Abstract

Close bank–firm relationships that characterize the financial systems in Germany and Japan are often credited for reducing agency costs and increasing access to capital, thus improving the performance of firms. Critics of these banking systems cite the alternative possibility that conflicts of interests may also arise from both the banks’ multiple roles with the firm, and the opportunity the banks have to use private information to shift risk or to otherwise participate in rent-seeking activities. We extend the empirical literature by systematically investigating the impact of bank-influence on the financing choices and performance of the firm. We find that bank-influenced firms in Germany do benefit from increased access to capital. There is, however, no evidence to support the hypothesis of either higher profitability or growth for bank-influenced firms. Results suggest that the interest payments to debt ratio is significantly higher for bank-influenced firms, which supports the hypothesis that German universal banks may engage in rent-seeking activities and provides evidence of a conflicting interests between creditors and shareholders. © 2001 Elsevier Science B.V. All rights reserved.

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JEL classification: G00; G3; L00

1. Introduction

Recent debate on financial system reform focuses on the advantages and disadvantages of universal banking systems such as those that exist in Germany and Japan in contrast to Anglo-Saxon systems typified by the US or UK. Typically, close bank–firm relationships developed in universal banking systems are credited for reducing agency costs and increasing firm access to capital, resulting in improved performance of the firm (see Gerschenkron, 1962; Hoshi et al., 1994). However, there is
also the possibility that conflicts of interests may arise between the banks as creditors and shareholders. Given the banks’ multiple roles with the firm, there exists an opportunity for the bank to use private information to shift risk away from itself, or participate in rent-seeking activities. Thus, an investigation into a universal banking system like Germany and its effect on firm performance has important policy implications.

The purpose of this study is to provide a systematic investigation of the impact of bank-influence on the financing choices and performance for a panel data set of German firms. Evidence from this study suggests that bank-influenced firms in Germany do have increased access to capital. There is, however, no evidence of either higher profitability or growth for bank-influenced firms. In addition, the interest payment over debt ratio is significantly higher for bank-influenced firms. Our results are broadly consistent with those of Weinstein and Yafeh (1998), who find evidence supporting the conflict of interest hypothesis in Japanese bank–firm relationships.

2. Related literature and hypotheses

2.1. Bank–firm relationships in Germany

Like Japan, Germany is used as an example of a universal banking system where close bank–firm relationships potentially allow banks to have a major role in the corporate governance structure. In general, there are primarily three ways that German banks affect firm behavior — through loans to the firm, representation on the firm’s supervisory board, and the aggregation and exercise of proxy voting rights. As a creditor, the bank monitors the process of capital and credit allocation within the firm. Supervisory Board (Aufsichtsrat) representation of bank officials is also common, and provides a strong channel of information in both directions. Finally, banks are also allowed to exert control through not only their own voting rights, but those given to them by custody of bearer shares of individual investors who have surrendered their proxies. Banks also handle the majority of new equity issues of the firm, often placing them with their own customers.

2.2. Bank-influence and financing hierarchies

Jensen and Meckling (1976) argue that incentive problems between the managers, shareholders and creditors tend to raise the external costs of finance for the firm. When the Modigliani–Miller theorem assumption of perfect information does not hold, firms are not indifferent between financing sources and we find patterns or hierarchies in financing preferences. Buch (1998) details the sources of private information that banks have on firms and their use to ameliorate agency costs. Bank-influenced firms should enjoy increased access to capital through easier access to bank debt or preferential terms on loans. In addition, bank involvement with a firm serves as

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1The 1978 Monopolkommission report states that while only 5% of the voting rights are controlled through direct share holdings, a much greater share of power actually goes to the banks through the exercise of proxies. Cable (1985) estimates that about half of all shares of firms are deposited by the owners with the bank, for safe-keeping and to minimize transactions costs.

2See for example, Myers and Majluf (1984), Stiglitz and Weiss (1981) and Fazzari et al. (1996).
a signal to outside investors and causes a certification effect, which makes it easier for firms to attract additional equity. Close bank-firm relationships can also, however, cause a potential conflict of interest that may manifest itself in firm financing decisions. Specific abuses of private information held by banks may include influencing the firm to issue equity to pay bank-debt in cases of financial distress or the use of equity rather than debt financing to finance risky projects. Thus, leverage could either be higher or lower for bank-influenced firms, but close relationships with the bank should improve the firm’s access to bank debt.

2.3. Bank influence and firm performance

If banks have access to private information that is used to reduce agency costs, and if firms with close bank relationships benefit from better access to finance, then bank-influenced firms should have better performance than independent firms. These relationships should lead to both higher profitability and higher growth rates for bank-influenced firms.

Firm performance can, however, be negatively affected by bank-influence if banks choose to exploit their unique position to further their own interests over the interest of the shareholders. For example, banks could share private information about the firm with its competitors or strategically release industry-specific information to better its own interests at the expense of the firm. Additional conflicts of interest could also include the bank influencing management to undertake less risky projects in case that the bank is financing the project, or by rent-seeking and diverting income away from the firm to themselves via the costs of financing or equity funded debt reduction.

The literature is dominated by two separate approaches to identifying conflicts of interests attributed to the role of banks in firm activities. The first approach is exemplified in studies by Ang and Richardson (1994), Kroszner and Rajan (1994), Puri (1994, 1996), Ber et al. (1997), and Gompers and Lerner (1999). These studies focus on the issue of conflicts of interest arising from the dual role of banks as underwriters of securities and creditors. Germany, however, has a nearly non-existent bond market in which to observe the possibility of bank abuses stemming from underwriting poor quality shares in order to reduce debt. Alternatively, Weinstein and Yafeh (1998) identify potential conflicts of interests in bank-based systems (Japan) as evidenced by profitability levels, growth rates and the amount of interest paid by firms. We use this approach, as it is more appropriate for the German bank-based system, and relies on observable data.

3. Data

We use information on 100 large listed and unlisted stock held German firms for the 1970–86 period. Financial information from annual reports of the firms is drawn from the Bonn database. Information on bank influence is based on data on the identity and concentration of equity ownership,

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1 Unlike Japanese banks, German banks often have close ties with more than one firm within a single industry.

2 Because the German exchange is smaller than its US counterpart, this sample is representative in that it is comparable in size to samples used in various US studies. For example in 1980 there were 2141 AG and KgaA (incorporation identities indicating that they were publicly held) firms in Germany (see Edwards and Fischer, 1994, p. 77).

3 The database was constructed at University of Bonn. See Albach (1984) for details.

When defining the bank-influence variable, we treat it as exogenous in order to be consistent with theory regarding the potentially controlling influence of banks. We acknowledge, however, that there may be a possible endogenous selection process; some firms may choose both directly and indirectly to be bank-influenced. Given the different ways of maintaining close bank–firm ties described in Section 2, a firm is defined as bank-influenced if a financial institution owns more than 50% of the shares, or, if a financial institution owns more than 25% and nobody else owns as much, or, if the chair of the supervisory board is a banker. Descriptive statistics and definitions of the financial variables used in the analysis are provided in Appendix A. Table A.1 indicates that measured by total employees of the firm, bank-influenced firms are smaller (6707) than the independent firms (10 149) in the sample, suggesting a need to control for size effects in the study.

4. Empirical results

Table 1 presents the firm fixed effects regression that focuses on the effect of bank influence on firm financing decisions. To control for size and equity effects, we use the debt to equity ratios for each of the debt variables. The bank-influence coefficient is large and statistically significant only for bank-debt indicating that bank-influenced firms enjoy better access to capital in the form of bank-debt. The coefficients on profits are large and statistically significant, for the leverage and bank-debt regressions, indicating that the firm’s profitability is positively related to leverage and bank-debt. Cash

<table>
<thead>
<tr>
<th>Variables</th>
<th>Leverage</th>
<th>Bank-debt/equity</th>
<th>Short-term debt/equity</th>
<th>Long-term debt/equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.482*</td>
<td>0.560*</td>
<td>0.334*</td>
<td>0.105*</td>
</tr>
<tr>
<td></td>
<td>(18.280)</td>
<td>(4.148)</td>
<td>(17.18)</td>
<td>(7.41)</td>
</tr>
<tr>
<td>Profit</td>
<td>5.269*</td>
<td>17.375*</td>
<td>-0.119</td>
<td>0.264</td>
</tr>
<tr>
<td></td>
<td>(18.426)</td>
<td>(4.735)</td>
<td>(-0.52)</td>
<td>(1.58)</td>
</tr>
<tr>
<td>Cash flow</td>
<td>-6.437*</td>
<td>-22.450*</td>
<td>0.259</td>
<td>-1.159*</td>
</tr>
<tr>
<td></td>
<td>(-21.861)</td>
<td>(-6.030)</td>
<td>(1.09)</td>
<td>(-6.71)</td>
</tr>
<tr>
<td>Bank influence</td>
<td>-0.008</td>
<td>1.030*</td>
<td>-0.028*</td>
<td>0.012</td>
</tr>
<tr>
<td></td>
<td>(-0.533)</td>
<td>(7.619)</td>
<td>(-2.36)</td>
<td>(1.40)</td>
</tr>
<tr>
<td>F value</td>
<td>59.733</td>
<td>7.443</td>
<td>77.76</td>
<td>56.10</td>
</tr>
<tr>
<td>P value</td>
<td>(0.0001)</td>
<td>(0.0001)</td>
<td>(0.0001)</td>
<td>(0.0001)</td>
</tr>
</tbody>
</table>

*Firm dummy coefficients not reported.

**t-Statistic in parentheses indicates variable significant at (*) 5% and (**) 10% levels.

Twenty-five percent is an important percentage as a measure of control as it constitutes a minority voting block at board meetings and is also the smallest percent of ownership that is legally required to be disclosed by shareholders.
flow, as expected, is negatively related to all the debt ratios, and to bank-debt in particular, as firms take out debt to cover liquidity constraints.

Table 2 presents the results on firm fixed effects regression of firm performance variables. We focus on the effect of bank influence on the firm’s operating income (net of interest) over sales ratio, growth, and the interest payments over debt ratio. Profitability of the firm, as measured by the ratio of operating income to sales is, as expected, positively influenced by both sales and the growth in sales. Debt has a negative influence on profitability. However, there is no evidence to support the hypothesis that bank relations influence profitability or growth of the firm. Thus, the benefits of increased access to capital, and monitoring of firms by banks do not seem to be realized in either higher profitability or stronger growth.

In addition, the interest payments are significantly higher for bank-influenced firms, even after they are controlled for total debt. Particularly in light of the above finding that bank-influenced firms use more bank debt and less short-term debt, this result supports the hypothesis of rent-seeking behavior on the part of the bank. These results are consistent with those of Weinstein and Yafeh (1998), who in their study of Japanese firms find that “if capital markets are underdeveloped and entry into the banking sector restricted, then close bank–firm relationships may lead to a redistribution of rents away from manufacturing into the financial sector, without clearly visible benefits in the form of fast growth rates”.

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7. The effect of attrition of firms on the results on profitability and growth is not an issue here, since only two firms in the sample exited the market.

8. Ideally, one would want to use interest paid to banks, and not total interest payments. Such data, however, are not available. However, since bank-debt represents a larger portion of total debt for bank-influenced firms, the use of total interest payments to debt ratio is justifiable for conclusions regarding conflicts of interest.
5. Conclusions

Theoretically, bank–firm relationships can reduce agency costs and facilitate access to capital. Alternatively, universal banking systems may also lend themselves to situations where there are exploited conflicts of interests. Our evidence on Germany indicates that: (a) bank-influenced firms exhibit financing hierarchies that are different from non-bank influenced firms, and (b) while banks may enjoy improved access to capital through bank affiliation, robust findings indicate that are no realized benefits in the form of higher profitability or faster growth rates for the firm. Our findings are consistent Chirinko and Elston (1996) but do not support Gordon and Schmid’s (1996) conclusion that bank-influence improves firm performance. Reasons for different conclusions from the latter may be due to the fact that Gorton and Schmid use: (a) a smaller data sample; (b) two points in time (1974 and 1986) as opposed to our use of panel data (resulting in 145 observations versus 1660 observations for our estimations); (c) a different sample of firms; and (d) different measures of firm profitability.

Further, the higher interest payments to debt ratio of the bank-influenced firms support the hypothesis of exploited conflicts of interests on the part of banks, given that bank-influenced firms prefer bank-debt to other types of debt. The benefits of easy access to capital may indeed be offset by the banks influencing firms to undertake less risky projects, or by re-distributing the rents away from the shareholders towards themselves in the form of higher interest payments. Results suggest that bank reform policy in the US should take into consideration the possible ramifications of extending the power of banks along the line of Germany or Japan.

While our study offers some evidence of the influence of banks on firm financing and performance, future research is clearly warranted on the effect of bank-influence on firm behavior in light of differences in equity levels, and more importantly, corporate governance structures. In addition, the effect of bank influence on firm growth and survival continues to be of interest, especially given Germany’s 1997 introduction of the Neu Markt to fund growth and development of the high technology firms.

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Appendix A. Financial variables

The following financial variables are computed for 100 German firms from 1970–86. All variables, except for Size and Growth, have been normalized by the total assets of the firm.

Profit: Sales of the firm net of costs of raw materials, changes in inventories, and other costs.
Sales: Total sales net of value-added taxes.
Cash flow: Income of the firm net of salaries and wages plus depreciation and valuation reserves on fixed assets.
Size: Log of total assets of the firm.
Bank-debt: Total firm debt from banks.
Short-term debt: Non-bank (supplier line of credit, private investors, etc.) firm debt with a term of less than 4 years.
Long-term debt: Non-bank (supplier line of credit, private investors, etc) firm debt with a term of at least 4 years.
Equity: End of year prices times the number of outstanding shares of common and preferred stock of the firm.
Growth: Net sales in the current year minus net sales last year minus divided by net sales in the current year.

Table A.1
Means of investment variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Total firms</th>
<th>Bank influenced</th>
<th>Independent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank-debt/assets</td>
<td>0.1283</td>
<td>0.1092</td>
<td>0.1312</td>
</tr>
<tr>
<td></td>
<td>(0.1019)</td>
<td>(0.0977)</td>
<td>(0.1023)</td>
</tr>
<tr>
<td>Total debt/assets</td>
<td>0.7826</td>
<td>0.7280</td>
<td>0.7909</td>
</tr>
<tr>
<td></td>
<td>(0.1953)</td>
<td>(0.1923)</td>
<td>(0.1945)</td>
</tr>
<tr>
<td>Equity/assets</td>
<td>0.6708</td>
<td>0.8201</td>
<td>0.6485</td>
</tr>
<tr>
<td></td>
<td>(0.4844)</td>
<td>(0.5458)</td>
<td>(0.4708)</td>
</tr>
<tr>
<td>Cash flow/assets</td>
<td>0.0293</td>
<td>0.0301</td>
<td>0.0291</td>
</tr>
<tr>
<td></td>
<td>(0.0203)</td>
<td>(0.0171)</td>
<td>(0.0207)</td>
</tr>
<tr>
<td>Bank-debt/equity</td>
<td>0.8334</td>
<td>2.6535</td>
<td>0.5599</td>
</tr>
<tr>
<td></td>
<td>(0.0093)</td>
<td>(20.7809)</td>
<td>(2.9322)</td>
</tr>
<tr>
<td>Total debt/equity</td>
<td>0.2228</td>
<td>0.7417</td>
<td>0.1453</td>
</tr>
<tr>
<td></td>
<td>(2.5354)</td>
<td>(5.5747)</td>
<td>(1.6500)</td>
</tr>
<tr>
<td>Log (assets)</td>
<td>5.3411</td>
<td>4.5211</td>
<td>5.4657</td>
</tr>
<tr>
<td></td>
<td>(1.7763)</td>
<td>(1.5992)</td>
<td>(1.7692)</td>
</tr>
<tr>
<td>Number of employees</td>
<td>9701.93</td>
<td>6747.21</td>
<td>10148.93</td>
</tr>
<tr>
<td></td>
<td>(25.958)</td>
<td>(15.975)</td>
<td>(27.126)</td>
</tr>
<tr>
<td>Sales growth</td>
<td>1.4553</td>
<td>1.7941</td>
<td>1.4037</td>
</tr>
<tr>
<td></td>
<td>(0.7349)</td>
<td>(0.9778)</td>
<td>(0.6763)</td>
</tr>
<tr>
<td>Observations</td>
<td>1660</td>
<td>220</td>
<td>1440</td>
</tr>
</tbody>
</table>

*Means of key variables from 1970 to 1986 are listed, with standard deviations in parenthesis. Means were calculated for bank-influenced and independent firms as follows: All variables were divided either by total assets or equity of the firm except for assets, employees, and sales growth.
References


Myers, S., Majluf, N., 1984. Corporate financing and investment decisions when firms have information that investors do not have. Journal of Financial Economics 13 (2), 87–221.


