

**ADJUSTMENT SPEED TOWARDS TARGET CAPITAL  
STRUCTURE AND ITS DETERMINANTS IN PAKISTAN**

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**DOCTOR OF PHILOSOPHY  
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**BY  
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**Thesis Submitted to  
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## ABSTRACT

This study investigates the dynamism of the capital structure of the non-financial listed firms in Pakistan for the period from 2003 to 2012. Specifically, the main objectives of the study are to estimate the adjustment speed towards target capital structure, determining the factors affecting the adjustment speed towards target capital structure, and identifying the factors affecting the target capital structure. Firm specific and country specific factors are used to investigate the determinants of adjustment speed and target capital structure. Difference Generalized Method of Moments (GMM) is used as the estimation technique to avoid the endogeneity and serial correlation problems. The study confirms the existence of optimal capital structure for Pakistani non-financial listed firms, and concludes that firms make full adjustment towards optimal capital structure in 1.46 years to 2.03 years, depending upon the proxy of target debt used. Similarly, factors affecting adjustment speed towards target are also found to be dependent upon the proxy of debt used. Firms' profitability, stock market development, and distance are found to be relatively consistent determinants of the adjustment speed. Firm and country specific factors affecting target capital structure are also found to vary across the proxies of debt used. However, tangibility, earning volatility, cash, and industry median leverage appear consistently and significantly affecting the target leverage. Interest rate, the only country specific factor, is found to affect target debt when total liabilities to total assets and total debt to total assets are used as measure of the debt. This study contributes in the existing literature of the capital structure by providing evidence regarding the existence of target capital structure in Pakistan. In addition, this is the first attempt that estimates the adjustment speed towards target capital structure, and identifies factors affecting adjustment speed towards target capital structure for Pakistan using four different proxies of leverage.

**Keywords:** dynamic capital structure, speed of adjustment, generalized method of moments

## ABSTRAK

Kajian ini menyiasat kedinamikan struktur modal syarikat-syarikat bukan kewangan yang disenaraikan di Pakistan dari 2003 hingga 2012. Secara khusus, objektif utama kajian ini ialah untuk menganggarkan penyesuaian halaju terhadap sasaran struktur modal, menentukan faktor-faktor yang mempengaruhi penyesuaian halaju terhadap sasaran struktur modal, dan menentukan faktor-faktor yang mempengaruhi sasaran struktur modal. Faktor spesifik syarikat dan faktor spesifik negara digunakan untuk menyiasat penentu penyesuaian halaju dan sasaran struktur modal. *Difference Generalized Method of Moments* (GMM) digunakan sebagai teknik anggaran bagi mengelak masalah endogeniti dan korelasi bersiri. Kajian ini menyokong kehadiran struktur modal optimal untuk syarikat-syarikat bukan kewangan yang disenaraikan di Pakistan, dan menyimpulkan bahawa syarikat membuat penyesuaian penuh terhadap struktur modal optimal dalam tempoh 1.46 tahun hingga 2.03 tahun, bergantung kepada proksi sasaran hutang yang digunakan. Faktor yang mempengaruhi penyesuaian halaju terhadap sasaran juga didapati bergantung kepada proksi hutang yang digunakan. Keuntungan syarikat, pembangunan pasaran saham, dan jarak didapati secara konsisten sebagai penentu penyesuaian halaju. Faktor spesifik syarikat dan faktor spesifik negara yang mempengaruhi sasaran struktur modal juga didapati berbeza bergantung kepada proksi hutang yang digunakan. Walau bagaimanapun, tangibiliti, volatiliti pendapatan, tunai, dan median leveraj industri dilihat konsisten dan signifikan dalam mempengaruhi sasaran leveraj. Kadar faedah yang merupakan satu-satunya faktor spesifik negara didapati mempengaruhi sasaran hutang apabila jumlah liabiliti kepada jumlah aset dan jumlah hutang kepada jumlah aset digunakan sebagai ukuran hutang. Kajian ini menyumbang kepada literatur sedia ada tentang struktur modal dengan menyediakan bukti tentang kewujudan sasaran struktur modal di Pakistan. Sebagai tambahan, ini merupakan cubaan pertama yang menganggarkan penyesuaian halaju terhadap sasaran struktur modal, dan mengenalpasti faktor-faktor yang mempengaruhi penyesuaian halaju terhadap sasaran struktur modal di Pakistan menggunakan empat proksi leveraj yang berbeza.

**Kata kunci:** struktur modal dinamik, penyesuaian halaju, *generalized method of moments*.

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## LIST OF ABBREVIATIONS

ASEAN	Association of South East Asian Nations
CBA	Collective Bargaining Agency
CEE	Central and Eastern European
CEO	Chief Executive Officer
CPI	Corruption Perception Index
CV	Coefficient of Variation
EBIT	Earnings Before Interest and Taxes
EBITDA	Earnings Before Interest Taxes Depreciation and Amortization
FMOLS	Fully Modified Ordinary Least Square
GDP	Gross Domestic Product
GMM	Generalized Method of Moments
HLM	Hierarchical Linear Modeling
IFS	International Financial Statistics
ISE	Islamabad Stock Exchange
KSE	Karachi Stock Exchange
LSE	Lahore Stock Exchange
LTD	Long Term Debt
MM	Modigliani-Miller
MTB	Market-to-Book
NDTS	Non Debt Tax Shield
NPV	Net Present Value
OD	Observed Debt
OLS	Ordinary Least Square
R&D	Research and Development
ROA	Return on Assets
ROE	Return on Equity
SBP	State Bank of Pakistan
SEM	Structural Equation Modeling
SMEs	Small and Medium Enterprises
STD	Short Term Debt
TA	Total Assets

TD	Target Debt
TFCs	Term Finance Certificates
TSLs	Two Stage Least Square
UK	United Kingdom
US	United States
WACC	Weighted Average Cost of Capital
WDI	World Development Indicators

## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background and Motivation of the Study

The debate on the issue of optimal capital structure<sup>1</sup> began after the founding research study by Modigliani and Miller (1958). In this paper they conclude that under the restrictive set of assumptions the capital structure is irrelevant. That means financing with debt or equity doesn't affect the firm's value (Modigliani & Miller, 1958). After 5 years of this irrelevance theory, Modigliani and Miller (1963) considered the corporate taxes and favored the use of 100 percent debt in capital structure due to tax deductibility of interest expense. Kraus and Litzenberger (1973) further advanced the Modigliani and Miller's work and considered both the benefits of using debt and the bankruptcy costs that could incur due to use of the excessive debt, and suggested an optimal capital structure.

Since then numerous research studies, mainly focusing on developed countries, have been conducted investigating the factors determining the optimal capital structure, and many theories have emerged from these studies. Worth mentioning theories are: Trade-off theory, Dynamic trade-off theory, Agency theory, Market Timing theory, and Pecking order theory. The applicability of the theories of capital structure, formulated on the basis of empirical evidences from developed countries, need to be investigated and understood

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<sup>1</sup> The term optimal capital structure is also referred as the target capital structure, optimal leverage, target leverage, target debt, and optimal debt. These terms have been used interchangeably in this document.

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## REFERENCES

- Abbas, Q., & Ahmad, A. R. (2011). Modeling Bankruptcy Prediction for Non-Financial Firms: The Case of Pakistan. *Available at SSRN 1917458*.
- Aghion, P., & Bolton, P. (1992). An incomplete contracts approach to corporate bankruptcy. *Review of Economic Studies*, 59, 473-494.
- Akhtar, S. (2007). Pakistan Banking Sector Reforms: Performance and Challenges. *Speech delivered by Dr. Shamshad Akhtar Governor State Bank of Pakistan, Geneva, 1*.
- Ameer, R. (2013). Financial liberalization and firms' capital structure adjustments evidence from Southeast Asia and South America. *Journal of Economics and Finance*, 37(1), 1-32.
- Antoniou, A., Guney, Y., & Paudyal, K. (2008). The determinants of capital structure: capital market-oriented versus bank-oriented institutions. *Journal of financial and quantitative analysis*, 43(1), 59.
- Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies*, 58(2), 277-297.
- Asteriou, D., & Hall, S. G. (2007). *Applied Econometrics: a modern approach using eviews and microfit*. New York: Palgrave Macmillan.
- Aybar-Arias, C., Casino-Martínez, A., & López-Gracia, J. (2012). On the adjustment speed of SMEs to their optimal capital structure. *Small Business Economics*, 39(4), 977-996.

- Bae, K. H., Kang, J. K., & Wang, J. (2011). Employee treatment and firm leverage: A test of the stakeholder theory of capital structure. *Journal of Financial Economics*, 100(1), 130-153.
- Baker, M., & Wurgler, J. (2002). Market timing and capital structure. *The Journal of Finance*, 57(1), 1-32.
- Banerjee, S., Heshmati, A., & Wihlborg, C. (2004). The dynamics of capital structure. *Research in Banking and Finance*, 4(1), 275-297.
- Barton, S. L., Hill, N. C., & Sundaram, S. (1989). An empirical test of stakeholder theory predictions of capital structure. *Financial Management*, 36-44.
- Bas, T., Muradoglu, G., & Phylaktis, K. (2009). Determinants of capital structure in developing countries. *Cass Business School, London EC1Y 8TZ, UK*.
- Bauer, P. (2004). Capital structure of listed companies in Visegrad countries. *Prague Economic Papers*, 13.
- Baum, C. F., Caglayan, M., & Rashid, A. (2013). *Capital structure adjustments: do macroeconomic and business risks matter?* (No. 822). Boston College Department of Economics.
- Bayless, M., & Chaplinsky, S. (1991). Expectations of security type and the information content of debt and equity offers. *Journal of Financial Intermediation*, 1(3), 195-214.
- Beattie, V., Goodacre, A. and Thomson, S.J. (2006), Corporate financing decision UK survey evidence. *Journal of Business Finance and Accounting*, Vol. 33 Nos 9/10, pp. 1402-1434

- Beck, T., Demirgüç-Kunt, A., & Maksimovic, V. (2008). Financing patterns around the world: Are small firms different?. *Journal of Financial Economics*, 89(3), 467-487.
- Bevan, A. A., & Danbolt, J. (2002). Capital structure and its determinants in the UK-a decompositional analysis. *Applied Financial Economics*, 12(3), 159-170.
- Bhaduri, S. N. (2002). Determinants of corporate borrowing: some evidence from the Indian corporate structure. *Journal of Economics and Finance*, 26(2), 200-215.
- Bokpin, G. A., & Arko, A. C. (2009). Ownership structure, corporate governance and capital structure decisions of firms: Empirical evidence from Ghana. *Studies in Economics and Finance*, 26(4), 246-256.
- Booth, L., V. Aivazian, A. Demirguc-Kunt and V. Maksimovic, (2001). "Capital structure in developing countries", *Journal of Finance*, 56(1), 87-130
- Bradley, M., Jarrell, G. A., & Kim, E. (1984). On the existence of an optimal capital structure: Theory and evidence. *The Journal of Finance*, 39(3), 857-878.
- Brealey, R. A., Myers, S. C. & Marcus, A. J., (2009). *Fundamentals of Corporate Finance*. New York: McGraw-Hill/Irwin.
- Brealey, R. A., & Myers, S. C. (2000). *Principles of Corporate Finance*.
- Brigham E. F. & Houston J. F. (2001). *Fundamentals of Financial Management*.  
Harcourt, Inc.
- Brigham E.F, Ehrhardt M, (2005). *Financial Management Theory and Practice*:  
Thomson

- Brounen, D., De Jong, A., & Koedijk, K. (2006). Capital structure policies in Europe: Survey evidence. *Journal of Banking and Finance*, 30, 1409–1442.
- Byoun, S. (2008). How and when do firms adjust their capital structures toward targets?. *The Journal of Finance*, 63(6), 3069-3096.
- Cashman, G. D., Harrison, D. M., & Seiler, M. J. (2013). Capital Structure and Political Risk in Asia-Pacific Real Estate Markets. *The Journal of Real Estate Finance and Economics*, 1-26.
- Chakraborty, I. (2010). Capital structure in an emerging stock market: The case of India. *Research in International Business and Finance*, 24(3), 295-314.
- Chang, C., Lee, A. C., & Lee, C. F. (2009). Determinants of capital structure choice: A structural equation modeling approach. *The quarterly review of economics and finance*, 49(2), 197-213.
- Chang, R. P., & Rhee, S. G. (1990). The impact of personal taxes on corporate dividend policy and capital structure decisions. *Financial Management*, 21-31.
- Chen, S. Y., & Chen, L. J. (2011). Capital structure determinants: An empirical study in Taiwan. *African Journal of Business Management*, 5(27), 10974-10983.
- Chipeta, C., & Mbululu, D. (2013). Firm heterogeneity, macroeconomic conditions and capital structure adjustment speeds: Evidence from the JSE. *Investment Analysts Journal*, 77(1), 69-80.
- Cho, S. S., El Ghouli, S., Guedhami, O., & Suh, J. (2014). Creditor rights and capital structure: Evidence from international data. *Journal of Corporate Finance*, 25, 40-60.

- Chui, A. C., Lloyd, A. E., & Kwok, C. C. (2002). The determination of capital structure: is national culture a missing piece to the puzzle?. *Journal of international business studies*, 33(1), 99-127.
- Clark, B., Francis, B., & Hasan, I. (2009). Do firms adjust toward target capital structures? Some international evidence. *Some International Evidence (February 2009)*.
- Clayman, R., Fridson, S., Troughton, H. (2008). *Corporate Finance A practical Approach* USA Wiley & Sons
- Cook, D.O., and T. Tang. Macroeconomic Conditions and Capital Structure Adjustment Speed. *Journal of Corporate Finance* 16 (2010): 73-87.
- DeAngelo, H., & Masulis, R. W. (1980). Optimal capital structure under corporate and personal taxation. *Journal of financial Economics*, 8(1), 3-29.
- Deesomsak, R. (2006). *Corporate financing decisions: Evidence from the Asia Pacific region* (Doctoral dissertation, Durham University).
- Deesomsak, R., Paudyal, K., & Pescetto, G. (2004). The determinants of capital structure: evidence from the Asia Pacific region. *Journal of Multinational Financial Management*, 14(4), 387-405.
- De Jong, A., & Veld, C. (2001). An empirical analysis of incremental capital structure decisions under managerial entrenchment. *Journal of Banking & Finance*, 25(10), 1857-1895.

- De Jong, A., & Van Dijk, R. (2007). Determinants of leverage and agency problems: A regression approach with survey data. *The European Journal of Finance*, 13(6), 565-593.
- De Jong, A., Kabir, R., & Nguyen, T. T. (2008). Capital structure around the world: The roles of firm-and country-specific determinants. *Journal of Banking & Finance*, 32(9), 1954-1969.
- De Jong, A. (2002). The disciplining role of leverage in Dutch firms. *European Finance Review*, 6(1), 31-62.
- De Miguel, A., & Pindado, J. (2001). Determinants of capital structure: new evidence from Spanish panel data. *Journal of corporate finance*, 7(1), 77-99.
- Delcours, N. (2007). The determinants of capital structure in transitional economies. *International Review of Economics & Finance*, 16(3), 400-415.
- Demirgüç-Kunt, A., & Maksimovic, V. (1996). Stock market development and financing choices of firms. *The World Bank Economic Review*, 10(2), 341-369.
- Denis, D. J. (2012). The persistent puzzle of corporate capital structure: Current challenges and new directions. *Financial Review*, 47(4), 631-643.
- Dhaliwal, D., Heitzman, S., & Zhen Li, O. (2006). Taxes, leverage, and the cost of equity capital. *Journal of Accounting Research*, 44(4), 691-723
- Donaldson, G. (1961). Corporate debt capacity: A study of corporate debt policy and the determination of corporate debt capacity. Boston: Graduate School of Business, Harvard University Press.

- Drobetz, W., & Fix, R. (2005). What are the Determinants of the Capital Structure? Evidence from Switzerland. *Swiss Journal of Economics and Statistics (SJES)*, 141(I), 71-113.
- Drobetz, W., & Wanzenried, G. (2006). What determines the speed of adjustment to the target capital structure? *Applied Financial Economics*, 16, 941–958.
- Drobetz, W., Pensa, P., & Wanzenried, G. (2006). *Firm characteristics and dynamic capital structure adjustment* (No. 2006/10).
- Drobetz, W., Pensa, P., & Wanzenried, G. (2007). *Firm characteristics, economic conditions and capital structure adjustments*. Wirtschaftswissenschaftliches Zentrum (WWZ) der Universität Basel.
- Drobetz, W., Schilling, D. C., & Schröder, H. (2014). Heterogeneity in the Speed of Capital Structure Adjustment across Countries and over the Business Cycle. *European Financial Management*.
- Easterbrook, F. H. (1984). Two agency-cost explanations of dividends. *The American Economic Review*, 74(4), 650-659.
- Elsas, R., & Florysiak, D. (2011). Heterogeneity in the Speed of Adjustment toward Target Leverage\*. *International Review of Finance*, 11(2), 181-211.
- Eriotis, N., Vasiliou, D., & Ventoura-Neokosmidi, Z. (2007). How firm characteristics affect capital structure: an empirical study. *Managerial Finance*, 33(5), 321-331.
- Fabozzi J. Frank & Modigliani Franco (1992). *Capital Markets: Institutions and Instruments*. New Jersey: Prentice Hall

- Fama, E. F., & French, K. R. (2002). Testing trade-off and pecking order predictions about dividends and debt. *Review of financial studies*, 15(1), 1-33.
- Fan, J. P., Titman, S., & Twite, G. (2012). An international comparison of capital structure and debt maturity choices. *Journal of Financial and Quantitative Analysis*, 47(1), 23.
- Faulkender, M., Flannery, M. J., Hankins, K. W., & Smith, J. M. (2012). Cash flows and leverage adjustments. *Journal of Financial Economics*, 103(3), 632-646.
- Feld, L. P., Heckemeyer, J. H., & Overesch, M. (2013). Capital structure choice and company taxation: A meta-study. *Journal of Banking & Finance*, 37(8), 2850-2866.
- Fischer, E. O., Heinkel, R., & Zechner, J. (1989). Dynamic capital structure choice: Theory and tests. *The Journal of Finance*, 44(1), 19-40.
- Flannery, M., & Hankins, K. (2007). A theory of capital structure adjustment speed. *Unpublished Manuscript, University of Florida*.
- Flannery, M. J., & Hankins, K. W. (2013). Estimating dynamic panel models in corporate finance. *Journal of Corporate Finance*, 19, 1-19.
- Flannery, M. J., & Rangan, K. P. (2006). Partial adjustment toward target capital structures. *Journal of Financial Economics*, 79(3), 469-506.
- Frank, M. Z., & Goyal, V. K. (2009). Capital structure decisions: which factors are reliably important?. *Financial Management*, 38(1), 1-37.
- Frank, M. Z., & Goyal, V. K. (2004). The effect of market conditions on capital structure adjustment. *Finance Research Letters*, 1(1), 47-55.



- Frank, M. Z., & Shen, T. (2013). Common Factors in Corporate Capital Structure. *Available at SSRN 2288767*.
- Gaud, P., Jani, E., Hoesli, M., & Bender, A. (2005). The capital structure of Swiss companies: an empirical analysis using dynamic panel data. *European Financial Management, 11*(1), 51-69.
- Getzmann, A., Lang, S., & Spremann, K. (2010). Determinants of the target capital structure and adjustment speed—evidence from Asian capital markets. In *European Financial Management Symposium*.
- Giannetti, M. (2003). Do better institutions mitigate agency problems? Evidence from corporate finance choices. *Journal of Financial and Quantitative Analysis, 38*(01), 185-212.
- Graham, J. R., & Harvey, C. R. (2001). The theory and practice of corporate finance: Evidence from the field. *Journal of financial economics, 60*(2), 187-243.
- Graham, J., & Leary, M. (2011). A review of empirical capital structure research and directions for the future. *Annual Review of Financial Economics, 3*.
- Graham, Smart, Megginson (2010). *Corporate Finance Linking Theory to What Companies Do*: South Western Cengage Learning
- Gujarati, D.N., 2004. Basic Econometrics, 4th ed. McGraw-Hill, New York
- Haas, R., & Peeters, M. (2006). The dynamic adjustment towards target capital structures of firms in transition economies. *Economics of Transition, 14*(1), 133-169.

- Hanousek, J., & Shamshur, A. (2011). A stubborn persistence: Is the stability of leverage ratios determined by the stability of the economy? *Journal of Corporate Finance*, 17(5), 1360-1376.
- Haron, R., & Ibrahim, K. (2012). Target Capital Structure and Speed Of Adjustment: Panel Data Evidence on Malaysia Shariah Compliant Securities. *International Journal of Economics, Management and Accounting*, 20(2).
- Haron, R., Ibrahim, K., Nor, F. M., & Ibrahim, I. (2013). Factors Affecting Speed of Adjustment to Target Leverage: Malaysia Evidence. *Global Business Review*, 14(2), 243-262.
- Haron, R., Ibrahim, K., Nor, F. M., & Ibrahim, I. (2013). Dynamic Adjustment towards Target Capital Structure: Thailand Evidence. *Jurnal Pengurusan*, 39.
- Haron, R. (2014). Capital structure inconclusiveness: evidence from Malaysia, Thailand and Singapore. *International Journal of Managerial Finance*, 10(1), 23-38.
- Harris, M. and A. Raviv, (1991), "The theory of capital structure", *Journal of Finance*, 46(1), 297-355.
- Hasan, A., & Butt, S. (2009). Impact of ownership structure and corporate governance on capital structure of Pakistani listed companies. *International Journal of Business & Management*, 4(2).
- Henderson, B. J., Jegadeesh, N., & Weisbach, M. S. (2006). World markets for raising new capital. *Journal of Financial Economics*, 82(1), 63-101.
- Heyman, D., Deloof, M., & Ooghe, H. (2008). The financial structure of private held Belgian firms. *Small Business Economics*, 30(3), 301-313.

- Heshmati, A. (2001). The dynamics of capital structure: Evidence from Swedish micro and small firms. *Research in Banking and Finance*, 2(1), 199-241.
- Hovakimian, A., & Li, G. (2011). In search of conclusive evidence: How to test for adjustment to target capital structure. *Journal of Corporate Finance*, 17(1), 33-44.
- Hovakimian, A., Hovakimian, G., & Tehranian, H. (2004). Determinants of target capital structure: The case of dual debt and equity issues. *Journal of Financial Economics*, 71(3), 517-540.
- Huang, R., & Ritter, J. (2009). Testing theories of capital structure and estimating the speed of adjustment. *Journal of Financial and Quantitative Analysis*, 44, 237–271
- Ijaz, M. S., & Hunjra, A. I. (2013). Assessing the Financial Failure Using Z-Score and Current Ratio: A Case of Sugar Sector Listed Companies of KSE. *World Applied Sciences Journal*, 23(6), 863-870.
- Ilyas, J. (2008). The Determinants of Capital Structure: Analysis of Non-Financial Firms Listed in Karachi Stock Exchange in Pakistan. *Journal of Managerial Sciences*, 2(2), 279-307.
- Iqbal, J. (2012). Stock Market in Pakistan An Overview. *Journal of Emerging Market Finance*, 11(1), 61-91.
- Jalilvand, A., & Harris, R. S. (1984). Corporate behavior in adjusting to capital structure and dividend targets: An econometric study. *The Journal of Finance*, 39(1), 127-145.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, 3(4), 305-360.

- Jensen, M. (1986). Agency cost of free cash flow, corporate finance, and takeovers. *Corporate Finance, and Takeovers. American Economic Review*,76(2).
- Jõeveer, K. (2013). Firm, country and macroeconomic determinants of capital structure: Evidence from transition economies. *Journal of Comparative Economics*, 41(1), 294-308.
- Johnson, S. A. (2003). Debt maturity and the effects of growth opportunities and liquidity risk on leverage. *Review of Financial Studies*, 16(1), 209-236.
- Karachi Stock Exchange (2013). *Delisted / Renamed / Merged Companies in KSE*  
Retrieved from <http://ksestocks.com/OldCompanies/Delisted> on December 16, 2013
- Kayo, E. K., & Kimura, H. (2011). Hierarchical determinants of capital structure. *Journal of Banking & Finance*, 35(2), 358-371.
- Khan, M. K., Kaleem, A., & Nazir, M. S. (2012). Impact of Firm Capital Structure Decisions on Debt Agency Problem: Evidence for Pakistan. *Journal of Basic and Applied Scientific Research*, 2(8), 7897-7905.
- Kim, H. (2009). Inter-and Intra-leverage Analyses for Large Firms in the United States and Korea. *Journal of Asia-Pacific Business*, 10(1), 34-64.
- Kim, H., Heshmati, A., & Aoun, D. (2006). Dynamics of Capital Structure: The Case of Korean Listed Manufacturing Companies. *Asian Economic Journal*,20(3), 275-302.
- Kraus, A., & Litzenberger, R. H. (1973). A State-Preference Model of Optimal Financial Leverage. *The Journal of Finance*, 28(4), 911-922.

- Krishnan, V. Sivarama and R. Charles Moyer (1997). "Performance, Capital Structure and Home Country: An Analysis of Asian Corporation." *Global Finance Journal* 8: 1 (Spring/Summer 1997): 129-143.
- Korajczyk, R., & Lucas, D. R. McDonald, 1990. Understanding stock price behavior around the time of equity issues. *Asymmetric Information, Corporate Finance and Investment*, 257-277.
- Korajczyk, R. A., & Levy, A. (2003). Capital structure choice: macroeconomic conditions and financial constraints. *Journal of Financial Economics*, 68(1), 75-109.
- T. Lemma, T., & Negash, M. (2014). Determinants of the adjustment speed of capital structure: Evidence from developing economies. *Journal of Applied Accounting Research*, 15(1), 64-99.
- Lemmon, M. L., Roberts, M. R., & Zender, J. F. (2008). Back to the beginning: persistence and the cross-section of corporate capital structure. *The Journal of Finance*, 63(4), 1575-1608.
- Lööf, H. (2003). *Dynamic Optimal Capital Structure and Technological Change* (No. 03-06). ZEW-Zentrum für Europäische Wirtschaftsforschung/Center for European Economic Research.
- López-Gracia, J., & Sogorb-Mira, F. (2008). Testing trade-off and pecking order theories financing SMEs. *Small Business Economics*, 31(2), 117-136.
- Lucas, D. J., & McDonald, R. L. (1990). Equity issues and stock price dynamics. *The journal of finance*, 45(4), 1019-1043.

- MacKay, P., & Phillips, G. M. (2005). How does industry affect firm financial structure?. *Review of Financial Studies*, 18(4), 1433-1466.
- Mahmud, M., Herani, G. M., Rajar, A. W., & Farooqi, W. (2009). "Economic factors influencing corporate capital structure in three Asian countries: evidence from Japan, Malaysia and Pakistan".
- Mao, C. X. (2003). Interaction of debt agency problems and optimal capital structure: Theory and evidence. *Journal of Financial and quantitative Analysis*, 38(2), 399-424.
- Matemilola, B. T., Bany-Ariffin, A. N., & McGowan, C. B. (2013). Unobservable effects and firm's capital structure determinants. *Managerial Finance*, 39(12), 1124-1137.
- Michaelas, N., Chittenden, F., & Poutziouris, P. (1999). Financial policy and capital structure choice in UK SMEs: empirical evidence from company panel data. *Small Business Economics*, 12(2), 113-130.
- Mileva, E. (2007). Using Arellano-Bond dynamic panel GMM estimators in Stata. Economics Department, Fordham University, New York.
- Miller, M. H. (1977). Debt and Taxes. *The Journal of Finance*, 32(2), 261-275.
- Ministry of Finance, Government of Pakistan (2013). *Pakistan Economic Survey 2012-13*. Retrieved from [http://www.finance.gov.pk/survey\\_1213.html](http://www.finance.gov.pk/survey_1213.html) on November 11, 2013.
- Modigliani, F and M.H. Miller, (1958). The cost of capital, corporation finance and the theory of investment. *The American Economic Review*, 48 (3), 261-297

- Modigliani, F., & Miller, M. H. (1963). Corporate income taxes and the cost of capital: a correction. *The American Economic Review*, 53(3), 433-443.
- Moyer, C., McGuigan, R., Kretlew, J. (2003). *Contemporary Financial Management*  
USA Thomson South-Western
- Mukherjee, S., & Mahakud, J. (2010). Dynamic adjustment towards target capital structure: Evidence from Indian companies. *Journal of Advances in Management Research*, 7(2), 250–266.
- Mumtaz, R., Rauf, S. A., Bashir, A., & Noreen, U. (2013). Capital structure and financial performance: Evidence from Pakistan (Kse 100 Index). *Journal of Basic and Applied Scientific Research*, 3(4), 113-119.
- Mustapha, M., Ismail, H., & Minai, B. (2011). Determinants of debt structure: Empirical evidence from Malaysia. In *2nd International Conference on Business and Economic Research 2nd ICBER proceeding*.
- Myers, S. C., (1984). The Capital Structure Puzzle. *The Journal of Finance*, 39(3), pp. 575-592.
- Myers, S. C. (1977). Determinants of corporate borrowing. *Journal of financial economics*, 5(2), 147-175.
- Myers, S., and N. Majluf. (1984). Corporate Financing and Investment Decisions when Firms have Information that Investors do not have. *Journal of Financial Economics* 13, 187-221.
- Ngugi R. 2008. Capital financing behaviour: Evidence from firms listed on the Nairobi Stock Exchange. *The European Journal of Finance*, 14 (7): 609-624.

- Nivorozhkin, E. (2004). The dynamics of capital structure in transition economies. *Economics of Planning*, 37(1), 25-45.
- Nor, F. M., Ibrahim, K., Haron, R., Ibrahim, I., & Alias, M. A. (2012). Practices of Capital Structure Decisions: Malaysia Survey Evidence. *International Review of Business Research Papers*, 8(1), 33-63.
- Nunkoo, P. K., & Boateng, A. (2010). The empirical determinants of target capital structure and adjustment to long-run target: evidence from Canadian firms. *Applied Economics Letters*, 17(10), 983-990.
- Ozkan, A. (2001). Determinants of capital structure and adjustment to long run target: Evidence from UK company panel data. *Journal of Business Finance & Accounting*, 28(1), 175–98
- Öztekin, Ö. (2013). Capital structure decisions around the world: which factors are reliably important?. *Journal of Financial and Quantitative Analysis (JFQA)*, *Forthcoming*.
- Öztekin, Ö., & Flannery, M. J. (2012). Institutional determinants of capital structure adjustment speeds. *Journal of Financial Economics*, 103(1), 88-112.
- Perison, G., Brown, R., Howard, P., Pinder, S., (2012). *Business Finance: Australia* McGraw Hill
- Rajan, R.G. and L. Zingales, (1995). What do we know about capital structure? Some evidence from international data. *Journal of Finance*, 50 (5), 1421-1460



- Roberts, M. (2002). The dynamics of capital structure: An empirical analysis of a partially observable system. *Duke University, Fuqua School of Business Working Paper*.
- Raymond Brooks (2012). *Financial Management Core Concepts*. Prentice Hall.
- Rozeff, M. (1982). Growth, beta and agency costs as determinants of dividend payout ratios. *Journal of financial Research*, 5(3), 249-259.
- Roodman, D. (2009). How to do xtabond2: An introduction to difference and system gmm in stata. *Stata Journal*, 9 (1), 86-136.
- Saarani, A. N., & Shahadan, F. (2013). The Determinant of Capital Structure of SMEs in Malaysia: Evidence from Enterprise 50 (E50) SMEs. *Asian Social Science*, 9(6), p64.
- Saleem, S.M (2013, January 13). Corporate debt market: Towards a sturdier financial system. *Business Recorder* retrieved from <http://www.brecorder.com/supplements/88/1148862/>
- San, O. T., & Heng, T. B. (2011). Capital structure and corporate performance of Malaysian construction sector. *International Journal of Humanities and Social Science*, 1(2), 28-36.
- Sbeiti, W. (2010). The determinants of capital structure: evidence from the GCC countries. *International Research Journal of Finance and Economics*, 47, 56-82.
- Sekely, W. S., & Collins, J. M. (1988). Cultural influences on international capital structure. *Journal of International Business Studies*, 87-100.

- Shah, S. A. (2007). Corporate Debt Policy—Pre-and Post-financial Market Reforms: The Case of the Textile Industry of Pakistan. *The Pakistan Development Review*, 465-478.
- Sheikh, N. A., & Wang, Z. (2012). Effects of corporate governance on capital structure: empirical evidence from Pakistan. *Corporate Governance*, 12(5), 629-641.
- Sheikh, N.A, & Wang, Z. (2011). Determinants of capital structure: An empirical study of firms in manufacturing industry of Pakistan. *Managerial Finance*, 37(2), 117-133.
- Song, H. S. (2005). Capital Structure Determinants An Empirical Study of Swedish Companies.
- Ting, I. W. K., & Lean, H. H. (2011). Â Capital Structure of Government-Linked Companies in Malaysia. *Asian Academy of Management Journal of Accounting and Finance*, 7(2), 137-156.
- Titman, S., & Tsyplakov, S. (2007). A dynamic model of optimal capital structure. *Review of Finance*, 11(3), 401-451.
- Titman, S. and R. Wessels, (1988), The determinants of capital structure choice. *The Journal of Finance*, 43 (1), 1-19.
- Van Binsbergen, J. H., Graham, J. R., & Yang, J. (2011). An Empirical Model of Optimal Capital Structure<sup>1</sup>. *Journal of Applied Corporate Finance*, 23(4), 34-59.
- Viviani, J. L. (2008). Capital structure determinants: an empirical study of French companies in the wine industry. *International Journal of Wine Business Research*, 20(2), 171-194.

- Wang, W. (2013). Market Imperfections, Macroeconomic Conditions, and Capital Structure Adjustments. *Macroeconomic Conditions, and Capital Structure Adjustments (April 20, 2013)*.
- Welch I. (2004). Capital structure and stock returns, *J. Polit. Econ.* 112: 106-131
- Wiwattanakantang, Y. (1999), An empirical study on the determinants of the capital structure of Thai firms. *Pacific-Basin Finance Journal*, 7 (3-4), 371-403.
- World Bank. (2013). *Doing Business 2014: Understanding Regulations for Small and Medium-Size Enterprises*. Washington, DC: World Bank Group. DOI: 10.1596/978-0-8213-9984-2.
- World Bank. (2013). *World Development Indicators 2013*. Washington, DC: World Bank. DOI: 10.1596/978-0-8213-9824-
- Xu, Z. (2007). *Do firms adjust toward a target leverage level?* (No. 2007, 50). Bank of Canada Working Paper.