

**Prudential Regulation and
Australian Credit Unions**

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ABSTRACT

This paper examines the impact of recent changes in the prudential regulation of non bank financial institutions in Australia, with a particular focus upon the implications for cooperative financial institutions, such as credit unions. Such institutions are unable to raise external capital to satisfy regulatory capital requirements, and are thus forced to rely upon retained surpluses to generate capital. This, it is argued, creates an incompatibility between the regulatory structure and institutional form, imposes an arbitrary constraint on cooperatives' growth and can induce a focus upon inappropriate financial targets by credit union management. A further impediment to the survival of cooperative financial institutions can be found in the risk weights applied for capital adequacy purposes. It is suggested that these constraints will hasten the ongoing decline in the number of credit unions through mergers and conversions to alternative forms.

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Over the past decade, the standard approach to regulation of financial institutions has changed markedly. Controls over interest rates, portfolio composition, range of permissible activities etc., have been reduced or eliminated entirely. Instead, emphasis has been placed upon capital adequacy and liquidity requirements.

In Australia, this change has been accompanied by the development of a new supervisory system for non bank financial institutions (NBFIs) based on a national supervisory body known as AFIC (Australian Financial Institutions Commission). That body, formed in 1992 on the basis of common legislation by the State governments who have responsibility for supervising NBFIs, has implemented various prudential standards for NBFIs including a version of the risk weighted capital adequacy requirements applied to banks by the Reserve Bank of Australia. The groups of financial institutions subject to AFIC supervision are credit unions, building societies and friendly societies, and the capital adequacy requirements apply to the first two of these groups. All three institutional groups are characterised by the cooperative (or mutual) nature of their members - although many building societies have converted to companies with transferable share capital¹.

The objective of this paper is to examine some of the consequences of this new supervisory regime for the financial management and future of cooperative financial institutions in Australia, with a particular focus upon credit unions (also referred to as credit cooperatives)². It is argued that:

¹ The number of building societies has declined significantly (from 105 in June 1982, when all but a handful were cooperatives, see Davis (1985)) to 41 in September 1992.

² In mid 1992 there were 352 credit unions in Australia, with an average size of \$28 million assets. Total assets of the sector were slightly in excess of 1% of the total assets of all financial institutions, and around 1 in 6 Australians were members of a credit union. Crapp and Skully (1985) provide an overview of the history and operations of credit unions in Australia.

- [1] the concept of and rationale for capital adequacy requirements for credit unions has not been adequately justified by the Australian supervisory authorities
- [2] capital adequacy requirements will arbitrarily limit credit union growth rates and focus management attention upon financial targets not necessarily consistent with unions' goals
- [3] the specific capital ratios chosen by AFIC are excessively high for credit unions specialising in retail financial activities
- [4] the common bond membership and product specialisation of credit unions can lead to significant liquidity fluctuations which compound problems of meeting capital requirements

As a result of these problems, the survival of credit unions in their traditional form is threatened and some form of institutional change will be necessary. One consequence of the financial objectives imposed on credit unions by capital adequacy requirements is that

- [5] the incentive to undertake a form of institutional change which involves expropriation of wealth from members of the credit union to those in control of the institution is increased.

Section one of the paper outlines the specific features of cooperative financial institutions which distinguish them from other financial institutions and give rise to the conclusions outlined above. Section two then outlines the specific characteristics of the capital adequacy requirements imposed by AFIC, and assesses the suitability of the risk weights and capital requirements for institutions involved in retail financial activities. Section three examines the impact of capital adequacy requirements upon credit union growth possibilities. Section four turns to liquidity management and illustrates how capital adequacy requirements and fluctuating liquidity will interact to create additional financial management problems for credit unions. The

conclusion examines the prospects for credit union growth and survival under the new regulatory system, and the incentives it provides for institutional change.

[1] Cooperative Financial Institutions

Cooperative financial institutions, by definition, do not have a class of "owner-shareholders" identifiably different from their member-customers. Typically, all customers must become members, through the purchase (at a notional cost) of one share which carries an entitlement to one vote at meetings of members. (On leaving the cooperative, members can redeem the share at cost). In the case of credit unions, membership is only open to those who form part of the organisation's "common bond", based on geographical, industrial, or community criteria. The stated objective of credit unions is generally to maximise (in some sense) the welfare of members³.

In practice, credit unions have deviated from the strict application of the cooperative principle whereby all funds contributed by members take the form of shares - in which case a distinction between deposits and capital would be irrelevant. Reflecting their increased size and complexity, credit unions have marketed and established their fund taking activities as deposit taking, rather than as contributions of share capital. "Depositors" are promised a specific interest return on funds provided, and that return is generated by the credit union from interest charged to borrowing members and from income earned on other investments.

This particular institutional structure creates a number of idiosyncratic financial management problems.

³ Deshmukh, Greenbaum and Thakor (1982), and Smith, Cargill and Mayer (1981) are among the papers which focus upon credit union objectives.

First, since the welfare of borrower and depositor members is often inversely related (as when interest rates change) management is faced with the problem of balancing these conflicting demands. There is no separate "shareholder" class, maximisation of the value of whose equity stake can be used as a single objective, raising the issue of how benefits from the credit union's activities will be distributed among different classes of members⁴. Studies by Patin and McNeil (1991a, 1991b) have examined the behaviour of U.S. credit unions, and find that the majority of credit unions distribute the net monetary benefit of their lower cost of intermediation neutrally between borrowing and depositing members⁵. There is however, a significant number of credit unions exhibiting a preference in the distribution of net monetary benefits to either borrowing or depositing members.

Second, "permanent" capital can only be accumulated through retained surpluses from operating activities. While notionally the communal property of members, ownership rights to retained surpluses are somewhat vague⁶. Thus, members bear the cost of creation of such capital (since their transactions with the cooperative generate the operating profit), but receive ill defined benefits from current additions to accumulated reserves⁷. Moreover, since the return on these funds is from profits made from transactions with members (in general), it is not apparent that a higher return on those funds is necessarily consistent with cooperative objectives of maximising

⁴ Smith, Cargill and Meyer (1981) focus upon the difficulties created by the heterogeneity of members, while Smith (1984) examines behaviour of credit unions with differential preferences for depositor versus lender welfare. Walker and Chandler (1978) propose a goal programming model for credit unions to use in allocating net monetary benefits amongst borrowing and depositing members.

⁵ Although credit unions typically operate with a higher net interest margin (suggesting a higher cost of intermediation) than other financial institutions, this reflects differences in the composition of activities. Patin and McNeil compare loan and dividend (deposit) interest rates with those available elsewhere to members to determine net monetary benefits.

⁶ Provision for winding up of a credit union may involve allocation of accumulated reserves equally among members. Where the activities of the credit union are transferred to another organisation (by merger or conversion to a different type of institution), provision for transfer of accumulated reserves (on approval of members) may exist.

⁷ Deshmuk, Greenbaum and Thakor (1982) note that capital reserves reduce the risk faced by uninsured depositors. Credit union members thus receive benefits of retained surpluses accrued at the expense of past members, and incur the cost of current surpluses which are retained for the benefit of future members.

member welfare⁸.

Third, since there is no clear distinction between equity and creditor stakeholders in the cooperative, prudential requirements aimed at protecting creditors which are based on an assumption that such a distinction exists may be questioned. In particular, since capital reserves are the property of members, any protection reserves provide to depositing members is in the form of self insurance by the members themselves⁹. Significant losses incurred by a credit union impact solely upon its members - all that a significant capital base achieves is to designate this as a loss of members' accumulated capital rather than as a loss of deposit funds.

Fourth, given the restriction on credit unions' "markets" implied by their common bonds, they can be subject to significant shifts in the demand for loans or supply of funds arising from demographic and income changes among members. Such shifts have implications for interest rate management by credit unions and for their liquidity positions. Since liquid assets are treated differently from loans to members in determining capital requirements, an additional complication is introduced into financial management policies.

Shifts in the relative demand by members for deposit versus loan services creates another problem for Australian credit unions. Under the provisions of the Financial Institutions (State) Act 1992, credit unions are required to ensure that, at all times, no less than 60 per cent of their total assets are in the form of financial accommodation to members. In mid 1992 many credit unions were approaching or in breach of this limit. While that experience reflects general

⁸ This is particularly relevant in the context of Federal Government proposals announced in the 1993 Budget to subject credit unions to taxation on surpluses generated. Since 33 per cent (the current tax rate) of surplus would flow to the government, credit unions could increase member welfare by instead lowering loan interest rates (since most lending is for personal purposes and thus not tax deductible to the borrowing member) or providing non-taxed "implicit interest" (services) to the depositor member.

⁹ Notably, this "intra - credit union" self insurance is supplemented by compulsory "inter - credit union" self insurance schemes through state-government based industry stabilisation funds, in which compulsory contributions are required from credit unions to government run reserve funds available to protect members in failed credit unions.

economic conditions at that time, the capital adequacy requirements introduced by AFIC make liquid asset holdings (which are not financial accommodation to members) attractive to unions.

A final important characteristic of cooperative (mutual) financial institutions such as credit unions, lies in the nature of the agency problems arising from their institutional structure¹⁰. On the one hand, the coincidence of owners and creditors (the depositor/members are the owners) eliminates the well known agency costs associated with debt and equity - providing cooperatives with a potential competitive advantage over profit oriented institutions¹¹. On the other hand, agency problems arising from the divergent objectives of management and owners may be severe. Because of the one member - one vote rule, the ability of any member to generate a concentration of voting power may be limited, thereby increasing the job security of management and their ability to award themselves excessive remuneration.

In practice, as Rasmusen (1988) points out, this may help explain the rationale for the historical emergence of mutual and cooperative financial institutions¹². To the extent that managers of these institutions are constrained in their ability to convert life-time above normal remuneration into short term gains, they have an incentive to minimise the risk of institutional failure and termination of their above normal income stream¹³. Where other financial institutions provide only "risky" deposits, mutuals or cooperatives may emerge as an attractive lower risk depository institution for uninformed depositors. (The likelihood of risk increasing activities is reduced

¹⁰ See Rasmusen (1988) for an excellent discussion of agency issues in this context.

¹¹ This potential advantage is however removed if other financial institutions, such as banks, can provide depositors with a guarantee of safety through deposit insurance schemes or (implicit or explicit) government guarantees, thereby removing the need for depositor monitoring of the institution's activities.

¹² Mayers and Smith (1986) in a study of life insurance companies converting from stock to mutual form suggest an alternative explanation based on the efficiency gains from lower owner-creditor agency costs outweighing increased management owner agency costs.

¹³ This argument suggests that an important feature of prudential regulation of cooperative institutions should be an emphasis upon limiting management's ability to undertake actions which involve short term wealth transfers to itself. Provided that the rents available to management can only be obtained by continued survival of the cooperative, management will have an incentive for risk averse management.

because of the coincidence of owners and depositors, and because of the incentives of management).

Agency issues also arise on the other side of the credit union's balance sheet, through its role as a lender. Here, common bonds -if relatively tight - can serve to reduce the problems of information asymmetry and thus costs of monitoring of borrowers, as well as reducing the ex ante costs of assessing credit risk. These advantages may serve to offset any cost disadvantages arising from small scale, although problems of risk concentration and liquidity fluctuations may become more important (as discussed subsequently).

[2] Risk Weighted Capital Requirements

The approach to capital adequacy requirements being implemented by AFIC follows closely that adopted by the Reserve Bank of Australia (RBA) for Australian banks, which in turn is modelled upon internationally accepted proposals advanced by the Bank for International Settlements. In essence, the approach permits financial institutions to decide upon the risk composition of their asset portfolio (and off-balance sheet activities), but requires that "adequate" capital exists to compensate for those risks. Thus, activities deemed to be higher risk require higher shareholders' funds and imply (it is hoped) that the risk of those activities is borne by shareholders rather than depositors.

As outlined by AFIC (1992, p16) "The primary role of capital in a deposit taking institution is to provide a cushion against loss and to maintain the confidence of its depositors". The difficulty of applying this rationale for capital adequacy to cooperative institutions should be evident - since there is no separate class of shareholders separable from depositors. A loss in any one year reduces the wealth of the members held in the credit union, regardless of the institution's capital ratio. A capital base, however, means that the loss shows up in a reduction in accumulated

reserves (the communally owned wealth) rather than in a reduction in the deposit accounts (privately owned wealth) of the members.

Capital requirements may however change the distribution of risk amongst depositor members and affect their behaviour. Only when losses exceed the cooperative's capital base are depositors affected directly. Consequently, informed depositors are less likely to withdraw deposits when minor losses seem likely, thus reducing the possibility of runs. Were there no capital reserves, it seems likely that the burden of losses would be borne by the uninformed depositor members of the credit union.

Even where there is no distinction between informed and uninformed members, capital requirements may serve to reduce the possibility of runs upon credit unions which can occur when deposits are not insured and available for redemption on a first come-first served basis¹⁴. The impact of losses upon member confidence may be diminished if they fall upon communally owned wealth rather than upon private wealth.

While arguments of this sort can be developed to rationalise the introduction of capital adequacy requirements for cooperatives, they do not imply that this approach is the one most suited to such organisations. Unfortunately, the alternatives such as deposit insurance do not have a good history, and concerns about financial system stability suggest that capital requirements are likely to be retained. It is thus important to understand the impact of such requirements upon credit unions, and the incentives given for institutional change to a form compatible with the regulatory system.

As with the RBA approach, the AFIC proposals divide credit union's assets into five categories each of which is assigned a risk weight (varying from 0 to 1). Examples of the weights are

¹⁴ See Diamond and Dybvig (1983)

contained in Table 1. Off balance sheet activities (such as guarantees, option transactions etc.) are converted into on-balance sheet equivalents, and assigned to particular risk weights.

Table 1
AFIC Capital Adequacy Requirements

<u>Risk Weight (%)</u>	<u>Type of Assets (examples only)</u>
0	Notes and coin, short term commonwealth debt
10	Long term commonwealth debt, state government debt
20	bank liabilities, local government liabilities
50	Residential mortgage loans
100	Other assets and claims (personal unsecured loans)

Minimum capital requirements are calculated in the following manner. First, "risk weighted assets" are calculated by multiplying the dollar value of all assets by their risk weightings and summing. Second, a minimum capital requirement is set at some (eight) percent of risk weighted assets¹⁵. Thus, a hypothetical institution with assets solely of \$100 of unsecured personal loans (with a risk weighting of 100%) would need to have at least \$8 of permanent capital. An institution with assets solely of \$100 of long term government securities (with a risk weighting of 0.2) would need to have at least \$1.6 of permanent capital.

This approach to designing capital requirements can be criticised on a number of grounds (although designing a practical superior alternative is not a simple matter). Default risk is emphasised, although interest rate risk appears in an ad hoc fashion¹⁶; the summing of risks

¹⁵ The capital requirement is broken down into two tiers, of which tier 1 (comprising highest quality capital items) must be at least 75% of the total.

¹⁶ Further proposals aimed at incorporating interest rate and other "market" risks into capital requirements for

ignores the impact of portfolio diversification on risk; the risk weights are in some sense arbitrary; the establishment of an appropriate capital ratio is also somewhat arbitrary¹⁷.

That last criticism is particularly appropriate in the case of capital requirements established by AFIC for credit unions. Consider, for example, a hypothetical credit union with 100% of assets in the form of unsecured personal loans - the principal business of traditional credit unions. Since those loans have a risk weighting of 1, that credit union will be required to have permanent capital equal to 8% of total assets. The rationale is that such a level of capital is the minimum required to protect depositors against loss arising from default by borrowers.

Since the acquisition of permanent capital imposes a cost upon members (in the form of an interest rate margin between deposit and loan rates sufficient to generate a surplus which can be retained), the benefits of that level of capital requirement need to be studied. What should be noted first is that capital reserves will not be needed to protect depositor members from "normal" default rates on loans. Prudent interest rate setting will ensure that loan interest rates incorporate a margin which allows for average default experience (i.e. interest rate setting "self insures" against average default experience). It is thus only the abnormal default experience which gives rise to the need for capital requirements for protection of depositor members.

What then constitutes an adequate capital requirement for coping with abnormal default experience on a portfolio of small unsecured loans. Here, modelling of the distribution of default experience on such loans is required for a precise answer, but in many cases 8% is bound to be grossly excessive.

To provide an idea of the magnitudes involved, suppose that an institution has 100 equal size

banks have been proposed by the Bank for International Settlements in discussion papers released in April 1993.

¹⁷ Davis (1990) outlines some of the problems associated with the risk weighted approach.

loans outstanding, and that the probability of any individual loan defaulting (in total) was 0.04. (I.e., one in twenty five loans are assumed to default entirely on average). Such default experience would contribute around 4.6 percentage points to the interest rate margin charged by the institution (on top of any allowances for operating expenses etc.)¹⁸. It is thus a clear overestimate of typical default experience. What is the chance that a large number of defaults will be experienced in any year and wipe out the institution's capital base? The probability that in any year more than 10 loans would default (i.e. 6 "abnormal" defaults) can be calculated using the binomial model, and is 0.0022¹⁹. Thus if the institution had capital equal to 6% of assets, the probability of failure in any year would be 0.2%.²⁰

The calculations presented above need to be interpreted with care. On the one hand they assume independence of individual loan outcomes, and for small credit unions with a narrow common bond this may be inappropriate. On the other hand, the probability of such a deviation in the default rate from the average declines with the number of independent loans being considered, so that the capital requirement needed to maintain the probability of failure constant decreases with size.

The implication of these comments is that the current approach based on similar capital requirements for all credit unions regardless of size or common bond, assumes a homogeneity among credit unions which does not exist. Not only are the requirements likely to be excessive, they are likely to impact differentially upon different credit unions.

¹⁸ This is calculated by solving the equation

$$100(1+r) = 96(1+r_a)$$

where r is the deposit interest rate, r_a is the loan interest rate, and the RHS of the equation indicates that principal and interest is only recovered from 96 of 100 loans.

¹⁹ This figure was calculated using the Minitab statistical package. Alternatively, an approximation can be obtained by noting that for large n , the distribution of the proportion of successes (p) in a sample of n independent draws from a binomial distribution with a probability of success of π has a normal distribution with mean π and variance $\pi(1-\pi)/n$.

²⁰ A run of bad years each with somewhat smaller loan defaults could achieve the same effect.

One potential danger with the current capital requirements is that they can have adverse effects. Suppose an institution has a high number of abnormal defaults. It is then required to rebuild its capital reserves. Since this can only be achieved by increasing the interest rate margin, including charging higher loan interest rates, one consequence may be to increase the likelihood of further defaults.

[3] Capital Adequacy and Credit Union Growth

Capital adequacy requirements imply that credit union asset growth can only occur if the institution's capital base also expands²¹. This creates a particular problem for cooperatives, since the only source of enlarged capital is through operating surpluses. Rapid growth requires large surpluses, but to achieve large surpluses deposit rates must be set relatively low and loan rates relatively high - settings which are not conducive to attracting business and growing rapidly.

In fact, capital adequacy requirements imply a limit to the natural growth rate of credit unions. In contrast, other financial institutions can grow rapidly if opportunities exist by attracting new capital from equity investors²². The resulting constraint on credit union growth (discussed in more detail below) has several undesirable consequences for financial system efficiency.

First, credit unions experiencing an exogenous increase in demand for their services (such as through an expansion in common bond membership) which would lead to a short run growth phase may be unable to accommodate that increased demand. Second, while mergers may provide one vehicle for credit unions with efficient management practices to expand and apply

²¹In this section we ignore the possibility of the cooperative shifting the composition of its business from high to low risk weight assets.

²² Many formerly cooperative building societies have gone this route by conversion to a form which enables the issue of permanent share capital.

those practices to a larger asset base, the ability to expand through "natural" growth is restricted by the need to generate extra capital internally from retained surpluses. Third, the ability of small credit unions to achieve economies of scale by growing by means other than mergers may be hindered²³.

The potential growth constraint on credit unions can be seen by examining the balance sheet relationships implied by capital requirements. Capital requirements imply adherence to a minimum net asset (capital)/total assets ratio. How does a growing cooperative maintain that ratio over time? Since the credit union's surplus represents the change in net assets, the key relationship involves the size of the surplus relative to the change in total assets.

Let R_t represent the required capital ratio (net assets/total assets), NA_t represent net assets, TA_t represent total assets, and g_{NA} and g_{TA} stand for the growth rates of net assets and total assets respectively. Using subscripts to represent time, the relationship between the required capital ratio at time t and at time $t-1$ can be derived as follows.

$$\begin{aligned} R_t &= NA_t/TA_t \\ &= NA_{t-1}(1+g_{NA})/TA_{t-1}(1+g_{TA}) \\ &= R_{t-1} \cdot (1+g_{NA})/(1+g_{TA}) \end{aligned}$$

Since the growth rate of net assets g_{NA} is equivalent to the rate of return on net assets (often defined as ROI - the return on investment), constancy of the capital ratio requires that

$$ROI = g_{TA} \tag{1}$$

²³ Studies of economies of scale in financial institutions indicate that average costs decline up to a moderate size (e.g. assets of \$US 100 million) but increase thereafter. See Clarke (1988) and Humphrey (1990) for surveys of this evidence.

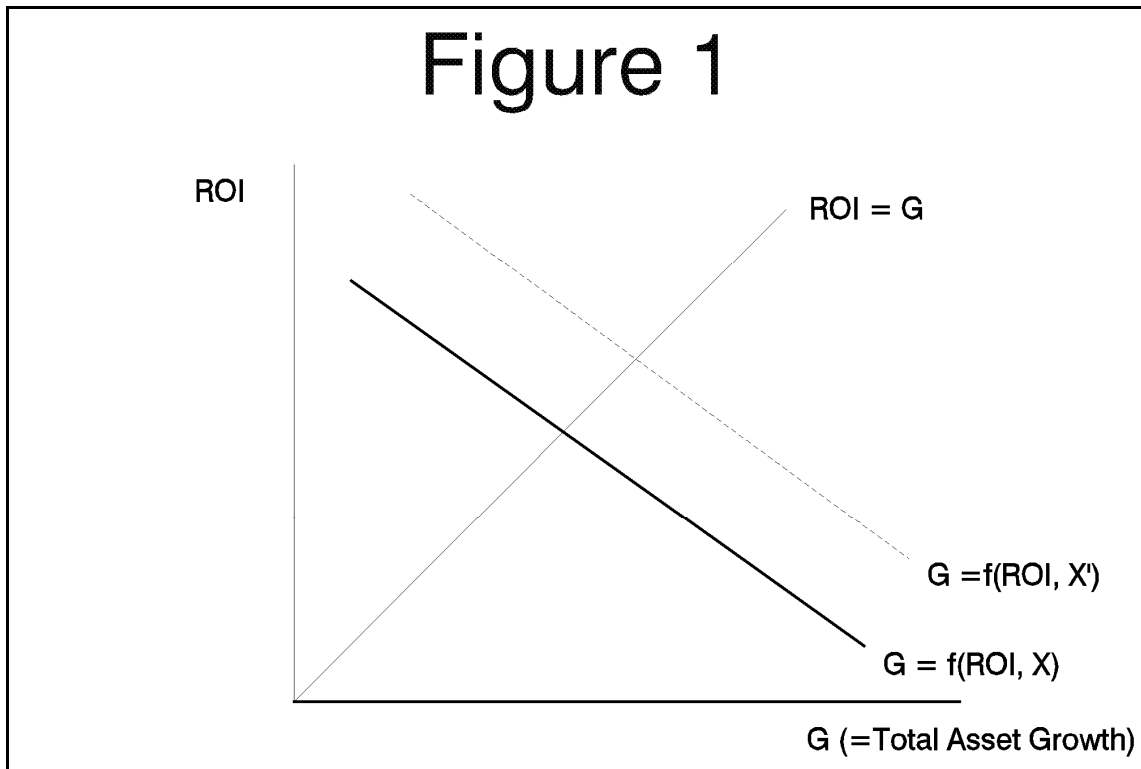
If ROI is greater than g_{TA} , R will increase, while if ROI is less than g_{TA} , R will decline.

The problem for credit union financial management is that ROI and g_{TA} are related in a second manner. Attempts to alter ROI will influence g_{TA} . For example, an attempt to increase ROI by, for example, increasing the gross interest margin between deposit and loan rates, is likely to reduce g_{TA} , as depositing with and borrowing from the credit union become less attractive. Thus we may hypothesise that

$$g_{TA} = f(\text{ROI}, X) \quad [2]$$

where X represents a vector of other determinants of total asset growth (such as growth in the relevant population, general financial market conditions etc.) and $f_1 < 0$.

Figure 1 illustrates the two relationships [1] and [2] outlined above. Given a particular set of values for X there is an equilibrium ROI and g_{TA} determined by the intersection of the regulatory requirement and the growth relationship. In the absence of external shocks to the credit union (changes in X), there is an equilibrium growth rate enforced by the regulatory requirement.



Some idea of the magnitude of that growth rate can be gained from some simple calculations.

ROI can be rewritten as

$$\text{ROI} = \text{ROA} (\text{TA/NA})$$

where ROA is return on total assets. For credit unions this has typically averaged around 1% p.a. A capital requirement of 8% is equivalent to a ratio of $\text{TA/NA} = 12.5$. Combining we obtain an implied value for ROI of .125 or an implied growth rate of total assets of 12.5% p.a. Where institutions also engage in mortgage lending and hold liquid assets, the capital requirement falls accordingly and the growth constraint becomes less binding.

An alternative interpretation of this result can be had by considering the implication for credit union financial management. Given the set of external factors (X) influencing growth, the

capital requirement implies that the credit union must aim for a target rate of ROI to maintain capital adequacy. As previously noted, the fact that ROI is the surplus obtained from transactions with members means that there is no a priori case for believing that a larger ROI is better. Undoubtedly there is some optimal ROI, but there is no guarantee that the ROI implied by the capital requirements is that one.

For example, a cooperative with larger natural growth opportunities will need to maintain a higher ROI to meet capital adequacy requirements. If, for example, growth opportunities exist because of growth in the common bond membership, existing members will bear the major burden (in the form of higher loan rates and lower deposit rates) of the higher ROI required to permit the extension of services to new members.

In contrast, if a credit union faces no growth opportunities, there is no obvious reason for it to aim for a positive ROI (i.e. a surplus). Since any surplus transferred to accumulated reserves transfers wealth from private ownership of members to communal ownership, this is not necessarily a net benefit to members. One unfortunate consequence of the capital requirements, and an apparent objective of AFIC, is to focus the attention of credit union management upon achieving an "adequate" surplus each year, regardless of whether this is in the members' best interests or not.

Further complexities for financial management arise when we consider the implications of an external shock to the credit union's growth (a change in X). Consider a shock which shifts the growth relationship to the right from G to G' as in figure 1. If the cooperative is to take advantage of this opportunity, it must increase ROI by for example widening its interest rate margin. Not only does this choke off some of the growth potential, but it imposes a burden upon the existing members (in the form of a wider margin) if the increased demand is to be satisfied.

[4] **Liquidity and Capital Adequacy**

In the previous section, the analysis of credit union capital adequacy assumed that the asset portfolio of credit unions was unchanging (and consisted of 100% personal loans). In practice, asset composition can change with different weights of asset categories affecting capital requirements.

A particular problem arises for credit unions because of their common bond restriction upon business activities. Quite marked changes in the demand for loans relative to the supply of deposits can occur because of demographic characteristics. While changes in interest rates can be used to bring demand into line with supply, such changes may not always be optimal if they lead to changes in aggregate business size and there are difficulties in adjusting operating cost levels. In such circumstances, an optimal strategy may be to allow imbalances to show up in swings in liquidity.

The problem created by such an approach is that liquid assets involve a markedly different risk weighting to personal loans in the capital adequacy framework. Thus swings in liquidity will be inversely related to the cooperative's capital position.

While such influences upon the capital position can be managed, the magnitude of the effect can be substantial. For example, at the end of 1992, credit union liquidity in Victoria averaged around 30% (with some institutions at around 40%), compared with a more usual figure of around 20%²⁴. Assuming that liquid assets have a risk weighting of 10% and loans have an average risk weighting of 75%, a reduction in the liquidity ratio from 40 to 20 would reduce the capital ratio of a cooperative initially at 10% of risk weighted assets (of $.1(40)+.75(60)=49$) to a

²⁴ The figure for December 1992 is taken from Victorian Financial Institutions Commission, Quarterly Commentary December 1992.

ratio of 7.9% of risk weighted assets (of $.1(20)+.75(80)= 62$).

One consequence of this liquidity effect is that credit unions will find it much easier to respond to shocks which increase total asset growth originating on the deposit side of the balance sheet. The extra capital requirements associated with accepting those deposits and investing them in liquid assets are relatively small. But growth in activity arising from loan demand brings with it a need for significant capital increases, and may be less easy to respond to.

[5] Conclusion

This paper has outlined some of the problems of imposing a required capital ratio upon cooperative financial institutions for whom a capital base is inherently contradictory to their structure. Growth rates are arbitrarily constrained and the focus of credit union managers is shifted to an objective of a target ROI which is not necessarily consistent with the maximisation of members' welfare. Higher capital levels increase the stock of wealth which is communally owned (but potentially subject to expropriation).

To the extent that credit unions as a group survive, their numbers seem likely to diminish substantially. For existing credit unions there is an incentive to expand common bonds to reduce the problems of managing liquidity in a world of capital adequacy requirements. Moreover, supervisors have incentives to encourage mergers of credit unions, since there are most likely cost economies in the supervisory process when there are smaller numbers of larger institutions. (It can also be argued that the probability of any institution failing is smaller with a smaller number of institutions - although the scale of any failure may be increased). Since the supervisory activities are paid for by credit unions, with contribution rates tied to size rather than supervision costs, there is also an incentive for large credit unions to support a process of mergers.

Significantly, prudential regulation places major barriers in the way of entry into the credit union industry - thereby inhibiting, in fact virtually precluding, the start-up of new small credit unions. Given a minimum capital requirement, a newly established credit union even if well endowed with deposits will be unable to lend those funds to members unless significant Tier one share capital is available. Since only general reserves and retained earnings classify as Tier one capital, and a new credit union cannot (by definition) have such capital, considerable difficulties confront any group wishing to establish a new credit union²⁵.

Given the problems outlined, there are several likely developments.

First, credit unions will seek ways of acquiring capital reserves by methods other than accumulated surpluses (perhaps including the relinquishing of cooperative status). To the extent that this leads to creation of a specific class of equity holders in the institutions, the problem of allocating ownership rights to the existing capital in the institutions will assume major importance. Indeed, the growth of accumulated reserves in these institutions provides incentives for controlling interests to seek to expropriate significant parts of the communally owned wealth by transferring it to their private ownership as part of the process of conversion to an alternative form²⁶. Where management is limited in the extent to which above normal remuneration can occur, the ability to obtain a significant share of equity (and thus of the accumulated communal wealth) in any conversion process will increase the incentive to pursue this route.

Second, credit unions will have an incentive to act primarily as deposit takers and providers of associated services, investing in primarily liquid assets for which the capital requirements are

²⁵ Even if potential members are willing to provide significant parts of their funds as withdrawable share capital, this does not overcome the problem - since withdrawable share capital is not included in eligible capital.

²⁶ While legislation appears to preclude credit unions converting into any form other than building societies, once in that form conversion into a company with tradeable equity is allowed.

minimal. As noted earlier, this creates a problem of satisfying the requirements of the Financial Institutions (State) Act 1992 that at least 60% of assets should be in the form of financial accommodation to members. Such activities would bring them more into competition with cash management trusts, which are effectively mutual organisations investing in liquid assets, and involve credit unions departing from their principal objectives. Alternatively, securitisation of assets has the potential to take assets off the balance sheet - but the likely need to attach guarantees to credit union loans which could be securitised would not remove the need for capital requirements against these off-balance sheet liabilities.

Finally, it would seem likely that in the face of the costs imposed by interaction of the regulatory system and their current institutional structure, credit unions will endeavour to find an alternative institutional form consistent with the new environment. In some respects, the solution is straightforward. Since the main problem revolves around the lack of ownership rights attaching to accumulated surpluses, a form which provides such rights would make sense. For example, all members could be credited with a "share account" to which is credited their share (based on deposit and/or loan balances held) of retained earnings for that year. On leaving the credit union, members would, after some qualifying period (perhaps one year), be able to withdraw the funds in the share account. The credit cooperative would face fewer constraints in accumulating capital, would have a relatively stable (although not permanent) capital base, and would still maintain the cooperative principle as the basis of its activities.

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