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The role of non-financial factors in internal credit ratings

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Abstract

Internal credit ratings are expected to gain in importance because of their potential use for determining regulatory capital adequacy and banks' increasing focus on the risk–return profile in commercial lending. Whereas the eligibility of financial factors as inputs for internal credit ratings is widely accepted, the role of non-financial factors remains ambiguous. Analyzing credit file data from four major German banks, we find evidence that the combined use of financial and non-financial factors leads to a more accurate prediction of future default events than the single use of each of these factors.

JEL classification: G21
Keywords: Credit risk; Credit ratings; Debt default; Probit analysis

1. Introduction

Similar to capital market investors that rely on credit ratings provided by rating agencies, banks assign internal credit ratings to appraise the creditworthiness of their borrowers. In both cases, ratings can be interpreted as a screening technology that is applied to alleviate asymmetric information problems between borrowers and lenders. Whereas external ratings have been well established since the beginning of the 20th century, internal ratings were adopted increasingly by banks during the nineties

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(see English and Nelson, 1999; Treacy and Carey, 2000). Internal credit ratings for corporate borrowers are an aggregated valuation procedure of various financial and non-financial factors. In banking practice, ratings represent the basis for loan approval, pricing, monitoring, and loan loss provisioning. While considerable research has proven the suitability of financial factors to predict borrower insolvency (see, for example, Altman, 1968), the role of non-financial factors remains ambiguous. Although consideration of non-financial factors such as management quality and industry perspectives is beyond controversy (see Basel Committee on Banking Supervision, 2000a, 2001; Günther and Grüning, 2000) there is a lack of quantitative research on this issue. With respect to these "soft" factors, bankers often refer to their experience and distrust the sole use of financial criteria. A first investigation of the importance of soft information in borrower–bank relationships is conducted by Berger et al. (2002) and Stein (2002). Depending on bank size, Berger et al. (2002) explore a bank's ability to act in projects that require the evaluation of soft information. They find that small banks are more capable of collecting and acting on soft information than large banks. Stein (2002) points out that decentralized banking hierarchies are likely to be more attractive when projects' soft factors are to be evaluated.

This paper explores the role of non-financial factors in internal credit ratings. For this purpose we examine empirically whether the combined use of financial and non-financial factors leads to a more accurate prediction of default events than their single use. [1] Our study has implications for both banks and bank supervisors: banks will be able to better understand the role of quantitative and qualitative factors in internal credit ratings and supervisors will be supported in claiming a "mixed" credit rating to determine regulatory capital requirements (see Basel Committee on Banking Supervision, 2001).

The paper proceeds as follows. Section 2 provides an overview of related literature, in particular on the structure of internal rating systems and the properties of non-financial sub-ratings. Section 3 describes the data, the variables, and proposes a testable hypothesis. Section 4 analyzes whether a combination of financial and non-financial factors leads to a more accurate prediction of default events than the single use of each of these factors. Afterwards, several types of robustness tests are performed. The paper concludes with Section 5.

2. Overview of related literature

In modern theory of financial intermediation, the existence of intermediaries is explained by an improvement of welfare that results from a reduction in costs of asymmetric information (see, for example, Leland and Pyle, 1977; Diamond, 1984; Bhattacharya and Thakor, 1993). Many of these models presume that banks screen

[1] The indicator variable for default events defined hereinafter is consistent with the Basel II definition of default (see Basel Committee on Banking Supervision, 2001).