Factors Affecting Syndicated Loan Spreads in Indonesia, Thailand, and Vietnam

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Abstract. This study aims to analyze the effect of loan information (i.e., number of lenders, loan amount, and loan maturity) and borrower characteristics (i.e., public, firm size, leverage, and profitability), as well as control variables such as country and year on syndicated loan, spread in public companies and private companies in Indonesia, Thailand, and Vietnam during the 2008–2018 period by calculating the All In Spread Drawn (AISD) of the syndicated loans over LIBOR. This study applied a quantitative approach through the ordinary least squares method on a sample of 389 observations. A total of 118 observations came from public companies, and 271 observations came from private companies. This study shows that syndicated loans given to private companies are more expensive than public companies. However, this can be minimized by increasing the loan exposure for private firms through a larger number of lenders. It can also be seen that public companies with larger assets, higher returns on equity, and borrowing with shorter terms will be subject to lower interest rates. The spreads for syndicated loans are the most expensive in Indonesia, followed by Vietnam and Thailand.

Keywords: syndicated loan spreads · loan information · borrower characteristic

1 Introduction

Syndicated loans are an important instrument of funding to support a company's activities as they can indirectly drive the economic growth of a country where the company is located [1]. In a syndicated loan, two (or more) parties act as lenders to provide funding for a borrower so that the required funds can be provided faster and at lower costs (loan spreads). This can be made possible as the lending activities are only represented by one lender, unlike the other types of loans [2]. This makes syndicated loans an increasingly important source of funding, especially for borrowers in developing countries [3]. However, only a few studies have been conducted on it in developing countries. Some of which are in Africa, Latin America, Southeast Asia, North Asia, and China [1, 3, 4]. This is understandable as the largest markets for syndicated loans are located in the US and Western Europe [5, 6]. The economic growth rates in ASEAN countries are considerably high, thus attracting foreign funds flew to Indonesia, Thailand, and Vietnam specifically. The uniqueness of these three countries in the ASEAN region is that they

have different market characteristics from the US and Western Europe due to asymmetry of information issues and agency problems, such as moral hazard and adverse selection, thus causing loan pricing models in ASEAN to be different [7].

Many factors can affect the cost of a syndicated loan. Based on research conducted by Wang et al. [8] and Drago and Gallo [6], the number of lenders has significant negative results on loan interest. The increase in the number of lenders aims to increase monitoring effectiveness, which allows the risk premium to decline along with the associated loan risk. These findings are also supported by Champagne and Kryzanowski [9]. Bolton and Scharfstein [10] reveal that the debtor's incentive to not met their obligation is reduced by involving more creditors. Carletti et al. [11] also show that an increase in the number of creditors will provide better risk management and loan monitoring. From the supply-side perspective, companies avoided by creditors will be subjected to higher loan spreads [12].

In 2020, in line with Gurara et al. [13], Wang et al. [8] state that loan amount has a significant negative effect on loan spreads. It should be noted that loans in large amounts are generally only given by creditors to large companies whose risks are relatively lower [3]. In contrast to the studies above, Champagne and Kryzanowski [9] posit that loan amount has a significant positive effect on loan spreads. However, the research object of this study was companies that were cross-listed in the UK from developing countries. As they are embedded with more risk, they are charged with higher loan spreads in return for longer maturities and larger loan amounts. Loan maturity has a significant positive effect on loan interest [9, 13]. However, research conducted by Wang et al. [8] and Drago and Gallo [6] conclude that loan maturity has an insignificant negative effect on syndicated loan spreads. Wang et al. [8] discover an ambiguity caused by the influence of loan maturity in the form of a U-shaped pattern on loan spreads. Firms pay a lower interest rate when they obtain medium-term loans but pay a higher interest rate for loans with the shortest or longest maturities. Longer-term loans are associated with higher default risk, while creditors only provide risky borrowers with short-term loans under the risk premium concept.

Public companies have a significant negative effect on loan spreads [6, 13]. Based on Indonesian Law Number 40 of 2007 (Article 1 paragraph 7) concerning Limited Liability Companies, a public company is defined as a company whose shares are traded on the stock exchange after an initial public offering (IPO). To comply with the prevailing regulations in the capital market, part of their obligation is to publish and submit their annual reports to the authorized stock exchange for surveillance purposes and transparency assurance [14]. The availability of easily accessible information on public companies would reduce asymmetric information and monitoring costs from creditors, hence lowering the loan interest rate [1]. In terms of firm size, large companies will be subject to smaller syndicated loan spreads [6, 9]. Firm size refers to the total value of the debtor's assets [15].

Larger companies are charged with smaller syndicated loan spreads as they are more established and have a greater ability to fulfill their obligations [6, 9]. Previous studies have shown that larger companies have more bargaining power to reduce the loan interest [6, 19]. Other studies had also found a positive relationship between leverage and syndicated loan spreads [9, 17]. The use of debt will also raise the insolvency risk [8,

9, 13]. If there is an economic downturn, many businesses will suffer, dragging down the solvability of the company. However, sometimes the use of debt might not influence the debtor due to the investors' positive sentiment. Drago and Gallo [6] posit that leverage does not have a significant effect on loan interest rates. Based on signaling theory, when a company takes a loan, it shows good creditworthiness and its ability to seize growth opportunities. In addition, companies with high profitability may be willing to take more leverage as their lower bankruptcy risks and fees will reduce the imposed loan spreads [18, 19]. Profitability is found to have a significant negative effect on syndicated loan spreads [8, 9]. The higher the profitability, the smaller the loan spreads as the companies are more unlikely to default on its obligation. From the results described previously, it can be seen that there are differences in the study results that previous researchers have carried out. Therefore, this study aims to examine further the effect of loan information (number of lenders, loan amount, loan maturity) and borrower characteristics (public, firm size, leverage, and profitability) on syndicated loan spreads imposed on public and private companies in Indonesia, Thailand, and Vietnam during the 2008–2018 period.

The following is the formulation of the problem identification that will be further investigated: (1) Do companies that have gone public have a negative effect on syndicated loan spreads; (2) Does the number of creditors negatively affect the syndicated loan spreads; (3) Does loan amount have a negative effect on syndicated loan spreads; (4) Does loan maturity have a positive effect on syndicated loan spreads; (5) Does firm size have a negative effect on syndicated loan spreads; (6) Does leverage have a positive effect on syndicated loan spreads; (7) Does profitability have a negative effect on syndicated loan spreads.

2   Research Methods

This study used a sample of syndicated loans granted to public and private companies in Indonesia, Thailand, and Vietnam during the 2008–2018 period recorded at Thomson Reuters-Loan Pricing Corporation (LPC). The data used were sourced from the DealScan Database, Osiris, and Bank Indonesia. From a total of 1203 syndicated loans recorded during the research period, 782 loans did not refer to LIBOR, 21 loan facilities were not term loans or line of credit, and 11 loans given to debtors from public companies whose net income or equity value was negative during the period were excluded so that the final sample was 389. This study exercised the ordinary least squares method to linearly regress the data to determine the effect of the independent variables on the dependent variable. The dependent variable in this study was syndicated loan spreads; the independent variables consisted of public, number of lenders, loan amount, loan maturity, firm size, leverage, and profitability; country and year serve as the control variables. This research applied the following equations:

$$Y = \beta_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + \varepsilon \tag{1}$$

$$Y = \beta_0 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 + \varepsilon \tag{2}$$

$$Y = \beta_0 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + \varepsilon \tag{3}$$

where Y is the syndicated loan spreads, β0 is a constant, b1, b2, b3, b4, b5, b6, b7, b8, b9 are regression coefficients, X1 is public, X2 is the number of lenders, X3 is the loan amount, X4 is loan maturity, X5 is country, X6 is the year, X7 is firm size, X8 is leverage, X9 is profitability, and ε is the error term. The public is a dummy variable. Companies whose shares are listed on the stock exchange were given a value of "1", while companies whose shares are not listed on the stock exchange during the study period were given a value of "0". The number of lenders is the number of creditors who participated in the syndicated loan given to the debtor. Loan amount refers to the natural logarithm amount of the syndicated loan in US Dollars provided to the debtor. Loan maturity refers to the time period from the syndicated loan to maturity and is expressed in units of months given to the company as the debtor. Country is a dummy variable that refers to the country origin of the syndicated loan debtor.

Debtors who are companies in Indonesia, Thailand, or Vietnam during the study period were given a value of "1" according to their country of origin, while debtors who are not were given a value of "0".

Year is a dummy variable that refers to the year the syndicated loan was granted. Debtors who received syndicated loans in the period 2008–2018 were given "1" according to the year the loan was given, while debtors who did not receive syndicated loans in that period were given a value of "0". Firm size refers to the natural logarithm of total assets in US Dollars owned by the debtor. Leverage refers to the level of debt used by the syndicated loan debtor to fund its asset and is expressed in a unit of a ratio scale. Profitability (ROE) refers to the net profit for each equity that the debtor has managed to achieve by the time of the syndicated loan origination. It is expressed in a unit of a ratio scale.

3   Results and Discussion

It can be seen from Table 1 that in Regression model 1, the public company whose shares are listed on the stock exchange has a significant negative effect on syndicated loan spreads. The results of this study are supported by Booth [14] and Drago and Gallo [6]. Public companies have a lower level of information asymmetry than their private counterparts as they are obliged to periodically release annual reports and financial reports by the financial services authority (OJK) to the stock exchange in their respective country. This will help facilitate the supervision from the public as investors and other related parties [14]. The availability of information that is more easily accessible in a quick and transparent manner will also help reduce monitoring costs from creditors so that the loan spreads imposed on debtors will also be lower [6].

Limited information will increase the risk contained in a syndicated loan, driving up the rate of return demanded by the creditors.

In regression models 1 and 3, the number of creditors from a syndicated loan has a significant negative effect on syndicated loan spreads. The results of this study are in line with the research of Drago and Gallo [6] and Champagne and Kryzanowski [9]. Syndicated loans are formed to minimize portfolio risk and diversify credit risk from debtors. According to Lugo [20], an increasing number of creditors can reduce the concentration risk of a loan. In addition, the syndicated loan process will become

Table 1. Results of the Regression Analysis

Variable	Model 1		Model 2		Model 3	
	β	t	β	t	β	t
C	326.39	2.68***	360.80	1.68*	379.23	2.59**
PUBLIC	−30.54	−2.02**	-	-	-	-
N_LENDERS	−13.64	−6.21***	−4.21	−1.45	−20.62	−7.23***
AMOUNT	−10.51	−1.56	−7.15	−0.56	−9.83	−1.23
MATURITY	0.29	2.00**	1.42	2.58**	0.14	0.89
FIRM_SIZE	-	-	−8.88	−2.73***	-	-
LEVERAGE	-	-	−54.14	−1.23	-	-
PROFITABILITY	-	-	−177.78	−1.97*	-	-
INDONESIA	191.01	11.30***	192.88	5.55***	206.11	8.89***
VIETNAM	148.00	7.17***	192.37	4.84***	146.56	6.01***
YEAR_2008	−38.33	−1.30	−22.72	−0.79	−55.17	−1.19
YEAR_2009	121.99	3.86***	137.13	3.21***	108.05	2.37**
YEAR_2010	118.43	2.99***	164.09	3.40***	100.03	2.03**
YEAR_2011	95.25	3.05***	146.26	2.51**	63.85	1.60
YEAR_2012	114.23	2.81***	336.43	4.93***	20.82	0.46
YEAR_2013	50.64	1.73*	63.82	1.90	47.73	1.28
YEAR_2014	51.26	1.73*	117.94	2.85***	8.61	0.22
YEAR_2015	47.79	1.60	66.72	2.49**	22.85	0.55
YEAR_2016	45.04	1.36	142.95	2.98***	11.78	0.30
YEAR_2017	10.25	0.33	73.90	2.18**	−11.26	−0.26
R-squared	0.300910		0.546167		0.337222	
Adj. R-squared	0.270842		0.463652		0.298235	
F-statistic	10.00753***		6.618995***		8.649607***	
N of Samples	389		118		271	

easier. An additional number of creditors also aims to increase supervision effectiveness and reduce information asymmetry. This leads to lower syndicated loan spreads. From a supply-side perspective, if many creditors avoid a specific company, the debtor must offer higher loan spreads to attract their prospective lenders [12, 21–23]. However, in regression model 2, the number of lenders has no significant effect on syndicated loan spreads. It can be said that the effort to reduce information asymmetry by involving more creditors to enhance monitoring activities toward debtors from public companies in Indonesia, Thailand, and Vietnam has not been successful. This finding is supported by Cortés et al. [24]. As the number of syndicated loan participants' increases, lead arranger monitoring will be suboptimal as their exposure decreases. Syndicated loan participants

are faced with the lead arranger moral hazard risk, so higher loan spreads are to be expected. In addition, Ivashina [25] reveals that the larger the number of lenders, the more the information asymmetry will exist between syndicated members. The information friction between the loan participants leads to higher information asymmetry, causing syndicated loans to become more expensive. Smaller number of creditors is the best practice to encourage monitoring efficiency and flexibility in lending [9, 26].

In regression models 1, 2, and 3, the loan amount has no significant effect on the syndicated loan spreads. These results are supported by Di Gong et al. [3] research. Large loan amounts have greater credit risk and concentration. On the other hand, these loans are usually given to large companies with fairly good creditworthiness and quality. Boots et al. [27] imply that a larger loan amount is a proxy for companies with stronger contractual strength, thereby lowering the charged interest rate. Although larger loan amounts are riskier, economies of scale in processing and monitoring loans can also lead to ambiguity in the relationship between loan amount and loan spreads [28].

In regression models 1 and 2, the loan maturity has a significant positive effect on the syndicated loan spreads. The results of this study are supported by Lugo [20] and Champagne and Kryzanowski [9]. Long-term syndicated loans have a higher default risk because they are associated with future uncertainty, raising the syndicated loan spreads expected by creditors. In accordance with the trade-off hypothesis, lenders are also willing to offer riskier long-term loans with higher loan spreads [29]. However, in regression model 3, loan maturity has no significant effect on syndicated loan spreads. This is in line with Di Gong et al. [3] and Paligorova and Santos [28], who reveal that longer loan maturities are associated with greater credit risk and lower liquidity in the underlying projects. However, they might be demanded by large firms that carry a lower risk, causing the relationship between loan maturity and loan price to be ambiguous. Although the longer maturity will increase the default risk of a loan, long-term loans are usually given only to credible companies and have good creditworthiness, which are safer companies [29]. Wang et al. [8] also posit that loan maturity has no significant effect on the syndicated loan spreads. Loan maturity influences in the form of a U-shaped pattern on the loan spreads. Medium-term loans will be subject to lower interest rates, but loans with the shortest or longest maturity will be charged a premium. This is because loans with longer maturities will increase default risk, while creditors generally only provide short-term loans for risky borrowers.

In regression model 2, firm size as measured by the natural logarithm of total assets has a significant negative effect on syndicated loan spreads. The results of this study are in line with Drago and Gallo [6] and Lugo [20]. Large companies have proven themselves through historical growth, so they have strong bargaining power against syndicated loan lenders. This is because larger companies are more established, more transparent in information, and have access to relatively stable cash flows, thereby reducing the risk of default and interest rates on syndicated loans [9, 16]. Meanwhile, leverage does not seem to have a significant effect on syndicated loan spreads. DEBTA has been found to have a significant positive effect on the loan spreads due to large future exposure to insolvency risk related to higher debt ratios [9, 17]. However, debt signaling theory shows company's decision to borrow can be seen as a good signal by investors. When a company raises capital using debt instruments, especially at favorable interest rates,

this is a positive signal indicating that the company deserves credit and can pursue growth opportunities. Conversely, if the company chooses to reduce its debt or seeks capital through equity offerings, this can be seen as a negative signal. This theory is also supported by Rafiq et al. [30] research results, which show leverage has a significant positive effect on the company's growth rate. Funds generated internally (retained earnings) are considered insufficient, so external financing is needed for the company to grow optimally. In general, external financing through debt is preferred by companies over equity so the shareholder ownership will not be diluted (pecking order theory). The positive and negative impacts of the company's decision to borrow may cause ambiguity in the relationship between leverage and loan spreads. The company's profitability has a significant negative effect at a significance level of 10% on syndicated loan spreads. The results of this study are also supported by the research of Cortés et al. [24], Champagne and Kryzanowski [9], and Houston et al. [15]. The higher the company's level of profitability, the greater the ability of the debtor to fulfill its obligations and pay back its debts. This causes the risk of default from the debtor to be minimal, thereby, lowering the imposed loan spread. The coefficient of determination as the test benchmark used in this study is adjusted-R^2. Based on Table 1, the results of the regression test on model 1 (public and private companies in 3 countries) is adjusted-R^2 value 0.270842. This means that the independent variables (public, number of lenders, loan amount, and loan maturity) and control variables (country and year) can explain the dependent variable (syndicated loan spreads) by 27.08%. Meanwhile, 72.92% of the dependent variable is influenced by other variables not used in this study. The results of regression model 2 for public companies in 3 countries show the adjusted-R^2 value of 0.463652. This means that the independent variables (number of lenders, loan amount, loan maturity, firm size, leverage, and profitability) and control variables (country and year) can explain the dependent variable (syndicated loan spreads) of 46,37%. Meanwhile, 53.63% of the dependent variable is influenced by other variables not used in this study. In regression model 3 for private companies in 3 countries, the adjusted-R^2 value is 0.298235. This means that the independent variables (number of lenders, loan amount, and loan maturity) and control variables (country and year) can explain the dependent variable (syndicated loan spreads) of 29.82%. Meanwhile, 70.18% of the dependent variable is influenced by other variables not used in this study.

4   Conclusion

Based on the test results in regression model 1, namely public and private companies in 3 countries, it can be seen that loan maturity has a significant positive effect on the syndicated loan spreads. Public and the number of lenders have a significant negative effect on the syndicated loan spreads. Meanwhile, the loan amount has no significant effect on the syndicated loan spreads. In regression model 2, namely public companies in 3 countries, it can be seen that loan maturity has a significant positive effect on the syndicated loan spreads. Firm size and profitability have a significant negative effect on syndicated loan spreads. Meanwhile, the number of lenders, loan amount, and leverage have no significant effect on the syndicated loan spreads. In regression model 3, namely

private companies in 3 countries, it can be seen that the number of lenders has a significant negative effect on the syndicated loan spreads. Meanwhile, loan amount and loan maturity have no significant effect on the syndicated loan spreads.

This research may be used as a consideration for creditors in determining syndicated loan spreads in Indonesia, Thailand, and Vietnam. If creditors seek a higher yield, a syndicated loan could be given to private companies. The concentration risk of the syndicated loan could be minimized by increasing the number of participating creditors as diversification and effectively supervising it. However, it should be noted if monitoring activities will increase the cost. In public companies, the costs incurred to carry out supervisory activities are greater than the positive impact of efforts to reduce information asymmetry. This is because information about public companies is easier to obtain. Local stock exchanges authority requires public companies to publish annual reports and financial statements to be accessible to the entire community. For companies in Indonesia, Thailand, and Vietnam, this research may be used as guidance by prospective debtors before making a syndicated loan to negotiate syndicated loan spreads. For debtors to get lower syndicated loan spreads, private companies are advised to issue their shares and register on the stock exchange through an Initial Public Offering (IPO). Thus, creditors can more easily monitor the debtors so that monitoring costs, as one of the components of syndicated loan spreads, can be reduced. In addition, public companies can also try to reduce the syndicated loan spreads imposed by increasing the total assets and profitability of the company and making syndicated loans with shorter terms. Such efforts will demonstrate the creditworthiness of the debtor. Meanwhile, private companies may reduce the charged syndicated loan spreads by seeking syndicated loans from more parties. In doing so, they would have more options and have stronger bargaining power. In addition, the larger the number of creditors, the lower the information asymmetry that exists between debtors and creditors. As risk falls, so do the spreads.

It is hoped that this research can be used as a reference for further research. This study also has a limitation as it only used company data obtained from public companies. Further research is encouraged to add data from private companies into the calculation, increase the period and object of research, the number of variables studied, and the significance of each variable at different levels.

References

1. Godlewski, C. J., & Weill, L. (2008). Syndicated loans in emerging markets. *Emerging Markets Review, 9*(3), 206–219.
2. Farid, N. (2018). *Syndicated Loans*. GRIN Verlag.
3. Gong, D., Jiang, T., & Wu, W. (2018). A foreign currency effect in the syndicated loan market of emerging economies. *Journal of International Financial Markets, Institutions and Money, 52*, 211–226.
4. Lasmono, D., Marciano, D., & Bartle, J. (2012). The effect of corruption perception index and country risk index on syndicated loan establishment and structure in Asia 1999–2003. *Available at SSRN 2157295*.
5. Kaya, H. D. (2011). Syndicated bank loans and capital structure. *Managerial Finance*.
6. Drago, D., & Gallo, R. (2020). The impact of financial crises on the syndicated loan spreads applied to public and private firms. *Journal of Financial Stability, 46*, 100718.

7. Marciano, D., & Husnan, S. (2014). The impact of asymmetry information, moral hazard, and structure of funding on corporate US dollars loan pricing: The empirical study in Indonesia the period 1990–1997. *Journal of Management and Business Review, 11*(1).

8. Wang, C.-W., Chiu, W.-C., & King, T.-H.D. (2020). Debt maturity and the cost of bank loans. *Journal of Banking & Finance, 112*, 105235.

9. Champagne, C., & Kryzanowski, L. (2009). Do internationally cross-listed non-US firms obtain more favorable terms for syndicated loans? *Managerial Finance.*

10. Bolton, P., & Scharfstein, D. S. (1996). Optimal debt structure and the number of creditors. *Journal of Political Economy, 104*(1), 1–25.

11. Carletti, E., Cerasi, V., & Daltung, S. (2004). Multiple-Bank Lending: Diversification and Free-Riding in Monitoring. Sveriges Riksbank Working Paper Series.

12. Fard, A., Javadi, S., & Kim, I. (2020). Environmental regulation and the cost of bank loans: International evidence. *Journal of Financial Stability, 51*, 100797.

13. Gurara, D., Presbitero, A., & Sarmiento, M. (2020). Borrowing costs and the role of multi-lateral development banks: Evidence from cross-border syndicated bank lending. *Journal of International Money and Finance, 100*, 102090.

14. Booth, J. R. (1992). Contract costs, bank loans, and the cross-monitoring hypothesis. *Journal of Financial Economics, 31*(1), 25–41.

15. Houston, J. F., Itzkowitz, J., & Naranjo, A. (2017). Borrowing beyond borders: Foreign assets, lender choice, and loan pricing in the syndicated bank loan market. *Journal of Corporate Finance, 42*, 315–334.

16. Strahan, P. E. (1999). Borrower risk and the price and nonprice terms of bank loans. *FRB of New York staff report,* no. 90.

17. Trà, P. T. T., & Lensink, R. (2006). The determinants of loan contracts to business firms. *UNN-WIDER Research Papers,* no. 2006/86.

18. Fama, E. F., & French, K. R. (1998). Taxes, financing decisions, and firm value. *The Journal of Finance, 53*(3), 819–843.

19. Nissim, D., & Penman, S. H. (2003). Financial statement analysis of leverage and how it informs about profitability and price-to-book ratios. *Review of Accounting Studies, 8*(4), 531–560.

20. Lugo, S. (2019). Insider ownership and the cost of debt capital: Evidence from bank loans. *International Review of Financial Analysis, 63*, 357–368.

21. Chava, S. (2014). Environmental externalities and cost of capital. *Management Science, 60*(9), 2223–2247.

22. Heinkel, R., Kraus, A., & Zechner, J. (2001). The effect of green investment on corporate behavior. *Journal of Financial and Quantitative Analysis, 36*(4), 431–449.

23. Merton, R. C. (1987). A simple model of capital market equilibrium with incomplete information.

24. Cortés, J. H., Tribó, J. A., & de las Mercedes Adamuz, M. (2020). Are syndicated loans truly less expensive? *Journal of Banking & Finance, 120*, 105942.

25. Ivashina, V. (2005). Structure and pricing of syndicated loans. In *The New York City area conference on financial intermediation.*

26. Esty, B. C., & Megginson, W. L. (2003). Creditor rights, enforcement, and debt owner-ship structure: Evidence from the global syndicated loan market. *Journal of Financial and Quantitative Analysis, 38*(1), 37–60.

27. Boot, A. W., Thakor, A. V., & Udell, G. F. (1991). Secured lending and default risk: Equi-librium analysis, policy implications and empirical results. *Economic Journal, 101*(406), 458–472.

28. Paligorova, T., & Santos, J. A. (2017). Monetary policy and bank risk-taking: Evidence from the corporate loan market. *Journal of Financial Intermediation, 30*, 35–49.

29. Gottesman, A. A., & Roberts, G. S. (2004). Maturity and corporate loan pricing. *Financial Review, 39*(1), 55–77.
30. Rafiq, M. (2008). The determinants of capital structure of the chemical industry in Pakistan. *The Lahore Journal of Economics, 13*(1), 139–158.