

Covenants and Small Business Lending: The Finnish Case

Jyrki Niskanen
Mervi Niskanen

ABSTRACT. This study examines the use and determinants of covenants in Finnish small firms' loans. The results show that 72 of the 642 loan contracts examined include at least one covenant. Negative covenants are more common than affirmative covenants in our sample. We use loan characteristics, firm characteristics, and bank relationship variables to explain the use of covenants. Our results suggest that loans with real estate collateral are less likely to contain covenants than loans with other types of collateral. Larger firms are more likely to offer covenants, while the inverse holds for manager-owned firms. Firms with high corporate leverage, a high level of investments and a high sales growth rate offer covenants more often than other firms. Bank relationship length, changes of main bank and interbank competition also affect the use of covenants.

1. Introduction

Debt covenants are regularly used in corporate loan contracts especially in Anglo-Saxon countries. Castle (1980) provides evidence on U.S. firms' private commercial loan agreements. He documents that covenants based on leverage, working capital, equity, and dividend payout occur in a majority of bank loan contracts. Smith and Warner (1979) examine the covenants of 87 public debt issues (bonds) and find that in 91 percent of the cases the firms are not allowed to issue additional debt, in 39 percent mergers are forbidden, in 37 percent asset disposition is constrained, and

in 23 percent there are restrictions on dividend payments.

In Finland, the use of covenants has been negligible. The Finnish institutional setting differs from countries where covenants are commonly used, since the Finnish capital markets are bank-based and highly concentrated with only a small number of banks operating in the country. A distinguishing feature of the bank-based systems is that banks by nature monitor the performance of their customer firms more closely than in market-based systems such as that of the U.S. In the Finnish financial markets banks have traditionally monitored firms by holding seats in the firms' boards of directors and by owning parts of their equity. This tradition may provide Finnish banks a relative advantage compared to, e.g., U.S. banks, and covenants have until quite recently not been considered to improve the efficiency of monitoring (Niskanen, 1999).

While financial theory suggests that information problems are most severe between small firms and their lenders, and that covenants are an efficient means to solve information problems, it could be argued that covenants are most useful in the loan contracts of small firms. Due to the fact that data on small business loans is difficult to come by, most of the empirical research on covenants has so far concentrated on investigating covenants on bonds or syndicated loans. Our study differs from previous studies in that we use data on small firms' bank loans.

Although the financial press (e.g., *Kauppalehti* 16.10.1996 and 18.11.1996) has frequently argued that the use of covenants is increasing in Finland, firm level empirical evidence on covenants in Finnish firms' loans is scarce. This paper examines the use of covenants in Finnish small firms' loans. We are interested in the frequency of loan agreements with covenants, types of

Final version accepted on July 3, 2002

Jyrki Niskanen
University of Kuopio
Department of Business and Management
P.O. Box 1627
70211 Kuopio
Finland
E-mail: jyrki.niskanen@uku.fi

and

Mervi Niskanen
Pohjois-Savo Polytechnic Business School



Small Business Economics 23: 137–149, 2004.
© 2004 Kluwer Academic Publishers. Printed in the Netherlands.

covenants used, and we also attempt to explain why certain firms' loan contracts include covenants while other firms' contracts do not. We use the properties of loans taken, properties of borrowing firms and bank-borrower relationships as explanatory variables for the existence of covenants. Our data consist of 642 new loan contracts made during the four-year period 1994–1997 including 72 contracts with at least one covenant.

The remainder of this study proceeds as follows. Chapter two reviews the literature on debt contract covenants and chapter three describes the data set. Chapter four presents the empirical results and chapter five concludes the study.

2. Research on covenants

Smith and Warner (1979) suggest that covenants are included in debt contracts to avoid conflicts between shareholders and lenders. They recognise four types of such problems. (1) In its extreme form, the *dividend problem* means that shareholders may decide to pay themselves a liquidating dividend leaving the debtholder with "an empty corporate shell" (Copeland and Weston, 1988, p. 513). (2) The *claim dilution problem* means that management may issue additional debt of equal or higher priority than existing debt, which forces the existing debtholders to share the firm's assets with a larger set of claimants. (3) The *asset substitution problem* relates to a situation, where management replaces low risk assets with higher risk assets. (4) Finally, the *underinvestment problem* arises, when the firm bypasses positive net present value investments that would benefit lenders at the cost of shareholders. The underinvestment problem is believed to be most severe in firms with growth opportunities. According to Myers (1977), the managers of a firm with many growth opportunities have a disincentive to exercise the growth options when the firm holds long-term risky debt in its balance sheet, because the owners must share the benefits of new projects with existing debtholders.

More recent literature provides alternative motivations for the use of covenants in debt contracts. Berlin and Mester (1992) and Park (1994) suggest that covenants enhance the flexibility and efficiency of financial contracting. This is achieved

because banks and other financial intermediaries are able to extend loan maturity when covenants are present in a loan contract. Rajan and Winton (1995) further suggest that covenants are used to encourage monitoring, because their usefulness and value to the financial intermediary depends totally on monitoring efficiency. Covenants in essence make the loan's effective maturity contingent on monitoring by the lender, and it is therefore optimal for the bank to monitor lenders with covenants more than those without covenants.

Empirical research on covenants has been extensive, especially in the U.S. and in the U.K. Many studies examine the effect of debt covenants on accounting choice (see, e.g., Press and Weintrop, 1990; Begley, 1990; Citron, 1992). Since access to actual debt contracts is costly, much of the earlier research uses the degree of financial leverage as a surrogate for actual covenants (tests of debt-equity hypothesis; see Watts and Zimmerman, 1986, p. 216). Having observed this problem, one line of research has examined the association between debt-equity proxies for covenants and the real covenants in debt agreements (e.g., Duke and Hunt, 1990; Duke et al., 1995). Other types of studies include examinations of the effects of breaching covenants (e.g., Beneish and Press, 1993; Smith, 1993; DeFond and Jiambalvo, 1994), and examinations on the role of covenants in the context of specific contracts such as MBOs and venture partnership agreements (e.g., Citron et al., 1997; Gompers and Lerner, 1996).

Another set of studies attempts to identify firm or contract specific characteristics that should lead to one type of covenant or another to be advantageous. Malitz (1986) uses discriminant analysis and finds that a firm's choice of bond covenants is based on its leverage, size, and relationship with the financial market. Gompers and Lerner (1996) analyse the types of covenants included in venture capital agreements. They regress the number of covenant classes on the characteristics of the partnership contract, and find that covenants are less likely to appear when cash inflows are above median and vice versa. Recently, Black and Shevlin (1999) explain the variation in the choice of covenants in debt contracts when banks borrow from the market, and find that covenants are less likely to be included in the banks' debt contracts

when regulations are tightened or when regulators are expected to examine a bank more closely.

In Finland, there is little empirical evidence on the use of loan covenants. However, in 1996 *Teollisuus ja Työnantajat*, the Confederation of Finnish Industry and Employers (*TT* in the following) published a report (mainly based on the expertise of the working group that prepared the report) that analyses the pros and cons of using covenants in small and medium sized firms' loans. According to the report, covenants have hitherto been used in large firms' debt contracts and project financing. Usually, the financier has played an active role and required the use of covenants. The report further concludes that covenants in small and medium sized firms' loans are most often included in the contract when the borrower firm's business is under restructuring, or the borrower is otherwise in financial distress. The report suggests that the most prominent group of firms to use covenants would be those with high growth rates, and that covenants could to certain extent be used to replace collateral. *TT*'s report was soon followed by a committee report published by the Ministry of Trade and Industry (*kauppa- ja teollisuusministeriö*) in 1996, which makes more detailed suggestions concerning the use of covenants in loan contracts.

3. Data

Our study extends the findings of previous empirical studies by using a unique sample of small firm loans. The total assets of the average firm in our sample are 9,7 million euros. The asset size of the median firm is 0,5 million euros and that of the upper quartile firm is 2,0 million euros. In contrast, the average firm size in Gompers and Lerner (1996) is 98,6 million USD, in Black and Shevlin (1999) it is 13,324 million USD and in Press and Weintrop (1990) it is 1,441 million USD.

The data for this study were collected through a private survey which targeted all firms in the *Häme* region (located in the mid-western Finland around the cities of Tampere, Hämeenlinna, Lahti and Forssa) with the exception of small service industry companies (net sales below 1 million FIM; 1 Euro ~ 6 FIM) whose tangible assets usually are so small that external funding in the

form of debt capital is not needed. The firms were asked to provide information for the period 1994–1997 in the following main areas:

1. Corporate background information such as industry, firm age and number of employees.
2. Main bank relationship.
3. Number of lending banks.
4. Corporate financial characteristics.
5. Investments.
6. Detailed information on loans taken by the firm during 1994–1997.
7. Corporate ownership structure.
8. Loan restructurings.
9. Types of loan covenants used.

The final sample consists of data on 840 companies. This is a unique sample, because detailed information on private corporate loans and corporate banking relationships is not publicly available. During the research period, the sample firms raised 642 new loans, which is the number of observations for this study. All loans are private. Average loan size is 1.56 million and average maturity is 5.3 years. Floating rate loans dominate the sample with 85.6 percent, and the most important reference rate was the 3 month Helibor (Helsinki Interbank Offered Rate) with 44 percent, followed by 6 month Helibor with 23 percent and bank specific prime rates with 11 percent. The average interest rate for fixed rate loans is 6.40 percent, and the average margin in floating rate loans is 1.51 percent.

Table I, column 1, presents the distribution of the sample loans by the borrowing firm's industry and size measured by the number of employees. Panel A shows that manufacturing firms form the largest industry in the sample with 45.8 percent, followed by the firms in the retail and wholesale industry with 24.8 percent. While the real estate industry is represented with 16 percent and the construction industry with 11 percent, the other industries represent all fairly small shares of the total. From panel B of Table I, column 2, we note that the majority of our sample firms are quite small, with less than 25 employees in 75 percent of the observations. Furthermore, as the largest sample firm has as many as 1800 employees, the median firm in the largest firm size quartile employs only 100 persons.

One point related to our data set is noteworthy

TABLE I
Sample distribution by industry and firm size

Panel A: Sample distribution of loans by the borrower firms' industry

1. Industry	2. Loans (%)	3. Loans with covenants (%)	4. Percentage of loans with covenants by industry
Manufacturing	294 (45.8)	28 (38.9)	9.5
Retail and wholesale	159 (24.8)	18 (25.0)	11.3
Real estate	48 (7.5)	7 (9.7)	14.6
Construction	58 (9.0)	12 (16.6)	20.7
Transport	42 (6.5)	5 (6.9)	11.9
Public utilities	17 (2.6)	0 (0.0)	0.0
Accommodation	16 (2.5)	2 (2.8)	12.5
Other	8 (1.2)	0 (0.0)	0.0
All loans	642 (100)	72 (100)	11.2

Panel B: Sample distribution of loans by the borrower firms' number of employees

1. Quartile of size by number of employees	2. Largest (median) number of employees in each quartile	3. Loans with covenants (%)	4. Percentage of loans with covenants by size class
< 0.25	3 (2)	9 (12.5)	5.7
0.25–0.50	9 (6)	16 (22.2)	9.9
0.50–0.75	24 (13)	13 (18.1)	8.6
> 0.75	1800 (100)	34 (47.2)	22.1

when assessing the results presented in the following sections of the paper. That is, we don't have any information concerning the restrictiveness of the covenants, covenant breaching, or renegotiations of the loan agreements. Covenant restrictiveness may affect variability between loan agreements with otherwise equal loan-specific sets of covenants. For example, a minimum liquidity covenant may be set tighter for one firm than for another firm. If one loan agreement has a quick ratio requirement of, say, 1.8, and another contract includes a covenant stating that quick ratio must be at least 1.2, these two contracts are different with respect to their restrictiveness. Therefore, the number and types of covenants, which are of interest in this study, are not the only dimensions in which loan contracts vary.

4. Empirical results

Table I (panel A, column 3) shows that the relative number of covenants in the two largest sample industries is 9.5 percent for manufacturing firms and 11.3 percent for trade companies, both being quite close to the sample average 11.2 percent. The

same concerns the real estate industry (9.7 percent), which is the fourth largest industry in our sample. The largest relative number of covenants is included in construction firms' loans (20.7 percent; Table I, panel A, column 4). With 58 loan observations, construction is the third largest industry in our sample. Thus, since loan observations in other than the above-mentioned industries are too few to draw any conclusions, it appears that, with the exception of construction firms, the distribution of covenants across different industries may be relatively even.

Panel B of Table I, column 4, shows that the relative number of covenants in the two middle-most company size quartiles is only a little less than the sample average. However, in the smallest size group the relative number of covenants is only 5.7 percent, while in the largest quartile 22.1 percent of the loans include covenants.

Covenants are typically classified into "Affirmative (or positive) covenants" and "Negative covenants". Affirmative covenants contain pre-suppositions that the borrower takes certain actions such as insuring and maintaining assets, and agreements to keep accounting based finan-

cial ratios between negotiated limits. Negative covenants proscribe activities such as taking additional debt, selling the firm's assets or paying dividends beyond limits stated in the debt indenture (e.g., Brealey and Myers, 2000, p. 730). Carey et al. (1993a) divide financial covenants into *maintenance* covenants and *incurrence* covenants. The former refer to covenants according to which the borrowing firm must meet the criteria set forth on a regular basis, for example at the end of each quarter. In Finland, however, smaller firms do not prepare semi-annual financial statements, and thus the way of monitoring such covenants is based on *in casu* agreements between the banks and the borrowing firms. Under an incurrence covenant, by contrast, the issuer is not allowed to take certain actions, such as issuing new debt or making an acquisition, if the financial test would not be satisfied after the action. Bank loan covenants usually contain only maintenance covenants (Carey et al., 1993b, p. 12).

Table II presents the sample distribution of covenants by category. The 72 loans with covenants contain 149 different covenants in all, i.e. on average 2.1 covenants per loan. On average, 0.5 of these covenants are accounting based limits on the companies' financial ratios (i.e. positive

covenants), and 1.6 covenants are different restrictions on the companies' actions (i.e. negative covenants). That is, negative covenants are much more common than positive covenants in the sample. The most common types of covenants are negative pledge, limits on the debt ratio, restrictions on asset sales and corporate acquisitions.

Table III provides results from examining whether the loans with covenants differ from other loans in some general way. It appears that the relative share of floating rate loans is almost equal in both groups. However, the interest rate margins in these loans are different. In loans with covenants, the average margin is 1.01, whereas the average margin for the other loans is as high as 1.59. The difference is statistically significant at the 1 percent level. This is consistent with the argument that the fact that shareholders in essence offer guarantees to the creditors against certain value-reducing actions induces debtholders to pay a higher price for the debt they purchase in one form or another (Malitz, 1986, p. 18). Nevertheless, as it is well known that larger firms in Finland as well as in other countries borrow with lower margins, we may not directly conclude that including covenants in loan agreements decreases the loan margins, since we previously

TABLE II
Distribution of covenants by category

Type of covenant	Number of covenants	Percentage share of loans with covenants*
A. Positive covenants:	41	56.9
Capital structure	27	37.5
Minimum liquidity	5	6.9
Minimum operating earnings	2	2.8
Insurance required	6	8.3
Other	1	1.4
B. Other covenants:	108	150
Negative pledge	36	50.0
Asset sales restriction	21	29.2
Restrictions to acquisitions	17	23.6
Dividend restrictions	13	18.1
Ownership structure restriction	11	15.3
Loans to insiders restricted	5	6.9
Other	5	6.9
C. All covenants	149	206.9**

* Computed as percentages of the number of loans with covenants (N = 72).

** This number is not 100, since there are on average 2.069 covenants per loan.

TABLE III
A comparison of loan characteristics between loans with and without covenants

Loan characteristics	Loans without covenants	Loans with covenants	Significance of difference between group means
Percentage floating rate loans	0.856	0.855	0.977
Interest rate margin in floating rate loans	1.586	1.009	0.010
Percentage of collateralized loans	0.936	0.931	0.475
Loan maturity (years)	5.322	5.530	0.621
Percentage of term loans	0.715	0.722	0.909

found that larger firms also are more likely to have covenants in their loan contracts. To control for this, we regress the interest rate margin on a dummy indicating whether covenants are included in the loan agreement, and on the log of total assets of the borrowing firm. We find that the dummy is non-significant whereas the negative coefficient of the asset size variable is highly significant. The correlation between the dummy and asset size is only 0.16, and we can conclude that covenants do not have an independent effect on loan rates. This result contradicts *TT's* (1996) notion that a firm offering covenants could borrow with a lower loan margin.

Table III also shows that covenants do not reduce the need to pledge collateral. This result, too, contradicts the notions expressed in the financial press and in *TT's* (1996) report. Furthermore, Table III indicates that there are no differences between the maturities of loans with and without covenants. This, in turn, contradicts the suggestion in Berlin and Mester (1992) and in *TT's* report (1996) that covenants are used to lengthen loan maturity. Thus the general result from Table III is that covenants do not affect the other terms of corporate loans in any generalisable way.

Table IV again groups the sample loans to loans with and without covenants, and presents characteristics of the underlying firms separately for these groups. The firms' characteristics discussed are classified to fundamental characteristics (panel A) of the firms, and to those related to the firms' relationships with banks and other financiers (panel B). Additionally, competition between local creditors is described by the number of banks operating in the county where the firm is located.

As it is already obvious based on Table I, firms with covenants have more employees, more assets

and higher sales. The means of these absolute variables are biased due to the effect of a few large firms. Therefore, also their medians are reported. It appears from Table IV that firms offering covenants are older, which may partly explain the size differences between the two firm groups.

Firms with covenants in their loans are more likely to operate in corporation form and less likely to be manager-owned. On the other-hand, increase in the ownership share of a single family increases the probability that the firm's loans are with covenants. A firm's location in the urban-rural axis is very significantly associated with the use of covenants. A total of 66.7 percent of firms with covenants are urban firms, whereas only 39.7 percent of firms without covenants are urban.

The financial ratios of firms with loans including covenants versus firms with loans without them show that there are differences in liquidity and leverage. Firms with no covenants have a higher average quick ratio and lower average debt to assets ratio. These differences are quite intuitive, and in line with the literature reviewed in Section 2. It also seems that loan restructurings are 40 percent more common in the group of firms with covenants.

All relationship variables and bank competition are individually significantly associated with the use of covenants in panel B of Table IV. It appears that firms with covenants in their loans borrow on average from 1.7 banks, whereas the respective number for other firms is only 1.3 banks, indicating that firms with multiple lenders are more likely to have covenants in their loan contracts. The underlying reason for this behaviour could be that banks have more incentive to restrict the borrowers' actions if the firms have access to additional funds from other sources.

The bank-borrower relationship with the main

TABLE IV
Properties of firms whose loans contain covenants compared to those firms whose loans do not.

	Loans without covenants	Loans with covenants	Significance of difference between group means
<i>A. Fundamentals of firms underlying the loan cases</i>			
Number of employees (median personnel in parentheses)	48 (8)	147 (17)	0.000
Assets 1000 000 FIM (median assets in parentheses)	36.5 (2.7)	217.6 (11.2)	0.000
Sales 1000 000 FIM (median sales in parentheses)	36.7 (4.0)	121.7 (16.1)	0.000
Firm age (median age in parentheses)	19.6 (12)	25.6 (18)	0.016
Percentage of corporations	0.716	0.806	0.080
Percentage of management's ownership	0.605	0.350	0.000
Percentage of family companies	0.556	0.672	0.045
Percentage urban firms	0.397	0.667	0.000
Investments to assets ratio	0.076	0.119	0.600
Sales growth percentage	0.063	0.083	0.323
Profit margin to sales ratio	0.039	0.044	0.805
Operating margin to sales ratio	0.141	0.153	0.624
Quick ratio	1.276	1.079	0.101
Debt to assets ratio	0.662	0.721	0.061
Percentage of firms subject to loan restructuring	0.477	0.667	0.002
<i>B. Relationship characteristics</i>			
Number of lending banks	1.3	1.7	0.007
Loan from main bank	0.597	0.569	0.661
Bank relationship length (in parentheses, the merger of KOP and SYP is considered a new bank relationship)	11.3 (7.1)	13.2 (5.1)	0.377 (.039)
Percentage of firms that have changed their main bank	0.502	0.736	0.000
Number of competing banks in the county	4.3	4.9	0.001

bank is two years longer for firms with covenants. This difference is statistically significant only if the merger of the two largest Finnish banks, *Kansallis-Osake-Pankki* (KOP) and *Suomen Yhdyspankki* (SYP) in 1995, is considered to constitute a new bank relationship to the customers of the merged banks. Most likely, the difference between firms with and without covenants in this respect is due to the fact that the former are older firms. The percentage of firms that have recently (during the period 1990–1997) changed their main bank differs very significantly between the two groups of firms. Firms with covenants have changed their main bank in 73.6 percent of the cases, whereas the respective percentage for other firms is only 50.2. A remarkable share of these changes was related to the Savings and Loans crisis, and especially to the bankruptcy of *Tampereen Aluesäästöpankki* (TAP). This result may indicate that covenants are more common in loan agreements where the lender does not know

borrower quality. Therefore, the lender is more likely to demand additional guarantees that restrict the borrower's actions in the form of protective covenants.

Finally, it appears that also the number of banks operating in the county where the borrowing firm is located has an impact on the use of covenants. Covenants are more common to firms operating in counties where the number of competing banks is larger. The difference is not large (4.9 vs. 4.3 competing banks), but it is statistically significant at the 0.1 percent level.

In Tables III and IV we looked at the effect of potential determinants of covenant usage individually. In the next phase, we will allow for interaction between predictors, and estimate a logit model, where the dependent variable is a (0,1) dummy variable getting the value 1 if the loan is with at least one covenant, and 0 otherwise (column I). In column II the dependent variable takes the value 1 if the loan is with at least one

positive covenant and in column III we estimate the same model for *negative covenants*. The results from the estimations appear in Table V below.

In Table V, the variables are again grouped to loan characteristics, firm characteristics, and bank relationship variables. We use two different collateral dummies in the group of loan characteris-

TABLE V
Logit regression results: a joint test of the determinants of covenants

Independent variables	Column I All covenants	Column II Positive covenants	Column III Negative covenants
<i>Loan characteristics</i>			
Fixed/Floating rate dummy (floating = 1,0)	1.117 (0.181)	0.587 (0.627)	1.125 (0.188)
Loan maturity	-0.013 (0.865)	0.104 (0.320)	0.002 (0.981)
'Collateral consists of liquid assets' dummy	2.188*** (0.000)	3.536*** (0.001)	1.589*** (0.003)
'Other collateral' dummy	0.797 (0.132)	0.212 (0.843)	0.718 (0.226)
<i>Company fundamentals</i>			
Ln (1 + No. employees)	0.755*** (0.001)	1.657*** (0.000)	0.639*** (0.007)
Ln (1 + Firm age)	-0.113 (0.749)	-0.792 (0.084)*	-0.096 (0.758)
Corporation dummy (corporation = 1,0)	1.687 (0.155)	24.170 (0.406)	1.272 (0.275)
Management's ownership dummy (if the management owns > 50%, 1,0)	-1.561*** (0.001)	-1.773** (0.041)	-1.043* (0.051)
Family company dummy (if one family owns > 50%, 1, 0)	0.142 (0.759)	0.866 (0.250)	-0.546 (0.279)
Urban/Rural dummy (urban = 1,0)	-0.464 (0.512)	0.831 (0.428)	-1.137 (0.158)
Investments to assets ratio	1.824* (0.055)	2.807 (0.110)	1.609* (0.100)
% sales growth if positive, otherwise 0	4.968*** (0.008)	2.974 (0.542)	4.607** (0.012)
% sales growth if negative, otherwise 0	-4.965 (0.272)	-6.065 (0.261)	-0.573 (0.943)
Profit margin to sales ratio	0.533 (0.900)	-16.594** (0.017)	1.748 (0.671)
Operating margin to sales ratio	1.471 (0.629)	7.516 (0.232)	-0.471 (0.874)
Quick ratio	0.694** (0.019)	0.778 (0.212)	1.100*** (0.004)
Debt to assets ratio	4.084*** (0.000)	3.698* (0.079)	3.973*** (0.001)
Firm subject to loan restructuring dummy	0.678 (0.163)	-0.698 (0.370)	1.169** (0.034)

TABLE V
Continued

Independent variables	Column I All covenants	Column II Positive covenants	Column III Negative covenants
<i>Relationship characteristics</i>			
Number of lending banks	0.096 (0.681)	-0.132 (0.711)	0.103 (0.695)
Loan from main bank	0.041 (0.925)	-0.031 (0.962)	0.127 (0.792)
Ln (1 + Bank relationship length)	1.515*** (0.005)	1.414 (0.250)	1.640*** (0.004)
Bank change dummy	3.496*** (0.001)	5.859*** (0.010)	3.123*** (0.004)
No. of competing banks in the county	0.799*** (0.001)	0.314 (0.398)	0.982*** (0.004)
Constant	-20.625 (0.000)	-46.774 (0.000)	-20.128 (0.000)
χ^2	100.032 (0.000)	77.580 (0.000)	79.134 (0.000)
Pseudo R ²	0.38	0.203	0.210

The Pseudo R-squared ratio is computed as $1 - \ln L(\Omega) / \ln L(\omega)$, where $\ln L(\Omega)$ is the value of the likelihood function evaluated at the maximum likelihood estimates and $\ln L(\omega)$ is the maximum value of the likelihood function under the hypothesis that all independent variables equal zero.

tics variables to describe collateral type. The first dummy gets the value 1 if collateral consists of liquid assets such as inventories or accounts receivable, and the other dummy gets the value 1 if collateral belongs to the group "other" (mixed). Thus, loans with real estate collateral serve as the control group. The coefficient of the first dummy in the model is positive and highly significant indicating that covenants in loans with, e.g., inventories or accounts receivable as collateral are more frequent than in loans with real estate collateral. We find that this is intuitively reasonable, because inventories or accounts receivable are assets that can deteriorate more rapidly than real estate, which serves as the control group. Therefore, it is likely that the bank is willing to more closely monitor loans which have inventories or accounts receivable as collateral than loans which have real estate as collateral. No other variable in the group of loan characteristics is significant.

In the group of fundamental variables related to the borrowing firm, the coefficient of size is positive and significant indicating that large firms are more likely to have covenants in their loan

contracts. This result is somewhat at odds with the general notion that covenants are principally designed to solve information problems and would therefore be more common for small than for large firms. It could further be argued that covenants are most common for medium sized firms, since the smallest companies do not provide feasible financial information about themselves and covenants therefore are less useful. Because this suggests a non-linear model in firm size, we re-estimated our models by adding a non-linear firm size variable (results not reported in detail), but this proved to be non-significant. Intuitively this may be explained by the fact that our data consist mostly of small and medium-sized firms with only very few large firms. Therefore we may in essence only be observing the linear part of the possibly non-linear firm size effect.

Another significant variable is a dummy indicating whether the managers are majority (> 50 percent) owners of the firm. The coefficient of this variable is negative indicating that manager-owned firms are less likely to offer covenants. We also tested the continuous percentage share of manager

ownership as an alternative variable for the dummy. The results were qualitatively similar. This may mean that managers are less willing (or less often required) to accept restrictions on their firms' operations than outside shareholders. This result is in line with, e.g., Bagnani et al. (1994), who suggest that management is less willing to take risks at high ownership levels. The need for covenants that restrict management's actions is therefore less pronounced if management holds an extensive share of corporate equity.

The results in Table V show that firms with more investments and a higher sales growth rate are more likely to have covenants, as suggested in Smith and Warner (1979). We measure growth using the formula $Sales\ growth = \sqrt[3]{Sales\ of\ the\ year\ 1997 / Sales\ of\ the\ year\ 1994} - 1$. This growth measure is multiplied by dummies indicating whether growth has been positive or negative, i.e. we use separate variables for positive and negative growth in the model (see, e.g., Petersen and Rajan, 1997). It appears that firms with higher *positive* growth rates are more likely to use covenants, and when they use covenants these are negative covenants. This result suggests that banks are more willing to use restrictive covenants with firms for which the underinvestment problems are thought to be most severe, and it is well in line with the literature reviewed in part 2.

Operating margin (cash flow) and profit margin (profitability) are both non-significant in column I, but profit margin is a significant (negative-signed) determinant of whether there are positive covenants in a loan contract or not. This suggests that banks have more incentive to monitor firms whose performance is poor.

Financial leverage (debt to assets ratio) is highly significant in all three columns. This result is in line with studies from other countries (see Duke et al., 1995, for a review of such studies). The loan restructuring dummy takes a significant coefficient for negative covenants. This is intuitively reasonable, because the firm's track record of not being able to service its debt will undoubtedly increase the banks' incentives to monitor.

While previous literature has investigated other dimensions of relationship lending, this study is the first one to investigate the interaction between

bank-borrower relationships and loan covenant requirements. Previous studies suggest that the duration of the bank-borrower relationship affects positively the availability of credit (e.g., Petersen and Rajan (1994)). It has also been shown that interest rates and collateral requirements fall with the duration of the relationship (e.g., Berger and Udell (1995)). However, contrary to other studies, Degryse and Van Cayseele (2000) find that in the European context contract terms seem to deteriorate with the length of the bank-borrower relationship. Boot (2000) suggests that this may be due to the fact that the banking sector in Europe is fairly consolidated and that fewer credit alternatives exist for borrowers.

Our results suggest that, the longer the bank-borrower relationship, the more likely the firm is to have negative covenants. It also appears that covenants are more typical to firms that have recently changed their main bank. However, since both results cannot hold for the same firm, there seem to be two separate groups of firms who are more likely to offer covenants: those with a close long-term banking relationship, and those having recently changed their main bank for one reason or another. These results seem to give support to the findings by Degryse and Van Cayseele (2000) that credit terms get worse when the banking relationship matures. Moreover, the results are somewhat in line with Ongena and Smith (1998), who suggest that firms with the shortest and longest relationships are more likely to change their main bank than the firms towards the medium of the spectrum. If the bank realises this, it should be more likely to use covenants especially with the firms with the longest and shortest relationships.

Finally, we find that an increase in bank competition measured by the number of competing banks enhances the use of covenants. When we differentiate between positive and negative covenants, the results show that this only holds for negative covenants. It can be hypothesised that this occurs because a firm operating in a competitive environment is more likely to have access to alternative sources of additional debt. This in turn makes the bank more willing to restrict the firm's future actions by including covenants in debt agreements. An alternative explanation could be that covenants substitute for collateral in the

most competitive market sections. Namely, our data show that bank competition is a significant explanatory variable for collateral requirements ($p < 0.05$) when collateral is regressed on the same variables that we use in Table V. In that regression (not reported in detail), the number of local banks competing has a negative sign thus indicating that firms benefit from increasing competition between banks. Therefore, banks may be claimed to insure their position via using covenants in new loan agreements. Moreover, it could be argued based on Table V that this happens when collateral is other than real estate.

So far we have only looked at whether each loan contract includes covenants or not, and no attention has been given to the number of covenants in a given contract. To shed light on

the latter issue, Table VI presents results from regressing the number of covenants in a given loan contract on a number of explanatory variables. The explanatory variables have been selected based on their significance in Table V.

The ordered probit results suggest that the lender is more likely to require a larger number of covenants if the firm's loans have been restructured recently. This is intuitively reasonable because the banks' incentive to monitor a firm with previous financial problems must be very high. The fact that the firm has changed its main bank also increases the number of covenants in its loan contract. This result is well in line with the financial intermediation literature which states that the bank has an incentive to monitor new clients because it does not have prior information

TABLE VI
Ordered probit regression results on the determinants of the number of covenants in a particular loan agreement

Independent variables	Coefficient	Significance level
<i>Loan characteristics</i>		
Fixed/Floating rate dummy (floating = 1,0)	0.10E-05	0.998
'Collateral consists of liquid assets' dummy	0.041	0.748
'Other collateral' dummy	-0.043	0.743
<i>Company fundamentals</i>		
Ln (1 + No. employees)	0.138	0.576
Ln (1 + Firm age)	0.003	0.937
Corporation dummy (corporation = 1,0)	0.001	0.995
Management's ownership dummy (if the management owns > 50%, 1,0)	-0.199	0.292
Urban/Rural dummy (urban = 1,0)	0.018	0.948
Investments to assets ratio	-0.18E-03	0.677
% sales growth if positive, otherwise 0	1.313**	0.045
% sales growth if negative, otherwise 0	0.359	0.857
Quick ratio	-0.33E-03	0.458
Debt to assets ratio	0.50E-03	0.349
Firm subject to loan restructuring dummy	0.450**	0.044
<i>Relationship characteristics</i>		
Ln (1 + Bank relationship length)	0.103	0.509
Bank change dummy	0.525*	0.059
No. of competing banks in the county	0.127	0.266
$\mu(1)$	0.496***	0.000
$\mu(2)$	0.767***	0.000
$\mu(3)$	0.955***	0.000
$\mu(4)$	1.112***	0.000
$\mu(5)$	1.430***	0.000
Constant	-2.946	0.000
χ^2	66.37	0.000
Pseudo R ²	0.103	

on them. Finally, the number of covenants seems to be higher for high growth firms. This result is in line with e.g. Smith and Warner (1979) who suggest that underinvestment problems are most severe for high growth firms.

5. Conclusion

This study examines the use of covenants in Finnish small firms' loan contracts. We investigate the frequency of loan contracts with covenants, types of covenants used, and the determinants of using covenants. The results show that 11.2 percent of the loan contracts examined include at least one covenant. It also appears that the largest size quartile companies' loans contain almost three times more covenants than the loans of the smallest size quartile, whereas the firms in the two middlemost size quartiles do not differ from the sample average.

The average loan agreement contains 2.1 covenants, and the most common types of covenants are negative pledge, limits on the debt ratio, restrictions on asset sales and corporate acquisitions. In general, negative covenants are more common than affirmative covenants in our sample.

The results from a logit regression suggest that loans with real estate collateral less frequently contain covenants than loans with other types of collateral. Large firms are more likely to offer covenants, while manager-owned firms on the other hand are less likely to use covenants in their loans. Similar to previous studies, we find that highly levered firms are more likely to offer covenants. Furthermore, our results show that a high level of investments and a high sales growth rate are positively correlated with the existence of covenants.

Relationship variables and bank competition seem to be important determinants of covenants. The results suggest that there are two separate groups of firms that are more likely to offer covenants: those with a close long-term banking relationship, and those having recently changed their main bank. Finally, we find that an increase in bank competition measured by the number of competing banks in the county where the firm is located enhances the use of covenants. We believe that this occurs because a firm operating in a com-

petitive environment is more likely to have access to alternative sources of additional debt. In such a situation, the bank may be more willing to restrict the firm's future actions by including covenants in debt agreements. An alternative explanation could be that covenants substitute for collateral in the most competitive market sections. The latter explanation is based on a result that an increase in interbank competition reduces collateral requirements, and banks may thus be willing to insure their position by using covenants in new loan agreements.

The results suggest that the motivation to use positive or negative covenants differs to some extent. Negative covenants are used with liquid firms, high growth firms and firms that have gone through a loan restructuring. It also seems that they are used to secure a bank-borrower relationship. Positive covenants on the other hand are used more with low profitability firms. Finally, it seems that the number of covenants in general is higher for fast growing companies, for companies that have had their loans restructured, or have changed their bank recently.

References

- Bagnani, E., N. Milonas, A. Saunders and N. Travlos, 1994, 'Managers, Owners, and the Pricing of Risky Debt: An Empirical Analysis', *Journal of Finance* **49**, 453–477.
- Begley, J., 1990, 'Debt Covenants and Accounting Choice', *Journal of Accounting and Economics* **12**, 125–139.
- Beneish, M. and E. Press, 1993, 'Costs of Technical Violations of Accounting-Based Covenants', *Accounting Review* **68**, 233–257.
- Berger, A. and G. F. Udell, 1995, 'Relationship Lending and Lines of Credit in Small Firm Finance', *Journal of Business* **68**, 351–381.
- Berlin, M. and L. Mester, 1992, 'Debt Covenants and Renegotiation', *Journal of Financial Intermediation* **2**, 95–133.
- Black, E. and S. Shevlin, 1999, 'The Structure of Bank Debt Contracts', working paper, University of Arkansas.
- Boot, A., 2000, 'Relationship Banking: What Do We Know?', *Journal of Financial Intermediation* **9**, 7–25.
- Brealey, R. and S. Myers, 2000, *Principles of Corporate Finance*, 6th International Edition, McGraw-Hill.
- Carey, M., S. Prowse, J. Rea and G. Udell, 1993a, 'The Economics of Private Placements: A New Look', *Financial Markets, Institutions and Instruments* **2**, 1–67.
- Carey, M., S. Prowse, J. Rea and G. Udell, 1993b, 'The Economics of the Private Placement Market', Board of Governors of the Federal Reserve System, Washington, December 1993.

- Castle, G., 1980, 'Term Lending – a Guide to Negotiating Term Loan Covenants and Other Financial Restrictions', *Journal of Commercial Bank Lending*, 26–39.
- Citron, D., 1992, 'Financial Ratio Covenants in U.K. Bank Loan Contracts and Accounting Policy Choice', *Accounting and Business Research* **22**, 322–335.
- Citron, D., K. Robbie and M. Wright, 1997, 'Loan Covenants and Relationship Banking in MBOs', *Accounting and Business Research* **27**, 277–294.
- Copeland, T. and J. Weston, 1988, *Financial Theory and Corporate Policy*, Reading, Massachusetts: Addison-Wesley.
- DeFond, M. and J. Jambalvo, 1994, 'Debt Covenant Violation and Manipulation of Accruals', *Journal of Accounting and Economics* **17**, 145–176.
- Degryse, H. and P. van Cayseele, 2000, 'Relationship Lending within a Bank-Based System: Evidence from European Small Business Data', *Journal of Financial Intermediation* **9**(1).
- Duke, J., D. Franz and H. Hunt, 1995, 'An Examination of Debt-Equity Proxies vs. Actual Debt Covenant Restrictions in Accounting Choice Studies', *Journal of Business Finance & Accounting* **22**, 615–635.
- Duke, J. and H. Hunt, 1990, 'An Empirical Examination of Debt Covenant Restrictions and Accounting-Related Debt Proxies', *Journal of Accounting and Economics* **12**, 45–63.
- Gompers, P. and J. Lerner, 1996, 'The Use of Covenants: An Empirical Analysis of Venture Partnership Agreements', *Journal of Law and Economics* **39**, 463–498.
- Kauppa- ja teollisuusministeriö, 1996, *Kovenanit osana pk-yritysten rahoitusta*, Kauppa- ja teollisuusministeriön työryhmä- ja toimikuntaraportteja 20.
- Malitz, I., 1986, 'On Financial Contracting: The Determinants of Bond Covenants', *Financial Management* **15**, 18–25.
- Myers, S., 1977, 'Determinants of Corporate Borrowing', *Journal of Financial Economics* **5**, 147–175.
- Niskanen, M., 1999, 'Corporate Borrowing Patterns with Bank Equity Ownership', Doctoral Dissertation A-156, Helsinki School of Economics and Business Administration.
- Ongena, S. and D. Smith, 1998, 'The Duration of Bank Relationships', Working paper, Norwegian School of Economics.
- Park, C., 1994, 'Monitoring and Debt Seniority Structure', Working paper, University of Chicago.
- Petersen, M. and R. Rajan, 1994, 'The Benefits of Lending Relationships: Evidence from Small Business Data', *Journal of Finance* **49**, 1367–1400.
- Petersen, M. and R. Rajan, 1997, 'Trade Credit: Theories and Evidence', *Review of Financial Studies* **10**, 661–691.
- Press, E. and J. Weintrop, 1990, 'Accounting Based Constraints in Public and Private Debt Agreements', *Journal of Accounting and Economics* **12**, 65–95.
- Rajan, R., and A. Winton, 1995, 'Covenants and Collateral as Incentives to Monitor', *Journal of Finance* **50**, 1113–1146.
- Smith, C., 1993, 'A Perspective on Accounting-Based Covenant Violations', *Accounting Review* **68**, 289–303.
- Smith, C. and J. Warner, 1979, 'On Financial Contracting: An Analysis of Bond Covenants', *Journal of Financial Economics* **7**, 117–161.
- Teollisuus ja työnantajat, TT:n kovenanttityöryhmä, 1996, *Sopimusvakuudet lieventämään pk-yritysten vakuusongelmia*, Helsinki.
- Watts, R. and J. Zimmermann, 1986, *Positive Accounting Theory*, Englewood Cliffs, NJ: Prentice-Hall.

Copyright of Small Business Economics is the property of Springer Science & Business Media B.V. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.