

Rebuilding a Robust Financial Cooperatives System in China: Learning from the Experience of Credit Union Movements in Hong Kong and Taiwan

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Recently, microfinance has become one of the most important mechanisms for providing financial services to low income households, and credit unions have been considered to be the major microfinance institutions in many developed as well as developing economies. Although financial cooperatives have a long history in China, its credit union movement has not yet begun. In line with China government's microfinance promotion policy, this paper aims to develop a credit union model which is suitable for China's socio-economic environment. The author first conducts a descriptive analysis of the development of financial cooperatives in the Chinese economies including China, Hong Kong, and Taiwan in a hope to capture the characteristics associated with their structure, regulation, performance, and competitive environment; and then uses basic statistical tools to facilitate an empirical study regarding the quantitative aspect of the credit union movement in Hong Kong and Taiwan before and after the Asian financial crisis. While the results of the study show that both Hong Kong and Taiwan's credit union systems are facing adverse challenges such as member aging and low loan-to-savings ratio, their credit union movement experiences suggest that China should develop a WOCCU-type credit union system from the bottom up. This system will help China to reduce poverty and income inequality.

Keywords: Microfinance, Credit Union movement, Hui (loan societies), RCCs, WOCCU

Introduction

China's banking system has been considerably reformed and restructured since it joined the WTO in 2001, but a number of crises have occurred in the informal financial sector due to conventional bank deposit and lending services could not reach the low income class well. For instance, the Jishou incident (Ong, 2012, p. 3) which refers to a riot broke out in Jishou of Hunan Province in 2008 because thousands of residents had lost their savings in an underground financing scheme, and the cash crash for Wenzhou's private loan network in 2011 (B. Zhang, Zheng, & Zhao, 2011) are two key incidents, among others, caused by the rigidity and low coverage of the banking system. Since the banking system was unable to perform the function of moving funds from surplus to deficit units efficiently, shadow banking (Li & Sara, 2013) and peer-to-peer (P2P) lending platforms (H. Zhang, 2013)¹ have emerged and grown aggressively in recent years in the informal finance sector of China. However, these lucrative microcredit providers do not have a core value of operations and lack an efficient supervisory system to ensure their sustainable growth. In order to provide a healthy banking system in China, besides the various strengthening Rural Credit Cooperatives (RCCs) initiatives, China Banking Regulatory Commission (CBRC) has been working closely with People

Bank of China to develop a well regulated microfinance system to offer inclusive financial services to the poor and low-income people. This study suggests that credit unions, which are characterized by voluntary membership, autonomous decision-making, and distribution of surplus according to use than to capital, should be an indispensable component of the banking system of China.

Beginning in Germany with Schulze-Delitzsch and Raiffeisen in the mid-nineteenth century, the credit union movement then spread to other parts of Europe, to Canada in 1901, to the United States in 1908, and then to Australia in 1946. Following World War II, credit unions were developed in many parts of the world. The credit union idea diffused to Asia in 1938. It started first in the Philippines and then gradually spread to other Asian countries, including Hong Kong and Taiwan. Led by the Catholic Jesuit Society, the credit union movement in Hong Kong and Taiwan started to develop after the conference hosted by the Committee for the Development of Socio-economic Life in Asia (SELA) which was held in Bangkok in May 1963. Since then, the credit union concept has been quickly accepted among the middle and lower income groups in these regions. Forty-six years after the establishment of the first credit union in Hong Kong (the St. Francis Credit Union) and Taiwan (the Sacred Heart Credit Union)

in 1964, there were 44 credit unions with 78,000 members in Hong Kong, and 340 credit unions (in 15 Chapters) with 211,047 members in Taiwan in 2012 (WOCCU, 2013). It was, undoubtedly, the World Council of Credit Unions (WOCCU) membership of Hong Kong and Taiwan since the early 1970s has contributed to a flourishing credit union movement in the 1970s and 1980s, but unfortunately, until now China is not a member in the WOCCU.

Nowadays, microfinance is one of the most important mechanisms for providing financial services to low income households, and credit unions are considered to be the major microfinance institutions in many developed as well as developing economies to fight against poverty worldwide. Despite the increasing importance of credit unions in the world economy, there are only a few scholarly studies about China's credit unions such as Wang & Li (2008), Muckian (2007), and Zuo (2001). Unfortunately, literature on in-depth comparative analysis of the countries' experiences of credit union movement in the Greater China region (which includes China, Hong Kong and Taiwan) is notably lacking.

This study analyses the structure, regulation, performance, and competitive environment of credit unions in Hong Kong and Taiwan before and after the Asian financial crisis in the hope of formulating a credit union model which is suitable for China's socio-economic environment. The rest of this paper is organized as follows. First, it begins with an historical overview of informal finance in the Greater China Region. Second, it briefly discusses the evolution of China's rural and urban credit cooperatives. Third, it presents some descriptive statistics to capture the development characteristics of the credit union system in Hong Kong and Taiwan. Fourth, it identifies the difficulties faced by Hong Kong and Taiwan's credit unions by analysing the trend movement of their savings and loans. Finally, the study concludes that the development of a credit union system from bottom-up will be conducive to the reduction of poverty in China.

Historical Evolution of Informal Finance in the Greater China Region: Predecessors of Credit Unions

Ever since the emergence of the money economy, a great variety of financing methods have been devised to enable money to flow from surplus to deficit units in order to enhance their economic benefits. In the Chinese communities, there are three types of financing methods. The first is self-financing that refers to the use of current income and accumulated savings to meet some periodic consumption expenditure or to acquire working capital for small businesses. Then there is internal financing which refers to borrowing from relatives

and friends to finance consumption over spells of economic difficulties or to capture good investment opportunities. The last one is external financing which some people use when they wish to raise large amounts of money to finance huge business projects; in such cases people may borrow from commercial banks, or issue stock certificates or bonds on the market. Since low-income people usually use up all of their current income and leave no money for savings, self-financing is not an option for them, and external financing is also not available to them since they cannot get access to the financial markets. They could obtain credit from external suppliers, such as pawnshops and money lenders, but such sources are not included in this analysis because they are focusing solely on profit.

Turvey, Kong & Huo (2010) point out that informal lending among friends and relatives was a popular financing method in China's agricultural communities. A comprehensive survey of the credit needs of villages in China conducted by Zhao (2010, pp. 83-87) shows that a large number of informal loans were arranged to finance personal consumption. These loans were mostly come from relatives and friends, were interest-free, did not require collateral interest and had open-ended repayment arrangements. However, when a larger sum of money is needed, it is difficult to borrow from one individual and to repay the loan in a short time. Thus various types of loan societies, which are groups of people organised for collective saving and lending, were formed in a mutually supportive way to meet people's financing needs.

According to Fei (1939, pp. 267-274) and Mok & Wu (1972), Hui² was a popular form of traditional Chinese money-lending societies. Its modern variants have been named variously as Yao Hui or Yi Hui (in old China), Piao Hui (in Singapore), Chin Hui or Chit Fund (in Hong Kong), and He Hui or Mutual Help Society (in Taiwan). Such a society (Hui) is organised on the initiative of the person who needs financial help in cases such as unexpected expenditures for a funeral, a wedding or family sickness. The members meet several times a year (weekly, by-weekly, or monthly). At these meetings, each participant subscribes a share, and then the total subscriptions by the members are collected by one of the members who can use the money to finance the activities for which the finance is required. In the loan period (usually less than one year), the members take it in turn to collect the sum. The first collector is the organiser, and from the very beginning, he is a debtor to the Hui. He repays his loan bit by bit during the whole course of the loan period, plus a certain amount of interest. The members switch from being depositors to debtors as their turn comes to collect the sum. The order of collection is determined either by contract, by lot or by auction. The last collector is only a depositor: at the end of the loan period he collects the sum of all

other members' deposits which presenting the repayment of his previous deposits and the interest earned. Over time, the Hui evolved, so that most of the members in the Hui were perfect strangers who joined in mainly to earn interest or to borrow money rather than to help relatives and friends. The Hui was very popular in China (before the establishment of the People's Republic of China (PRC) in 1949), Taiwan, Hong Kong and Southeast Asia in the last century. For instance, there were thousands of members in a single Hui in 1970 in Hong Kong.

As the membership and loan amounts increased, there was a tendency for more and more Hui members to use the borrowed funds to finance risky ventures or financial speculation, and this resulted in an increasing number of cases of loan delinquency and default. Since the Hui had become too commercial and were no longer simply a platform for providing loans to poor people who needed the money to meet some urgent expense, and also because the frequency of Hui insolvency had increased tremendously, Hong Kong and Taiwan introduced some restrictions on the expansion of Hui in 1972 ("Chit-Fund Businesses (Prohibition) Ordinance," 1972) and 2000 ("Civil Law of ROC," 2000) respectively to protect the Hui members. As a result, the Hui business has been declining since then.

However, the decline in the Chinese money-loan societies (Hui) provided an opportunity for the development of credit unions since the late 1960s in Hong Kong and Taiwan, and eventually the credit union movement extended to China in the 1980s. Croteau (1963, p. 164) pointed out that the individual households face a monopolistic or imperfect financial market, they have little or no bargaining power, and receive a meagre interest rate for their savings; but on the other hand, the market for instalment loans is still disorganised and characterised by high interest charges that are often concealed and unclear. Thus there is a strong incentive for households to unite in a credit union. This same narrative can be applied to China today. Jack Dublin in his book (1971, p. 9), *Credit Unions: theory and practice*, gave the following definition: A credit union is a financial cooperative, designed to provide its members with an efficient, inexpensive saving-and-loan services. This definition has provided a clear description of the essence of credit unions. More specifically, credit unions differ from the traditional commercial banks in four ways. (1) A different purpose: The primary purpose of credit unions is to meet the common needs of their members, whereas that of banks is to maximise shareholders' profit; (2) A different control structure: Credit unions use the one-member-one-vote system, not the one-vote-per-share system used by banks. This helps the credit union to serve the common need rather than the individual need, and is a way to ensure that people,

not capital, control the organisation; (3) A different allocation of profit: Credit unions share any profits among their member-owners on the basis of how much they use the credit union services, and not on how many shares they hold as is the case in banks. Credit unions also tend to invest their profits in improving their service to members and promoting the well-being of their communities; and (4) a different remuneration system: Unlike the directors of banks who are entitled to director's fees, interest and remuneration, credit union directors are not allowed by law to receive any remuneration from the credit union. Although many different names for and forms of credit union are used in different parts of the world, they are working in accordance to the international credit union operating principles under the areas of concern: democratic Structure, service to members, and social goals (WOCCU, 2007).

Financial Cooperatives in China

In 1923 a new credit institution, the rural credit cooperative (RCC), appeared in north China, and by 1933 there were 952 co-operatives in Hebei with 23,753 members (Mallory, 1931; Myers, 1970, p. 245). This financial cooperatives system was not an organisation run by the villagers themselves but a means for them to borrow money from the national bank at low interest rates (Fei, 1939, p. 280). Although it was a well-intentioned measure by the government to stabilise rural finance through the rural credit cooperatives system, it failed to yield the expected results because the government was unable to afford the credit required and the mal-administration of the system. Shortly after the establishment of the PRC in 1949, rural credit cooperatives (RCCs)³ were reintroduced in 1951 and developed very quickly (Zhao, 2010, p. 11). According to the China Statistical Information and Consultancy Centre (1990), by 1955 rural credit cooperatives had been set up in almost all townships in China, with a total number of more than 150,000 throughout the country, and RMB160 million in paid-up shares, RMB200 million in savings deposits and RMB190 million in loans. Thus, in addition to combating usury in the countryside and promoting financial stability, rural credit cooperatives have been the core of the rural financial system since then except for the episode of the people's commune movement in 1958 during which rural credit unions were merged with the township-level branches of the Agricultural Bank and were placed under the jurisdiction of the commune. The RCCs underwent a major reform 38 years later, in 1996, to separate them from the Agricultural Bank, and to restore their status as independent cooperative financial institutions in the rural areas.

On the other hand, the Urban Credit Cooperatives (UCCs) were started later than their

rural counterparts. After the establishment of the first urban credit co-operatives in Zhumadian City of Henan Province in 1979, urban credit unions developed as a new form of financial institution and experienced fast growth in the 1980s and early 1990s. In contrast to the 1996 rural financial institutions reform, which aimed at restoring the cooperative nature (collectively and cooperatively owned) of the RCCs, the 1995 restructuring of the UCCs was intended to reform them as commercial banks. In 2000, according to Zuo (2001), the People's Bank of China ordered all UCCs to choose between three alternatives: to be acquired by the city's commercial banks, to be acquired by joint equity commercial banks, or to merge with RCCs. In effect, this would leave no room for the existence of cooperative financial institutions in urban areas. At end of 2012, according to China Banking Regulatory Commission (CBRC, 2013, p. 24), China's banking sector consisted of two policy banks and CDB, 5 large commercial banks, 12 joint-stock commercial banks, 144 city commercial banks, 337 rural commercial banks, 147 rural cooperative banks, 1,927 rural credit cooperatives (RCCs),

266 non-bank financial institutions (including 4 banking assets management companies, 67 trust companies, 150 finance companies of corporate groups, 20 financial leasing companies, 5 money brokerage firms, 16 auto financing companies, 4 consumer finance companies), 42 locally incorporated foreign banking institutions, 854 new-type rural financial institutions & postal savings banks (including 800 village or township banks, 14 lending companies, 49 rural mutual cooperatives and 1 postal savings bank). By looking at the percentage share of total liabilities among China's banking institutions in Table 1, we note that UCCs have been phased out of existence in 2012. Although the share of the banking business pie for RCCs was declining (from 8.3% of total liabilities of banking institutions in 2007 to 6.04% in 2012), their profitability was a more or less the same as Rural Co-operative Banks and Rural Commercial Banks (see Table 2). This reveals that the type of self-help, member owned and managed non-bank financial cooperatives still has its competitive edge in the nationwide financial sector of China.

Table 1. Total liabilities of banking institutions in China

Institutions / Year	RMB 100 million			% to Total	
	2007	2012	Growth change (%)	2007	2012
Banking institutions	500763	1249515	149.52	100	100
Policy banks & the CDB	39,203	106647	172.04	7.83	8.54
Large commercial banks	169,176	560879	231.54	33.78	44.89
Joint-stock commercial banks	69,350	222130	220.30	13.85	17.78
City commercial banks	31521	115395	266.09	6.29	9.24
Rural commercial banks	5767	57841	902.97	1.15	4.63
Rural co-operative banks	6050	11796	94.98	1.21	0.94
Urban credit co-operatives	1247	--	--	0.25	--
Rural credit co-operatives	41567	75521	81.68	8.30	6.04
Non-bank financial institutions	7961	26194	229.03	1.59	2.10
Foreign banks	11353	21249	87.17	2.27	1.70
New-type rural financial institutions & postal savings banks	17568	51712	194.35	3.51	4.14

Sources: Calculated from China Banking Regulatory Commission Annual Report 2012 PP149.

Because Rural Credit Cooperatives (RCCs) have been blamed for being too rely on the passive membership (a top-down approach), concern with the Township and Village Enterprises (TVEs) rather than the livelihoods of poor farmers, and inefficient management (Clegg, 2006), in addition to reform

and develop RCCs, China government in 2007, in the hope of promoting micro-financial services in the rural sector, established a new system called Rural Mutual Cooperatives (RMC)⁴ under the category of new-type rural financial institutions. Although these informal not-for-profit cooperatives

were formed as mutual help fund-raising organisations within rural communities and spread gradually in the early 2010s, judging from only 3.48 per cent of their liabilities was come owner's equity (see Table 2) indicating they have to rely heavily on external funding sources that were largely come from the government. This unsatisfactory outcome may be mainly due to the operation of RMCs was noticeably deviated from the Principles and Practices Cooperatives (Zeuli & Crop, 2004).

Although RCCs and RMCs have all been providing microcredit services to those who did not have a bank account, they are not genuine credit unions. It was not until the late 1980s that the China Association for NGO Co-operation, with helps from the Credit Union League of Hong Kong and enthusiastic credit unionists, established China's first credit union in a village of Linyi in the southeast of Shandong province.

Table 2. Owner's equity to total liabilities ratio and profitability of banking institutions in China

Institutions / Year	Owner's equity / Total liabilities (%)		Profitability *	
	2007	2012	2007	2012
Banking institutions	6.07	6.94	14.70	17.43
Policy banks & the CDB	9.13	5.18	13.68	13.32
Large commercial banks	9.35	7.05	15.58	19.09
Joint-stock commercial banks	4.89	5.92	16.64	19.30
City commercial banks	5.97	7.00	13.18	16.94
Rural commercial banks	5.72	8.49	12.97	15.94
Rural co-operative banks	6.78	8.81	13.29	16.57
Urban credit co-operatives	5.13	--	12.03	--
Rural credit co-operatives	4.49	5.32	10.36	16.29
Non-bank financial institutions	22.06	23.31	19.01	13.52
Foreign banks	10.32	12.02	5.19	6.39
New-type rural financial institutions & postal savings banks	0.68	3.48	5.42	18.94

* Profitability = (Profit after tax / Owner's equity) × 100%

Sources: Calculated from China Banking Regulatory Commission Annual Report 2012 PP149-151.

In 1983, The World Council of Credit Unions (WOCCU) started a special project that launched the credit union movement in China. The National Credit Union Federation of Korea, the Credit Union League of the Republic of China, the Credit Union League of Hong Kong, and the Singapore Credit Co-operative League have borne the weight of promoting the credit union movement in China. Because of the proximity of these promoters, credit unions have made the most progress in some north eastern provinces, such as Heilongjiang, Shandong, Lijiang, Fujian and Hainan. According to Edmonson (1995), China at that time had been the most difficult country for the WOCCU to start credit unions in. The main obstacles encountered were language, culture, geography, government opposition and shortage of money. Because the central government had not endorsed credit unions, the promotional work was done at the provincial level. In spite of these difficulties, the promotion has gradually been extended to other provinces such as Guizhou,

Yunan, Shanxi and Guangdong.

Since rural finance is vitally important among the various issues related to the Sannong problems⁵, the policy environment for the development of rural microfinance has become more and more favourable for introducing credit union movement in China, and the Chinese government's promotion of the new-types of rural financial institutions, including village or township banks, lending companies and rural mutual co-operatives, are laying down good foundations for the development of credit unions. WOCCU and the Association of Asian Confederations of Credit Unions (ACCU) in this respect have made numerous efforts over the past two decades, and eventually the Chinese government established a legal framework to allow for the existence of credit unions at the end of 2006. In addition, the launch and introduction of the Credit Union Microfinance Innovation (CUMI) Training Manual (which was organised by the Centre for International Business Ethics, the ACCU, and the

China Credit Research Centre of Peking University) on July 21, 2010 (So, 2011), it also give a big push to the credit union movement in China.

After years of credit unionists' effort to lobby the government and promulgate the credit union value to the people living in some poor areas of China, in July 2012, China Banking Regulatory Commission (CBRC, 2013, p. 141) issued the "Guiding Opinions on Further Regulating Provincial Rural Credit Unions' Corporate Governance" to set out the structure and responsibility of provincial credit unions, clarify their role and responsibilities, and strengthen their internal controls. This shows the government has given a green light for the credit union movement to take place in China. Judging from the strong desire of the Chinese government to establish a self-help microfinance system to address the poverty alleviation issue on the one hand, and the desire of the WOCCU and ACCU to include China in their lists of member countries on the other, we have good reasons to expect a substantial development of credit unions in China.

Development of Credit Union Systems in Hong Kong and Taiwan

In Hong Kong, the first credit union, the St Francis

Credit Union, was established in 1964. The Credit Unions Ordinance of 1968 was passed on 6 November, but did not come into effect until 22 February 1970 with the appointment of the first Registrar of Credit Unions. In practice, the Registrar has been the Director of the Agriculture and Fisheries Department who also supervised many other co-operative societies in Hong Kong. As stated in the Registrar General's annual report (1985-86) that it was government policy to consolidate the present development of cooperative and credit union movements as instruments to improve the economic and social condition of the community.

Figure (1a) tracks the credit union movement in Hong Kong since 1964. The pilot period from 1964, when the first credit union was formed, to the end of 1968 when the credit union law was introduced can be considered the first stage of the movement. The second stage was the take-off period from 1969 to 1973, due mainly to the enactment of the Credit Union Ordinance and the realisation of the need for thrift and credit services among the middle and lower income groups; the period from 1974 to 1998 was the third stage, characterised by a significant growth of memberships under the Employee common bond; the period from 1998 onwards is the fourth stage characterised by a low loan-to-savings ratio resulting from keen competition from banks.

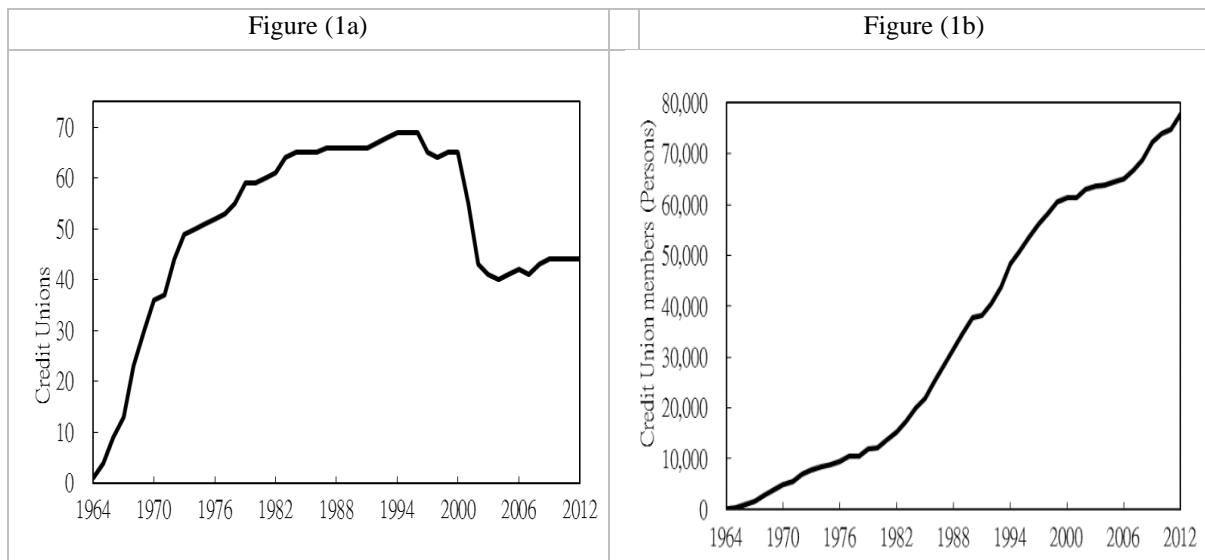


Figure 1 Time plot of the number of credit unions and credit union members in Hong Kong: 1964-2012
 Sources: 1964-1970 data were extracted from Hong Kong Annual Report 1968-70 and unpublished records held in the CULHK; 1971-1987 data were extracted from Hong Kong Agriculture, Fisheries and Conservation Department Annual Reports; 1987-2012 data were extracted from the CULHK Annual Reports.

Over the last 40 years since the Credit Union Ordinance was enacted in 1970, with the advocacy of credit union leaders and full support from credit union members in Hong Kong, the total membership of the 41 credit unions climbed from 5,486 at the end of March 1971 with a total savings of US\$151,367, to a total membership of 78,922 in the 44 credit unions at end of 2012, with total savings of US\$1100.72 million, which represents an average annual rate of change of 32.1 per cent.

In Taiwan, the first credit union, the Sacred Heart Credit Union, was also established in 1964. At that time there were only 63 members with total savings of US\$667. In 2012, the credit union industry had 15 Chapters⁶ and 336 credit unions, and

had total savings of US\$693.99 million, which represents an average annual rate of change of 33.5 per cent over the past 48 years. From Figure 2a, it can be seen that the number of credit unions experienced a rapid growth period from 1964 to 1975. This represents the pilot and take-off periods of the credit union movement. The period of 1976 to 1997 was the legislative and institutional period, the main feature of which was the strengthening of the structure of the credit union system. Although there were a number of credit unions that merged or were wound up, the total number of credit unions showed a steady growth in this period. However, since 1997 there has been a gradual decline in the number of credit unions.

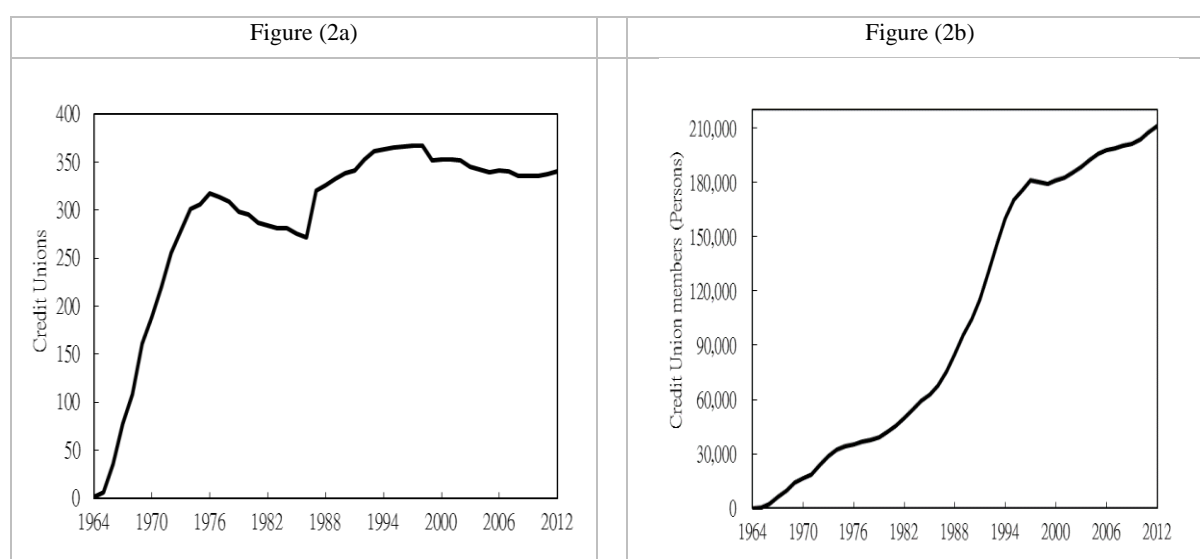


Figure 2 Time plot of the number of credit unions and credit union members in Taiwan: 1964-2012
Sources: Plotted from statistics extracted from the CULROC Annual Reports, various years.

Savings in credit unions are called “shares” (each of which is HK\$5 in Hong Kong and NT\$100 in Taiwan), and in practice a “share” may be withdrawn on demand (see Credit Union Act, 2000 and Credit Union Ordinance, 2002). To encourage thrift through savings, and thus to provide loans and other services, a fair rate of interest is paid on savings, within the capability of the credit union. “Dividends” on credit union shares are treated as ordinary interest income, and the calculation of the dividend is based on the 12-month share balance of the member during each financial year of the individual credit unions. The Board of Directors recommends a rate of dividend and once the members have accepted this at the Annual General Meeting, the dividend will be paid directly into the account of each member. The Hong Kong Credit Unions Ordinance specifies that the rate of dividend should not exceed 6 per cent per annum, but there is no such restriction in Taiwan.

In addition to its aim of promoting thrift among its members and to receiving their savings, another object of a credit union is to make loans to the members for provident or productive purposes. A credit union loans have some very special features: they are insured at no direct cost to the eligible member, repayment protection insurance is available as an optional extra, there are no hidden fees or transaction charges, repayments are calculated on the reducing balance of the loan (this means smaller interest repayments as a loan is repaid), repayment terms are arranged to suit a member’s particular circumstances and members incur no penalty or additional charges if they repay the loan earlier than planned or make larger repayments than agreed.

Most of the credit union loans were requested for provident purposes, including house renovation, education, vacations abroad, emergency medical treatment, funeral costs and purchases of durable

consumer goods. In addition, some big credit unions do provide loans for specific purposes (usually larger loan amounts and interest rate concessions), such as for tax payments, purchase of an apartment or new vehicle, decoration of a newly purchased apartment, repayment of other loans and funeral expenses for close relatives of the member. According to the Hong Kong Credit Union Ordinance, the interest rate on any loan made by a credit union to a member cannot exceed 1 per cent per month on the total of the unpaid balance of any such loan plus charges (if any) made by the credit union for making the loan; but there is no such requirement in Taiwan.

It is interesting to note that the time path of the number of credit union members in both Taiwan and Hong Kong follow the pattern of a total product curve showing diminishing marginal returns (that is, Figures 1b and 2b look like the left side of a normal curve). The number of credit union members in both Hong Kong and Taiwan increased slowly until the early-1980s when growth accelerated. The scale of the credit union movement, nonetheless, has slowed down since 1998. The slowdown was due to three primary factors: a relatively narrow common bond that deterred market entry, a decline of member commitment to cooperative mission and values, commercial banks have begun to provide microcredit services to the general public that erode the competitive edge of credit unions. However, according to WOCCU (2013), the penetration rate of Taiwan and Hong Kong in 2012 was 1.46 per cent and 1.22 per cent respectively, compared with 16.54 per cent in Korea, 7.82 per cent in Thailand (not to mention 45.39 per cent in the United States and 73.22 per cent in Ireland), we believe Hong Kong and Taiwan still have plenty of room to increase the popularity of credit unions among people at the grassroots after removing the above-mentioned obstacles.

The Characteristics and Performance of Credit Union Savings and Loans in Hong Kong and Taiwan

As shown in Tables 3 and 4, the amount of credit

union savings and loans in Hong Kong have increased from HK\$182.25 million and HK\$79.42 million in 1987 to HK\$8631.68 million and HK\$425.14 million in 2012 respectively. However, the volatility of credit union savings and loans as measured by their coefficient of variation⁷ (98 per cent and 47 per cent respectively) were ranked highest among the listed variables. These observations provide good evidence that the credit union industry in Hong Kong has to face the problem of an external drain of funds occasionally, and thus Hong Kong credit unions have to keep a higher reserve-to-deposit ratio than do licensed banks in order to achieve a sound liquidity position. In Taiwan, the amount of credit union savings and loans increased from NT\$2931.55 million and NT\$2788.21 million in 1987 to NT\$20,552.12 million and NT\$9,150.73 million in 2012 respectively. To compare its 44.52 per cent loan-to-savings ratio compared with Hong Kong's 4.93 per cent loan-to-savings ratio in 2012, we can conclude that the financial situation of the Taiwan credit union industry was much healthier than the credit union industry in Hong Kong.

The calculated mean annual rates of changes (MRs) suggest at least four important points: first, the mean annual rates of changes in all of the listed variables dropped drastically after the financial crisis; second, an extraordinarily high mean annual rates of change in Hong Kong credit union savings before and after the Asian financial crisis (18.06 per cent to 15.6 per cent); third, while bank loans could manage 3 to 6 per cent mean annual rates of change after the Asian financial crisis (MR₁₉₉₉₋₂₀₁₂), credit union loans in Taiwan and Hong Kong recorded a negative mean annual rate of change (-2.54 per cent and -5.22 per cent respectively); and the final point is that, in Taiwan the MR of credit union savings was always greater than the MR of credit union loans no matter whether there was an upturn or downturn in the economy, but in Hong Kong, the MR of credit union loans was greater than the MR of credit union savings in the period 1987-1998 (25.18 per cent and 18.06 per cent respectively), but in 1999-2012, the situation was reverted (-5.22 per cent and 6.47 per cent respectively).

Table 3. Credit Union Savings, outstanding Loan Balances and Major Macroeconomic Variables in Hong Kong: 1987 – 2012

Year	HKGDP	HKBD	HKBL	HKCUS	HKCUL	HKBDR	HKBLR	HKCPI
1987	394,770	278,494	267,607	182.25	79.42	4.74	6.60	43.7
1988	466,076	313,969	358,716	108.12	102.94	5.40	7.91	47.2
1989	536,558	358,130	474,343	174.67	148.16	8.04	10.54	52.0
1990	599,256	421,560	542,902	212.58	178.83	8.17	10.46	57.3
1991	691,323	540,193	644,149	246.01	209.14	6.96	9.41	63.8
1992	807,130	602,773	719,741	343.82	276.90	4.57	7.32	69.9
1993	931,010	770,865	859,198	475.71	352.64	3.75	6.50	76.0
1994	1,049,610	896,330	1,006,569	569.36	439.11	5.18	7.26	82.7
1995	1,119,006	1,103,010	1,105,785	811.68	595.60	2.26	8.96	90.2
1996	1,235,301	1,346,774	1,302,327	980.82	677.61	5.19	8.52	95.9
1997	1,373,083	1,479,644	1,556,853	1,116.33	866.62	6.39	8.83	101.5
1998	1,308,074	1,602,123	1,521,714	1,131.80	939.18	8.31	9.94	104.4
1999	1,285,946	1,734,675	1,455,650	1,311.43	853.07	5.76	8.49	100.2
2000	1,337,501	1,834,354	1,502,489	1,421.52	882.95	5.40	9.22	96.5
2001	1,321,142	1,835,557	1,507,355	1,861.98	789.70	2.53	7.00	94.9
2002	1,297,341	1,803,988	1,490,679	2,667.00	725.76	0.74	5.11	92.0
2003	1,256,669	1,914,413	1,464,532	2,280.88	652.57	0.12	5.00	89.7
2004	1,316,949	2,005,942	1,581,493	4,101.27	569.44	0.27	5.02	89.3
2005	1,412,125	2,115,436	1,749,925	4,441.74	546.85	1.75	6.12	90.1
2006	1,503,351	2,550,758	1,870,410	4,597.70	592.63	3.02	7.90	92.0
2007	1,650,756	3,055,928	2,127,306	4,690.70	583.00	2.79	7.59	93.8
2008	1,707,487	3,012,983	2,293,348	5,010.90	658.00	0.97	5.39	97.8
2009	1,659,245	3,357,238	2,351,944	6,050.10	671.50	0.30	5.00	98.4
2010	1,776,783	3,607,063	2,784,510	6,726.37	575.63	0.16	5.00	100.7
2011	1,936,058	3,730,718	3,123,489	6,989.40	489.26	0.16	5.00	106.0
2012	2,040,104	4,167,740	3,290,447	8,631.68	425.14	0.16	5.00	110.3
MR 987-2012	6.79%	11.43%	10.56%	16.69%	6.94%	n.a.	n.a.	3.77%
MR 987-1998	11.51%	17.24%	17.12%	18.06%	25.18%	n.a.	n.a.	8.24%
MR 999-2012	3.61%	6.98%	6.47%	15.6%	-5.22%	n.a.	n.a.	0.74%

Notes:

HKGDP = GDP at current market prices in HK\$M

HKBLR = Best lending rate (period average)

HKBD = Total deposit from customers with licensed banks of which in HKD (HK\$M)

HKSDR = Bank Savings deposit interest rate (period average)

HKBL = Total loans and advances with licensed banks of which in HKD (HK\$M)

HKCUS = Credit Union Savings /Share Balances (HK\$M)

HKCPI = Composite Consumer Price Index (October 2009 - September 2010 = 100)

HKCUL = Credit Union Outstanding Loan Balances (HK\$M)

$$MR_{t+n} = \text{Mean annual rate of change} = \left(\sqrt[n]{\frac{X_{t+n}}{X_t}} - 1 \right) \times 100\%$$

Sources: 2012 Gross Domestic Product, Hong Kong Census and Statistics Department, 2013.

Hong Kong Annual Digest of Statistics, Hong Kong Census and Statistics Department, various editions.

HKMA Website at: <http://www.hkma.gov.hk/eng/market-data-and-statistics/economic-and-financial-data-for-hong-Annual-Report>, Credit Union League of Hong Kong, various editions.

Table 4. Credit Union Savings, outstanding Loan Balances and Major Macroeconomic Variables in Taiwan: 1987 – 2012

Year	TWGDP	TWBD	TWBL	TWCUS	TWCUL	TWBDR	TWBLR	TWCPI
1987	3,291,857	39,644	23,048	2,931.55	2,788.21	5.00	6.75	63.23
1988	3,488,550	48,812	31,988	3,651.04	3,673.92	5.25	7.00	64.04
1989	4,003,227	58,673	41,529	4,401.25	4,753.76	9.50	10.38	66.87
1990	4,430,055	64,715	46,494	5,183.42	5,644.20	9.50	10.00	69.63
1991	4,958,220	75,765	56,949	6,080.07	6,621.17	8.26	8.65	72.15
1992	5,534,544	90,737	72,761	7,364.21	8,061.46	7.79	8.30	75.37
1993	6,110,101	104,544	84,390	8,794.76	9,888.25	7.59	8.03	77.59
1994	6,685,505	120,314	99,044	10,332.48	11,802.08	7.29	7.94	80.77
1995	7,277,545	131,309	108,028	11,642.20	13,350.20	6.73	7.67	83.73
1996	7,906,075	142,609	112,052	12,564.68	13,455.55	6.02	7.38	86.31
1997	8,574,784	154,213	125,102	13,994.43	13,493.05	6.03	7.50	87.09
1998	9,204,174	166,969	131,773	14,688.44	13,735.12	5.44	7.70	88.56
1999	9,649,049	180,642	137,601	15,152.39	12,787.47	5.03	7.67	88.71
2000	10,187,394	193,087	144,289	15,744.17	13,060.88	5.00	7.71	89.82
2001	9,930,387	201,362	140,366	15,985.87	12,574.77	2.41	7.38	89.82
2002	10,411,639	205,733	137,314	16,516.16	12,217.26	1.86	7.10	89.64
2003	10,696,257	216,797	143,329	17,079.88	11,503.61	1.40	3.43	89.39
2004	11,365,292	231,484	158,678	17,658.63	11,059.14	1.52	3.52	90.83
2005	11,740,279	246,116	171,583	18,192.84	10,919.04	1.99	3.85	92.92
2006	12,243,471	258,115	175,989	18,401.68	11,047.39	2.20	4.12	93.48
2007	12,910,511	260,525	180,217	18,490.38	11,090.93	2.62	4.31	95.16
2008	12,620,150	278,652	184,701	18,626.86	11,023.21	1.42	4.21	98.51
2009	12,481,093	294,486	185,992	18,856.19	10,411.28	0.89	2.56	97.66
2010	13,552,099	310,057	198,525	19,594.94	10,214.35	1.13	2.68	98.60
2011	13,709,074	323,022	209,608	20,055.26	9,457.94	1.36	2.88	100.00
2012	14,077,099	333,003	216,503	20,552.12	9,150.73	1.36	2.88	101.93
MR 1987- 2012	5.98%	9.35%	9.81%	8.61%	5.81%	n.a.	n.a.	1.95%
MR 1987- 1998	9.80%	13.96%	17.18%	15.78%	15.60%	n.a.	n.a.	3.11%
MR 1999- 2012	2.96%	4.82%	3.55%	2.37%	-2.54%	n.a.	n.a.	1.07%

Notes:

TWGDP = GDP at current market prices (NT\$M)

TWBLR = Prime lending rate (period average)

TWBD = Total deposits with major financial institutions
of which in NTD (NT\$M)

TWSDR = Bank 1 year deposit interest rate (period average)

TWBL = Total loans and advances with major financial institutions of
which in NTD (NT\$M)

TWCUS = Credit Union Savings /Share Balances (NT\$M)

TWCPI = CPI = Consumer Price Index (2010 = 100)

TWCUL = Credit Union Outstanding Loan Balances (NT\$M)

Sources: National Statistics, R.O.C. (Taiwan) Website at:

<http://www.stat.gov.tw/public/data/dgbas03/bs3/inquire/cpispl.xls>

Central Bank of the Republic of China (Taiwan) Website at:

<http://www.cbc.gov.tw/public/Attachment/0112516294971.XLS><http://www.cbc.gov.tw/public/data/economic/statistics/key/deposit-y.xls><http://www.cbc.gov.tw/public/data/economic/statistics/key/loan-y.xls>

Annual Report, Credit Union League of PRC, various editions.

The bank rates and annual rates of changes⁸ of the above-mentioned variables over the 1988-1998 and 1999-2012 sample periods are presented in Tables 5 and 6. Statistically, the strength of a relationship, or the association, between two variables is typically measured by the Pearson correlation coefficient, whose values range from -1 for perfect negative correlation up to +1 for a perfect positive correlation. At least three points are noteworthy.

Firstly, the annual rates of changes of credit union savings and outstanding loan balances in Hong Kong (HKCUS and HKCUL) did not significantly correlated with the annual rates of changes in consumer prices (HKCPI), total bank loans (HKBL), total bank deposits (HKBD), bank deposit interest rates, and bank lending interest rates (HKBLR) in the two sample periods ($-0.41 < r < 0.56$), it could be explained by the fact that credit union members have already got into a regular saving habit, and their demand for credit union loans were mostly derived from provident or productive purposes which is independent of the macroeconomic environment. Secondly, the annual

rates of changes of credit union savings and outstanding loan balances in Taiwan (TWCUS and TWCUL) were significantly correlated with the annual rates of changes of total bank loans (TWBL) and total bank deposits (TWBD) over the 1988-1998 period ($0.86 < r < 0.89$), but they did not have significant correlation over the 1999-2012 period ($-0.02 < r < 0.47$), it could be explained by the aggressiveness of banks to attract small deposits and loans. Thirdly, in Hong Kong, there were no significant correlation between the annual rates of change of credit union savings (HKCUS) and the annual rates of change of outstanding loan balances (HKCUL) in the periods 1988-1998 ($r=0.46$), but TWCUS and TWCUL in Taiwan were significantly correlated ($r=0.94$); however, over the period 1999-2012, the correlation coefficients between credit union savings and loans in both Hong Kong and Taiwan were not significant ($r=-0.31$ and $r=-0.17$ respectively), it may be due mainly to the relaxation of the rule for prohibiting members to withdraw money from their savings in Taiwan after the Asian financial crisis.

Table 5. Correlation matrix of bank rates, GDP growth rates, inflation rates, and annual rates of changes of savings and outstanding loan balances in the credit union and bank industries in Hong Kong and Taiwan: 1988 – 1998

	HKG	HKB	HKB	HKC	HKC	HKS	HKBL	HKC	TWG	TWB	TWB	TWC	TWC	TWS	TWB	TWC
	DP	D	L	US	UL	DR	R	PI	DP	D	L	US	UL	DR	LR	PI
HKG																
DP	1.00															
HKBD	0.28	1.00														
HKBL	0.79	0.09	1.00													
HKCU																
S	0.06	0.28	-0.11	1.00												
HKCU																
L	0.53	-0.07	0.56	0.46	1.00											
HKSD																
R	-0.22	-0.41	0.01	-0.15	-0.32	1.00										
HKBL																
R	-0.40	-0.21	-0.09	0.11	-0.09	0.72	1.00									
HKCP																
I	0.74	0.52	0.46	0.39	0.51	-0.15	-0.02	1.00								
TWG																
DP	0.38	0.25	0.22	0.79	0.45	0.23	0.27	0.67	1.00							
TWB																
D	0.73	-0.03	0.66	-0.10	0.50	-0.02	-0.28	0.54	0.32	1.00						
TWBL	0.72	-0.16	0.72	-0.20	0.57	0.03	-0.18	0.51	0.24	0.97	1.00					
TWC																
US	0.86	0.10	0.69	-0.01	0.62	-0.13	-0.31	0.74	0.35	0.88	0.88	1.00				
TWC																
UL	0.69	0.12	0.63	0.04	0.61	-0.08	-0.18	0.69	0.38	0.89	0.86	0.94	1.00			
TWSD																
R	0.40	0.30	0.19	0.66	0.36	0.29	0.33	0.77	0.89	0.26	0.20	0.45	0.47	1.00		
TWBL																
R	0.20	0.06	0.18	0.58	0.31	0.54	0.58	0.57	0.84	0.19	0.18	0.31	0.39	0.93	1.00	
TWCP																
I	0.29	0.36	-0.02	0.71	0.31	-0.08	0.07	0.72	0.76	0.23	0.10	0.33	0.40	0.80	0.66	1.00

Note: The shaded figures represent correlation coefficients with P-values greater than 2.2622 which are significant at the 5 level for a sample $n=11$ ($df=9$).

Table 6 Correlation matrix of bank rates, GDP growth rates, inflation rates, and annual rates of changes of savings and outstanding loan balances in the credit union and bank industries in Hong Kong and Taiwan: 1999 – 2012

	HK GDP	HKB D	HKB L	HKC US	HKC UL	HKS DR	HKBL R	HKC PI	TWG DP	TWB D	TWB L	TWC US	TWC UL	TWS DR	TWB LR	TWC PI
HKGDP	1.00															
HKBD	0.38	1.00														
HKBL	0.87	0.26	1.00													
HKCUS	-0.13	-0.30	-0.11	1.00												
HKCUL	0.01	0.21	-0.03	-0.31	1.00											
HKSDR	-0.05	0.21	-0.34	-0.18	0.32	1.00										
HKBLR	0.07	0.35	-0.22	-0.24	0.38	0.97	1.00									
HKCPI	0.67	0.22	0.72	-0.20	0.08	-0.53	-0.44	1.00								
TWGD									1.00							
P	0.36	0.33	0.31	0.13	-0.29	0.18	0.19	-0.23	0.05	1.00						
TWBD	-0.25	-0.27	-0.22	0.04	0.20	0.31	0.19	-0.27	-0.05	0.00	1.00					
TWBL	0.49	0.09	0.46	0.11	-0.23	-0.09	-0.10	0.17	0.52	0.48	0.00	1.00				
TWCUS	-0.14	-0.36	-0.13	0.21	-0.55	0.03	-0.07	-0.49	0.60	0.34	0.47	0.00	1.00			
TWCU														1.00		
L	0.45	0.29	0.35	-0.13	0.62	0.33	0.46	0.07	0.27	-0.13	-0.02	-0.17	0.00	0.00	1.00	
TWSDR	-0.10	0.08	-0.39	-0.10	0.16	0.96	0.90	-0.62	0.27	0.33	-0.01	0.23	0.22	1.00		
TWBLR	-0.40	-0.32	-0.60	0.14	0.11	0.76	0.68	-0.74	0.02	0.13	-0.42	0.18	0.16	0.80	1.00	
TWCPI	0.69	-0.08	0.57	-0.05	0.26	-0.06	-0.04	0.59	-0.01	0.08	0.43	-0.18	0.43	-0.07	-0.23	1.00

Note: The shaded figures represent correlation coefficients with P-values greater than 2.1788 which are significant at the 5 level for a sample n=14 (df=2).

Regarding outstanding loan balances, it is interesting to note that the credit union loans in Hong Kong registered a higher growth rate than did bank loans in the period of economic prosperity from 1987 to 1998. However, during the period 1999-2012 when the economy of Hong Kong was in recession as a result of the Asian Financial Crisis, the performance of credit union loans was actually worse than that in the banking sector. Although the situation in Taiwan has not been as significant as

that recorded in Hong Kong, similar characteristics can also be observed. This is because most of the credit unions have fixed their maximum lending rate at 1 per cent per month. However, when the level of bank lending rates had to be adjusted upward during economic upturns, this made the cost of borrowing from credit unions lower than the cost of borrowing from banks. When a lower level of bank rates prevailed in times of recession, the effects were reversed.

Figure (3a) Hong Kong

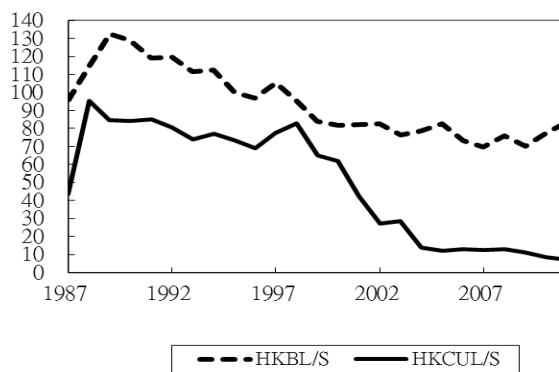


Figure (3b) Taiwan

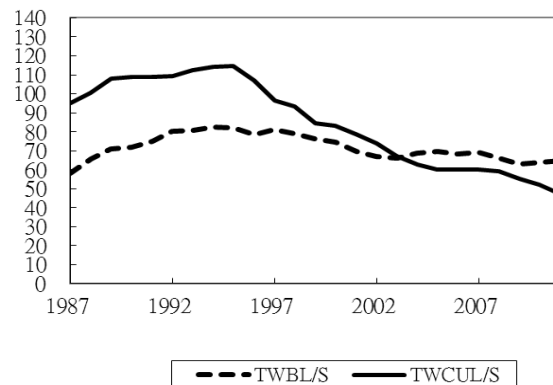


Figure 3 Time Plots of the Loan-to-Savings Ratio (%) for Credit Unions and Banks: 1987-2012, Sources: see Tables 2 and 3

Figures (3a) and (3b) show downward trends in the credit union and banking industry's loan-to-savings curves, these trends were appeared earlier in Hong Kong than in Taiwan. It is clear that the banks' loan-to-saving deposits ratio (HKBL/S) was always much higher than that of the credit unions (HKCUL/S) because the Banking Law allows banks to search for sources of funds other than deposits through the inter-bank market and the debt market. We can also note that the discrepancy between HKBL/S and HKCUL/S has become larger and larger since 1998 after the Asian financial crisis. In Taiwan, however, the credit unions' loan-to-saving deposits ratio (TWCUL/S) was greater than the banks' loan-to-saving deposits ratio (TWBL/S) in 1987-2003, and from 2003 onwards, TWBL/S has been greater than TWCUL/S. These changes may be due to the Taiwan banking industry was too late to recognize the importance of introducing microcredit services to the low-income groups.

In addition, the fact that people found no profitable investment opportunities in the financial markets during the recession and preferred to hold their speculative balance in the form of deposits with banks, created a force that pulled down the loan-to-savings ratio further. Judging from the fact that the time series of the loan-to-savings ratio of banks and credit unions were highly correlated ($r=0.86$ in Hong Kong and $r=0.65$ in Taiwan), it can be concluded that both credit unions and banks were facing the problem of how to transform their savings (deposits) liability to earning assets (loans) in times of recession. Because loans are the most profitable and least risky earning asset for both banks and credit unions, bankers and credit union directors have to pay more attention to promoting the loan market.

Armendariz and Morduch (2010, pp. 19-24) argue that, on the demand side, according to the principle of diminishing marginal returns to capital, the poorer borrowers should be willing to pay higher interest rates than richer borrowers; on the supply side, the credit suppliers need to consider the credit risk especially the adverse selection and moral hazard problems. Although the credit unions in Hong Kong and Taiwan have been suffering from a low loan-to-savings ratio, if the problems of market failure that exist in these two credit union systems could be solved by removing the interest ceilings and enhancing the credit risk management, we believe a new era of high loan-to-savings ratios will begin very soon.

Concluding Remarks

China has established its RCCs system for more than 60 years since 1951. These cooperatives, from their

inception, are basically constructed by the top-down approach which can lead to subsidy dependency and to financial cooperatives that lack initiative and independence, and even corruption. On the other hand, the WOCCU-type credit unions system is working from bottom up. A model credit union being advocated by the WOCCU is a not-for-profit, member-owned, member-managed financial cooperative funded largely by voluntary member deposits. Unlike other microfinance institutions that rely on outside capital, credit unions emphasize the mobilisation of member savings as their primary source of financing, and thus their members can really practice the self-help and mutual aid model of poverty alleviation.

By analysing the reasons for the observed differences in development between the three economies reviewed, it reveals that Hong Kong and Taiwan are more economically developed, the poor quality of management of state development institutions in China, and inadequate policies in China including ceilings on interest rates and credit rationing by the Rural Credit Cooperatives, and thus the CU industry developed far more in Hong Kong and Taiwan compared with China. Nevertheless, these three economies are at different stages of development, they need a more efficient and equitable mechanism to allocate funds among different classes of people. Because credit unions do not resort to exploitation between savers and borrowers, it can be expected that the market mechanism of the money loan market will function much more efficiently in the credit union industry than in the banking industry provided that the interest rate is determined by genuine market forces. Based on the previous analysis and discussion, this study recommends China to develop a WOCCU-type credit union system from the bottom up, to adopt a wider scope of the common bond, to set high interest ceilings on savings and borrowing, to establish a robust credit risk management system, to establish an internal financing mechanism within the national and provincial credit union system but strictly limit access to outside finance, and to strengthen the governance done by boards and managers of credit unions.

We believe credit union is the best way for poverty alleviation, but it is not a panacea. We understand that what credit unions can do is to mobilize the human resources of a country by giving individuals a method of solving their own problems. We foresee the credit union movements in China, Hong Kong and Taiwan will be further developed as long as the credit union recruit a team of volunteers who agree to dedicate their time and resources in service of their fellow members with zeal through the credit union ideas which basically are self-help, mutual aid, member-own and member control.

Notes

1. These microcredit providers utilize Internet technologies to support transactions, manage risk and price loans. Leaders in this area include CreditEase, Ppdai, Alibaba Small and Micro Financial Institute, and my089.com. Major financial institutions, such as Ping An Group, have also begun P2P loan services.
2. Hui means club or society. In this paper it refers to money-loan society.
3. Strictly speaking, RCCs are not government agencies, but they are subject to local government control, and thus the survival of them is largely based on government regulatory protection and subsidized interest rates.
4. "The Interim Provisions on the Administration of Rural Mutual Co-operatives" which was enacted in January 2007 defines a rural mutual co-operative as a community-based mutual banking financial institution which is jointly funded by the farmers of a township (town), administrative village, and small rural enterprises.
5. The Sannong problems or the three agricultural problems refer to the problems of peasantry, rural areas and agriculture in China.
6. Chapter is a local union which is composed by primary credit unions located in the same area as the bridge between the league and primary credit unions. There are 15 Chapters located in 15 counties of 4 areas (north, south, east and middle) to assist conducting various social activities and training programs for members and leaders as well as promoting the new credit unions establishment and businesses run by league.
7. Coefficient of variation
8. Since the fluctuations of most of the time series listed in Tables 3 and 4 are positively correlated and the trends are in the same direction, correlating the data without adjusting for trend will result in increasing the positive correlation coefficient; to avoid overestimating, we used the growth rates to calculate the correlation coefficients.

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