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Bank competition and credit markets in transition economies

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In transition economies, banks do not yet play a crucial role in financing investment. We explain the low degree of bank intermediation by investigating credit offers by monopolistic, oligopolistic, and competitive banks with a particular focus on collateral. The more market power that banks have the more collateral they demand, because collateral is used not only to solve the moral hazard problem but also to extract rents. We find that asymmetric information about the firm's assets and, hence, possible collateral, leads to credit rationing. Empirical evidence from Romania and Estonia confirms the results of our theoretical model. *Journal of Comparative Economics* **31** (2) (2003) 223–245. University of Munich, Akademiestr. 1/III, 80799 Munich, Germany.

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1. Introduction

After more than ten years of transition, experts are pointing out the areas in which the process of transition is still unsatisfactory (Svejnar, 2002), with a focus on the financial sector (Berglöf and Bolton, 2002). Even in the most advanced transition countries, which all have a bank-based financial system, the degree of bank intermediation is still much lower than desired. The empirical literature offers two explanations for insufficient bank intermediation. Rother (1999) claims that low intermediation is caused by concentration in the banking sector. McNulty and Harper (2001) find that the deficient legal system imposes a significant barrier to deepening financial intermediation. How are the two alternative

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explanations related to each other? In what way do the terms of the credit contract depend on competition as well as on the legal and institutional environment? Is the low degree of bank intermediation due to a demand side response to unfavorable credit contracts or is it caused by credit rationing? The theoretical literature does not provide complete answers to these questions for two reasons. First, when studying bank competition, the authors either take the number of banks as an indicator of the degree of competition or compare two polar situations, namely, monopoly and perfect competition. Second, the effect of an insufficient legal and institutional environment has not been analyzed in detail.

Our objective is to consider these questions in a richer environment by taking account of the specific features of credit contracts in transition economies, in particular collateralization. With respect to the credit market, the deficient legal and institutional environment is an impediment to effective collateralization. Thus, the main contribution of our paper is to provide a theoretical explanation for the extensive use of collateral by banks and the low degree of bank intermediation in transition economies. Moreover, we apply our theoretical results to credit markets in Romania and Estonia.

We develop a model in which banks offer collateralized credit contracts in an environment that reflects specific features of transition countries. First, we assume that liquidation of collateral involves costs that differ between banks. Second, we assume that information on the asset endowment of the firms is distributed asymmetrically between banks and firms. We find that banks with market power use collateralization not only to solve the moral hazard problem but also to extract rents. If information on the asset endowment is asymmetric, firms have an incentive to announce less collateralizable wealth than they actually possess in order to keep more rent. To induce truthful revelation, monopolistic and oligopolistic banks ration credit. Thus, a lower degree of bank competition reduces social welfare in two ways. First, the amount of collateral demanded by banks is higher, which causes a higher social loss in the case of liquidation. Second, and even more importantly, the extent of credit rationing increases.

In the empirical literature, transition countries are characterized as overbanked but underserviced (Bonin and Wachtel, 1999; Jaffee and Levonian, 2001; Fries and Taci, 2002). They are underserviced in two respects: banks do not generate enough information on their potential customers and the degree of bank intermediation remains low. The theoretical literature focuses on the first aspect, i.e., insufficient screening by banks leading to non-performing loans (Schnitzer, 1999a, 1999b). The high share of non-performing loans in the bank's portfolio is related to banks continuing to extend credit to defaulting customers; this behavior produces soft budget constraints (Perotti, 1993; Berglöf and Roland, 1998). In contrast to these papers, we focus on the second aspect, i.e., the low degree of bank intermediation, and analyze the role of collateral under different market structures. At the same time, we take account of the deficits in the legal and institutional environment.

Credit markets depend crucially on the supporting contractual and legal environment. Although almost all credit contracts are collateralized in transition countries (Fan et al., 1996; Bratkowski et al., 2000), the process is fraught with problems. First, evaluating collateralized assets and managing changing values is problematic (Koford and Tschoegl,