Available online at www.sciencedirect.com
ScienceDirect
ELSEVIER
International Review of Financial Analysis 16 (2007) 262–281
IRFA
INTERNATIONAL REVIEW OF
Financial Analysis

The identification of acquisition targets in the EU banking industry: An application of multicriteria approaches

Fotios Pasiouras [a,*], Sailesh Tanna [b], Constantin Zopounidis [c]

[a] School of Management, University of Bath, Claverton Down, Bath, BA2 7AY, UK
[b] Department of Economics, Finance and Accounting, Faculty of Business, Environment and Society, Coventry University, Priory Street, CV1 5FB, Coventry, UK
[c] Financial Engineering Laboratory, Department of Production Engineering and Management, Technical University of Crete, University Campus, Chania, 73100, Greece

Received 1 September 2006; accepted 11 September 2006
Available online 10 October 2006

Abstract

In this paper we develop classification models for the identification of acquisition targets in the EU banking industry, incorporating financial variables that are mostly unique to the banking industry and originate from the CAMEL approach. A sample of 168 non-acquired banks matched with 168 acquired banks is used over the period 1998–2002, covering 15 EU countries. We compare and evaluate the relative efficiency of three multicriteria approaches, namely MHDIS, PAIRCLAS, and UTADIS, with all models developed and tested using a 10-fold cross validation approach. We find that the importance of the variables differs across the models. However, on the basis of univariate test and the results of the models we could state that in general after adjusting for the country where banks operate, acquired banks are less well capitalized and less cost and profit efficient. The results show that the developed models can achieve higher classification accuracies than a naïve model based on random assignments. Nevertheless, there is fair amount of misclassification that is hard to avoid given the nature of the problem, showing that as in previous studies for non-financial firms, the identification of acquisitions targets in banking is a difficult task.
© 2006 Elsevier Inc. All rights reserved.

JEL classification: C63; G21; G34
Keywords: Acquisitions; Banks; Classification; MCDA

1. Introduction

The purpose of this study is to evaluate the performance of multicriteria decision aid (MCDA) prediction models developed specifically to identify acquisition targets in the banking industry, an

* Corresponding author. Tel.: +44 1225 384297; fax: +44 1225 386473.
E-mail address: f.pasiouras@bath.ac.uk (F. Pasiouras).

1057-5219/$ - see front matter © 2006 Elsevier Inc. All rights reserved.
doi:10.1016/j.irfa.2006.09.001

area that is relatively under-researched[1]. Of approximately 30 papers that we can identify in the literature which utilised one or more methods for the prediction of acquisition targets, all but one (Pasiouras & Tanna, 2006[2]) have focused on samples of firms drawn from the non-financial sectors (i.e. manufacturing, retail, hospitality, etc.) and excluded banks from their analysis. One reason for their exclusion is the unusual structure of banks' financial statements suggesting that certain bank-specific characteristics distinguish them from other corporations (Bauer & Ryser, 2004). In line with Pasiouras and Tanna (2006) the present paper utilises financial variables that originate from the CAMEL[3] approach in developing prediction models that distinguish acquired from non-acquired banks, based on a sample of commercial banks covering 15 EU countries[4] (the former EU15).

Most of the past studies have used multivariate statistical and econometric techniques such as discriminant analysis (e.g. Barnes, 1990; Stevens, 1973) and logit analysis (e.g. Barnes, 1998, 1999; Powell, 2001) and only more recently the parametric nature and the statistical assumptions/restrictions of those approaches have led researchers to the application of alternative techniques such as artificial neural networks (Cheh, Weinber, & Yook, 1999), rough sets (Slowinski, Zopounidis, & Dimitras, 1997), recursive partitioning algorithm (Espahbodi & Espahbodi, 2003) and multicriteria decision aid (MCDA) (e.g. Doumpos, Kosmidou, & Pasiouras, 2004). Some of these studies focused on the search of the best predictive variables (e.g. Bartley & Boardman, 1990; Cudd & Duggal, 2000; Walter, 1994) and others on the search of the most effective empirical method for the development of the prediction models (e.g. Cheh et al., 1999; Doumpos et al., 2004; Espahbodi & Espahbodi, 2003; Slowinski et al., 1997).

The present paper has two overall objectives that cover both categories mentioned above. First, it aims to jointly investigate the efficiency of three MCDA techniques. Second, it attempts to reveal the factors that contribute in the identification of acquisitions targets. The major advantages of the MCDA over the traditional techniques are that they do not make any prior assumptions[5] about the

[1] Most of the previous studies in banks' mergers and acquisitions (M&As) can be classified in four main categories. These are: (i) studies that examine the consequences of M&As on operating performance (e.g. Berger, 1998; Berger & Humphrey, 1992; Cornett & Tehranian, 1992), (ii) event studies that examine the changes in the share prices of the stock of the merged banks around the M&A announcement date (e.g. Baradwaj, Dubofsky, & Fraser, 1992; DeLong, 2001), (iii) studies that examine the determinants of the premium paid for the target (e.g. Cheng, Gup, & Wall, 1989; Henderson & Gart, 1999; Hunter & Wall, 1989; Gart & Al-Jafari, 1999), and (iv) studies that examine the characteristics of the banks involved in M&As (e.g. Curry, 1981; Wheelock & Wilson, 2000, 2004). Other issues that have been examined are the consequences of banks M&As on small firms lending (e.g. Berger, Saunders, Scalise, & Udell, 1998), the arguments for the merger (Went, 2003), the relation of M&As with CEO compensation and managerial incentives (e.g. Anderson, Becher, & Campbell, 2004), and the determinants of cross-border M&As (e.g. Focarelli & Pozzolo, 2001).

[2] Pasiouras and Tanna (2006) have used discriminant and logit analysis to re-examine various methodological issues while focusing on the banking industry.

[3] CAMEL is an acronym commonly used by bank regulators to assess a bank's financial condition. It refers to the analysis of the five key elements of banks performance (capital adequacy, asset quality, management, earning and liquidity) although we consider, in addition, factors that reflect size, market power and growth of banks as in Wheelock and Wilson (2004) and Pasiouras and Zopounidis (in press).

[4] The studies that examine the EU banking industry mainly fall in the first (e.g. Campa & Hernando, in press; Diaz, Olalla & Azorfa, 2004; Vander Vennet, 1996) and second (e.g. Campa & Hernando, in press; Cybo-Ottone and Murgia, 2000; Scholtens & Wit, 2004; Tourani Rad & Van Beek, 1999; Valkanov & Kleimeier, in press) of the four main categories mentioned above.

[5] Barniv and McDonald (1999) summarize some of the problems related to the use of discriminant, logit and probit. Their argument, based on previous studies, is that Logit and Probit are sensitive to: (a) data properties, such as departure from normality of financial variables (Frecka & Hopwood, 1983; Hopwood, McKeown, & Mutchler, 1988; Richardson & Davidson, 1984); (b) overall small sample size (Noreen, 1988; Stone & Rasp, 1991); (c) multicollinearity (Aldrich & Nelson, 1984; Stone & Rasp, 1991). Hopwood et al. (1998) also point out that discriminant analysis (DA) is generally sensitive to departure from normality, and logit and probit are both sensitive to extreme non-normality. DA assumes normality, symmetry and equal covariance matrices, which are usually strong assumptions.

دریافت فوری ← متن کامل مقاله

ISIArticles
مرجع مقالات تخصصی ایران

✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
✓ امکان دانلود نسخه ترجمه شده مقالات
✓ پذیرش سفارش ترجمه تخصصی
✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
✓ دانلود فوری مقاله پس از پرداخت آنلاین
✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات