RESEARCH ARTICLE

Impact of Operating Cash Flow on Financial Decisions: Evidence From Non-Financial Firms Listed on PSX

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Abstract: This study serves three purposes. First, to explore whether operating cash flow affect the investment, financing and dividend decisions. Second, to investigate whether financial decisions are interrelated. Finally, to investigate whether theories relevant to financial decisions developed in the West provide support to understand the investment, financing and dividend behaviors of non-financial firms in Pakistan. The data were collected from annual reports of non-financial firms listed on Pakistan Stock Exchange during 2009-2019. Results show that operating cash flow and investment are positively related. Firms with positive cash flow can use funds for investment activities otherwise free cash leads to the conflict of interest between managers and stockholders. Operating cash flow, profitability and liquidity are negatively associated to financing. The inverse relation confirms the pecking order theory which indicates that profitable firms borrow less due to the availability of internally generated funds. Finally, operating cash flow and dividend are positively related. The positive relation confirms the prophecy of bird-in-the-hand theory which suggests that distribution of dividend reduces the cost of equity and increases share price. As control variables are concerned, firm size and age have negative association with investment and financing. The negative relation is consistent with the fact that mature firms borrow less due to availability of retained earnings. Moreover, they invest less in the same business to avoid the problem of over investment. Finally, results show that financial decisions are interrelated.

Keywords: Operating cash flow; investment; financing; dividend; pecking order theory; agency theory
JEL Classification Codes: G30

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1 Introduction

Several empirical studies have analyzed the financial decisions (i.e., investment, financing and dividend) independently, i.e., either these studies have analyzed the impact of operating cash flow on dividend decision, investment decisions or on financing decisions. But as per authors' knowledge very few studies in Pakistan have analyzed the impact of operating cash flow on three decisions at a time. In practice, these decisions are interdependent and examining them separately may distort the results (Gatchev et al., 2010). The interrelationship between corporate financial decisions can be practically seen from the example of a global brewing company Anheuser-Busch InBev. Its share price dropped to the lowest level in a decade when it announced a reduction in dividend by fifty percent. The company justified the reduction in dividend as it had to pay its 108bn dollar loan from an acquisition in 2016 (Abboud, 2018).

Seminal work of Modigliani and Miller (1958) laid the bases of modern finance. They proposed debt-irrelevance theorem which suggests that in a perfect market each combination of debt and equity is as good as another. Thus, variations in capital structure (i.e., choice between debt and equity) have no effect on firm value. However, firm value depends on earnings generated by its assets. In another study, Modigliani and Miller (1963) proposed that the choice between debt and equity does matter. So highly leveraged firms will be having higher value than the unleveraged firms because of tax-deductible interest payment. The trade-off theory suggests that an optimal capital structure can be determined by bringing a balance between the costs (i.e., probability of bankruptcy and agency) and benefits of debt (i.e., tax concession on interest payment). In contrast, pecking order theory based on asymmetric information suggests a hierarchy of finance, i.e., use internally generated funds first, and then debt, and equity as a last resort. Signaling theory proposed by Ross (1977) suggests that variations in capital structure and payout policy convey some meanings to those who are not part of the organization.

Dividend irrelevance theorem proposed by Miller and Modigliani (1961) suggests that firm value depends on the operating/earning assets rather than by splitting income between payout and retained earnings. According to Gordon (1963) and Lintner (1962) dividend distribution leads to reduction in cost of equity, and increase in share price because dividends are certain than capital gains. According to tax preference theory, investors in high tax-bracket tend to pay less for shares that distribute more dividend to shareholders.

Fazzari et al. (1988) are the pioneers to explore the association between internal funds and investment decisions of firms. They argue that firms make more investments when cash flows are increased because external funds are more expensive. The argument of Fazzari et al. (1988) is supported by numerous studies (e.g., Carpenter et al., 1994; Guizani and Ajmi, 2020; Kumar and Ranjani, 2018; Rashid and Jabeen, 2018; Riaz et al., 2016). Prior work on cash flows and investment relationship is inconclusive. For instance, Dasgupta and Sengupta (2007) report that investment has a non-monotonic association with cash flow. Further, studies of Erickson and Whited (2000) as well as Cummins et al. (2006) find that the effect of cash flow on investment is insignificant.

The studies considering the interrelationship between corporate financial decisions in Pakistan are very limited and report varying results. For instance, Bin Hidthiir et al. (2019) find that corporate investment, financing and dividend decisions are not independent, and affect each other. Sadaf et al. (2019) argue that dividend affects leverage decisions but leverage has no simultaneous effect on investment or dividend. Basheer et al. (2018) ana-

lyze the interdependence between investment and financing decisions and report that both decisions positively affect each other. Ahmed et al. (2021) document that corporate investment and financing decisions are not interrelated while dividend decisions are affected by investment.

As explained, little attention has been given to analyze the impact of operating cash flow on three decisions at a time. Thus, this study attempts to fill a gap in the literature by exploring the association between operating cash flow and financial decisions in an emerging economy Pakistan. This study is different from previous studies conducted in Pakistan in a way that it examines the effect of operating cash flow on investment, financing and dividend decisions which reveals that the financial decisions are interrelated, and examining them in isolation may lead to erroneous estimates.

2   Literature Review

Corporate financial decisions are interrelated and studying them separately leads to erroneous estimates (Gatchev et al., 2010). In contrast to the proposition of Modigliani and Miller (1958), financial decisions are not independent because of capital market imperfections, like transaction costs, taxes, agency costs, information asymmetry, etc. Credit rationing is caused by asymmetrical information between insiders and outsiders (Jaffee and Russell, 1976; Stiglitz & Weiss, 1981) and also makes external financing more expensive (Greenwald et al., 1984; Myers & Majluf, 1984). Given the increased external financing cost, firms have to depend on their internal funds and capacity to borrow for investment projects, cash needs and dividend payments (Kirch and Terra, 2020). Thus, various firm expenditures compete with each other for limited funds. Although investment, financing and payout decisions are interrelated, most of the studies examine them separately. A few studies (e.g., Dhrymes & Kurz, 1967; Fama, 1974; McCabe, 1979; Gatchev et al., 2010; Kirch and Terra, 2020; Ahmed et al., 2021) are the exceptions.

Firms invest in positive NPV projects with comparable returns to increase their value that leads to wealth maximization of shareholders. Modigliani and Miller (1958) propose that financing decisions have no effect on investment decisions in a perfect capital market, which means that external financing is a true substitute of internal financing. The financial crises of twenty first century prove that capital markets are not perfect. Market imperfections hamper investment of firms in lucrative projects (Campello et al., 2010). Hence, firms use cheaper sources of financing for investment projects. Pecking order theory suggests that priority of financing sources depends on their costs. In this way, first priority is to fund projects through internal cash flows. Next is debt financing which is more costly than internal financing. Firms issue equity as a last resort because it is considered as the most expensive source.

In response to the proposition of Modigliani and Miller (1958), an intense debate on the link between internal financing and investment started with the seminal paper of Fazzari et al. (1988). They used cash flow as internal financing proxy and argue that investment decisions of firms are dependent on internally generated funds, which have lowest cost. The higher cost of external sources is attributed to underinvestment, adverse selection and higher agency problems (Dasgupta et al., 2011). Managers actually control firm resources and they are motivated to increase them because their compensation is directly related to firm growth (Riaz et al., 2016). The control of management over firm resources creates

doubts in the minds of outsiders that managers may invest to achieve their personal objectives (Kadapakkam et al., 1998). The external investors mitigate the increased risk by charging extra premiums on their funds (Jensen, 1986; Stulz, 1990). Increase in non-performing loans is also a reason for banks to charge higher interest rates from their customers (Bogoev, 2010). Moreover, higher cost of external financing is also attributed to information asymmetry. Kadapakkam et al. (1998) assert that outside investors do not have the same information about an investment project as the insiders do. The asymmetry of information causes credit rationing that leads to increased cost of external financing (Greenwald et al., 1984). The studies of Brennen and Subrahmanyam (1996) and Easley and O'Hara (2004) find positive association between information asymmetry and external financing cost. This discussion shows that investments are determined by availability of financing rather than cost of capital (Riaz et al., 2016).

The argument of Fazzari et al. (1988) is supported by Carpenter et al. (1994), Riaz et al. (2016), Rashid & Jabeen (2018), Kumar & Ranjani (2018) and Guizani & Ajmi, (2020) that investment and cash flow have positive relation. Despite numerous studies, researchers do not agree on the relationship that cash flow has with investment. For instance, Kaplan and Zingales (1997), Lamont et al. (2001) and Whited and Wu (2006) find that the firms with easy access to external financing have a stronger relationship between investment and cash flow. Moreover, Alti (2003) argues that investments of new firms have stronger relationship with cash flow because of uncertainties about quality. Further, the studies of Guariglia. (2008), Hovakimian. (2009), Hadlock and Pierce (2010) and Firth et al. (2012) document a nonmonotonic association between investment and cash flow. Machokoto et al. (2021) and Wang and Zhang (2021) document a decrease in the dependence of investment on cash flow even in financially constrained firms.

Choice of capital structure is a fundamental decision of a firm. Choice of right proportion of debt and equity is very sensitive because a wrong step in this connection may lead to financial distress and bankruptcy (Sheikh & Wang, 2011). Modigliani and Miller (1958) present modern capital structure theory which considers the perfect capital market as perfect. They propose that firm value is unaffected by a firm's choice of capital structure. The base of pecking order theory is asymmetric information. Theory suggests to give preference to internal funds over external sources of funds and then prefer debt over equity because of cost advantage.

Many studies explore the relationship of operating cash flow with financing. For instance, Rajan and Zingales (1995) report that a negative association exists between cash flow and financing. Fama and French (2002), Lemmon and Zender (2010), Farrukh and Asad (2017), Shah and Khan (2017), Ullah et al. (2020) and Ahmad et al. (2021) examine capital structure choices of firms and find patterns that support the pecking order theory. Brav (2009) finds that private firms show less flexibility in their financing decisions because information asymmetry is more serious in private firms than public firms. The study of Rashid and Jabeen (2018) supports pecking order theory in Pakistan.

The discussion on how important dividend decisions are in determining firm value starts with the seminal work of Miller and Modigliani (1961) who argue that firm value, in a market that is perfect, is unaffected by its dividend decision. Lintner (1962) and Gordon (1963) refute the irrelevance proposition of Miller and Modigliani (1961) by supporting bird-in-the-hand theory. They argue that firm value is positively related to higher dividend payments in an environment of uncertainty and imperfect capital markets. Investors prefer cash dividend over capital gains. Jensen and Meckling (1976) assert that dividend acts

as monitoring mechanism by decreasing the amount of cash under the control of management. Fama and French (2002) simultaneously test trade-off theory as well as pecking order theory and find that firms having higher profits pay higher dividends and the firms having higher investments pay lower dividends. Furthermore, the signaling theory suggests that payment of dividend provides information about potential future growth that reduces asymmetric information between investors and managers (Bhattacharya, 1979).

Numerous studies examine the connection between cash flow and dividends. For instance, Bradley et al. (1998) find that firms pay lower dividends when they expect cash flow volatility. Papadopoulos and Dimitrios (2007) find that cash flow is the key determining factor of dividend policy and are positively associated with dividend payments. Most of the previous studies consider earnings in determining dividend policy (e.g., Myers and Bacon, 2004; Mehar, 2005; Jaysh, 2006; Ben Naceur et al., 2006; Raaballe & Hedensted, 2008; Ahmed & Javid, 2008; Lohonauman & Budiarso, 2021). These studies use profitability rather than cash flows which is more useful measure in determining dividend policy (Mirza & Afza, 2010) because cash flows measure liquidity more directly (Charitous & Vafeas, 1998).

3   Methods

This part presents sample and data collection details along with the empirical model and its process of estimation.

3.1   Sample and data collection

This study examines the effect of operating cash flow on corporate financial decisions (i.e., investment, financing and dividend). The data were extracted from financial reports of non-financial Pakistan Stock Exchange listed firms during 2009-2019. At first, the study included all 420 non-financial companies listed on PSX. However, firms with incomplete record related to the variables of the study were deleted from analysis. Finally, the sample comprises of 199 firms covering a period of 11 years (i.e., 2189 firm-year observations).

3.2   Operationalization of variables

Variables and their measurements are adopted from existing literature so that findings of this study can easily be compared with others. Table 1 presents the definition of dependent and independent variables.

Table 1: Variable Operationalization

Variables	Symbol	Formula/Operationalization
Dependent variables		
Investment	INV_{it}	Property, plant and equipment / Total assets
Financing	FIN_{it}	Total debt / Total assets
Dividend	DIV_{it}	Cash dividend / outstanding common stock
Explanatory variable		
Cash flow from operations	CFO_{it}	Cash flow used/provided by operating activities / Total assets
Control Variables		
Firm size	$SIZE_{it}$	Natural log of total assets
Profitability	$PROF_{it}$	Profit before tax / Total assets
Liquidity	LIQ_{it}	Current assets / Current liabilities
Firm age	AGE_{it}	Log of firm age

3.3 Empirical model and estimation

The panel data techniques, i.e., pooled ordinary least squares, fixed effects method and random effects method have been used for estimation of the effects of cash flow from operations on financial decisions (i.e., investment, financing and dividend). Basic regression models are presented below

$$INV_{(it,)} = \beta_0 + \beta_1 CFO_{it} + \beta_2 SIZE_{it} + \beta_3 PROF_{it} + \beta_4 LIQ_{it} + \beta_5 AGE_{it} + \beta_6 FIN_{it} + \beta_7 DIV_{it} + u_i t \quad (1)$$

$$FIN_{it} = \beta_0 + \beta_1 CFO_{it} + \beta_2 SIZE_{it} + \beta_3 PROF_{it} + \beta_4 LIQ_{it} + \beta_5 AGE_{it} + \beta_6 INV_{it} + \beta_7 DIV_{it} + u_{it} \quad (2)$$

$$DIV_{it} = \beta_0 + \beta_1 CFO_{it} + \beta_2 SIZE_{it} + \beta_3 PROF_{it} + \beta_4 LIQ_{it} + \beta_5 AGE_{it} + \beta_6 FIN_{it} + \beta_7 INV_{it} + u_{it} \quad (3)$$

In these models, the endogenous variables are investment in plant, property and equipment (INVit), total debt (FINit) and dividend per share (DIVit). The explanatory variables are cash flow from operations (CFOit), firm size (SIZEit), profitability (PROFit), liquidity (LIQit) and firm age (AGEit).

4   Results

Table 2 presents the descriptive statistics of dependent and explanatory variables. The mean value of investment, measured as the ratio of property, plant and equipment and total assets, is 43.35 percent. Year wise mean values of variables presented in Table 3 show that tendency of sample firms toward investment in property, plant & equipment declines from 47.08 percent in 2009 to 42 percent in 2019. Since capital goods are mostly imported from other countries of the world and payment is made in US dollar, exchange rate is an important issue in this connection. Thus, value of rupee is declining in relation to dollar and restricting the firms to invest more in property, plant & equipment. Another possible reason of decline in the value of property, plant and equipment may be the firms using cheaper sources to replace capital goods. In this connection, Chinese and local machinery may have lower costs that result in reduction in the overall value of property, plant and equipment.

The mean value of financing, calculated as total debt to total assets, indicates that 54.36 percent of assets are financed with debt. The yearly averages presented in Table 3 show that proportion of debt declines from 59.54 percent in 2009 to 55.35 percent in 2019. Since, it is job of the State Bank of Pakistan to regulate the money supply and interest rate in the best national interest, discount rate varies with the passage of time and correspondingly the market interest rate adjusted. Companies prefer to borrow more funds when interest rate is lower and borrow less funds when interest rate is high. Thus, year-wise variations in debt ratio may be the outcome of variations in market interest rate. Moreover, firms may prefer to reduce their debt with increased cash flow to avoid a debt overhang. Mean value of dividend per share is Rs. 8.90. It is important to mention that the minimum amount of dividend per share is 0 and maximum amount is Rs. 599.83. Since payment of dividend is not obligatory, firms tend not to pay dividend when cash is not sufficient. In contrast, if cash flows are increasing due to increase in sales and profits then companies tend to pay dividend generously. The yearly averages show that mean dividend is increasing gradually from 3.62 in 2009 to 17.13 in 2017. A possible reason for increase in average dividend may be the mature and profitable firms pay high dividend because such firms may have lower investment needs. The mean value of operating cash flow, measured as cash used/provided by operating activities to total assets, is 7.07 percent which specifies that on average sample firms have generated cash out of their operating activities. Yearly averages presented in Table 3 show a declining trend in cash flow from operations. This may be due to a number of firms in the sample have negative operating cash flow which dilutes the proportion of positive cash flow. Mean value of profitability, measured as profit before taxes to total assets, is 8.28 percent. Yearly averages presented in Table 3 indicate that level of profitability is fluctuating due to internal as well as economic factors. It varies from 6.06 percent in 2009 to 9.69 percent in 2017. Firm size, measured by natural log of total assets, has mean value of 15.67. Variation in firm size reported in Table 3 shows that firm tend to increase the level of investment in assets gradually. Liquidity, calculated as current assets to current liabilities, has mean value of 1.51 times. This ratio specifies that firms in the sample tend to rely on conservative policy of financing the working capital and use long-term funds to finance a fraction of current assets. The yearly averages provided in Table 3 show that current ratios are greater than one during the study period. On the basis of these statistics, an important question arises why sample firms finance current assets with long-term funds. This might be due to many reasons, for instance, firms are

forced to operate with positive working capital to execute customers' orders in time due to energy crisis. Rise in material prices because of shortages and inflation may motivate firms to operate with positive net working capital. Finally, mean value of age, measured as log of age, is 1.41. Yearly averages indicate that mean age of firm varies from 1.29 in 2009 to 1.50 in 2019.

Table 2: Descriptive Statistics

Variables	Obs.	Mean	Std. Dev.	Minimum	Maximum
INV_{it}	2189	0.4335	0.2129	0.0005	0.9428
FIN_{it}	2189	0.5436	0.208	0.0314	1.5118
DIV_{it}	2189	8.8996	33.668	0	599.83
OCF_{it}	2189	0.0707	0.1274	-0.7179	0.7749
$PROF_{it}$	2189	0.0828	0.1227	-0.5946	0.9977
$SIZE_{it}$	2189	15.667	1.4919	10.89	20.457
LIQ_{it}	2189	1.5133	1.2163	0.6536	14.516
AGE_{it}	2189	1.4104	0.2419	0.301	1.8451

Table 3: Year-wise mean values of variables

Year	INV	FIN	DIV	OCF	PROF	SIZE	LIQ	AGE
2009	0.4708	0.5954	3.6253	0.08615	0.0606	15.1746	1.478	1.2991
2010	0.4599	0.5701	4.9881	0.08524	0.0881	15.2744	1.4661	1.3276
2011	0.4266	0.5656	5.1697	0.05102	0.0959	15.4197	1.4065	1.3528
2012	0.4338	0.5532	6.4249	0.08318	0.0813	15.5054	1.4757	1.3758
2013	0.4232	0.5294	6.9207	0.08397	0.0996	15.5796	1.5739	1.397
2014	0.4289	0.5274	6.5419	0.06636	0.0774	15.6775	1.5661	1.4168
2015	0.4323	0.5208	8.6081	0.09412	0.0798	15.7385	1.5943	1.4354
2016	0.4373	0.5052	13.293	0.09419	0.0933	15.8044	1.5913	1.453
2017	0.4206	0.5218	17.127	0.04779	0.0969	15.9431	1.5672	1.4698
2018	0.4155	0.5366	13.674	0.04555	0.0797	16.0715	1.5077	1.4857
2019	0.42	0.5539	11.522	0.04016	0.0579	16.1566	1.4197	1.501

4.1 Correlation Matrix

The data were tested for multicollinearity and pair-wise correlation results, presented in Table 4, show that data have no serious multicollinearity problem. Results show that financing has significant and positive relation with investment. Dividends are inversely related to investment and financing. Operating cash flows have negative association with financing and positive association with dividends. Profitability is negatively associated to investment and financing. In contrast, profitability is positively related to dividend and operating cash flow. Firm size is negatively related with investment and positively related with dividend, operating cash flow and profitability. Liquidity has negative relation to investment and financing. Alternatively, liquidity is positively related to dividend, operating cash flow and profitability. Finally, firm age is negatively related to investment, financing, operating cash flow and profitability. In contrast, firm age is positively related to dividend.

Table 4: Correlation Analysis

Variables	INV	FIN	DIV	OCF	PROF	SIZE	LIQ	AGE
INV	1							
FIN	0.1134***	1						
DIV	-0.1391***	-0.0719***	1					
OCF	0.0171	-0.2270***	0.2438***	1				
PROF	-0.2797***	-0.4257***	0.3388***	.0.5588***	1			
SIZE	-0.1157***	-0.0338	0.1161***	0.0718***	0.1486***	1		
LIQ	-0.3292***	-0.6389***	0.1087***	0.1625***	0.3781***	0.0234	1	
AGE	-0.0880***	-0.0769***	0.0460**	-0.0820***	-0.0379*	0.0233	-0.0032	1

Note: Correlation is significant * at 0.1, ** at 0.05, *** at 0.01 significance level respectively

4.2　Effects of operating cash flows on investment

Table 5 shows the effects of operating cash flows on investment. Results show that operating cash flows have significant and positive relation to investment in all methods of estimation. Size of firm has significant and negative relation to investment in OLS method and random effects method. Profitability, liquidity, age and financing have significant and negative relation to investment in all regressions. Finally, dividends have significant and negative relation to investment in OLS method only. Hausman test suggests the use of fixed effects method.

Table 5: Effects of operating cash flows on investment

Variables	OLS	Fixed Effects	Random Effects
Const.	0.9791***	0.8666***	0.8896***
	(0.0533)	(0.0705)	(0.0635)
OCF_{it}	0.3710***	0.1369***	0.1406***
	(0.0384)	(0.0168)	(0.0169)
$SIZE_{it}$	-0.0105***	-0.0075	-0.0104**
	(0.0027)	(0.0500)	(0.0041)
$PROF_{it}$	-0.5889***	-0.2878***	-0.3030***
	(0.0450)	(0.0238)	(0.0240)
LIQ_{it}	-0.0672***	-0.0204***	-0.0225***
	(0.0044)	(0.0024)	(0.0025)
AGE_{it}	-0.0868***	-0.1572***	-0.1368***
	(0.0169)	(0.0252)	(0.0218)

Variables	OLS	Fixed Effects	Random Effects
FIN_{it}	-0.2444***	-0.0884***	-0.0940***
	(0.0264)	(0.0190)	(0.0189)
DIV_{it}	-0.0003**	0.0000	-0.0001
	(0.0001)	(0.0001)	(0.0001)
R^2	0.2208	0.1503	0.1682
F-Statistic	88.27***	47.78***	
Prob.	0.0000	0.0000	
Wald χ^2			365.68***
Prob.			0.0000
Hausman test			
χ^2		-285.55***	
Prob.		0.0000	
No. of obs.	2189.0000	2189.0000	2189.0000

Standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1

4.3   Effects of operating cash flow on financing

Regression results in Table 6 show the impact of operating cash flows on financing. Results show that operating cash flows have significant and negative relation to financing in fixed effects method as well as random effects method. Firm size has significant and negative association with financing in fixed effects and random effects methods. Profitability, liquidity, age and investment have negative and significant relationship with financing in all regressions. Finally, dividend is positively significantly related to financing. Hausman test suggests the use of fixed effectsmethod.

Table 6: Effect of operating cash flows on financing

Variables	OLS	Fixed Effects	Random Effects
Const.	0.9354***	1.2993***	1.1343***
	(0.0410)	(0.0806)	(0.0639)
OCF_{it}	(0.0020)	-0.0821***	-0.0712***
	(0.0313)	(0.0199)	(0.0198)
$SIZE_{it}$	-0.0005	-0.0235***	-0.0127***
	(0.0022)	(0.0059)	(0.0040)
$PROF_{it}$	-0.4586***	-0.4044***	-0.4078***
	(0.0359)	(0.0275)	(0.0272)
LIQ_{it}	-0.1020***	-0.0628***	-0.0674***
	(0.0029)	(0.0025)	(0.0025)
AGE_{it}	-0.0912***	-0.1438***	-0.1426***
	(0.0134)	(0.0297)	(0.0221)
INV_{it}	-0.1551***	-0.1215***	-0.1177***
	(0.0167)	(0.0262)	(0.0230)
DIV_{it}	0.0004***	0.0002**	0.0002**
	(0.0001)	(0.0001)	(0.0001)
R-squared	0.4818	0.4065	0.4445
F-Statistic	289.72***	166.76***	
Prob.	0.0000	0.0000	
Wald χ^2			1329.04***
Prob.			0.0000
Hausman test			
χ^2		126.53***	
Prob.		0.0000	
No. of obs.	2189	2189	2189

Standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1

4.4   Effects of operating cash flow on dividend

Table 7 shows the effect of operating cash flows on dividend. Results show that a significant and positive association exists between operating cash flows and dividends in all regressions. Firm size, profitability, liquidity and financing have positive and significant association to dividend in all regressions. Age is positively and significantly related to dividend in OLS method as well as random effects method. Investment is negatively and significantly associated with dividend in OLS method only. Hausman test suggests the use of fixed effectsmethod.

Table 7: Effect of Operating Cash Flows on Dividend Decisions

Variables	OLS	Fixed Effects	Random Effects
Const.	-43.0812***	-166.5615***	-99.2054***
	(9.4783)	(21.0093)	(15.0293)
OCF_{it}	26.0236***	12.9989***	12.3468**
	(6.5037)	(4.9619)	(4.9059)
$SIZE_{it}$	1.3697***	9.7398***	4.9607***
	(0.4560)	(1.4536)	(0.8511)
$PROF_{it}$	82.1689***	25.9821***	34.3699***
	(7.5683)	(7.1825)	(6.9353)
LIQ_{it}	0.9889**	1.5469**	1.6036**
	(0.7658)	(0.7225)	(0.7059)
AGE_{it}	9.5800***	8.1774	14.1549***
	(2.8160)	(7.4213)	(4.8652)
INV_{it}	-7.1207**	-2.9307	-5.9490
	(3.5594)	(6.5522)	(5.2817)
FIN_it	18.3198***	13.2211**	12.6052**
	(4.4547)	(5.5804)	(5.1109)
R-squared	0.1377	0.0443	0.0829
F-Statistic	49.74***	14.19***	
Prob.	0.0000	0.0000	
Wald χ^2			111.03***
Prob.			0.0000
Hausman test			
χ^2		82.10***	
Prob.		0.0000	
No. of obs.	2,189	2,189	2,189

Standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1

In sum, results show that operating cash flows have statistically significant and positive relation to investment and dividend and have negative relationwith financing. Firm size, profitability, liquidity and age have positive relation to dividend and negative relation to investment and financing. It is important to mention that financing has negative relation to investment and positive relation to dividend. Dividends have positive relation to financing and negative relation to investment. Finally, investment is negatively related to financing and dividend.

5   Discussion

5.1   Effects of operating cash flows on financial decisions

Operating cash flows have positive relation to investment. However, profitability is negatively related to investment. Since income statements are based on accrual basis, profit does not mean to have an equal amount of cash shown in the balance sheet. Importantly, investment needs cash. Thus, increase in profitability does not mean that the level of investment will also increase. However, increase in cash flow leads to rise in investment and to enhance future earnings. Thus, positive relation supports the fact that firms with positive cash flow can use funds for investment activities. Otherwise, presence of free cash creates conflict of interest between stockholders and managers. The positive relation between operating cash flow and investment confirms the findings of Fazzari et al. (1988), Kaplan and Zingales (1997), Carpenter and Guariglia (2008), Wan and Zhu (2011), Riaz et al. (2016), Kumar and Ranjani (2018) and Guizani and Ajmi (2020).

Results show that operating cash flows, profitability and liquidity have negative association with financing. The inverse relation supports pecking order theory which suggests that profitable firms incline to borrow less due to the availability of internally generated funds. Since, the base of pecking order theory is asymmetry of information which suggests a hierarchy of finance which a firm follows while funding a project. For instance, use internal financing (i.e., retained earnings) first. Once this option is exhausted then raise funds from external sources, like debt and equity. Frist, to exhaust the option of safe and straight debt and then move toward risker debt. Finally, use equity as a last resort. The negative relation of operating cash flow, profitability and liquidity confirms the findings of Sheikh and Wang (2011) Sheikh and Qureshi (2014), Rashid and Jabeen (2018), Sheikh (2019).

Operating cash flows are positively associated to dividend. The positive relation supports bird-in-the-hand theory which proposes that payment of dividend leads to decrease in equity cost and increases share price due to the reason that capital gains are uncertain. The positive relation confirms the findings of Charitou and Vafeas (1998), Mirza and Afza (2010), Al-Najjar and Belghitar (2012), Kighir and Mohamed (2015).

Among control variables, firm size and age have negative relation to investment and financing. The negative association is consistent with fact that mature firms tend to borrow less due to the availability of retained profits. Moreover, they invest less in the same business to avoid the problem of overinvestment. The negative relation of firm size confirms the findings of Kurshev and Strebulaev (2015), Gala and Julio (2016) and Bhat et al. (2020).

5.2   Interrelationship of financial decisions

Findings of this study show that financial decisions are interdependent. However, the way in which they affect each other vary from country to country. For instance, an inverse relation observed between investment and financing. The yearly averages presented in Table 3 show that the level of investments declines from 47.08 percent in 2009 to 42 percent in 2019, and level of financing declines from 59 percent in 2009 to 55 percent in 2019. Thus, rise in cost of debt restricts firms to invest funds in low/negative NPV projects. Firms tend to invest at that time when they think that their returns are more than the cost of capital. Since, profitability is also negatively related to investment, which indicates that firms may not utilize their assets at full capacity due to market factors and avoid borrowings for

investment purpose. Dividends are negatively related to investment. The negative relation supports the fact that investment in total assets leads to reduction in funds available for distribution to shareholders. The negative relation between dividend and investment confirms the findings of Hussain and Ahmad (2015) and bin Hidthiir et al. (2019). In contrast, dividends are positively related to financing. Since interest is considered as a tax-deductible expense, reduction in cost of debt increases profit and cash flow and becomes a cause of rise in distribution of profit to owners. The positive association between dividend and financing confirms the findings of Faulkender et al. (2006), Persson (2014) and Cooper and Lambertides (2018).

5.3 Conclusions

This study serves three purposes. First, to explore whether operating cash flow affects investment, financing and payout decisions. Second, to investigate whether financial decisions are interrelated. Finally, to investigate whether financial decisions theories developed in west support the investment, financing and dividend behaviors of non-financial Pakistani firms. This study uses data extracted from financial statements of Pakistan Stock Exchange listed firms during 2009-2019. Results show that operating cash flows are positively associated with investment. The positive association supports the fact that firms with positive cash flow can use funds for investment activities. Otherwise, presence of free cash flow creates conflict of interest between the managers and stockholders. Operating cash flows, profitability and liquidity have negative relation to financing. The inverse relation supports pecking order theory which suggests that firms with higher profits incline to borrow less funds due to the availability of internally generated funds. The pecking order theory is based on asymmetry of information and suggests a hierarchy of finance which a firm follows while funding a project. For instance, firstly, use internal sources of funds. Once this option is exhausted, raise funds from external sources using debt and equity. First to exhaust the option of safe and straight debt and then move toward riskier debt. Finally, use equity as a last resort. Finally, operating cash flows have positive relation with dividend. The positive relation supports bird-in-the-hand theory which suggests that payment of dividend leads to decrease in equity cost and increases the share price because capital gains are uncertain. Moreover, using cash to distribute dividend may alleviate the agency problem between managers and owners. As control variables are concerned, firm size and age are negatively related to investment and financing. The negative relation is consistent with the fact that mature firms borrow less funds due to availability of retained earnings. Moreover, they invest less in the same business to avoid the problem of overinvestment or inefficient use of funds.

Findings of this study show that financial decisions are interdependent. However, the way in which they affect each other vary from country to country. For instance, an inverse relation observed between investment and financing. Increase in cost of debt restricts the firms to invest funds in low/negative NPV projects. Firms tend to invest at that time when they think that their returns are more than their cost of capital. Profitability is also negatively related to investment which indicates that firms may not utilize their assets at full capacity due to market factors and avoid borrowings from banks for investment purpose. Dividends are negatively related to investment. The negative association supports the fact that investment in assets leads to reduction in funds available for distribution to shareholders. In contrast, dividends are positively related to financing. Since interest is considered

as a tax-deductible expense, reduction in cost of debt increases profit and cash flow and causes a rise in distribution of profit to the shareholders.

This study has explored the impact of operating cash flow on firms' financial decisions. However, there is a need to investigate the impact of internal and external governance measures on financial decisions which is the task for future research.

5.4   Practical implications

The results support the asymmetry of information which adversely affects financial policies of firms. The firms may improve the information flow to the outsiders to raise external capital at favorable rates. The results have implications for regulator to reduce interest rates so that firms may be able to fund their projects through cheaper loans. In this connection, regulators may create an environment with improved information flow between insiders and outsiders of firms. Moreover, the regulators should formulate policies that reduce the reliance of firms on internal funds and use cheaper external funds to invest in projects that are consistent with the firms' objective of value maximization.

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