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To cite this article: Pak Auyeung & Paul Ivory (2003) A Weberian model applied to the study of accounting stagnation in late Qing China, *Accounting, Business & Financial History*, 13:1, 5-26, DOI: [10.1080/09585200210164566b](https://doi.org/10.1080/09585200210164566b)

To link to this article: <http://dx.doi.org/10.1080/09585200210164566b>



Published online: 06 Dec 2010.



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A Weberian model applied to the study of accounting stagnation in late Qing China

Pak K. Auyeung and Paul Ivory

Abstract

The industrialization and commercial expansion that China experienced following foreign intrusion, in 1840, necessitated the modernization of its accounting, but its accounting technology continued to stagnate for more than half a century. Weber's socio-historical model provides a framework for posing the question why indigenous accounting systems persisted even though superior western bookkeeping techniques were available. Weber's framework for the study of the relations of accounting to organizations and society may be divided into two analytic layers: structural conditions of accounting and the historical dynamic arising from the tensions between formal and substantive rationalities. All structural conditions specified in his first analytic layer as necessary for capital accounting were basically satisfied in Qing China. The second layer of Weber's framework is ideational. Rationality is the key concept in Weber's work. Replacing traditional accounting amounted to a direct challenge to substantive rationality of *ti* ('substance', 'essence') by the formal rationality of *yung* ('instruments', 'utility').

Keywords: Weber; accounting history; Qing; China

Introduction

This study is concerned with enhancing our understanding of how changes in the accounting practice of China were inter-connected with political, economic and sociocultural change. China's modern industrialization, beginning after the foreign

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intrusion in 1840, created an exigent functional need for the modernization of accounting, but nevertheless a prolonged period of accounting stagnation ensued. Not until after the 1911 Revolution did western accounting methodology take root in China and accounting modernization begin. The central thrust of this study is to interpret this period of stagnation as a case study of how contradictions operating in the socio-cultural sphere can inhibit accounting development. These insights can in turn shed light on how similar processes operated elsewhere in the world.

The process of social evolution/revolution that created the modern industrial world out of the agrarian society of medieval Europe was a central problem for the classical sociologists, from Comte to Marx and Weber. Although all were concerned with the question of the degree of generality that could be attached to the European case, Weber alone sought to test his own treatment of the western case through detailed comparative studies of the Indian and Chinese social and philosophical traditions. Like Marx he realized that the intellectual – cultural and material – economic changes whereby capitalism differentiated itself from its ‘feudal’ matrix were ‘dialectical’ in nature. That is, they did not consist of a gradual accumulation of insensibly small changes but were rather a sharp break with the past achieved through intense social conflict and necessitating the articulation of a distinctively new ‘spirit’ (*Geist*: mentality or mindset). For western capitalism, Weber argued, the characteristic ‘spirit’ was one that exalted the instrumental (‘formal’) rationality of ‘means’ over the concrete, culturally and politically specific (‘substantive’) rationality of ‘ends’. For Weber double-entry accounting played a starring role in this process because it was the most perfect, crystal-clear expression of this ‘spirit’. Accordingly, the emergence of capital accounting evidenced the breakdown of the high medieval European intellectual/social consensus. At the ideological level it challenged some fundamental premises of that consensus; at the practical level it enhanced both the economic efficiency and the social claims of the emergent bourgeoisie *vis a vis* their clerical – aristocratic rivals. The subsequent revolutionary political upheavals beginning in the sixteenth century were in effect the unfolding of a conflict between these two ‘spirits’.

Weber’s socio-historical model provides a framework for the study of the relations of accounting to organizations and society. The question asked in this study is whether this model can be usefully deployed to explain the accounting stagnation between 1840–1911. That is, the Chinese case in fact suggests that, for all the manifest differences between China and Europe, both *ancients regimes* were entirely accurate in seeing the open-ended instrumental rationality of modern accounting systems as fundamentally subversive of the traditional social orders. Although historical analysis cannot, of course, predict future developments, it can nevertheless facilitate a better understanding of the social dynamics behind the painful, halting improvisations in accounting that preceded China’s eventual wholesale introduction of western models.

This study focuses on the seventy-year period from the first Opium War in 1840 to 1911. This period was chosen because the quite revolutionary changes that took place in the political, economic and socio-cultural environments created strong pressures to search for new managerial, and hence accounting paradigms.

Moreover, these changes were of such magnitude and operated over so long a time that the persistent stagnation of accounting technology virtually demands explanation.

Weber's socio-historical model

In *Economy and Society* (1968a), Weber, having first specified rational capital accounting as a distinguishing feature of modern capitalism, goes on to show how deeply it was implicated in the cultural and institutional instability incident to the rise of European capitalism. Weber's framework for studying the relations of accounting to organizations and society implies two distinct layers of analysis: (1) the structural conditions of accounting, i.e. the basic institutional features necessary for the development of capitalism and corporate enterprises complex enough to require sophisticated accounting practices, and (2) the historical dynamic generated by the tensions between formal and substantive rationalities.

Structural conditions of accounting

An important feature of the Weberian framework is that it problematizes the relationships among accounting itself, organizations using it and the larger society (Meyer, 1986; Hopwood, 1987; Miller and O'Leary, 1987). Weber focuses on two interdependent elements which shaped the unique development of capitalism in the West: its use of money, and the presence of societal conditions that facilitated its accumulation and use (Weber, 1947).

For Weber, money promoted capitalism by providing a common denominator, or metric, that facilitated the calculation of the economic significance of exchange (Weber, 1947; Weber, 1961). His *General Economic History* (1961) argues that the use of accounting as a calculus for the provision of daily needs is a basic criterion for identifying the presence of capitalism. The profit-making capitalist enterprise is described by him as one 'which is rationally oriented to capital accounting with the goal of increasing the monetary resources at the command of the enterprise' (Weber, 1947: 51). Capitalism, the economic enterprise, and capital accounting thus form an inseparable trinity, with rational capital accounting as an indispensable tool for the enterprises that supply everyday wants to estimate rationally the profitability of their economic actions.

In *General Economic History* (1961), Weber specifies six social structural conditions that had to be satisfied before western enterprises could make rational capital accounting calculations. First, all the physical means of production, such as land, buildings, machinery, tools, etc., had to be appropriable as disposable property by autonomous private industrial enterprises. Second, markets had to be free of arbitrary limitations on trading. Third, technology had to be applied rationally to the production, marketing, and preparation of goods. Fourth, a legal system had to operate under a calculable legal code and to provide predictable and enforceable adjudication that private industrial enterprises could depend upon. Fifth, workers

had to be legally free to change their employment in response to demand for their labour. Sixth, economic life had to be fully commercialized. These structural features are not additive but interactive (Collins, 1986), co-evolving to produce not only the modern capitalistic marketplace, but simultaneously to make rational capital accounting not just possible but indispensable.

Historical dynamics

The second layer of Weber's analysis develops his dynamic notion of rationalization which postulates two distinct forms of 'rationality' that underlie economic actions: *formal rationality and substantive rationality* (Roth, 1979; Colignon and Covaleski, 1991). The role of this dichotomy is to focus attention on the features of a society that at any stage of its history tend either to facilitate or to obstruct the all-round development of rational capitalism, the economic enterprise and rational capital accounting. This layer takes the form of an 'open ended trend analysis' of tensions among ideas and values and serves to extend and complement the list of institutional requirements identified in the first layer.

The *formal rationality* of economic action refers to matters of fact: empirically based knowledge of presumably universal and objective validity. As part of the scientific and technical sphere of life, it is value-neutral (Collins, 1986). It involves calculating one's economic activities so as to exploit all market opportunities for profitable exchange (Brubaker, 1984). As Eisen states:

Economic formal rationality, Weber writes, represents the 'extent of quantitative calculation or accounting which is technically possible and which is actually applied'; it represents the extent to which provision for needs is and can be, expressed in calculable terms, whether this calculation is in money or kind.
(Eisen, 1978: 64)

The role of accounting practices is to quantitatively calculate valuations, verify opportunities and estimate the probabilities of outcomes. Formal rationality is an instrumental form of 'correct calculation'; it is seen purely as a means whose end is money profits. For Weber, capital accounting is the concentrated expression of formal rationality.

The *substantive rationality* of economic actions, on the other hand, is an evaluative judgement based on the relations between the action taken and the needs, ends, or values of *a specific social group* (Brubaker, 1984). The reference point for the substantive rationality of an act is, accordingly, determined by the degree to which it 'is shaped under some criterion of values, whether this is ethical, political, utilitarian, hedonistic, feudal, egalitarian, or whatever' (Eisen, 1978: 64). In short, an economic action is substantively rational provided it is consistent with the values or ends of a specific social group (Brubaker, 1984; Collins, 1986). In Weber's words, substantive rationality:

is the degree to which a given group of persons, no matter how it is delimited, is or could be adequately provided with goods and by means of an economically

oriented course of social action. This course of action will be interpreted in terms of a given set of ultimate values no matter what they may be.
(Weber, 1947: 185)

The formal rationality–substantive rationality distinction corresponds to those between means and ends or between form and content. Since the pursuit of formal rationality can therefore generate conflicts with the prevailing values of social groups, it can only succeed when institutional conditions allow it to defeat or to win over the groups in society who are attached to pre-capitalist or anti-capitalist versions of substantive rationality (Weber, 1947). Tensions between the rival demands of formal and substantive rationality thus replace inter-class tension *à la* Karl Marx as ‘one of the most important sources of all social problems’ (Weber, 1968a: 111).

This framework has obvious implications for the historical role of accounting. Since accounting procedures embody the profit maximizing ‘spirit’ of capitalist enterprise in a particularly pure form, the use of formally rational accounting practices dramatises any conflicts with the substantive rationality of social groups. By embodying the mentality of formal rationality, accounting can become a focal point of the tensions between the capitalist enterprise and groups whose different interests point towards different substantive rationalities. Weber, who is aware that his model of social change is heavily based on the European case, attempts to check it against the parallel case of China (Weber, 1968b). This study aims to carry Weber’s project forward and put it to the test by seeing whether the development of accounting technology in China after 1840 can best be read in terms of tensions between formal rationality and substantive rationality.

Chinese accounting systems before 1840

As of 1840 three account books for centuries had formed the basic structure of the Chinese accounting system: the *caoliu* (memorandum), *xiliu* (journal) and *zongqing* (ledger). Transactions were first recorded in the *caoliu* sequentially as in a day book, then transferred to the *xiliu* and finally posted to the *zongqing*. The final task was the preparation of an accounting report. Because transactions were first recorded in the *caoliu* in rough handwriting as they occurred, it became a rough record for memorandum purpose. Entries were transferred at the close of the day from the *caoliu* to the *xiliu* in which they were properly rewritten in tidier handwriting and classified.

The standard Chinese practice was to write characters in vertical columns from top to bottom, beginning from the right-hand side of the page. Account books were prepared according to these rules. A peculiarity of accounting in the Ming–Qing period (1368–1911) was the parallel use of three different kinds of numerals: the *caoma* numerals (the commercial forms), *hanti* numerals (the standard forms) and *kuaiji ti* numerals (the accounting forms), which were used in the memorandum, journal and ledger respectively. The *kuaiji ti* numerals were elaborate characters that could not easily be altered and so were used to record large sums and important items, such as those that featured in banking. A sum written in Chinese

numerals might be considered as similar to an amount written in words in the West, except that the former were vertically instead of horizontally presented. Since the recording of Chinese numerals did not follow the positional notation principle, the same rank-value numbers, such as ten, hundred and thousand, were often out of alignment, thus making computations very difficult if not impossible. To overcome this problem the Chinese had to make their computations on the abacus.

The *shizhufa* ('four-pillar balancing method'), the *sanjiao zhang* ('three-leg bookkeeping'), the *longmen zhang* ('dragon-gate bookkeeping') and the *shijiao zhang* ('four-leg bookkeeping') were typically traditional accounting methodologies found in Qing China. The four-pillar balancing method was a single-entry system that first appeared in the middle of the Tang dynasty. It consisted of four basic categories, which can be expressed in the following equation:

$$J + X - K = S$$

where

J = *Jinguang* (balance brought forward from the previous period)

X = *Xinshou* (new receipts of the current period)

K = *Kaichu* (disbursements of the current period)

S = *Shizai* (closing balance at the end of the current period)

The four fundamental variables are supposed to resemble the four pillars that support a building. Since the main accounting function at that time was to maximize asset protection rather than profit measurement, calculation of the closing balances of assets was important. As the four-pillar balancing method gained in popularity during the Song (960–1279), Ming (1368–1644) and Qing (1644–1911) dynasties, it became the standard reporting format both for government and non-government accounting (Gamble, 1931; Huang, 1934; Fu, 1968; Finegan, 1978).

The second important accounting innovation in China was the three-leg bookkeeping of the mid-fifteenth century. The distinctive aspect of the three-leg bookkeeping was its focus on three major journals, namely the *huoqing bu* (cash sales and purchases journal), the *yingqing bu* (cash journal) and the *wanlai bu* (personal account and transfer journal). The most original feature of the system lay in its use of double-entry to record the dual effects of transactions involving claims or transfers in the *wanlai bu*. However, recording cash transactions in the *huoqing bu* and the *yingqing bu* still required only a single-entry. This recording system was given the name 'three legs' from its use of double-entry for claims and transfers and single-entry for cash transactions (Ge, 1986; Guo, 1988; Fu, 1989; Zhao, 1992).

The development of dragon-gate bookkeeping from the three-leg bookkeeping was promoted by Fu Shan who lived in Qu County in the Shanxi province during the late Ming and early Qing dynasties (Zhao, 1987). The main feature of this system was its balancing equation:

$$Jin \text{ (Revenues)} - Jiao \text{ (Expenses)} = Cun \text{ (Assets)} - Gai \text{ (Owners' equity and liabilities)}$$

Following the balancing equation, the ledger was classified into four main categories, that is *jin* (revenues), *jiao* (expenditure), *cun* (assets) and *gai* (owners'

equity and liabilities), and all transactions were recorded in the ledger on a double-entry basis. From the ledger, two account reports were prepared, namely the *Jin-Jiao* (Revenue– Expenditure) Report and the *Cun-Gai* (Asset– Equity– Liability) Report. The former determined the profit or loss of the accounting period by comparing total *jin* with total *jiao*, while the latter achieved the same by comparing total *cun* with total *gai*. The profit figures produced by the two sides of the equation should match and this matching process, called *he longmen* (‘closing the embankment’), was important because it simultaneously checked the accuracy of record keeping and produced a specific value for the profits and losses earned during the period (Guo, 1988; Hsu, 1991; Zhao, 1992).

Another significant milestone in the progress of Chinese accounting was the emergence of the four-leg bookkeeping in the eighteenth century. It was a more advanced system because it permitted a broader account classification and better integrated the general ledgers and subsidiary records, making it better suited for dealing with a larger volume of more complicated business transactions (Cheng, 1980; Guo, 1988; Zhao, 1992). Unlike the three-leg bookkeeping, with its mixture of double-entry for claims and transfers and single-entry for cash transactions, the four-leg bookkeeping recorded all transactions, both cash and non-cash, in two corresponding accounts in the journals or ledgers. The end products consisted of two accounting reports: the *caixiang* report (profit and loss statement) and the *cungai* report (balance sheet) (Guo, 1988; Zhao, 1992).

During the Qing dynasty the four-pillar balancing method was used by the majority of commercial firms, regardless of their size. While the three-leg bookkeeping was employed by a minority of small- and medium-sized businesses, the dragon-gate bookkeeping and the four-leg bookkeeping were adopted only by a small number of large-scale firms (Huang, 1934; Guo, 1988).

Chinese accounting systems emerged in an agrarian feudal economy where commercial and handicraft activities had grown up as enclaves within the dominant agrarian order. Bookkeeping was mainly valued as a more effective memory aid rather than a means of determining business profit. Profits and losses were calculated on the cash basis and hence prepayments and accruals were generally not accounted for. There was no clear distinction between capital and revenue expenditures and no attempt was made to allocate capital expenditures to accounting periods by anything resembling the present-day depreciation (Liu, 1930; Guo, 1988). However, the measurement of profit was not given special attention in the typical pre-modern economy. Sole/family proprietorship and partnership were the basic forms of Chinese business organization. Joint-stock companies did not exist. In a family proprietorship, the head of family controlled the entire operation of the business through direct involvement in all operating activities and hence profit measurement as a basis for performance evaluation became far less important. Nor was a formal profit measurement device essential for a partnership. Partners not only had direct control of daily business operations, but also were brought together through regional and kinship ties. The traditional reliance on personal trust limited the need for financial reporting. It should also be recognized that, in pre-industrial China, economic growth was achieved by quantitative expansion rather than qualitative advancement, which required capital-intensive investment. It follows

that the special accounting treatment for capital expenditure and the calculation of depreciation did not attract much attention. It seems that the indigenous Chinese bookkeeping methods were adequate for the essentially pre-industrial but commercially sophisticated economy (Gardella, 1982).

Early industrialization and commercial development

After the Manchu government was forced to open the country to the outside world in 1840, the rest of the nineteenth century was marked by unprecedented commercial and industrial growth. Qing industrialization after 1840 falls into two periods – a period of gradual growth that lasted until 1895, followed by a period of more rapid expansion after the Sino-Japanese War in 1894. During the first period, the Qing government was convinced of the supremacy of western weaponry and therefore focused on developing its military industries under the *kuantu shangpan* (official supervision and merchant management) system. When the Chinese leaders realized that military industries required auxiliary infrastructure, the first modern mine, the Kaiping Coal Mines, was established in 1877 and the first Chinese steamship company, the China Merchants' Steam Navigation Company, in 1873. The telegraph came to Tianjin in 1878 and the railroad in 1881, followed by the telephone in Shanghai. In keeping with the Manchu policy of 'self-strengthening', all of the early enterprises were closely based upon military needs. To the Qing officials, western learning and technology were described as 'herbs that cure the symptoms' or 'dikes that dam the floods'. Although indispensable, western learning was not fundamental. They advocated Chinese learning for *ti* ('substance', 'essence') and western learning for *yung* ('instruments', 'utility').

In the second period, both the literati elite and merchants were aware that military modernization could not by itself stop China's decline and that active government promotion of the consumer industry and greater response from the populace were necessary to resist foreign pressure and protect the stability of the social order. Although the new ministries that were established accomplished little because of insufficient funding, many influential officials became active as business promoters investing their own money instead of government funds. Private entrepreneurs invested their accumulated capital in consumer goods production as well as in capital goods industries. Well-known enterprises in the textile industry included the Heng Feng Textile Factory, the Yu Yuan Textile Factory, Yu Pu Textile Factory, and Da Chun Textile Factory. In addition, the Yuan Chang Machinery and Metal Factory accumulated a capital of about 100,000 yuan. During the period 1895–1911, another 649 Chinese firms began using modern machinery, with their total investment amounting to about 120 million yuan (Chen, 1961). Such industrialization was achieved by the private sector with little assistance from the government, and was confined to the treaty ports and their environs.

In the late-nineteenth century, privately owned joint-stock companies were established and increased in number. In 1908, the records of the Ministry of Agriculture, Industry and Commerce showed that 227 joint-stock companies had

registered under the provisions of the Company Law of 1904 with a total authorized capital of some 97 million taels (Feuerwerker, 1958).

Accounting initiatives and accounting inertia to 1911

As a result of massive changes in the nature, scale and sophistication of economic activities, the traditional Chinese bookkeeping methodology which had, by and large, been adequate for the slower moving pre-open door environment, came under serious challenge. As enterprises grew, however, they reached the point where they could no longer be efficiently managed using traditional methods; more competent and adaptable managerial tools became necessary. In particular, the formation of joint-stock companies, which separated ownership and management, increased the demand by absentee investors for accounting information. The established method of accounting in China could not satisfactorily measure profits for financial reporting purposes. The growth of international trade required financial institutions to ensure payment, take deposits and provide credit. It also required promissory notes which were not simply orders for payment, but also instruments of credit.

In some modern industries, such as communication and natural resources, investments in expensive machinery increased and reached a level where the investments would require special accounting treatment. Traditional methods had not been designed with capital accounting in mind and when faced with this major conceptual challenge proved unable to adapt. Further, Chinese numerals, especially the accounting form, were slow to write and difficult to add up without the use of the abacus. This tool, however, only provided a final result of a complex calculation, unlike pen and paper, which recorded all the steps for later verification. Although the concept of double-entry bookkeeping could be found in the four-leg bookkeeping method, the invention did not affect China profoundly. Its dissemination was so limited that its existence was hardly known over large part of the country. Its limited use can be evidenced by the following observation in 1928 made by a foreigner, Friedrich Otte, who served as the District Accountant in the Chinese Customs and Postal Services and a professor in National Beijing University: It appears that double entry bookkeeping was not known at any time in any part of China (Otte, 1928: 169). A similar extraordinary paradox arises in certain important Chinese scientific inventions, in particular printing, gunpowder and the magnet. While these inventions changed the face of the West, they had not produced similar unprecedented effects on China.

In the eighteenth century large changes in production methods were brought about by new technologies and resulted in the emergence of an industrial revolution in Britain that was the first of several similar movements in this period in some other European countries (collectively called the Industrial Revolution). After the Industrial Revolution, businessmen in Europe developed sophisticated banking, transportation and insurance services, as well as their own specific managerial and accounting skills. According to Biggerstaff (1966), when China was forced to open its door to foreign powers in the nineteenth century, western merchants came with these skills and used them in their firms and in the Customs administration and

railway undertakings controlled by foreign powers. Because of their shallow knowledge of the domestic market, foreign merchants had to rely on Chinese compradores who were salaried employees or independent agents of foreign firms. Modern entrepreneurial and accounting skills were thus exposed to the new Chinese bourgeoisie. The superiority of western bookkeeping was evident in many areas. It provided a better means of measuring profits, ensuring accuracy and checking for errors, thus making accounting records more reliable. Weber (1961) assigned to western double-entry bookkeeping a prominent role in the history of capitalism. Although his assertion was challenged by Yamey (1949), the contribution of double-entry accounting to the development and rise of modern capitalism could not be brushed aside. Nevertheless, in spite of the massive changes in economic activities in China, businessmen's fundamental way of viewing the world had not changed. Chinese businesses did not adopt western bookkeeping and indigenous accounting procedures remained in use up to the beginning of the twentieth century, even by large-scale commercial and industrial firms (Hsu, 1991).

Following China's defeat in the 1894 Sino-Japanese War, the Chinese government was fully aware of the importance of national wealth and decided to restructure itself to facilitate the development of modern industry. The quest for modernization was evident in its attempts to create a new commercial law system. The Qing regime recruited Chinese law graduates from overseas and set up the Commercial Law office in 1903. From 1904 to 1907 a formal legal code for commerce and industry was enacted, including the General Rules for Merchants, the Company Law, and laws on chambers of commerce, company registration, bankruptcy, patent rights, government awards and newspaper publications.

Liu (1936), Lu (1939), Li (1958) and Guo (1988) give a comprehensive account of China's early efforts to modernize its accounting system. The modernization programme planned to assimilate western bookkeeping techniques through newly established education institutions, the publication of textbooks and the application of these techniques to enterprises in the public and private sectors. In order to prepare China to resist foreign powers in 'commercial and industrial warfare', Sheng Xuanhuai, a powerful Qing official, made use of the funds from the China Merchants' Steam Navigation Company and the Imperial Telegraphy Administration to sponsor the establishment of the Nanyang Advanced Commercial School in 1897. Sheng's educational efforts were, however, interrupted due to the shortage of funding and the school was closed in 1903. It was re-opened in 1905 under the sponsorship of the Ministry of Commerce and re-named the Advanced Industrial School. In the private sector, the Nanjing General Chamber of Commerce promoted the establishment of the Nanjing Intermediate Commercial School in 1905 to foster modern commercial education. In addition, accounting was recognized as an academic discipline at the university level when a new national university prospectus was officially announced in 1902.

Efforts were made to assimilate western bookkeeping through the publication of accounting texts. The *Lianwan Zhangpu* (Double-Entry Bookkeeping Methodology), was the first Chinese text that described modern accounting techniques. It was written by Cai Xiyong, a graduate from an early imperial university called Tongwen Guan. Cai had acquired considerable international exposure

through years of service in the Chinese embassies overseas and later worked under Zhang Zhidong, an influential Qing official, as a manager of foreign business and modern enterprise promoter. His book, published posthumously by his son in 1905, attempted to combine the simplicity of the indigenous bookkeeping system with the efficiency of the western accounting methodology to suit the needs of the Chinese business community. 'Debit' was translated as *cufu* and 'credit' as *gaishou* to make western double-entry concepts more easily understood by local businessmen (Guo, 1988; Li 1992; Chen, 1993).

Bookkeeping for Banks was the second Chinese textbook detailing western bookkeeping. It was written by Xie Lian and Man Shen and published in April, 1907. Both authors graduated from the Meiji University in Japan. While Xie Lian was awarded a bachelor's degree in commerce and also a Chinese *ju ren* degree in business, Man Shen had a degree in history and specialized in the history of the Qing dynasty. Xie argued that the banking sector that served other sectors of the business community should pioneer accounting reform. Their book introduced modern accounting concepts and terminology and adopted western double-entry procedures, in particular replacing '*shou*' (receive) and '*fu*' (pay) used in the indigenous bookkeeping system with 'debit' and 'credit' as accounting symbols. The third book, the *Collected Studies on Railway*, that suggested an improved railway accounting system, was compiled by the Hunan Railway Publishing Committee and published in Tokyo in August, 1907. Two other Chinese books that described western accounting were written by Sun Dequan and published in 1909. They were the *Draft Study on Financial Management* and the *Draft on Banking Principles*. In spite of the early efforts to improve the traditional system, the first five books could not provoke immediate reaction because China's tradition-oriented society tended to resist rather than accept foreign civilization.

During the last decade of the Qing regime, efforts were made to apply western bookkeeping to banks, imperial-controlled enterprises and government organizations. The Bank of the Board of Revenue (later known as the Great Qing Bank) recruited in its workforce many Chinese who were educated abroad and relied upon them to initiate bookkeeping reform. Some progress was made, notably in the use of western cross-referencing, pre-printed standard forms and many subsidiary records. Further, source documents were kept for subsequent verification. However, the basic indigenous accounting system maintained intact. It was not until 1909, when Xie Lian was appointed the chief accountant of the Great Qing Bank and the Bank of Communications, that an ambitious attempt to modernizing the accounting system of banks was made. Xie used his own textbook and the Japanese system adapted from western models as the prototype. Apart from improving the organization of account books and cash recording procedures, a notable reform was the recognition of the distinction between revenue and capital expenditures and the calculation of net profits after taking account of depreciation on fixed assets at the rate of 10 to 30 per cent. His accounting innovation, nevertheless, was hampered by the 1911 revolution.

From the middle of the nineteenth century onwards, the encroachment of the West, domestic rebellions, the construction of armament and military-support industries significantly eroded the government's financial resources, resulting in the need to raise loans from foreign powers. According to Tang and Shen (1989), from

1894 to 1898 the Qing Government borrowed a total of 341.8 million taels from Britain, Germany, Russia and France, and a significant proportion of the loans was invested in the development of modern communications. Since the building of the communication infrastructure relied on loans from different foreign countries, the state-controlled enterprises using these funds had to prepare their financial reports in different formats according to the contents and classifications required by various fund providers. Moreover, the lack of efficiency in the government's organizational structure made it difficult to standardize the reporting formats of these enterprises. An improvement in their financial reporting did not occur until 1906 when the government grouped the administration of communication industries in four principal divisions (railroads, shipping, telegraphs and the post) under the control of a newly established Ministry of Posts and Communications. The centralization of control under one single authority facilitated the standardization of accounting methods for state-controlled enterprises engaged in communications.

Traditionally, the Qing government had always used the four-pillar reporting format. However, significant accounting reform was introduced in the government sector when the Ministry of Revenue was replaced by the Ministry of Finance and Expenditure in 1906. The new ministry comprised ten departments – agricultural revenues, treasury, transportation of grains, storage, audit, taxation, accounting, management of expenditure, official salaries and military funds. The Ministry of Finance and Expenditure promulgated thirty-five regulations on fiscal administration in 1906 and a new budget format based on western practices in the form of twenty-one rules and regulations in 1910. The three-year government budget prepared in 1910 and the four-year budget in 1911 were prepared in accordance with the new format (Wu, 1920).

Thus, the 'buds' of accounting modernization appeared in the last ten years of the Qing monarchy, but Chinese merchants and entrepreneurs did not immediately take advantage of the superior foreign accounting system and the rate of its assimilation was very slow. The modernization attempts described above failed to change the trend of the development of Chinese accounting. In other words Chinese accounting became stagnated. During the period of stagnation, the pre-1840 paradigm remained in use.

Reasons for accounting stagnation

Can Weber's system explain why indigenous accounting systems persisted in spite of a pressing need to adopt the superior western bookkeeping techniques that were then accessible? As shown above, all six structural conditions specified in his first analytic layer as necessary for capital accounting were basically satisfied in Qing China, namely the appropriation of all physical means of production, freedom of the market, rational technology, calculable law, free labour and commercialization of economic life. No insuperable obstacle here prevented the rise of capitalism and capital accounting. The Qing economy was by and large a *laissez faire* economy. Management could make rational decisions on the acquisition, disposal and use of the physical means of production, such as land, buildings,

machinery, equipment and tools, and there were virtually no limitations on trading in commodity markets. A segment of the industrial sector, particularly in the treaty ports and their environs, had begun to employ rational technology in the second half of the nineteenth century. Capital accounting also requires law that is calculable and enforceable, that is administered predictably and that applies to all persons. Thus the *Da Qing Lu Li* (Great Qing Code) formed the formal legal system of the Chinese dynasty. In his study of the Great Qing Code, Jones concludes:

It [the Code] has a structure that is obviously the product of a great deal of thought. It is tightly arranged. The rules themselves show much refinement ... it is in part a collection of rules that deal with particular fact situations, sometimes in great detail. Nevertheless, it is not just a compendium of rules. The rules themselves have been refined and harmonised to a considerable degree. General principles have been factored out. It is, in other words, a true code, and as such can be taken to represent the considered view of some of China's leading jurists.
(Jones, 1994: 3)

Weber requires a stratum of the population 'who in the formal sense voluntarily, but actually under the compulsion of the whip of hunger offer' to sell their labour services to live (Weber, 1961: 209). In China, most workers were both formally and legally free and able to sell their labour on the market without restrictions. By the commercialization of economic life, Weber means the general use of commercial instruments and the moment when property takes on the form of negotiable paper. China had already experienced considerable growth in its banking sector and the use of negotiable instruments was widespread after 1840. Also, trading in shares of joint-stock companies started in 1890.

Weber's *Religion of China* (1968b) lists the favourable conditions for the development of capitalism: the absence of status restriction by birth, free migration, free choice of occupation, the absence of compulsory schooling and military service and the absence of legal restraint on usury and trade. We can conclude that most of the structural conditions conducive to the rational use of capital accounting existed in China.

The second layer of Weber's framework is ideational. Rationality is the key concept in Weber's work (Schluchter, 1979; Casanova, 1984; Collins, 1986), but it is framed by him to yield a conflicted and paradoxical relationship of two major forms of economic action: formal and substantive rationality. Formal rationality, as noted above, is considered value neutral and refers to matters of fact and to a scientific-technical sphere of life (Schluchter, 1979; Brubaker, 1984; Collins, 1986). Substantive rationality, on the other hand, is an evaluative concept denoting 'the degree to which an economic system (capitalist markets, rational enterprises, accounting) provides for the needs or values of a specific social group' (Brubaker, 1984). The conflict between formal and substantive rationality is related to accounting by Weber through his discussion of economic action. He contends that formal rationality represents 'the extent of quantitative calculation or accounting which is technically possible' (Weber, 1947: 184) and that substantive rationality represents an action which 'will be interpreted in terms of a given set of ultimate values no matter what they may be' (Weber, 1947: 185).

The post-1840 Qing period was distinguished by the reluctant Chinese acceptance of western superiority. Half a century of western expansion forced traditional Chinese ideology to undergo a searching self-examination and re-evaluation in an attempt to re-integrate the country. Reformers were guided by two popular slogans: 'Chinese culture is spiritual; western culture is material,' and 'Chinese culture as the base; western culture as for practical use.' This line of thinking was used to justify the so-called Self-Strengthening Movement from 1861 to 1895 whose explicit aims were to preserve traditional institutions and values and to prevent foreign occupation through military modernization. Thus, the deep-rooted intellectual institution remained undisturbed. Harmony was to remain as the essential core of Chinese ideology in order to maintain a stable and tradition-oriented society in China before the turn of the twentieth century (Li, 1967; Fairbank and Teng, 1968). This traditional value system, however, was ineffective in promoting radical change. As Bellah (1970: 188) puts it, 'China was characterised by the primacy of integrative values and was more concerned with system maintenance than with goal-attainment or adaptation, with solidarity rather than wealth'. It saw the problem of system maintenance:

in terms of a determinate set of human relations that only needed to be kept in a state of mutual adjustment for a harmonious and balanced social system to result. An adjusted equilibrium is indeed the ideal of Chinese society.

(Bellah, 1970: 189)

The recruitment system for officials, for example, was a system-maintenance mechanism against change in society. By requiring a thorough study and complete acceptance of Confucian Classics, the state was able to indoctrinate all potential officials exclusively in a set of traditional norms. The strict adherence to Confucian ideology required for entry into and upward mobility within the bureaucracy hence contributed to political integration (Tsai, 1976). Feuerwerker (1958), Elvin (1973), and Riskin (1975) also emphasize the conservatism and obscurantism of the powerful bureaucratic elite in repressing modernizing initiatives that would have fostered capitalist development. For example, several schemes were proposed to Chinese officials at various levels to build railroads, but the response was always negative. Sir Robert Hart, Inspector-General of the Imperial Maritime Customs, commented thus on a proposal in 1872 to use the gift, a £60,000 railroad, to the Emperor as 'the thin entering wedge':

Beijing is the last place in China to select for the introduction of novelties, and the central government is the last authority to ask for support of any kind. ... To come to the government first and to ask for its written permission to do anything, is simply to elicit an answer in the negative and to weigh a scheme at the very start with an official prohibition.

(Fairbank *et al.*, 1975: 276)

Weber contends in his *Religion of China* (1968b) that China's failure to develop a rational bourgeois capitalism was due to the absence of a 'particular mentality' for the needed motivation. This argument was intended to support his *The Protestant Ethic and the Spirit of Capitalism* (1958), which treated the Protestant

ethic as an independent causal factor in the development of capitalism in the West. The differences Weber saw between Chinese Confucianism and western ascetic Protestantism as summarized by Bendix (1966) are set out in Table 1. Bendix (1966) concludes that Confucianism and Puritanism represent two comprehensive but mutually exclusive types of rationalism and that it was the working out of the pervasive differences in mentality that promoted capitalist development in the West and impeded it in China.

Ye's (1983) socio-cultural analysis emphasizes that the gentry resisted modernization because it would have required the acceptance of the social advancement of the commercial and industrial bourgeoisie, something which the gentry viewed would destabilize the prevailing social contract. Although the bourgeoisie's influence rose towards the close of the nineteenth century, it remained relatively weak compared to the gentry. In contrast to the Mediterranean cultures, businessmen in China did not have the equivalent status of their counterparts in the city-states of Europe. As a result, the Chinese merchant class of the nineteenth century was unable to articulate an independent ideological stance.

The Chinese merchants' lack of cultural and ideological independence from the gentry – imperial consensus that relates to accountancy emerges in the seemingly

Table 1 Weber's comparison of Confucianism and protestantism

<i>Confucianism</i>	<i>Puritanism</i>
Belief in impersonal, cosmic order; tolerance of magic	Belief in supramundane God; rejection of magic
Adjustment to the world to maintain harmony of heaven and earth; the ideal of order	Mastery over the world in unceasing quest for virtue in the eyes of God; the ideal of progressive change
Vigilant self-control for the sake of dignity and self perfection	Vigilant self-control for the sake of controlling man's wicked nature and doing God's will
Absence of prophecy related to inviolability of tradition; man can avoid the wrath of the spirits and be 'good' if he acts properly	Prophecy makes tradition and the world as it is appear wicked; man cannot attain goodness by his own efforts
Familial piety as the principle governing all human relations	Subordination of all human relations to the service of God
Kinship relations as the basis for commercial transactions, voluntary associations, law and public administration	Rational law and agreement as the basis for commercial transactions, voluntary associations, law and public administration
Distrust of all persons outside the extended family	Trust of all persons who are 'brothers in faith'
Wealth as the basis of dignity and self-perfection*	Wealth as a temptation and unintended by-product of a virtuous life

Source: Bendix, R. (1966: 140–1).

* It should be noted that the primary concern of Confucianism was to learn the correct principles of human relationships and to apply these principles to promote harmony in society, rather than on wealth as the basis of dignity and self-perfection. Confucius placed government administration and agriculture above commercial ventures.

mundane issue of the choice of writing materials. Adopting western bookkeeping techniques would have required the replacement of Chinese writing instruments with western ones, involving also the use of imported paper and Hindu–Indian numerals. In the orthodox tradition entry to the literate elite required skill in calligraphy using Chinese brushes and paper. The written characters, which included the numerals, were imbued with mystical significance and as such were all-important markers of Chinese culture. Using pen and ink to write Hindu–Indian numerals on foreign-made paper would have struck nineteenth-century Chinese as a major act of cultural iconoclasm. Weber (1961), whose knowledge of China was at third hand, did not appreciate the centrality of calligraphy in China. For him the failure of ‘rational’ bookkeeping to emerge was because the Chinese system lacked positional notation and had to depend upon the abacus, which hindered tabular reckoning. This was not untrue, but was only part of the story.

Levy (1953) and Weber (1961) suggest that the inhibiting factor came from social institutions, close family, clan or regional ties. Relying on kinship or regional ties is not in itself necessarily detrimental to modernization. In fact, the Scottish agency houses in China – Jardine, Matheson & Company and Butterfield & Swire – both owed their success to similar clan and regional connections. What makes Levy’s and Weber’s contention relevant is that Chinese enterprises, unlike the two Scottish companies, operated within an institutional framework that did not cultivate the spirit of capitalism.

Despite the many shortcomings of traditional accounting, despite the superiority of the western version, despite the modified structural conditions after 1840, traditional forms lingered on for many decades. Replacing traditional accounting would amount to a direct challenge to substantive rationality of *ti* (‘substance’, ‘essence’) by the formal rationality of *yung* (‘instruments’, ‘utility’). Chinese enterprises operated in a political, economic and socio-cultural context where, in the name of ‘harmony’, capitalism was systematically repressed. The gentry – imperial diarchy correctly saw that the impersonal rationalism of bourgeois capitalism was incompatible with its existence. This environment played an important role in shaping the organizational culture of Chinese enterprises. The management style of traditional merchants embraced entrenched accounting practices because their own perceptions of substantive rationality over-rode the dictates of formal rationality as embodied in western accountancy. As King (1969) stresses, in the absence of government support, Chinese merchants had to rely upon their own organizational resources to increase their wealth in a traditional organizational culture that was designed more to resist official depredation than to pursue open-ended modernization.

Conclusions and future outlook

This paper attempts to use the interpretational methodology to examine the accounting stagnation of China in the 1840–1911 period. Weber’s framework which provides a methodological strategy for the socio-historical analysis of the relations between accounting and society has been used. In the above discussion,

the period of seventy years was sufficiently long for changes to occur and to show that Weber's model is consistent with accounting development in China. What Weber's structure cannot explain, however, was why the grip of a past-oriented substantive rationality was so much stronger in China than in Europe. This comparative study may be an interesting area of future research. Admittedly Weber's work provides a useful guideline for situating the analysis of accounting in a larger institutional and cultural context. In particular, the tensions between formal and substantive rationality serve as a basis for examining accounting adaptation as an outcome of socio-cultural processes. This can further be illustrated by recent accounting adaptations in China.

China's pattern of quest for modernization, and hence its effects on accounting development, tends to repeat itself. Since China's defeat in the Japanese war in 1894, the inadequacy of the Self-Strengthening Movement to overcome China's backwardness had become very obvious. At the turn of the twentieth century, the double challenge of domestic rebellion and the frightful prospect of foreign partition of China precipitated a reform movement that began in 1898. The need for an extensive modernization was recognized by the intelligentsia, scholar-officials, the emperor and even the empress dowager, although they could not arrive at a consensus on its nature and scope. Intellectually, there was a fundamental reorientation of the *ti-yung* (Chinese essence-foreign value) dichotomy as a result of the inflow of western ideas. As discussed above, the last decade of the Qing regime saw the rapid promulgation of a stream of commercial laws, which attempted to establish an infrastructure for modernization. As a result of the fundamental reorientation, it was not only formally rational but also substantially rational to introduce western accounting methods and hence the 'buds' of accounting modernization appeared.

In the second half of the twentieth century, China experienced the Communist takeover in 1949, the 'great leap forward', the Sino-Soviet split, the Cultural Revolution, the Sino-American détente, the fall of the Gang of Four and Deng Xiaoping's new order. During the past fifty years of such upheaval and strife, two major distinguishing achievements were Mao Zedong's political revolution that broke down the old order and Deng's economic construction that laid the foundation of a new order, based on economic prosperity. Despite selective progress, China in general remained in a state of poverty and backwardness during Mao's era. Although Mao was aware of China's economic situation and the importance of foreign technology, he feared the effects of modernization on the social and political stability of the Communist regime. Consequently, Maoists advocated the policy of self-reliance and rejected western learning as undesirable. The Gang of Four declared in 1975, 'Politically, wholesale Westernization meant loss of sovereignty and national humiliation, a total sell-out of China's independence and self-determination. ... Ideologically, "wholesale Westernization" was meant to praise what was foreign and belittle what was Chinese' (Hsu, 1995: 813). Thus, the later Qing debate on the issue of *ti* and *yung* reappeared in basically the same form. In this vortex of cross currents, China experienced the power struggle between the progressives and the hard-liners and between the 'old comrades' and the 'new comrades'.

In order to facilitate a Soviet-style centrally planned economy, the Chinese accounting system during the Maoist era was largely a macro-oriented system

with a control focus. Its primary function was to provide financial information on the use of state funds to both the enterprise management and government ministries. Little attention was given to profit measurement and the long-term viability of economic entities.

Pressed with the vital problems of widespread poverty and dire backwardness for thirty years of Communist rule, Deng challenged Mao's political rationality and launched in the post-Mao era the four modernizations and the 'open door policy', based on the adoption of western science and technology. Similar to the last decade of the Qing dynasty, China enacted numerous commercial laws in the early years of Deng's modernization movement, such as the Equity Joint Venture Law, the Foreign Enterprise Law, the Patent Law, the Trade Marks Law, the Corporations Law and various tax laws, and the pace of change accelerated in the 1990s. While the Qing reforms came too late to save the monarchy, Deng's transformation of China to the so-called 'socialist market economy with Chinese characteristics' brought about remarkable success. By 1995, China had become the seventh largest participant in world trade, and foreign investment accounted for 40 per cent of the US\$639 billion invested in 233,564 Chinese enterprises (Dernberger, 1999). Following the diversification of business operations and ownership and the internationalization of economic activities, the 'buds' of accounting modernization based on the western model reappeared. The Accounting Society of China was reorganized in 1980; the Chinese Institute of Certified Public Accountants was established in 1988; and the State Auditing Bureau was set up in 1993. Many accounting standards were issued to harmonize Chinese accounting with international practices, including the Accounting Law in 1985 (revised in 1993), the Accounting Regulations for Joint Ventures Using Chinese and Foreign Investment in 1985, the Accounting Regulations for Enterprises with Foreign Investment in 1992, the Accounting Regulations for Share Enterprises in 1992, the Basic Accounting Standard in 1992, and the Financial Enterprise Accounting System in 1993. Thirteen additional specific accounting standards were issued by January 2001, namely the disclosure of related party relationships, cash flow statements, post-balance-sheet events, debt restructuring, revenue, investments, construction contracts, changes in accounting policies, non-monetary transactions, contingencies, leasing, borrowing costs and intangible assets. Many universities started to offer accounting programmes and a number of accounting journals emerged.

Although a generation of economic re-structuring has brought about important changes in the Chinese accounting system, it still has some way to go before it conforms to international accounting standards. The influence of the macro-economic approach is still felt and Chinese accounting practices differ from international practices in many areas, such as financial reporting requirements, inventory measurements, accounting for depreciation, deferred taxation, employee entitlements, intangible assets and contingent liabilities. Admittedly, auditing is backward. China's economic progress seems irreversible, however, regardless of leadership change. While Jiang Zemin continues Deng's 'new leap outward' in the twenty-first century, it will be formally rational for the Chinese accounting system to move in line with international accounting practices. However, after fifty years of Communist rule, Chinese leaders are not prepared to abandon Marxism-Leninism

as the only legitimate ideology for the Chinese people. The four cardinal principles (the hegemony of the Chinese Communist Party, the state as a people's democratic dictatorship, the economy as socialist and defining ideology as Marxism–Leninism–Mao Zedong Thought) continue to reign as the political ethos. This is confirmed by Li Peng's determined insistence in 1994 that China would never yield to United States' pressure to accept the western concept of human rights which would undermine the very heart of the Chinese political system, in spite of President Clinton's threat to revoke China's 'Most-Favoured-Nation' status.

Accounting in China is intrinsically ideological and deeply rooted in the foundation of Marxism–Leninism (Lin and Deng, 1992). For example, according to Marxist economic theory, land belongs to the state and is not treated as an asset of the enterprise. Furthermore, Article 1 of the Accounting Law 1985 requires accountants to 'uphold the state public finance system and the enterprise financial system, and protect the socialist public assets'. Accountants, therefore, must carry out their duties in the enterprise on behalf of the state and one unique objective of accounting is to assist in macro-economic management. Thus, the Chinese accounting system is both macro- and micro-oriented. Furthermore, the significance of political ideology is reflected in accounting education and in admission to the accounting profession. Political theory remains a core subject in the university accounting programme and any candidate sitting for the national accounting examination must be a Chinese citizen who loves the People's Republic of China and supports the socialist system. It is very common to find accounting academicians quoting political slogans in their books and research papers to justify their theories. Like the bourgeoisie in late Qing, the emerging 'red bourgeoisie' has no independent ideological stance and is far too weak to challenge the powerful ruling elite. Thus, accounting 'new leap outward' will only be substantively rational if the adoption of international standards takes place within the context of current socialist ideology. In other words, because of the persistence of Marxism–Leninism, China seems to point towards the development of a western accounting system with Chinese characteristics.

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