

## Firm Characteristics and Leasing Tendency of Pakistani Listed Companies

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**Abstract:** The study analyzes the affect of firm specific characteristics on the leasing tendency of Pakistani listed companies. Balance sheet approach is used to approach total lease share for sample size of 163 companies for 2009. The regression results of manually collected data prove that size and growth of the firm are negatively related to the firms' tendency to lease. Finding indicate that companies with low growth potential are more tend towards leasing than of companies with better growth rate. The results demonstrate complementary relationship between lease and debt financing, more tending towards leasing with greater debt payment ability. Restricted proves are there for the positive association of ownership structure and firms leasing tendency.

**Key words:** Pakistan • Leasing Tendency • Total Lease Share • Ownership Structure • Ownership Concentration • Cash Flow Coverage • Size • Growth

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### INTRODUCTION

Corporate sector gets a comparatively advantageous source of financing in the form of leasing than of debt financing. For financially struggling companies it seems to be a better source of financing than of buying decision. Although it has a number of drawbacks with it, still asset based financing attracts corporations to keep their debt taking capacity enhanced and leverage comparatively low, than of debt financing [1]. Leasing gives a lessee the right to use the asset for a specified amount of charges over time with a multiple options in both operating and finance lease. It is custom made financial solution which is normally in form of operating, capital or finance and sale and buyback with residual value and bargain purchase options and variety of tax benefits as per the tax rules of a particular economy. Different forms of leasing agreements have distinctive accounting, legal and tax treatments as a part of financial decision making [2]. Finance lease is normally shown on the face of balance sheet as a leased asset and is charged to income statement as depreciation and lease finance charges. Operating lease is an off-balance sheet item which allows the lessee to keep its debt taking capacity enhanced. Leasing helps corporations to use other sources of financing to fulfill their liquidity and capital requirements.

Comparative to debt financing, asset based financing is flexible as the lessee could adjust the amount of periodical payments, lease term, option to purchase and most important in some cases, may protect against the threat of obsolescence [3]. Contrary to that, it may be restrictive in some cases to abide by the certain condition i.e. sale and lease back agreement. As per existing literature number of UK, US and Canada based empirical studies have divergent propositions regarding lease purchase, debt capacity and tax decisions. Leasing is considered as a substitute of debt financing with the capability to enhance debt taking capacity [1, 4-6]. Many others consider leasing and debt financing go side by side both with the relevance and irrelevance of taxation issue, keeping it an academic and research issue including Ang and Peterson, Drury and Braund, Duke, Franz, Toy and Hunt, Callimaci, Fortin and Landry [7-10]. One of the motivating factors of this research is that no such investigation has been conducted to determine the leasing policy of corporate sector of Pakistan. Secondly, outcome may be helpful to the leasing corporations to assess the critical factors regarding leasing decisions, consequently, investors and capital providers may also benefit from the deterministic behavior of size, growth, cash flow coverage, ownership structure and leverage in corporate sector of Pakistan.

**Leasing Industry in Pakistan:** After a couple of sluggish decades (70's and 80's) Pakistan's economy observed a number of uplifts in the financial sector resulted from a number of liberalization policies. One of these factors was the introduction of leasing corporations in 1985. Due to a number of inherent benefits leasing got highly accepted by individuals and corporate sector and gained remarkable progress in a short period of time [11]. Similarly, to the rest of the world Pakistan has also shown a progressive improvement in leasing sector. The investment in leasing sector has increased more than 14% of the total investment, increasing number of leasing associations with total assets of more than Rs. 84 billion. Particularly, leasing is accounted for critical success factor for small and medium industry of Pakistan [12]. Banks and leasing corporations are sharing their consumer and corporate leasing market but in Pakistan leasing is more focused on consumer goods with an increasing trend of leasing by corporate sector. Federal Board of revenue has given a tax exemption for any payments made in terms of lease [13].

#### **Theoretical Background and Literature Review:**

Previous studies have inspected as to the benefits of lease versus purchase different kinds of assets in different industries. Leasing has appealed so much intellectual attention that it might not be possible to establish anything totally new about it. Our approach would almost be similar to that of Callimaci although we take it further as for the consideration in lease versus purchase matters in Pakistani listed companies [10]. As Smith and Wakeman reasoned that leases in certain industries and for certain assets entail different benefits [14]. They also explained how taxes are important to identify the potential lessee and lesser by demonstrating how the total tax bill can be decreased by the differences in effective marginal tax rates between the lessee and lesser. They further identified several non-tax incentives to lease. Regarding cost and financial structure of a firm Sharpe and Nguyen claim that firms can avoid the high costs rising from external funds by using the lease [15]. They also tested if financial contracting costs and firms tendency to lease has a relationship. Consequently, companies that face high costs of debt or have a low credit rating are more inclined towards leasing showing negative relationship of effective tax rate and impartiality with the size of the firm.

While determining the leasing propensity Callimaci in 2011 regressed the data of 288 Canadian listed companies and proved that firm leverage, growth and investment opportunities have significantly positive relationship

with total lease share, on the contrary increasing size of the firm tends to decrease the leasing decisions [10]. Based on the Donaldsons-Lasfer's curve Lasfer investigated the relationship of leasing of real estate with the size, growth, debt capacity, tax and efficiency ratios [16]. In small, medium and large firms analysis leverage was one of the reasons of leasing by real estate sector to keep their debt taking capacity alive. Furthermore, positive relation with size and growth with a controversy between small and large firms [16].

Different types of leasing contracts have distinguished supportive elements for organizational common equity value. As investigated by Ezzell and Vora sale and leasebacks are comparatively supportive than of direct lease contracts in decreasing bankruptcy and external financing costs based upon asymmetric market information [17]. Testing the determinants of leasing decisions of UK Companies Adams and Hardwick used four different company-specific characteristics including investment opportunity, leverage, ownership structure and company size, as explanatory variables, ignoring tax factor [6]. Their findings suggested a positive relationship between the tendency to lease and leverage and ownership structure [6]. However, their study offers only limited support for the view that the leasing share is likely to fall as company size increases [6]. There is no such relationship is verified showing greater propensity to lease with more growth opportunity and vice versa [6]. Consequently, Pakistani tax structure is quite similar to the UK tax structure where there are no separate industry based taxes reforms exist in Pakistan [13]. Bring together the effect of tax, non-tax and industry effect on lease usage Shanker observed Canadian firms over ten years and concluded that there is yearly change in the usage of lease by firms in different sectors because higher tax rate provide less incentive to lease on the other side tax shield increase the firms leasing tendency [18]. Overall, tax reforms can affect ability to use leasing than of buying decisions.

As per critical evaluation of Adedeji and Stapleton by using a sample of over 550 UK companies argued that empirical results from Ang and Peterson would only be correct if the large number of non-leasing companies is included in the sample [5, 7]. Findings suggest a negative relationship between the use of finance leases and debt [5]. Furthermore, growth of firms and their leasing tendency are negatively correlated comparative to weak association of size of the firm [5]. Ang and Peterson tested the prediction that finance leases and debt are inversely related using US data. Their results of the study

were contrary to the prediction of the theory which holds that both are substitutes and indicated that finance leases and debt complement each other empirically rather than acting as substitutes. However, they ignored the prediction that the degree of leasing is negatively influenced by taxable capacity [7].

Since different studies have shown varied results on the different factors, through this study we want to determine the intensity of different factors that have an impact on the firms' decision to lease assets in Pakistan. Our model incorporates variables such as, cash flow coverage, interest and rental payments, leverage, ownership concentration, growth and size. Because of no special tax reforms in Pakistani tax structure regarding lease payments tax position is not considered amongst the determining variables.

#### **Determinants of Leasing Tendency**

**Leverage:** Debt is the most important ingredient of capital structure and financing decisions. Managing this part is always a priority area for the corporate sector for the smooth sailing of operations and credit rating. Living in financially limited environment, leasing an asset is considered better than of financing the purchase. As supported by Krishnan and Moyer and Schallheim, Wells and Whitby leasing has a direct effect on the debt capacity of companies [1, 19]. Leasing could be used to handle the debt situation and can prove fruitful especially for those companies which cannot easily take debt, either do not have the right access to the debt markets [19]. Adedeji and Stapleton also provide facts to demonstrate the substitutability of leasing and debt-financing the purchase of assets [5].

On the other side of the argument, [7] hold in their "Leasing Puzzle" that firms that lease more assets are inclined towards having more debt, not less. His leasing puzzle is further examined by Lewis and Schallheim and Eisfeldt and Rampini in their models, which also hold that leasing and debt-financing work as complementary instruments [20, 21]. The substitutability of leasing and debt further provides the basis for this rationale. Lease financing might be the last hope for acquiring the assets for the firms that cannot take debt anymore due to high costs or some other problems i.e. high leverage [21]. Therefore, the correct nature of the association between debt and leases remains an empirical issue and calls for further investigation [20]. Based upon the earlier research we may hypothesize a positive relation of leverage and leasing tendency explaining that leasing is helpful in keeping the debt taking capacity comparatively better than of buying by debt.

**Ownership Structure:** Since capital asset ownership makes it more difficult for the owner to reduce the risk by diversifying as argued by [14]. Leasing assets can help solve this problem as lessor bears some of the risk associated with the lessee's use of the asset. Flath, Adams and Hardwick and Callimaci concluded that closely held companies tend more towards leasing than management controlled firms [4, 6, 10]. Mehran, Taggart and Yermack and Duke, Franz, Toy and Hunt also drew similar results while Short argued otherwise [9, 22, 23]. In Pakistan, firms are generally highly concentrated and many of these are owner or family controlled [24]. In view of the mixed arguments but considering the prioritized element of risk aversion, Pakistani firm environment and ownership concentration, we test the prediction that relation closely held companies have greater tendency to lease than of buying.

**Growth:** Growth may be affected by the use of lease financing as it may avoid the underinvestment and growing firms would prefer cash holdings by selecting lease financing with low down payments rather buying assets [1, 25]. Opportunity identification is thought to be the biggest challenge for managers. But just after identifying the right opportunity, firms are faced with the problem of finding the best way to finance the investments which are needed to avail those opportunities. Due to limited resource constraint, firms are normally left with the options such as debt financing of the investments or leasing of required assets. According to Myers debt financing can upshot agency conflicts over the borrowed funds such as asset substitution and underinvestment problems [1]. Leasing can effectively reduce the underinvestment problem comparative to the unsecured debt or equity [26]. Krishnan and Moyer demonstrate that firms that are rapidly growing might face severe cash constraint and favor lease financing because of the lower required down payment [1]. Accordingly Barclay and Smith also reported a positive relationship between growth and lease [27]. Most of the researchers have established a positive relation between growth and lease [2, 10, 16, 22, 28] found an insignificantly positive relation between lease and growth of company. Based upon existing literature we may postulate a positive relationship amongst lease share and growth for Pakistani companies.

**Size:** Sharpe and Nguyen taking turnover as measure of size claimed that more asymmetric information lies between the firms and its debt holders in case of smaller than do larger firms [15]. Resulting in asset substitution

problem for smaller firms more than larger firms and ultimately tends the smaller firms to lease more assets [15]. Adams and Hardwick further added that smaller firms may use certain assets only partially and may find these assets un-useful in future and therefore leasing could compensate the acquiring and disposing costs of those assets for smaller firms [6]. Investigation explored a controversial relationship of leasing and size of firm as a deterministic variable [6]. Lasfer and Levis reported a negative relationship between firm size and leasing while suggesting that smaller firms are much more in need for leasing than do larger firms [2]. Finucane, Eisfeldt, Slotty and Callimaci also reported significantly negative relation between leasing and size [10, 21, 28, 29]. On the contrary, Mehran came up with the positive significant relation between total leasing and size [22]. The results from the different studies about the association between leasing and firm size are mixed. Based upon mixed results we take an indifferent position to explain the relationship.

**Cash Flow Coverage:** Explaining the relationship of leverage and cash flow coverage with leasing leverage comparative to cashflow may have a negative deterministic value [10]. At the same time debt payment ability is better explained by the coverage ratios [10]. Krishnan and Moyer emphasised the inclusion of coverage ratios to better understand the firms opportunistic decisions [1]. It could be a significance element of the model as it further explains the current and upcoming debt financing decisions of firm and further explains firms leverage [15, 28]. We hypothesis a positive relation amongst total lease share and cash flow coverage ratio.

**Methodology:** Firms normally prefer lease financing over purchasing decisions for a number of reasons like; when confronted with the scarcity of financing, to avoid the threat of obsolescence, when assets are required for a shorter period of time, to dodge record keeping and to show comparatively healthy financial position to the stakeholders [30]. Literature has identified a number of variables which are significant or insignificant determinants of lease financing. Firm normally chose to lease or to purchase the assets based upon its visible or invisible reasons [10]. This research is an investigation into the question that whether firm characteristics and their impact on their lease or purchase decisions in Pakistani listed companies. Firms have liberty to lease or purchase assets keeping in view their industry or asset characteristics. Industry may be a determining variable

based upon its requirement and financial conditions, consequently has been used as a control variable [10]. We have considered firm's lease charges coverage ratio, ownership structure, firm's growth and size as firm specific characteristics as independent variables to determine the total lease share of Pakistani organizations.

**Sample Selection:** For the purpose of investigation into the lease determinants as firm characteristics data is collected manually from annual reports 2009 of Pakistani Listed companies. There are 1562 listed companies in Karachi, Lahore and Islamabad stock exchanges divided into 32 sectors. This paper does not consider Banking, Insurance and Non-Banking Financial Institutions and Real Estate Investment sector because of their nature of business and industry specific financial information. Furthermore, as per availability of data 163 companies are selected based upon the manual inspection of financial statements, where the companies disclosed financial information regarding lease liability. Only the companies which disclose any leasing information or have any visible tendency towards leasing have been used for the research which consists mainly of textile, garments, cement, sugar and automotives.

**Variables and Model:** Total lease share (TLsS) is calculated by using balance sheet approach where amount of leased assets by total assets was used as a total share of leased assets in an organization. Operating and finance lease is not considered separately as it has been considered by [6, 10, 13, 14]. To justify the use of balance sheet approach is quality of organizational disclosure and operating lease is tactically use as off-balance sheet item. We are using balance sheet approach, which would better proxy to show the percentage of lease share in the total assets of an organization.

$$TLsS = \alpha^0 + \beta_1 OwS + \beta_2 GroR + \beta_3 \ln ToA + \beta_4 CaFC + \beta_5 LvR + \varepsilon$$

where:

- TleS = Total Lease Share
- OwS = Ownership Structure
- GroR = Growth Rate
- lnToA = Natural log of Total Assets (to indicate size of the firm)
- CaFC = Cash Flow Coverage Ratio
- LvR = Leverage (Debt/Equity)
- $\varepsilon$  = Error Term

Leverage (LvR) is indicated by debt ratio. Total assets are refined by deducting capital lease and total debt does not include lease any liabilities. As used by [10] market price per share to book value per share ratio indicates firm's growth rate (GroR) and cash flow coverage (CaFC) is indicated by fixed charge coverage ratio in our model. Natural log of total assets is used to determine the size (LnToA) of the firm. Percentage of shares held by the board of directors is used to demonstrate firm's ownership structure (OwS) and concentration.

**Data Analysis and Discussion**

**Descriptive Statistics:** Annexure 1, Table-1 accounts the descriptive statistics i.e. mean and standard deviation of the dependent variable TLeS and independent variables LnToA, GroR, LvR, CaFC and OwS of 163 companies selected for the sample. The total lease share (TLeS) shows an average of 1.82% of leased assets out of its total assets ranges from 1 percent to 2.78 percent. Maximum companies show their lease share greater than 1 percent of total fixed assets. Total assets with the natural log (LnToA) have mean value of 20.30 which is 946m rupees with considerable difference between maximum and minimum values. This indicates versatile sizes of the companies beginning from Rs. 290m to Rs. 5 thousand millions. Market to book ratio (GroR) an indicator of firm's growth rate consists of high growth rate companies 99% to the lower of 1%.

Descriptive statistics of leverage (LvR) mainly show companies from 15% of debt burden to 80% of debt burden in our sample. The mean value shows that almost

47% of the total assets are from outsider financing. Firms' debt payment ability indicator (CaFC) with the mean ratio of 1.56 including weakest coverage ratio of 0.05 percent to strongest of 3.78 percent showing versatility of sample. Most of the companies in Pakistan are closely held (OwS) which is indicated by the mean value of 37.85 percent, similar median and mode of 25 percent upto a maximum value of 82 percent. At the same time sample also include fragmented ownership structure consisting of only .01 percent of shares held by the board of directors.

Pearson correlations in Annexure 1, Table 2 shows negative and insignificant correlation of LnToA and TLeS having ( $r = -.163$ ) and ( $\rho = .101$ ), on the other hand GroR is having a negative but significant correlation with TLeS ( $r = -.232$ ) and ( $\rho = .033$ ). Leverage LevR and cash flow coverage ratio CaFC are positively and significantly correlation to TLeS as per Pearson correlation statistics. According Pearson correlation statistics the ownership concentration OwS is having positive but insignificant relation with TLeS which indicate that the hypothesized behavior of ownership structure and leasing tendency is rejected.

**Regression Results:** Annexure 1, Table 3 presents regression statistics consisting parameters, estimates and test statistics for TLeS for 2009. Fitness of regression model seems to be significantly good from the calculated value of R-square. Furthermore, the estimate of the LnToA ( $\beta_1$ ) is found to be negative and statistically insignificant. The estimate of  $-0.205$  and p-value of  $.092$  suggests that the size (indicated by LnToA) of

Table 1: Descriptive statistics

	TLeS	LnToA	GroR	LvR	CaFC	OwS
Mean	1.8227	20.3058	32.3492	47.5556	1.5681	37.8543
Std. Error of Mean	.06533	.21817	3.34416	2.16921	.11932	3.06837
Median	1.7993	20.6762	27.0000	45.0000	1.3000	37.8500
Mode	1.34	18.97	6.00	45.00	.05	25.00
Std. Deviation	.51854	1.73166	2.654341	17.21756	.94711	24.35443
Variance	.269	2.999	704.554	296.444	.897	593.138
Range	1.78	7.60	98.00	65.00	3.73	82.56
Minimum	1.00	14.90	1.00	15.00	.05	.01
Maximum	2.78	22.50	99.00	80.00	3.78	82.57

Table 2: Pearson Correlations

	LnToA	GroR	LevR	CaFC	OwS
TLeS	-.163(.101)	-.232(.033)	.282(.013)	.298(.009)	.148(.123)
LnToA		.014(.457)	.312(.006)	.110(.195)	-.380(.001)
GroR			-.334(.004)	.375(.001)	-.049(.350)
LevR				.065(.308)	-.204(.054)
CaFC					-.252(.023)

Table 3: Parameters estimates and test statistics

Parameter	Estimate	t-value	Sig Value
B1	-.061	-1.711	.092
B2	-.006	-2.498	.015
B3	.008	2.097	.040
B4	.262	3.982	.000
B5	.005	1.922	.060
<i>Test statistics</i>			
Mean of the dependent variable			1.8227
Standard deviation of dependent variable			0.51854
Standard error of the Estimate			0.43429
F statistic			6.278
Durbin-Watson			1.316
R <sup>2</sup>			0.355
Adjusted R <sup>2</sup>			0.299

selected sample has a negative relationship with the total lease share TLeS of companies. Thus, the regression results provide clear support for the view that as the firm size increases; the firms' tendency to lease the assets goes down. These findings are also in line with the findings of scholars such who reported a negative relationship between the firm size and leasing tendency [10, 21, 28]. One reason for this reverse relationship is that the smaller firms do not have access to the right amount of funds and may also find it difficult to take debt from the money markets, leasing their assets may seem the only adequate option at hand [2].

Falsifying our hypothesis regression analysis of GroR and TLeS reveals parameter estimate of  $\beta_2 = -0.006$  and p-value of .015 at 5% significance level explaining a negatively significant relation that an increase in growth rate decrease the leasing tendency of a firm. This unexpected significantly negative relationship between firms' growth rate and leasing tendency suggests that the firms experiencing high levels of growth are more likely to buy their assets whereas the firms striving for stable growth rate may tend more towards leasing. This significantly negative relationship may be the reason of ignorance of operating lease as a part of total lease share. Secondly, the country specific regulatory conditions can affect the leasing tendency of the firm. Cost element and agency conflicts also are not neglectable to comprehend the reason of unexpected results. The second possible explanation can be that the firms facing high levels of growth may seem to be more able to buy or pay off their liabilities and since the lenders feel safer, it enables these firms to take more debts and ultimately resulting in less leasing. This explanation could be investigated in future researches.

As per our postulation our study found a positive significant relationship between the independent variable leverage (LvR) and dependent variable firms' total leasing share (TLeS) with the estimated positive  $\beta_3$  estimate of 0.257 and the t-statistic of 2.097 and P-value of 0.040 at 0.05 level of significance, demonstrating complementary relation between leasing tendency and leverage enhancing capacity. These statistical results support the view that leasing and debt-financing complement each other as asserted by [2, 6, 7, 10]. The results further suggest that leasing offers an additional debt-taking capability to the firms and that, firms which operate under high levels of leverage tend more towards leasing their assets in case of Pakistani listed companies. This view supports various findings of the previously held studies by researchers [6, 20-22].

The cash flow coverage (CaFC) also has a positive significant relationship with the leasing tendency (TLeS) of Pakistani listed companies consequently the derived relation proves our hypothesis. The statistical estimate of  $\beta_4$  is estimated to be 0.479 with the t-statistic value 3.982, p-value of 0.000 at 0.05 percent level of significance. These statistical figures provide evidence that the Pakistani firms with high levels of cash flow coverage ratio (CaFC) tend more towards leasing and as the ratio goes high the companies are likely to engage more in leasing their assets. The rationale behind this decision can be, that, the firms with high cash flow coverage may find it easy to pay off their monthly or annual lease bills, allowing them to use both debt-financing and leasing to acquire assets in order to run multiple projects side by side.

Finally, the estimate of the OWS ( $\beta_3$ ) found to be positive with 0.228 and 1.922 estimates of Beta coefficient value and t-statistic respectively, but not significantly different from zero at the 0.05 level. According to these results, the leasing tendency and ownership concentration are positively but insignificantly related in most of the Pakistani companies which are highly concentrated and mostly closely held [24]. Thus, the results of this study on the Pakistani listed companies provide only a limited amount of support for the view that leasing tendency increases in firms as the ownership structure becomes more concentrated [6, 10].

### CONCLUSION

Leasing industry has shown overall progress both in consumer and industrial leasing in Pakistan. Based upon the objective of evaluating the firm specific characteristics determining the tendency to lease, a sample size of 163 Pakistani stock exchanges listed companies is used. Data is extracted manually from the annual reports of these companies for the year 2009. This cross sectional study evaluated a financially diverse sample size and considered five firm specific characteristics as independent variables namely; ownership structure, firm growth rate, size, cash flow coverage ratio and firm leverage, total lease share as dependent variable. Regression analysis revealed that firm size and growth have negative relation with firms leasing tendency. Furthermore, firms leverage and cash flow coverage ratio found to be in significantly positive relation with total lease share. However, ownership structure demonstrated unexpectedly positive relation with total lease share for Pakistani listed companies, which provide limited support for view that closely held companies are more tend towards leasing. The study proved our postulation that increase in firm size led them to buy assets than of leasing, similarly, financial constrained companies take leasing as a complementary source financing as it enhances their debt taking capacity and reduce default risk. According to results the companies with improved level of cash flow coverage are more tend towards leasing than of engaging themselves in buying. The possible reason of our difference with the findings of literature may be based upon differences of methodology, country specific regulatory conditions, whereas, further detailed study could enhance the compatibility of results with earlier findings.

**Limitations:** Limitations of the research are the availability of data both from print and e-sources. Firm disclosure practices are needed to be evaluated based upon the requirements of regulatory authorities. Tax element may also be empirically tested particularly associated with local tax practices which are not considered in this study.

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