Marketing Communication Expenditures and Financial Capital—The Impact of Marketing as an Option

by

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Abstract:
This paper examines the financial effectiveness of marketing communication expenditure (MCE) as an instrument to increase risk-weighted capital. We nest a cross-sectional time-series panel model within the risk-adjusted earnings principles of Ohlson (1995), and apply the model to a dataset of NSW credit unions during a period of regulatory intervention that abruptly required management to meet minimum capital thresholds. Because they cannot issue equity, and other income increasing options conflicted with credit union philosophy, this provided a strong incentive to use MCE as an option to rapidly increase revenue (and capital). We find MCE was financially ineffective in small credit unions, had a positive marketing leverage impact in large credit unions, and required regular renewal. Our study makes several contributions by: (i) disaggregating and testing the financial impact of marketing; (ii) applying a risk-adjusted model generally applicable to non-listed firms; (iii) informing on the capitalisation/expensing debate; (iv) highlighting when and why MCE as a real option is financially (in)effective; and, (v) adding to the growing interface in the financial/marketing literature.

Keywords:
FINANCIAL EFFECTIVENESS OF MARKETING; MARKETING LEVERAGE; MARKETING OPTION.

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1. Introduction

The world economy is progressively moving toward service- and information-based industries. This means that valuation and management problems associated with intangible expenditures, such as research and development (R&D), human capital, brand names, and marketing, is accelerating. In this paper we evaluate the financial effectiveness of marketing communication expenditures (MCE), as an optional tool to attract additional customers and increase risk-weighted capital. The NSW credit union industry is used as a case study because it represents a situation whereby capital was required to be rapidly increased and MCE was a highly viable option. We also focus on several management issues and identify the circumstances where MCE is more successful.

In undertaking the research we broach several issues related to valuation and management. First, marketing is often argued to produce multiple and correlated outcomes. For example, contemporaneously building customer and partner relationships, increasing brand value, producing economies of scale, enhancing customer loyalty and price premiums, and increasing financial capital (Boulding, Lee & Staelin 1994). But this may not be the case, with sales effectiveness and customer-equity marketing having offsetting financial impacts (Yoo & Hanssens, 2005). We therefore take a micro approach by categorising MCE as a subset of total marketing expenditures that has a specific objective aimed at inducing customer switching, rather than achieving several objectives. In so doing, we highlight the multi-layered objectives of marketing in the financial sector and the contextual importance of undertaking a disaggregated analysis. This approach is reinforced by the data period and the industry analysed. First, the data period, because it coincided with an economic downturn and the requirements of the Australian Financial Institutions Code (AFIC 1992) to quickly meet the 8% Cooke Ratio. As co-operatives, credit unions cannot raise external equity to increase capital and they have a strong co-operative culture not to (aggressively) engage in cost cutting or reducing operating margins that squeeze returns to customers. The time period provided few options to rapidly increase capital and, hence, a strong incentive to focus on MCE as one limited option available. That is to rapidly increase revenue in a cost-effective manner. Second, the industry, because the financial sector is mature in terms of industry innovation and mainly depends on superior branding and customer appropriation to generate additional economic returns. In combination, these circumstances produced a crisis whereby credit unions had amplified incentives to use MCE as a short-term tool to enhance profits. Thus, the first research objective was to test the financial effectiveness of MCE during a crucial and financially depressed period.

A second issue was to assess the financial impact of marketing in non-listed firms. The few papers in accounting and finance that analyse the financial impact of marketing are confined to firms listed on stock markets and concentrate on

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1. In aggregate the market has capitalised a high proportion of intangible expenditures. The ASX 200's value is represented by 30% tangible, 7% recognised intangible, and 63% unrecognised intangibles (Bloomberg, www.brandfinance.com/Uploads/pdfs/BrandFinanceReportMay.)

2. Determining financial outputs for non-listed firms is important because listed firms represent less than 1% of total firms. For example, in 2006 there were approximately 7,700 firms listed on the US stock exchanges (NYSE (2800), NASDAQ (4100), AMEX (800)) and some 5,820,000 unlisted firms. Source: Office of Advocacy, US Small Business Administration and the various exchanges.
reporting pricing metrics such as stock returns or price-to-book ratios (Chan, Lakonishok & Sougiannis 2001; Barth & Clinch 1998; Barth, Clement, Foster & Kasznik 1998). This is despite the fact that marketing expenditures are an important component of total expenditures for non-listed firms; in many it is equivalent to total net income. In contrast, marketers have published extensively about marketing in non-listed firms. But from a financial perspective, the research relies heavily on product markets and qualitative outputs such as awareness, attitude change, or intention to buy, with the assumption they are positively correlated with financial outputs. Our second research objective, and a contribution to the valuation literature, is the development and illustration of a risk-adjusted financial model that can be generally applied across non-listed firms.

A third issue is the debate whether marketing expenditures should be expensed or capitalised. Prior accounting research that examined intangible expenditures notes that such firms have market values several times greater than book values and lower earnings response coefficients (Aboody & Lev 2000; Lev & Zarowin 1999; Amir & Lev 1996; Lev & Sougiannis 1996). Researchers argue this is caused by non-capitalisation. We recognise this as a complex issue because: (i) future benefits associated with intangible expenditures have significantly greater uncertainty than other assets (Choi, Kwon & Lobo 2000); (ii) automatic capitalisation ignores significant economic differences across firms (Hodgson, Okunev & Willett 1993); and, (iii) it is debatable whether intangible expenditures have the same impact across (or within) industries.

On the other hand, marketers routinely call for the capitalisation of marketing expenditures. For example, Day (1997) argues that the financial payoffs from marketing are realised over a longer period and, therefore, such expenditures should be capitalised and treated as intangible assets. This is despite the fact that, under International Accounting Standards (IAS), marketing expenditures are expensed in the period they occur and no provision is made for them to be capitalised. We observe that capitalisation is a complex decision and maybe should be assessed on specifics; such as firm size, industry and more precise marketing expenditure characteristics. Thus, our third research question is to ask whether the financial impact from MCE is long term or short term in nature. The answer will inform management whether to capitalise, or to expense and regularly renew expenditure.

The fourth issue is concerned with answering several pragmatic questions associated with the management of MCE and is aimed at understanding the wealth-creation dynamics of marketing. For example, is MCE more financially successful in small firms or large firms, in what circumstances should MCE be renewed or terminated, what is the rate or return on expenditure, what marketing mix is more profitable, and does MCE have a leverage impact on accounting earnings (and

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3. Chan, Lakonishok, and Sougiannis (2001) report that marketing expenditures, on average, account for 1% of total sales or about 35% of earnings, but represents over 100% of earnings in some industries. Data used in this study shows an average ratio of 73% of marketing expenditure to earnings.

4. In this sense, our paper is a specific contribution to the call for marketers to specifically show how (or if) marketing expenditures enhance the financial wealth of the firm (Srivatsava, Shervani & Fahey 1998).

5. For example, a strong theory argues that marketing has the power to permanently reduce the elasticity of demand (supporting capitalisation), a weak theory sees marketing as a defensive tool aimed at preserving product demand and a redundant theory sees marketing as ineffective in competitive price-taker markets (supporting expensing) (see Figou 1920; Scherer 1980).

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hence capital)? Thus, the fourth research objective provides practical guidance for managers who face the recurrent problem when to implement the MCE option.

In addressing these questions, we make use of the Ohlson (1995) principle that increases in real capital is evidenced by accounting earnings in excess of the required return on net book value. Several constrained and unconstrained versions of cross-sectional time-series panel data techniques are applied to a data set of 143 New South Wales credit unions to test for the impact of MCE. We also control for lag and seasonal earnings expectations, for possible accounting manipulations, and for differential financial impacts across size and individual firms. Results show significant size and leverage effects. MCE is not effective in increasing risk-adjusted earnings (capital) in small credit unions. Explanations include an ineffective MCE mix and a lack of marketing expertise. On the other hand, in large credit unions, the level of MCE is positively correlated with excess risk-adjusted earnings and negatively related to the current level of earnings possibly caused by an under-utilised asset base. Finally, in the competitive financial services sector, MCE should be considered a renewable investment (expense) to be constantly re-evaluated rather than a long-lived intangible asset.

The paper now proceeds as follows. The next section provides the institutional background, section 3 outlines the data and statistical method, and section 4 contains the research questions and reports the results. The paper is concluded in section 5.

2. Marketing in the Credit Union Sector

This section provides an overview of marketing in the financial services sector by placing it within a theoretical framework consisting of core and optional expenditure. By doing so we emphasise that marketing occurs in various forms, but with dual objectives of building brand value through customer relationships, and transaction marketing aimed at appropriating incremental customers.

2.1 Core and Optional Investments

In managerial economics the value of shareholder's financial equity is determined by two main components. The first reflects the value from core assets in place. Managers determine their comparative advantage and then apply this particular 'business technology' to core assets in order to produce a stream of expected future economic flows. This is termed the recursive value of equity (Burgstahler & Dichev 1997). The second component arises from the fact that the firm has options to change its existing technology and/or to use resources in alternative and more profitable ways (Ashton, Cooke & Tippett 2003). Hence, an important managerial decision is to decide what expenditures are core and what expenditures are optional within an industry context (Erikson & Jacobson 1992).

The financial services sector is mature and competitive with business innovations sparse and easily duplicated. Short term financial growth is mainly derived from external attempts to induce customers to switch service providers, and longer term growth is achieved through branding activities that emphasise service quality and retention of customers. As a result, the financial services sector has a distinctive dual-layered approach to marketing that encompasses both core and optional marketing. In particular, credit unions invest heavily in building customer
equity and brand assets through internally focussed (core) relational marketing activities (RME), and then also expend additional (optional) resources on externally focussed MCE aimed at attracting additional customers. These two approaches are now discussed in greater depth.

2.2 Relationship Marketing Expenditure (RME)

A central activity of financial service providers is to build a sustained competitive advantage by establishing and maintaining a strong core of loyal customers (Duncan & Elliot 2002). Within this framework, the role of RME is to deliver and differentiate firms on service quality by utilising an internally generated and dispersed marketing approach through higher staffing levels and increased training. The emphasis is on frontline employees and customer service representatives who concentrate on delivering high quality customer service with a continuous evaluation of customer welfare and satisfaction (Colgate & Lang 2005).

Credit unions are particularly successful in using RME. They have a foundation philosophy of mutual cooperation with their business and marketing built on a strong culture of service and relationship building. As a result, credit unions in NSW (during the research period) funded over twice the number of employees per branch, provided almost four times the number of branches per asset dollar employed, and had almost double the operating expense to asset ratio, when compared to the four major banks (KPMG 1996). These core expenditures resulted in the successful establishment of high quality customer relationships along with higher relative financial returns (Allred 2001; Allred & Adams 2000).

The fact that such small, ostensibly co-operative organisations, can manage to survive (even thrive) is a reflection of their distinctive organisational cultures which appear to produce satisfied and loyal customers who are prepared to pay a premium price for loans and yet who are staunch and loyal advocates. (Duncan & Elliot 2002, p. 23).

This statement is also supported by our data. NSW Credit Unions earned an average annual return on total risk weighted assets equal to 1.48% per annum compared to 1% for banks over the same period (KPMG 1996). In summary, RME fosters the development of strong customer relations in conjunction with superior long run financial returns and RME is core business technology for credit unions.

2.3 Marketing Communications Expenditure (MCE)

Credit unions expend significant additional resources on MCE equivalent to 73% of earnings in our data.6 Whilst RME is individually focused with the expenditure aimed at longer term attributes (customer loyalty and brand establishment) MCE is focussed on non-personal mass communication with a shorter term focus on customer appropriation. In general, MCE encompasses mass advertising via TV, radio, newspapers and billboards and targeted mass marketing via print pamphlets, brochures, newsletters and information mail-outs. By their very nature, these expenditures have an external orientation, a shorter horizon, and require a different marketing specialism.

6. This can be compared with the 35% ratio of marketing/earnings reported by Chan, Lakonishok and Sougiannis (2001) for a cross-section of US firms.
We argue that MCE naturally falls within the ambit of an investment option that can be increased and decreased according to economic conditions and firm policy. Thus the focus of the subsequent analysis is on evaluating the financial returns of MCE. That is, we question whether the high relative and additional expenditure on MCE made a financial contribution during a period where increasing capital was of the highest priority. In the next section we establish why increasing accounting earnings was particularly important and the reasons why MCE might play a strategic role.

2.4 MCE and the Importance of Increasing Accounting Earnings

During the research period, the Australian Financial Institutions Code (AFIC) was introduced (July 1992) to provide template prudential regulation for all Australian financial co-operative societies. AFIC emulated the risk-weighted capital ratios of the first Basle Accord that required a minimum capital of 8% which was backed by the force of law under the AFIC Code. The penalties for falling below minimum capital requirements included sanctions on loan portfolios and investment activities, monitoring of activities, increased reporting requirements, the placing of credit unions under direction (with an outside manager gaining control), and forced merger. Any of these sanctions would result in the loss of managerial and board reputation and possible dismissal of the manager. Thus, it was costly for managers to violate and remain below minimum capital requirements. Also, immediately prior to AFIC and important to our study, is the fact that the New South Wales co-operative legislation required a significantly lower minimum capital ratio of 3%. As a result, urgent action was required to increase risk-weighted capital.

But, as co-operatives, they could not raise external equity\footnote{Banks can issue additional capital but credit unions are restricted to one share per member and these cannot be exchanged or traded.} leaving two alternatives—increase accounting earnings or change the risk structure of their loan book. The more radical approach was to rapidly change the loan portfolio (and lower the risk weights), but this is a difficult option in the short term. It takes considerable time and resources to refocus the balance sheet and re-alignment too quickly into non-traditional areas can be ineffective and costly (Dahl & Spivey 1995). Also, to rapidly turn aside from the high return personal loan area where credit unions have a comparative advantage in agency costs (Davis 1994) would be an inefficient reallocation of monitoring resources, against the credit union charter, and not in the financial interests of current credit union members. Further, this would place incremental pressure on the cost of consumer borrowing for society-at-large as borrowers are forced to apply to alternative service providers.

Hence, increasing capital through operating earnings became a central focus. This could have been undertaken through: (i) cost cutting; (ii) widening the operating margin; (iii) window dressing by the use of manipulative accounting techniques; or, (iv) marketing activities aimed at quickly increasing the customer base and revenues. Cost cutting and margin widening to maximise profits is difficult and unlikely in credit unions because they are incompatible with cooperative philosophy and part of core activities (Smith, Cargill & Meyer 1981). Additionally, if salary costs represent investments in an extended stakeholder philosophy (staff) and in building a high level of customer service quality through
RME, then this is financially risky and an unlikely source for cost savings. Another option is to increase the operating margin by lowering interest costs and increasing loan revenue. But this means making philosophical decisions about whether the costs are borne by member depositors, member borrowers, or shared in some manner. This is also an unlikely avenue. First, a cost allocation approach is against the credit union equity charter not to disadvantage any class of member. Second, there are pragmatic reasons against both the cost sharing and allocation solutions. Credit unions had to compete in the mature banking industry during a period of depressed conditions, and any change in interest rates would risk a flight of current members (not willing to subsidise future members) to other financial service providers.

Another alternative was to window dress the accounts upwards by manipulating the accounting numbers. This is consistent with Kane's description of 'regulatory dialectic', where regulation is followed by accounting avoidance behaviour and with the empirical results in the banking literature (see Beatty, Chamberlain & Maglioli 1995; Collins, Shackelford & Whalen 1995). We expect such behaviour in the short term and therefore apply controls in our statistical design to capture any impact across individual credit unions.

One remaining option was to adjust MCE, either as a cost cutting exercise or as an appropriation tool by leveraging customer equity realised through RME or by inducing switching behaviour. The research period also accentuates the problem of managing MCE expenditures. McFarlane (2006), documents the 1988–1994 period in Australia as the worst recession period for financial failures since the 1890's. Thus, a competitive industry with little room for business innovation, cultural reluctance to cut costs, together with a depressed economy and the requirement to quickly meet the AFIC capital benchmark of 8% from July 1992 onwards, meant that credit union managers were forced to use every available tool to increase capital. A financial focus on MCE is an obvious candidate, especially given the large relative expenditure levels. We now outline the general framework used to examine whether MCE did indeed contribute to enhancing capital.

3. Data and Research Design

3.1 Data

Data for 143 credit unions were provided by the New South Wales (NSW) state supervisor of co-operative societies consisting of 4433 quarterly financial reports for the period June 1987 through December 1994. Contained in the quarterly data were details of revenue, expenditure, operating earnings, assets (split into various risk classes), and aggregated MCE. We then decomposed into small (99) and large (44) credit unions using $20 million (in 1992 dollars) which split the data into 3069 and 1364 quarterly firm quarters.8

Quarterly risk weighted earnings (QRWE) were measured by taking the ratio of quarterly operating earnings and dividing by quarterly risk weighted assets (QRWA). Asset weightings were applied using the AFIC risk weighting definition

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8. The forming of size categories is somewhat arbitrary, but we rely upon Fried et al. (1993) who used $20 million as the delineating size in the US, and Esho (1999) who used $20 million (in 1993) for Australian credit unions.
as follows: notes, coin and short-term federal government debt 0%; long-term federal government debt, state government debt 10%; bank liabilities, local government debt 20%; residential mortgage loans 50%;⁹ and unsecured business loans, personal loans, and lines of credit 100%. These weightings apply for financial assets that comprise about 90% of credit union assets. The primary remaining asset consists of buildings, which we weighted at 50%, consistent with the weighting applied to real estate mortgages. The application of risk weightings to each asset class means that any change in risk caused by a changed customer mix (induced by marketing activity) is then reflected in the loan type. Finally, quarterly marketing communications expenditure (QMCE) was transformed into an intensity ratio by dividing QMCE by quarterly total expenditure.

There is also a possible survivorship bias in the data given the recession period and the amount of merger activity in the industry. From 1975 to 2006 credit union numbers in Australia declined from 777 to 146, providing an overall average annual merger rate of a 4.84%. During the data collection period the merger rate was 4.75%, which shows there was not an unusual survivorship bias in the data. Moreover, given that we examine only those firms that survived, we also obtained data for small and large credit unions that subsequently merged during the five years after 1994 (1995–1999). The level of MCE was then tested to establish if there was an association between MCE and survivorship. Small firms that subsequently merged had a significantly higher ratio of MCE compared to those that did not merge (one tail t-test, 1.78). To summarise: (i) whilst there is a survivorship bias it was not unusual during the research period; (ii) small credit unions that subsequently merged had a higher ratio of MCE; and, (iii) survivorship induces bias towards accepting the null of a higher relationship of MCE with earnings for small credit unions.

3.2 Research Design

The theoretical model relies on the principles established by Gu & Lev (2001) and the theory developed by Ohlson (1995) that financial value added is associated with excess risk-adjusted earnings. The general model is illustrated in figure 1 and shows how excess current risk-adjusted earnings (ERE) is estimated, places controls for accounting window dressing, and indicates when MCE should be treated as a short term renewable investment or a long term intangible investment.

From actual (current) risk-adjusted earnings we subtract expected risk-adjusted earnings calculated from core assets in place, then control for expected accounting window dressing around the introduction of AFIC, to estimate residual earnings or ERE. Finally, to determine the financial impact of MCE there must be a significant statistical association with ERE. If the statistical association is less than four quarters then it is short term; if it is greater then it is considered long term and establishes a long term (intangible) relationship. To estimate expected risk-adjusted earnings from core assets we rely on panel data techniques that build on the time-series research of Foster (1977) and use two separate models. We first estimate

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⁹ We weighted all residential mortgage loans at 50%. There is some question how to weight mortgage loans with a loan to value ratio (LVR) greater than 80%, either at 100% or 50%. However, AFIC did not always follow the Basle recommendation that they be weighted at 100%. We are unable to undertake a detailed analysis of how every credit union weighted every residential loan but by using a 50% weighting, we bias our results to accepting the null that MCE had an impact on excess earnings.
expected earnings based upon individual firm panels and then pool the data from the small and large firm sub-samples to calculate expected earnings based on the industry size average. The statistical models are developed further using quarterly notation below.

**Figure 1**

**Modelling the Accounting Earnings Impact of MCE**

- **Current Risk-Adjusted Earnings**
  - **SUBTRACT**
    - **Expected Risk-Adjusted Earnings from Core Assets**
    - **SUBTRACT**
      - **Controls for Accounting Window Dressing**
        - **EQUALS**
          - **Excess Current Risk-Adjusted Earnings**
            - **Statistically Associated with MCE**
              - **Short Term Impact < One Year**
                - **Renewable Investment**
              - **Long Term Impact > One Year**
                - **Intangible Investment**
3.3 Statistical Models

Coefficient values and the covariance matrix were simultaneously estimated by the standard generalized least squares estimator with cross section weightings used to control for residuals that are heteroskedastic in the cross-section and contemporaneously uncorrelated (Baltagi 2001, pp. 18–9).

\[
\begin{bmatrix}
QWRE_{t,1} \\
QWRE_{t,2} \\
\vdots \\
QWRE_{t,n}
\end{bmatrix}
- 
\begin{bmatrix}
\beta_{i,1} \\
\beta_{i,2} \\
\beta_{i,3} \\
\beta_{i,4}
\end{bmatrix}
= 
\begin{bmatrix}
\lambda_{i,1} \\
\lambda_{i,2} \\
\lambda_{i,3} \\
\lambda_{i,4}
\end{bmatrix}
\begin{bmatrix}
D_{1}QWRE_{923} \\
D_{2}QWRE_{924} \\
D_{3}QWRE_{931}
\end{bmatrix}
\]

\[
\begin{bmatrix}
\beta_{0,1} \\
\beta_{0,2} \\
\vdots \\
\beta_{0,n}
\end{bmatrix}
= 
\begin{bmatrix}
\alpha_{i,1} \\
\alpha_{i,2} \\
\vdots \\
\alpha_{i,5}
\end{bmatrix}
\begin{bmatrix}
QMCE_{t} \\
QMCE_{t-1} \\
\vdots \\
QMCE_{t-4}
\end{bmatrix}
+ 
\begin{bmatrix}
\varepsilon_{t,1} \\
\varepsilon_{t,2} \\
\vdots \\
\varepsilon_{t,n}
\end{bmatrix}
\]

The vectors \(QWRE_t\) represent realised quarterly risk weighted earnings for individual credit unions, \(QWRE_{t-1,2,3,4}\) is lagged risk weighted earnings, \(\beta_{0,i} \ldots n\) the intercept, \(D_1, D_2, D_3\) are dummy variables that capture unusual increases in earnings in the three quarters after AFIC was enacted in July 1992, and \(QMCE_{t-1,i-2,i-4}\) is quarterly MCE that is contemporaneous and lagged up to four quarters. The time-series estimates plus the intercept are the estimate of the expected risk weighted earnings from core assets in place.

The first model represents the situation where all coefficients that determine expected earnings are unconstrained, that is, \(\beta_{i,1}, \beta_{i,2}, \beta_{i,3}, \lambda_{i,1}, \lambda_{i,2}, \lambda_{i,3}\), and \(\beta_{i,0}\) vary across all credit unions. Hence, the left hand side, by subtracting expected risk weighted earnings plus window dressed earnings induced by the introduction of AFIC from actual earnings, is an estimate of unexpected (or excess) quarterly risk weighted earnings for each firm (EQRE). The association with the right hand variables, contemporaneous and lagged MCE, is then contemporaneously estimated by the statistical model. The second model assumes expected earnings are determined by industry factors according to a size grouping. We take the separate small and large size groupings and enforce a pooled intercept and time-series that tests for marketing effectiveness after estimating expected earnings that are determined by average industry and size effects. The exception is the dummy variables, \(D_1, D_2, D_3\), which are allowed to vary on an individual firm basis because the motivation and probability that managers will manage accounting earnings is not a function of size, but determined individually by how far each credit union is close to, or below, the minimum 8% risk weighted assets benchmark imposed by AFIC. In summary these two statistical models allow flexibility in the estimation process and endow two different financial bases to determine the expected earnings.
for the firm: (i) determined on an individual credit union basis; and, (ii) determined by two size adjusted industry averages.

4. Research Questions and Results

In marketing management there is considerable debate on which portfolio of marketing provides the best economic return. For example, Mizek & Jacobson (2003) argue that in mature markets, such as financial services where innovation is less central, firms should place greater emphasis on transaction marketing in order to attract additional customers. On the other hand, Gronroos (1997) and MacMillan, Money, Money and Downing (2005) suggest that resources are better spent on building customer assets through relational marketing. In addition, Hogan, Lehmann, Merino, Srivastava, Thomas and Verhoef (2002) point out that attracting new customers is a riskier strategy than consolidating established customers (see also Anderson, Fornell & Rust 1997) and, if markets are competitive and transparent, MCE simply becomes redundant (Pigou 1920; Scherer 1980).\(^\text{10}\)

Finally, Yoo & Hanssens (2005) find that marketing expenditure aimed at increasing sales on the one hand and customer equity on the other are not always complementary. In summary, the marketing mix decision about adding MCE is complex and an empirical question; one that may vary according to size, expertise, state of the economy, and individual firm characteristics. That is, financial impact may vary considerably even within a reasonably homogenous industry.

4.1 The Level of MCE

Given that credit unions faced a sudden requirement to increase capital, and MCE represents optional expenditure, the first question is whether credit unions should cut or increase MCE. We first examine, however, whether the level of MCE was significant. Table 1 shows the level of MCE represents an average of 73% of total accounting earnings that was higher for small (96%) and lower for large (33%) credit unions. Further, total MCE is about one seventh of total salary expenditure. Thus, MCE was significant in volume and earnings and capital could potentially be increased by this amount each year if MCE was deemed redundant expenditure.

Given the level of MCE and the incentive to increase earnings, did credit unions decrease relative MCE during this period? First, MCE as a proportion of total expenditure was plotted over time and an upward trend was observed for both small and large credit unions. Second, regressions of the same variables revealed both MCE over-time coefficients as positive and significant for both small (t-stat of 4.27) and for large credit unions (t-stat of 5.70). So credit unions significantly increased the level of MCE and we now turn to an analysis of financial impact.

\(^{10}\) This is especially the case in depressed economic periods if the level of competition induces an increase in MCE expenditure without affecting primary demand.
Table 1  
Relative MCE

This Table provides descriptive statistics for marketing communication expenditure (MCE) as a percentage ratio of total expenditure, accounting earnings and book value of equity. The sample is for 143 credit unions reported on a quarterly basis in NSW during the period June 1987 to December 1994. Small credit unions are less than $20m in assets as at 30 June 1992 and number 99 and large credit unions number 44.

<table>
<thead>
<tr>
<th>Percentage of:</th>
<th>Total Expenditure</th>
<th>Accounting Earnings</th>
<th>Book Value of Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean % Median %</td>
<td>Mean % Median %</td>
<td>Mean % Median %</td>
</tr>
<tr>
<td>All Credit Unions</td>
<td>1.89 1.53</td>
<td>72.93 41.52</td>
<td>0.71 0.48</td>
</tr>
<tr>
<td>Small Credit Unions</td>
<td>1.62 1.10</td>
<td>96.28 69.28</td>
<td>0.55 0.32</td>
</tr>
<tr>
<td>Large Credit Unions</td>
<td>2.49 2.30</td>
<td>32.52 21.31</td>
<td>1.06 0.94</td>
</tr>
</tbody>
</table>

4.2 Firm Size and the Impact of MCE

We argue the level of expenditure and the financial success of MCE is a function of size. Smaller credit unions generally have restricted trade or professional membership or service small population areas, resulting in lower agency costs and strong customer relationships (Davis 1994). Thus, we expect them to be more adept at, and focussed on, RME. But, whilst small credit unions have a stronger comparative advantage in generating a loyal customer core base, we argue they may not have adequate resources to effectively set up specialist marketing and MCE will be financially less effective. On the other hand, large credit unions have a more diversified membership base and directly compete with banks in the product market and for customers. Prior research also reports that MCE/earnings elasticity is higher for large firms, and they have higher economies of scale and more specialised management (Jacobson 1988, Jones 1990). Thus, large credit unions expect to have higher relative returns from MCE. Table 2 reports the results of tests about MCE financial effectiveness and firm size.

Models 1 and 2 provide the averaged coefficient results from the unconstrained panel regressions that allow the intercept, time series and dummy variables for the earnings series to vary across individual credit unions. For small credit unions, QMCE in the current quarter has a significant negative impact (−0.798) with no significant positive impact in the following four quarters. Thus, MCE in small credit unions leads to negative excess earnings in the contemporaneous period of expenditure with no inter-temporal flow on effects. They are simply expenditures that deliver costs but no subsequent return. For large credit unions, there is a similar significant negative and contemporaneous impact (−1.2014), but the difference is positive and significant flow on effects at lags one and two (2.4157, 1.4646). Thus, for small credit unions, MCE has a negative impact on earnings, whilst for large credit unions the overall effect is a short term increase in earnings.

Models 3 and 4 report the results from the constrained model that estimates a pooled expected QRWE determined on a size basis. For small credit unions there is no significant association between QMCE and EQRE for any quarter. For large credit unions, QMCE in the current quarter is contemporaneously and significantly associated with a reduction in earnings (−1.52) followed by significantly increased
excess earnings in the following two quarters (2.25, 1.30). These results are consistent with models 1 and 2 and therefore the earnings impact of MCE is robust to either calculation of expected risk weighted earnings. Thus, after controlling for expected earnings and possible manipulations, MCE increased short term risk weighted capital in large credit unions and reduced risk weighted capital in small credit unions.

Table 2
The Association Between Quarterly Marketing Communication Expenditure (QMCE) and Excess Quarterly Risk Weighted Earnings (EQRE)

QMCE is the ratio of MCE to total quarterly expenditure. Expected QRWE is the expected quarterly risk weighted earnings from core assets with adjustments for accounting manipulations after the introduction of AFIC in 1992. Models 1 and 2 report the results from an unconstrained model that allows the estimate of expected risk weighted earnings to vary for every firm panel. Models 3 and 4 report results from a constrained model that calculates expected QRWE from pooled data and estimates expected returns determined by industry and size. * signifies statistical significance at the 5% level for QMCE coefficients. Small credit unions consist of 3069 quarterly observations and large credit unions consist of 1364 observations. Expected QRWE coefficients for models 1 and 2 and dummy variables are averages and no significance tests are reported.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th></th>
<th>Model 2</th>
<th></th>
<th>Model 3</th>
<th></th>
<th>Model 4</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Small</td>
<td>Large</td>
<td>Small</td>
<td>Large</td>
<td>Small</td>
<td>Large</td>
<td>Small</td>
<td>Large</td>
</tr>
<tr>
<td>QMCE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Contemporaneous QMCE</td>
<td>α1</td>
<td>−0.7983*</td>
<td>−1.2014*</td>
<td>−0.3212</td>
<td>−1.5290*</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>QMCE lagged 1 period</td>
<td>α2</td>
<td>−0.1257</td>
<td>2.4157*</td>
<td>0.1669</td>
<td>2.2548*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QMCE lagged 2 periods</td>
<td>α3</td>
<td>0.0114</td>
<td>1.4646*</td>
<td>−0.1983</td>
<td>1.3005*</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>QMCE lagged 3 periods</td>
<td>α4</td>
<td>0.7094</td>
<td>0.2784</td>
<td>0.5204</td>
<td>0.0420</td>
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<td></td>
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<tr>
<td>QMCE lagged 4 periods</td>
<td>α5</td>
<td>0.0428</td>
<td>0.0205</td>
<td>−0.0551</td>
<td>−0.1077</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Expected QRWE</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>β0</td>
<td>0.4270</td>
<td>0.2024</td>
<td>0.2007*</td>
<td>0.1627*</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>QRWE lagged 1 period</td>
<td>β1</td>
<td>0.0832</td>
<td>0.2257</td>
<td>0.2128*</td>
<td>0.3039*</td>
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<tr>
<td>QRWE lagged 2 periods</td>
<td>β2</td>
<td>−0.0536</td>
<td>0.0621</td>
<td>0.0786*</td>
<td>0.1844*</td>
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<tr>
<td>QRWE lagged 3 periods</td>
<td>β3</td>
<td>−0.0618</td>
<td>−0.0161</td>
<td>0.0364</td>
<td>0.0427</td>
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<td></td>
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<tr>
<td>QRWE lagged 4 periods</td>
<td>β4</td>
<td>0.0653</td>
<td>0.1079</td>
<td>0.2755*</td>
<td>0.1924*</td>
<td></td>
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<tr>
<td>Dummy 923</td>
<td>λ1</td>
<td>0.0470</td>
<td>0.0657</td>
<td>0.0755</td>
<td>0.0633</td>
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<tr>
<td>Dummy 924</td>
<td>λ2</td>
<td>0.0574</td>
<td>0.1069</td>
<td>0.0747</td>
<td>0.1009</td>
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<tr>
<td>Dummy 931</td>
<td>λ3</td>
<td>0.1017</td>
<td>0.1129</td>
<td>0.0657</td>
<td>0.1180</td>
<td></td>
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<tr>
<td>F Statistic</td>
<td></td>
<td>6.88</td>
<td>7.92</td>
<td>148.92</td>
<td>9.99</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
<td></td>
<td>0.5367</td>
<td>0.6830</td>
<td>0.4130</td>
<td>0.6791</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Durbin-Watson Statistic</td>
<td></td>
<td>1.9762</td>
<td>1.9864</td>
<td>2.0027</td>
<td>2.0143</td>
<td></td>
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<tr>
<td>Observations</td>
<td></td>
<td>2561</td>
<td>1144</td>
<td>2561</td>
<td>1144</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Finally, we also comment on the return from core assets which incorporates customer assets and the customer brand generated by RME. The pooled intercept return for small firms is higher at 0.20% compared to 0.16% per quarter for large

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firms (significantly different at the 5% level using a spatial Chow test). Hence, risk weighted earnings for small credit unions are on average higher, supporting the proposition that they have a comparative advantage in generating sustained higher returns from core assets. That is, they are relatively better at establishing customer relationships and this is another reason why large credit unions should turn to the MCE option. Finally, the average dummy variables around AFIC are consistent across size showing that positive accounting manipulations did occur and caused perturbations in the time-series.

4.3 Profitability in Large Credit Unions

Given we have established that MCE adds to profitability in large credit unions we now estimate the average return on this investment by estimating a transfer function in the general form:

\[ \eta = \frac{\mu_0 + \mu_1 + \ldots + \mu_r}{1 - \beta_1 - \beta_2 - \ldots - \beta_r} \]  

(2)

This formulation captures the short term change in the equilibrium level of QRWE precipitated by a one unit change (shock) in the input variable QMCE. The average impact can be defined after appropriate algebraic manipulation of equation (2) and using the results from a pooled earnings time series with a different intercept for each firm as follows:

\[ \eta = \frac{\mu_0 + \mu_1 B + \mu_2 B^2 + \mu_3 B^3 + \mu_4 B^4}{1 - \beta_1 B - \beta_2 B^2 - \beta_3 B^3 - \beta_4 B^4} \delta_{QMC} \]  

(3)

\[ \eta = \frac{-1.72 + 2.01 + 0.81 - 0.31 + 0.39}{1 - 0.24 - 0.14 - 0.14} = 2.65 \ QMCE \]  

(4)

That is, a 1% increase in QMCE on average increases the risk weighted earnings for large credit unions by 2.65% over the current and next four quarters representing a 31% annualised return on the average QMCE investment. Finally, the impact of QMCE for large credit unions is relatively minor after the second lagged quarter supporting the conclusion that QMCE should be continually monitored and renewed if financially successful. The above two sections have established that MCE is financially effective in large credit unions in the short term and financially ineffective in small credit unions. The next research questions are related to possible explanations for these results and ask when MCE is more or less effective.

4.4 Marketing Mix

The observation that QMCE in large credit unions has a more powerful impact on earnings is not unexpected and supports the previous research that
marketing/earnings elasticity is higher for large firms. This section provides the results of a sample questionnaire that indicates whether MCE mix differs between size groupings and if MCE does indeed consist of expenditure aimed at attracting additional customers. For example, MCE may be contaminated by expenditure better described as relationship or customer goodwill building rather than expenditure aimed at appropriating customers. In this sense, then large credit union expenditure under the MCE banner may simply be a different form of relationship marketing. A further question to ask is whether excess earnings are generated by a different marketing mix? In summary, we expect that size and marketing mix will be combined factors in determining financial success.

A drawback, and consistent with a number papers on marketing research, is the recorded figure only consists of total MCE without any breakdown on the marketing mix. In order to obtain a representative breakdown, a random sample of 20 small and 10 large credit unions was surveyed by questionnaire. Each of these credit unions was mailed a questionnaire directed to the financial controller/senior accountant requesting them to provide a breakdown of MCE quarter-by-quarter over the 1992 research period. They were asked to decompose MCE into the following four categories: (1) transaction marketing: mass advertising via TV, radio, newspapers and billboards; (2) database marketing: targeted marketing via print pamphlets, brochures, newsletters and information mail-outs; (3) interaction marketing: interpersonal marketing such as one-to-one personal telephone contacts, mobile teller services, and investment counseling; and, (4) network marketing: network marketing and sponsorships. Non-responding credit unions were followed up with a direct telephone call from the authors explaining the nature of the research and answering any questions on the classification categories. This resulted in a response rate of 100% and table 3 reports the results of the questionnaire.

There were different MCE patterns between small and large credit unions with all categories statistically different and significant at the 5% level. First, large credit unions spent over half of their budget on transaction marketing, compared with the 19% spent by small credit unions who concentrate their MCE on database marketing (78%). Second, large credit unions spend a greater proportion on interaction and network marketing. These results are consistent with large credit unions having a more specialised approach but also with their MCE services being more diversified. The striking feature is the high ratio of database marketing expenditure by small credit unions. Because this consists mainly of ‘print and information’ type marketing it could be argued that this is just an extension of RME and is used to maintain the high level of customer service. However, it is also consistent with an inefficient marketing mix (Masterson 1999, Scott & Solomon 1998) and is a loss making exercise according to our previous analysis. Whilst we are aware this is only a representative sample, it seems reasonable to conclude that there are differences between the MCE mix and expenditure patterns and this may be a contributing factor to the success or non-success of MCE.

11. TV advertising in larger firms is more effective than print and pamphlet spending (mainly used in smaller firms), and larger firms have greater specialization in MCE and management which is reflected in higher economies of scale.

12. See Covello, Brodie, Danaher and Johnston (2002) for a theoretical discussion on this breakdown.
Table 3
Marketing Mix as a Percentage of MCE

Table 3 reports the results of a representative survey of 10 large and 20 small credit unions to determine the breakdown of MCE into different spending categories. These categories were defined as: (1) transaction marketing: mass advertising via TV, radio, newspapers and billboards; (2) database marketing: targeted marketing via print pamphlets, brochures, newsletters and information mail-outs; (3) interaction marketing: interpersonal marketing such as one-to-one personal telephone contacts, mobile teller services, and investment counseling; and, (4) network marketing: network marketing and sponsorships. The non-parametric Mann-Whitney test is used to estimate significance differences. * indicates significant difference at 5% level.

<table>
<thead>
<tr>
<th>MCE components</th>
<th>Small</th>
<th>Large</th>
<th>Mean Rank Small</th>
<th>Mean Rank Large</th>
<th>Significance of Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transaction Marketing</td>
<td>19%</td>
<td>53%</td>
<td>6500</td>
<td>11000</td>
<td>0.05*</td>
</tr>
<tr>
<td>Database Marketing</td>
<td>78%</td>
<td>20%</td>
<td>9800</td>
<td>4400</td>
<td>0.02*</td>
</tr>
<tr>
<td>Interaction Marketing</td>
<td>3%</td>
<td>17%</td>
<td>6000</td>
<td>12000</td>
<td>0.01*</td>
</tr>
<tr>
<td>Network Marketing</td>
<td>0%</td>
<td>10%</td>
<td>6500</td>
<td>11000</td>
<td>0.01*</td>
</tr>
</tbody>
</table>

4.4 Size or Marketing Leverage in Large Credit Unions?

The final research question addresses whether MCE is more effective in different circumstances. There are two propositions: (i) Does MCE effectiveness continue to be linearly associated with size? and, (ii) Is there a leverage effect related to the earnings level? Already established is that MCE effectiveness has a broad dichotomous relationship based on a benchmark size greater than $20 million in net assets. Size can be a surrogate for higher economies of scale, greater infrastructure resources, management and marketing expertise, and the ability to expend a higher proportion of the budget on MCE. Therefore, is size the dominant and linear driver of MCE effectiveness?

Another possible explanation is that MCE effectiveness is related to the marketing/earnings leverage (MEL) expressed as the product of marketing and operating leverage [change in marketing/change in sales] * [change in sales/change in operating profit]. High MEL is usually associated with high operating leverage that occurs when assets are under-utilised and operations return a lower than breakeven return. These conditions provide an opportunity for MCE to enhance the usage of under-utilised resources by attracting a greater customer base or diverse custom. On the other hand, when there is low (or negative) MEL, MCE would be ineffective because core assets are fully utilised or returns from marketing are already captured by RME. Therefore, is the current level of earnings the dominant driver of MCE effectiveness?

We test these two propositions by calculating a proxy for MCE effectiveness. For all large credit unions we rerun model 2 but allow the MCE coefficients to vary by firm panel. We then sum the MCE coefficients from period t0 to period t4 to get an index of marketing effectiveness (QMEFF). QMEFF is then regressed against QRWE for each credit union and the natural log of total assets (QLASSET). As a proxy for asset utilisation (and breakeven earnings) we use the pooled earnings intercept obtained from table 2, which is 0.163% for large credit unions. Multiple regression results show a significant negative coefficient on QRWE (-46.64, t-
and an insignificant coefficient on size (0.96, t-stat=0.20), that is QMEFF declines by 46.64 for every 1% increase in QRWE. A visual representation of the significant variable (QRWE) is contained in figure 2.

**Figure 2**

*Effectiveness of MCE as a Function of the Level of Risk Weighted Earnings—Large Credit Unions*

These show MCE effectiveness is not related to size but it is significant and negatively associated with the level of risk-weighted earnings and the breakeven point (when average QMCE effectiveness is zero) occurs at 0.365%. This suggests the following for managers of large credit unions: (i) MCE effectiveness is related to the level of earnings. If current earnings are below average size earnings then managers should invest in MCE in order to take advantage of asset under-utilisation; (ii) MCE should not be undertaken once current QRWE (or predicted QRWE) reaches 0.365%, as investment beyond this point is a negative net present value exercise; and, (iii) between 0.163% and 0.365% MCE investment adds excess QRWE above average QRWE. We also note that MCE effectiveness in this range may not be strictly related to asset under-utilisation, but driven by specific marketing policies that lever core customer assets. That is, the shift in the earnings curve to the right may be an additional ‘branding’ return from diversification into different products or customers.
6. Conclusions and Discussion

This paper treats MCE as a real option and tests whether it contributes to the capital of credit unions through the generation of excess risk-adjusted accounting earnings. The database consists of credit unions in the relatively mature and competitive financial services sector, providing a research setting in which RME is core customer-relationship-focussed marketing, and MCE is an optional marketing tool used to increase and diversify the customer base. The data period (1988–1994) represents a period when co-operatives were under intense pressure to increase risk-weighted capital. Moreover, credit unions, because of their service charter, had increased incentives to utilise their high level of MCE in a financially effective manner.

We first determined that credit unions did not utilise cost-cutting methods to reduce MCE. We then tested the financial impact of an increased level of MCE, using unconstrained and constrained versions of cross-sectional time-series panel models. Results were not homogenous. MCE reduced risk-weighted capital in small credit unions and increased risk-weighted capital in large credit unions. Explanations include a different marketing mix, the specialised nature of MCE, and higher economies of scale in large credit unions. On the other hand, small credit unions have a higher comparative advantage in applying RME techniques.

We then extended the micro analysis of MCE to large credit unions and determined that, whilst size enabled functional economies of scale, financial effectiveness is driven by the current level of earnings as a surrogate for asset (under)utilisation. Hence, MCE should be increased and renewed when the current earnings level is below the size average and when there is evidence of an appropriate marketing mix and resource under-utilisation. MCE returns, however, are not exponential and the type and level of MCE should be carefully evaluated when earnings are above average. In short, a policy that continually chases marginal customers through MCE is not always in the long-term financial interests of credit unions. To summarise, financial resources were more productively spent on building customer assets through RME for small credit unions, whilst for large credit unions MCE was more productive when the level of earnings was lower.

On the capitalising/expensing debate, any financial benefits of MCE uncovered for large credit unions expire well within the current year. This result does not support an argument for capitalisation but one for continual monitoring and renewal, reflecting the competitive nature of the financial services sector’s competition for itinerant custom. On the other hand, RME is a strong contender for capitalisation because of its generation of a long-term customer brand. In effect, capitalisation issues are contextual and raise issues about the asymmetric nature and impact of marketing expenditures. Separate marketing expenditures are often not reported and certainly not segmented into core and optional components, making it difficult for outsiders to make informed economic judgements. The result is two diametric opposite viewpoints—accountants routinely expense and marketers routinely capitalise.

One of the contributions from this paper is to acknowledge that marketing impacts business in both tangible (income and cash flows) and intangible (asset-building) ways and this varies considerably across the same industry. This places a direct focus on management and marketers to obtain a detailed understanding of the drivers of asset values, risk shifting, and the requirement that marketing outlays be
evaluated and reported within a financial process. The second major contribution was to develop a model that associates financial returns with risk-adjusted earnings. Whilst this specific case study demanded a focus on accounting earnings and capital building, support for a more general earnings-valuation model is provided by research in financial accounting that shows: (i) accounting earnings as the dominant valuation factor (compared to cashflows); and, (ii) that excess risk-adjusted earnings has the highest correlation with financial value added (Dechow 1994; Ohlson 1995; Francis, Olsson & Oswald 2000). Further research that develops models that isolates core and optional intangible expenditures would greatly aid management decision making, especially in non-listed firms. Moreover, the question of applying template regulation to financial co-operatives that force them to undertake abrupt portfolio changes or operating policies (ie. to act like banks), is a financial research issue worth pursuing. As a final caveat, our results are constrained by industry and timing factors and by the non-segmentation of the MCE data. Further research could also build on these weaknesses.

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