledge to Japanese

enterprises, the government sent an official from the Industrial Department to study accounting in France [Shimme, 1937; Nishikawa, 1956].

Many Japanese enterprises in the late 19th century used accounting systems based on British practice. For example, the Nagasaki Iron Plant and the mint in Osaka. The British form of balance sheet was also adopted by national banks in 1873. Sasaki [1995] has asserted that Japanese railway companies learned from the accounting of their equivalents in Britain. Chiba [1987, 1992] has claimed that British systems were one of the two major external influences on Japanese accounting development, the other being the US Securities Acts after World War II. Dutch accounting was also influential particularly in its adopted by imperial mints. Camfferman and Cooke [2001] emphasized that the Dutch East India Company had played an important role in introducing western accounting methodology in Japan. According to Yamaguchi [2001] modern western accounting was also used by many enterprises in the Japanese shipping industry.

The Diffusion of Western Techniques: The assimilation of western accounting was effected through the publication and dissemination of accounting texts. Foreign accounting books were imported and translated into Japanese. The first book introducing modern bookkeeping to Japan was Chooainoho (Bookkeeping Methods). This was a translation of an American text entitled Book-keeping by Bryant and Stratton. The second accounting book in Japanese, also a translation, was Ginko Boki Seiho (Bank Bookkeeping Methods). This was published by the Ministry of Finance following a proposal by Alexander Allan Shand, a Scotsman who was employed by the government to standardize the accounting methods of Japanese national banks. Shand's proposal to use the western double-entry approach immediately received wholesale acceptance and was implemented by the First National Bank in December 1873. Another book entitled Jimmin Hikkei Boki Teiyo (Elementary Bookkeeping) was a translation of Marsh's The Element of Book-keeping in Double Entry.

The diffusion of western accounting knowledge was further achieved by the establishment of accounting schools. An institute was set up by the government in 1877 to teach bank accounting. It was followed by the establishment of the Kobe Business School in January 1878, the Mitsubishi Commercial School in March 1878, the Osaka Business School in 1880, and the

Yokohama Commercial School in 1882. These schools introduced a range of accounting subjects in their study programs. Bookkeeping was also introduced in the system for training apprentices in factories, such as the program of the Yokosuka Dockyard [Shimme, 1937; Nishikawa, 1956; Someya, 1989].

Statutory Regulation: Following western practice, Japan introduced commercial laws to regulate the joint-stock form of business organization, formulate rules for the guidance of businessmen in the conduct of business affairs and regulate corporate accounting. The National Bank Act was enacted in 1872. This statute and its related regulations set forth the first accounting rules and established uniform financial statements for national banks. This enactment had a significant influence on the wider development of corporate financial reporting. The Commercial Code promulgated in 1890 contained sections on accounting matters. Amendments to the Code in 1899 required businesses to maintain accounting books, prepare a zaison mokuroku (an inventory of assets and liabilities) and a taishaku taisho hyo (a balance sheet), and to value properties for the purpose of the zaison mokuroku based on their respective values at the preparation date. Kabushiki kaisha (limited liability companies) were required to produce three additional documents, namely a business report, an income statement, and a statement of proposed legal reserves and profit distribution. The law also required accounts to be audited and presented to shareholders. Since the legislation was drafted under French and German influences, the Japanese Commercial Code followed the continental format of financial reporting in which an inventory of assets and liabilities was to be published [Aoki, 1976; Someya, 1989; Fujita, 1991].

SOCIO-CULTURAL EXPLANATIONS

Why then was modern western accounting adopted in Japan but not in China during the mid-19th century? The search for an answer requires an examination of the important political, social, and cultural differences between the two nations. China had centralized political power, a society resistant to change, an anti-merchant mentality and narrow-based learning. In contrast, Japan had dispersed structures of political power, a society accepting of change, a pro-merchant culture and broad-based learning. It is in these four characteristics that we may locate reasons for the differing approaches to western account-

ing in the two countries. Each of these aspects are now discussed by comparing China and Japan.

Concentration versus Fragmentation of Power: China differed from most other pre-modern empires in that the foundation of its economy was agriculture. This necessitated works of irrigation, drainage, and water conservation. Tax-produce and trade commodities were transported by waterways to a far greater extent than was the case in other civilizations. Great hydraulic engineering works, dating back to the 5th century B.C., cut across the land boundaries of feudal lords. This had the effect of weakening their influence and of concentrating power in the centralized imperial government. The social system in China has been called "bureaucratic feudalism", the "Asiatic mode of production", "Asiatic bureaucratism" or "feudal bureaucratism", which arose from the need to manage a vast agricultural economy. For millennia China remained an essentially agrarian country. It was also a self-sufficient economy, requiring little or nothing from outside. This isolation encouraged Sinocentrism. China considered itself as the sole civilization at the center of the world, surrounded by barbarians.

Central government assumed far reaching powers. Although private ownership of land was recognized as early as the Western Zhou Dynasty (1122-771 B.C.), the government reserved the right to interfere with landowners by levying tax, confiscating their holdings and resettling the population. For thousands of years, the main source of revenue in China came from land and there were many other taxes related to the farm structure. From the Song Dynasty (A.D. 960-1279) to the Ming Dynasty (1368-1644), the imperial government introduced various land confiscation schemes to ensure an equitable distribution of wealth [Yang, 1950].

Given the power of central government *shih*, scholar-bureaucrats, were the literary and managerial elite of the country for thousands of years. Although the mandarinate was recruited from the most able of the nation, the civil service examination system inhibited a spirit of creativity by directing intellectual activity into the narrow study of the Confucian classics [Yang, 1950; Fairbank et al., 1973].

In imperial China, a centralized bureaucratic rule was effectively supported by an equally pervasive system of ideological control. The country had a stable social structure, with no political opposition. There was a homeostatic mechanism in Chinese society which continually restored it to a state of bureaucratic

feudalism following disturbances, such as civil wars, conquests by "barbarians", or inventions and discoveries. In spite of upheavals, the structures of governance and its underlying philosophy were maintained according to an established pattern [Needham, 1969].

The imperial court of Japan initially followed China's example of establishing the complete supremacy of the ruler and the centralization of government. The court owned and controlled most of the land during the Taika period (A.D. 645-710) and the Nara period (710-784). Subsequently, a class of shoen (equivalent to manors in Europe) emerged and power in Japan was fragmented among many independent groups who continuously struggled to obtain control. They acquired huge estates nominally belonging to the imperial court. The Heian period (794-857) saw a steady growth in the number of shoen and their power. They were able to extend their influence due partly to the tax exemption privileges they enjoyed and also because of their acquisition of land rights from private landowners in return for military protection. The growth of shoen further attracted peasant landowners who attempted to escape from imperial control, thus increasing the population and economic power of the independent estates at the expense of the central authority. In the 10th century shoen were firmly established as the warrior aristocracy. Powerful families emerged such as the Fujiwara (the foremost court family), the Taira (a warrior clan), and the Minamoto (one of the primary military lineages). Their armed mercenaries were strong enough to resist imperial demands for tax levies and land confiscation [Murdoch, 1925-26].

In Japan, Buddhists were also sources of dispersed power. The Taika and Taiho Edicts established tax-free property for the Buddhist priesthood in the 7th century. It thus legitimately owned and controlled land which was protected by its estate army. Temple estates expanded as landowners transferred their land titles to temples for safety and endowments were received from lords. Attempts by the imperial government to control the temples were resisted. To demonstrate their power, some warrior-monks attacked the court in 1081 and 1113 and demanded redress for damages. The court had to turn to the Fujiwara for protection. In the Ashikaga period (1336-1598), the temple estates established castles and challenged the shoen. Although shoen sometimes opposed the Buddhists, they usually joined forces with the religious order to challenge the ruling authority [Takekoshi, 1930]. Thus, the concentration of economic power among various groups: the imperial government, shoen, merchants, and priests was a distinguishing feature of Japanese society.

The several powerful groups in Japan often cooperated when threatened by fragmentary movements. The imperial government would cooperate with, for example, the Fujiwara, in order to initiate political action. The Taira and the Minamoto formed an alliance with the temples and local lords to oppose a court-Fujiwara coalition. When the Taira dominated the political scene in 1160, the Minamoto and the temples joined forces to defeat the Taira. The Minamoto then assumed control but was soon overturned by its new rival, the Hojo Regency. Disputes between powerful groups were so continuous that for the hundred years from the 1470s no central government effectively existed in Japan [Mason and Caiger, 1972]. This was the antithesis of centralized bureaucratic feudalism in China.

In Japan, political control depended on coordinating powerful independent groups. While there was a certain spontaneous homoeostasis about Chinese society, in Japan there was a built-in instability and intellectual and political conflict. Although Japan appeared to be in perpetual upheaval, this was effective in reducing intolerance and in stimulating intellectual creativity and adaptability. Hence, compared with China, Japan was less resistant to progress and more amenable to accepting western learning, including modern accounting techniques.

Resistance to and Acceptance of Western Influence: China and Japan, therefore, responded differently to western influence during the 19th century. This can be seen in their policies relation to foreign trade and industrial development.

In China, foreign trade was considered to be a tribute from inferior civilizations and was strictly controlled by most dynasties. The Qing Dynasty did not welcome foreign contacts, and policies of isolationism and self-sufficiency largely prevailed. The official view of foreign trade was summarized by Commissioner Lin Zexu as follows:

Foreign countries cannot do without tea and rhubarb for a single day. If China refrains from sharing the benefit and takes no mercy of the harmful results by stopping the trade, how would the barbarians find their living? Foreign woollen goods cannot be produced without China's silk. If China determines to be mean, how would the barbarians earn their profit? How numerous are Chinese goods needed by foreigners - food-stuff, such as sugar and ginger, and useful goods, such

as silk and porcelain. Foreign supplies are goods for pleasure and comfort only; they are not essentials. Therefore there is hardly any difficulty for China to sever the commercial relations. Why does the celestial empire allow barbarians to buy her tea, silk, and so on and show no niggardness in sharing the benefits? There is no other answer than China's intention to be generous [Chen, 1980, p. 8].

Following this policy, the government controlled imports and exports under the *gonghang* system. Under this system, 13 Chinese firms in Guangzhou monopolized trade with westerners. This geographical restriction facilitated the control and collection of customs by requiring foreign merchants to conduct their business at only one port. Other Chinese ports remained closed to foreign trade until 1840 when they were opened by force in the First Opium War.

Unlike in China, foreign trade in Japan was considered an important source of revenue. The Tokugawa's (1603-1867) attempts to prohibit the Spanish-Nagasaki trade were unsuccessful. Protected by feudal lords, merchants turned to smuggling, especially between Kyushu and Fuzhou through Formosa, and foreign trade in the ports controlled by *shoen* continued in defiance of the imperial government. Porter, an American economist, commented aptly on the Japanese attitude towards foreign trade:

Among public speakers are found not only officials whose special province is trade and agriculture, but even a naval officer of high rank has considered it not beneath his dignity to tell his countrymen that they can only become a great nation by development of trade, and that trade is as worthy of their best efforts as war [1898, p. 10].

Japan was officially opened to foreign trade in 1854. No wars were fought and no territory was ceded in the opening of the country to western influences [Takekoshi, 1930].

There were also divergent attitudes towards industrialization in China and Japan. In China modernization extended only to the introduction of certain technological innovations to the existing feudal structure. Capitalist production was adopted only to enhance the military capability of the existing regime. The Qing Government, having been defeated by foreign powers twice between 1840 and 1860, was convinced of the value of western weaponry. It therefore established arsenals and ship-yards between 1862 and 1881 to produce armaments and gun-

boats. In 1881 there were about 19 government-owned arsenals and shipvards, most of which were located at Shanghai, Nanjing, Tianjin, Fuzhou, and Hanvang (Feuerwerker, 1995). When Chinese leaders later realized that arsenals and shipvards required auxiliary support, they developed military related industries, such as transportation, mining, telegraphic communications, and ironworks. In spite of their professed desire to modernize, many Qing officials believed that the basic principles of Chinese statecraft were based on Confucian prescriptions. Technology, although indispensable, was not fundamental. The hierarchy and the family code of ethics were more important than modernization. The primary purpose of industrialization was to save the country from foreign occupation and thus preserve existing political institutions and a tradition-oriented society. This ideology was not conducive to acceptance of non-military foreign knowledge, such as accounting.

In Japan, however, it was realized that modernization was essential to successfully compete with western powers. Industrialization on western models commenced in the Tokugawa period (1603-1867) and the Meiji Government (1868-1912) pursued a multitude of policies to develop new industries. Modern machinery was introduced in shipyards and iron works; new factories were erected, such as cotton spinning mills in Hiroshima; and advanced industrial equipment was imported and sold to industrialists on credit. A group of determined young leaders, such as Okubo Toshimichi, Saigo Takamori, Kido Koin, and Iwakura Tomomi, shared the view that Japan would have to modernize or go under. They therefore supported new industries by granting subsidies, tax exemptions, tariff protection and emergency relief [Crawcour, 1989; Yamamura, 1997]. They led an eager acceptance of the West, which contrasted with the inertia of the Chinese intelligentsia. This willingness to change also helps explain why Japan implemented western accounting techniques while China did not.

Anti-Merchant versus Pro-Merchant Mentality: In China, profits from trade could not be converted into effective economic power because they were hidden. The prosperity enjoyed by the merchant class vanished at the end of the period of Warring States (475-221 B.C.) when antagonism towards merchants led to various systems of control and prohibition. During the Qin Dynasty (221-206 B.C.) and the Han Dynasty (206 B.C.-220 A.D.), the rights and social status of merchants were progressively restricted by laws, regulations and state monopolies. Mer-

chants paid more taxes and could not wear silk, ride horses or own land, nor could their descendants enter officialdom. They were labeled as semi-criminals and ordered to wear white scarves around their foreheads and a pair of mismatched shoes. This policy reflected the general view that merchants were nonproductive and parasitic.

Merchants were also perceived as potentially subversive because their mobility brought them into contact with a range of social groups, including officials, aristocrats and foreigners. The scholar-bureaucrats were also opposed to the wealthy merchants and mercantile values as these might threaten their own supremacy. Prevailing attitudes towards merchants were founded on ideological grounds. Some Confucianists asserted that Confucianism was anti-mercantile. Although the anti-merchant policy was relaxed during the 19th century, social antagonism towards them remained [Chan, 1977].

In marked contrast to China, the wealth of Japanese merchants was perceived among competing groups as an important attribute in the struggle for political power. This conferred a higher social status on merchants in Japan. As early as the Nara epoch merchants were given exclusive rights in some market towns, called *shicho*. Merchants were allied to feudal lords who protected their interests. They also transacted business for the imperial court and were awarded ranks and privileges. Warriors recognized the importance of mercantile wealth for sustaining warfare. By the 19th century profit-earning merchants enjoyed a distinctive and luxurious lifestyle which differed from that of the imperial authority [Fairbank et al., 1973].

Different attitudes toward mercantile activity in China and Japan are illustrated by the status of guilds. Although Chinese merchants formed themselves into guilds, these were no more than "mutual benefit societies, insurance organizations, protecting against loss occasioned in transit, and the like, but the one thing they never did was to acquire real control or power in the cities where the merchants lived and carried on their trades" [Needham, 1969, pp. 184-185]. In Japan, the state conferred guilds with rights to monopolize particular trades, set standards and prices, regulate the activities of their members, and control apprenticeship. Guilds were economically powerful because of their inter-city connections. Commercial guilds were able to protect their members against loss and their masters often became entrepreneurs during the 19th century.

In China the government had an ethical obligation to ensure an adequate supply of food and essentials by regulating sales, setting standards, and checking the power of merchants. Government intervention had the effect of restricting the emergence of powerful economic interests in the private sector. Towns were administered for the Emperor by his civil governors and military officials. By contrast, the development of free cities and free ports was a special feature of economic life in feudal Japan. Markets were practically free from political intervention because the imperial authority benefited from a healthy commercial sector. Some markets were given local trade monopolies in return for fiscal benefits.

In the Tokugawa Period free cities, such as Sakai, grew in importance and were able to resist attempts to impose trade restrictions on them. Merchants in Japan were protected from imperial control by shoen and the Buddhist priesthood. Temple estates provided merchants with facilities such as storage and financial assistance. Shoen and temple estates encouraged the growth of free ports in the hope that an accumulation of wealth from coastal trade would strengthen the economic power of their domains. As these ports grew in size and became major trading centers, such as Hakata and Nagasaki, they formed their own governing bodies consisting of aldermen. These trading centers made use of their economic power to gain political privileges and came to overshadow their feudal protectors. It was in the free ports and cites that industrial development took root. The development of iron works in Hakata, for example, marked the beginning of the industrial revolution in Japan [Okuma, 1909-107.

The foregoing indicates why it was that from 1840 to 1894 the private sector in China was not successful in mobilizing domestic resources to pursue industrial ventures. Merchants were reluctant to commit themselves to financing long-term investments in capital-intensive enterprises. As a result, modern industries in the mid-19th century were mostly established by the government. Private investment was lacking for fear of government interference and control. Merchants were under constant threat of arbitrary trade restrictions and confiscation of property. In such a setting Chinese merchants tended to take a short-term view. They feared the risks associated with the large capital investments and long payback periods. Consequently, they invested in commercial banks, pawnshops, real estate, and other organizations perceived to be both safer and more profitable. When merchants did invest in modern industries, they preferred to do so in foreign-owned enterprises.

In mid-19th century Japan there was no ethical obligation

on the government to interfere with the economic activities of the private sector. In the absence of government control, independent merchants could play a dominant role in establishing modern industrial enterprises, although in the development of strategic industries government support was also apparent. To hasten industrialization, merchants sent Japanese technicians to study in western countries and employed foreign specialists to establish new industries. Thus, they absorbed sufficient western entrepreneurial skills to profoundly influence the economy at all levels. Encouragement came from the Meiji Government which granted profitable government contracts to new industrial enterprises. Merchant-entrepreneurs recognized the commercial opportunities which arose from their connections with government. They became known as *seisho* (political merchants).

Among *seisho* were Shibusawa Eiichi, the foremost promoter of joint-stock companies in Japan. He established more than 500 enterprises. Yamabe Takeo set up a large-scale cotton textile factory in Osaka which used steam power for the first time. Ishikawa Masatatsu established the Sakai Cotton Spinning Mill. Oshima Takato built a western-type blast furnace in Kamashi. Nakagawa Toranosuke integrated sugar cane cultivation and sugar refining [Horie, 1965]. Four most powerful industrial enterprises – Mitsubishi, Mitsui, Sumitomo, and Yasuda – established the *zaibatsu* (financial cliques) and dominated the Japanese economy. They engaged not only in industrial activities, but also in banking, insurance, shipping, and investment. The *zaibatsu* became so powerful that it eventually influenced national economic policy [Sumiya and Taira, 1979].

The achievements of Meiji merchant-entrepreneurs marked a decisive break with the past. Chinese merchants, by contrast, did not burst the shackles of the absolutist state. There was no similar entrepreneurial development in China during the mid-19th century because there was no equivalent of the 'merchantdemocracy' which emerged in Japan. The absence of 'merchantdemocracy' in China not only accounted for the lack of private funds for capitalist development, but inevitably played a significant role in shaping the organizational culture of the enterprise in the 19th century. Under the shadow of traditionalism, the organizational culture of the merchant class in China was illsuited to modernization. Auyeung's [2000] study of several large Chinese companies in this period reveals the existence of a strong connection between organizational culture and the accounting system in use. Changes from the indigenous accounting systems to forms of modern western accounting would be substantively irrational within the traditionalism which characterized Chinese organizational culture at that time.

In mid-19th century China, there were in effect two types of instruments: those fundamental to the maintenance of the state, and those which served no purpose. The reason for this separation was that while it was rational to, for example, resist foreign invasion, it was irrational to change anything else. To resist a foreign power so as to maintain the system of bureaucratic feudalism and traditional culture was ti ('substance', 'essence'). The modern science, technology and machinery needed to build military and military-related industries were yung ('instruments', 'utility') which served that purpose. In order to raise capital through public subscriptions to build these industries, China imported the joint-stock format. However, as modern western accounting had no perceived use in system maintenance it was disregarded. Replacing traditional accounting would amount to a direct challenge to the substantive rationality of ti by the formal rationality of yung. Chinese enterprises operated in a political, economic, and socio-cultural context where, in the name of system maintenance, capitalist industrialization and western accounting techniques were repressed. In Japan, by contrast, capitalistic behavior was ti and accounting change was substantively rational.

Narrow-Based versus Broad-Based Learning: Society and culture in imperial China were dominated by Confucianism, a system of political philosophy and ethics founded by the sage Confucius in the 6th century B.C. Confucianism focused on the correct principles of good government and of human relationships, and the application of these principles to promote social harmony and stability. Confucianism was essentially conservative and backward looking; its followers desired little change, nor could they conceive of change as beneficial. By requiring a thorough literary study and complete acceptance of Confucian classics, the state indoctrinated all potential officials with traditional norms and discouraged their receptivity to alternative ideas. The strict adherence to Confucian teaching, which was required for promotion and upward mobility within the bureaucracy, also contributed to political integration. As long as this arrangement prevailed, the cultural elite of imperial China was not motivated to embrace western concepts.

By contrast, modernization proceeded more rapidly in Japan because "knowledge of the West, and particularly its technology, was more advanced in Japan than elsewhere almost

from the beginning of Western intercourse" [Smith, 1955, p. 12]. During the Tokugawa period, Japan had five major types of schools, each with different functions and aims. Although higher education was characterized by the memorization of Chinese classics, modern subjects were also taught. Dutch studies in particular were widespread. Some schools in the early 19th century had wide curricula, including geography, physics, metallurgy and European languages. Experiments in cotton spinning, sugar refining, and the plating of metals were conducted in school laboratories [Dore, 1965]. According to Dore [1965], there were three characteristics in the traditional Japanese education that paved the way for the eventual adoption of western ideas. Firstly, the education system allowed a positive attitude towards acquiring new knowledge and instilled the notion of national improvement. Secondly, the content of formal education moved beyond the ambit of Chinese learning. Thirdly, the spread of education made the concept of universal elementary education acceptable.

Although both China and Japan had a Confucian tradition, the Meiji Restoration of 1868 abolished Confucian teaching establishments in Japan. While learning in China was a means of upward mobility for the imperial bureaucracy, learning in Japan could be utilized by people outside the ruling elite and for purposes other than socio-political. These fundamental differences towards knowledge and learning partly explain why Japan was receptive to modern entrepreneurial and accounting practices while China retained traditional methods of conducting business.

Cultural inertia in China was particularly unfavorable to the adoption of western accounting techniques for another reason. Progress would involve a change of writing instruments, ways of writing words and numerals, and methods of calculation. Instead of Chinese brushes, locally produced paper and Chinese numerals, (which were symbols of Chinese culture), pen and ink, imported paper and Hindu-Indian numerals, would have to be used. More importantly, the custom of writing vertically in Chinese calligraphy would be replaced by horizontal writing. The determination to preserve Chinese calligraphy can be seen in a letter by Li Hongzhang, an enlightened Qing official, to the governor of Jiangxi in February 1875:

That the eight-legged essays and the small regular-style calligraphy are of no value to current affairs; this is what we already know... Recently, many plans have been proposed regarding the adjustment of the exami-

nation system; they have all been rejected by the Board [in Peking]. I have merely made the initial proposal; it is up to those in power to wake up [lit., to examine themselves forcefully] and to choose a policy. To those who continue to be blind and would not be enlightened, I have already spoken - there is no point in refuting them [Liu, 1994, p. 12].

The fact that calligraphy was supported by the powerful state bureaucracy meant that it was unlikely to be discarded. Similarly, the indispensable role of the abacus was protected in China. Accustomed to learning from China and even from India and Korea, the Japanese, on the other hand, had no such sense of cultural superiority. Rather, they assumed an uneasy fear of inferiority. It was easier for the Japanese to accept western horizontal writing and Hindu-Indian numerals and discard the traditional vertical writing and Japanese numerals represented by Chinese characters. Hence, horizontal writing was introduced by early Japanese accounting textbooks, as in, for example, Ginko Boki Seiho (Bank Bookkeeping) written in 1873 and Waoo Chomen Kurabe (Japanese and Western Bookkeeping Compared) in 1878. Hindu-Indian numerals were also used in Japanese bookkeeping texts, such as Shovo Bokiho Shoho (Theoretical Training in the Science of Accounting), written in 1877, Nichiyo Bokiho (Practical Bookkeeping) in 1878, and Bokigaku Seiri (Theory of Science of Bookkeeping) in 1879. Moreover, when the government mint in Osaka started to adopt the English bookkeeping system in 1871, western horizontal writing and Hindu-Indian numerals were introduced. The use of Hindu-Indian numerals thereafter became widespread and was adopted by the government for the entire official bookkeeping system in 1876.

CONCLUSIONS

Chinese philosophy was introspective and mainly ethical; its academic scope was officially restricted and a traditionalist ideology discouraged creativity and innovation. Moreover, at the height of its power and prosperity, China had no need to contemplate change towards western concepts and practices. The country had a stable social structure, a powerful central government and no political opposition. For many centuries China embraced bureaucratic feudalism supported by a unified system of ideological control. This structure had a built-in quality of stability, it was resistant to change and it did not tolerate creative

and unorthodox thinking. Anti-mercantile values and structures inhibited the growth of the commercial class, capitalist enterprise and western accounting techniques.

While Japan responded rapidly to western influences, these barriers to assimilation remained entrenched in China during the 19th century. The same powerful system of bureaucratic rule and ideological control prevailed. Western learning could not penetrate this changeless order. In the mid-19th century the encroachment by foreign powers with their superior scientific knowledge made little impact on China's socio-political institutions. Only in the field of military technology was there a response. Chinese enterprises that operated within this institutional framework were unlikely to adopt modern western accounting.

In Japan there was no institutionalized anti-capitalist doctrine to stifle the rise of industrialism and the techniques associated with it. Industrial enterprises of the mid-19th century benefited from the mentality established under Japanese feudalism. This encouraged receptivity to modern practices from foreign sources such as the accounting applied by corporations in the industrializing west.

Subsequent to the developments reported in this paper China cut loose from the inhibiting traditionalist framework when the Qing Dynasty fell in 1911. The country began to modernize as part of a new cultural renaissance, particularly following the May Four Movement in 1919. Radical reformists actively adopted western accounting. Despite this change accounting development in China lagged behind Japan. After World War II both countries rebuilt their economies and again embarked on very different paths. While China became a centrally controlled communist regime in 1949 and developed its fund-based accounting system for a closed-door economy, Japan broke up the *zaibatsu* conglomerates, adopted a policy of economic democracy, and developed an accounting system along the American model. These developments offer fruitful subjects of future enquiry in comparative international accounting history.

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