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Impact of Firm's Capital Expenditure on Working Capital Management: An Empirical Study across Industries in Pakistan

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ABSTRACT

Various researchers have studied the effect of capital expenditure on management of working capital. This paper aims to analyze the effect of capital expenditure in the light of the fixed effect model on 96 listed companies with respect to working capital management. Data related to the specific time period of 2007-2010 has been focused. The impact of different expenditures like capital expenditure, finance expenditure and operating expenditure on working capital has been analyzed. In this connection, keeping in mind nature of the variables of the study, Net Liquidity Balance (NLB) and Working Capital Requirement (WCR) has been applied as a proxy of working capital management. Then six different hypotheses were performed in two different sets. In the first set, we examine the effect of capital expenditure, financial expenditure and operating expenditure on Net Liquidity Balance. In the second set, we study the effect of capital expenditures, financial expenditures and operating expenditures on Working Capital Requirement. Capital expenditure has the insignificant relationship with Working Capital Requirement and Net Liquidity Balance. Operating expense has the significant negative relationship with Net Liquidity Balance and significant positive relationship with Working Capital Requirement. Finance expense has the significant negative relationship with Net Liquidity Balance and significant positive relationship with Working Capital Requirement.

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1. Introduction

In the arena of corporate finance, decisions related to working capital management, capital budgeting and capital structure are very important. Working capital management is considered a pivotal part of corporate finance and has the impact on the financial position of a firm (Van Horne, 1977). Due to several reasons, the efficient management of working capital is considered as a main apprehension of the finance administrator. The firms with sufficient liquid assets can conveniently result in the low profit on

the investment of a company. The maintenance of insufficient current assets leads to shortages of funds. Due to this, firm faces problems in daily routine operations (Horne and Wachowicz, 2004). Because of the efficient management of current assets and liabilities, it minimizes the risk of an inability to cope outstanding short-term liabilities and also refrain unnecessary investment in these assets (Eljelly, 2004). The companies with efficient management of working capital can minimize their reliance on external financial assistance. In addition, the efficient management of working capital can reduce its costs of external financing. Besides, effective working capital management leads to reduced losses of a firm. Ultimately, inexpensive financing can be expected from shareholders and financial institutes (Autukaite and Molay, 2011).

The basic purpose of efficient management of working capital is to retain a balance among all components of working capital. It can be safely said that the success of any business dominantly relies on the potential of managers to efficiently manage components of working capital (Filbeck and Krueger, 2005). Whereas companies could minimize their costs as well as, they can also enhance the volume of funding on hand for extended projects by reducing the ratio of investment which is linked to the liquid assets. In order to achieve maximum positive results, managers spend a huge amount of time to determine the optimal level of different components of working capital (Lamberson, 1995). At a certain point when a balance is acquired between risk and efficiency, such level is considered as the optimal level of working capital. It demands consistent evaluation to retain the optimal point of several units of working capital.

In today's tricky cost-effective climate, companies are searching for the latest ways to arouse expansion, advance performance and minimize the chances of threat. The funds, which are bound in working capital, could be known hidden funds. These funds could be utilized for further growth. The solvency of any firm is dependent on the efficient and proper management of working capital. So, the financial manager will react speedily and accurately to unexpected changes. Usually, this area is ignored by many organizations. The management of working capital is dependent on different factors such as business policy, type of industry. Because of this reason, different companies manage the working capital differently. For the efficient and effective management of working capital, this is necessary for the firm to be aware of different factors. Though there are companies which are trying to the proper management of working capital as these companies don't know enough regarding the determinants of working capital.

The aim of the paper is to examine the effect of capital expenditure on the management of working capital. The particular purposes are to

1. To investigate the connection between working capital and capital expense.
2. To investigate the connection between the type of expense and the working capital.
3. To study the effect of dissimilar factors influencing the working capital.

The significance of this study is to develop the knowledge regarding the underlying forces of working capital. The inability of the firm to recognize different factors and the maintenance of inadequate working capital will create different financial problems. The significance of this study is to increase the adequate understanding of the various underlying forces of working capital.

2. Literature review

The management of working capital is the administration of liquid assets and liabilities in this way that liabilities are paid and on the other hand fixed assets are appropriately serviced (Osisioma, 1997).

Efficient management of working capital makes certain a suitable association between the various parts of a firm's current asset and liabilities so as to assure adequacy of the capital (Osisioma, 1997). Efficient management of working capital must assure the availability of every part of the working capital in a proper manner and also minimize the reliance of firm on external sources by reducing the proportion of risk. On the contrary, the firm's success is dependent upon the determination of capital expenditure amount. Because the extent and effectiveness of capital expenditure decisions explain the future worth of the company, so the accurate capital expenditure decisions can lead to good financial position of the firm.

Kim, Mauer, and Sherman (1998), Opler (1999), and Wu (2001), confirmed that cash balance as well as the short-term investments of a firm will be increased because of additional opportunities of growth and variations of potential cash flows. As a result, NLB has the positive relationship with predictable cash flows and growth opportunities. Because of growth opportunities in a company, it wants to obtain fixed assets for its further expansion plans. Consequently, NLB is positively related with estimated capital expenditure. Because of growth chances, a company can enhance the cash holdings. In these situations, conditions regarding liabilities related to operations are delayed and in collection accounts receivables can be accelerated. This, in turn, shows the low working capital demand. Because of this, a negative relationship is found between capital expenditure and the working capital requirement. Due to these reasons, companies with high growth rate give extra time on the capital expenditure management.

A lot of researchers has tried to know about the factors which influence the firm's working capital. This has been confirmed by Horrigan (1965), Zhou (1995) and Su (2001) that leverage and firm growth influence the working capital of a firm. Generally, financial environment and the firm-specific characteristics are also considered as determinants of working capital. But there are companies which are trying to control working capital as these companies don't have sufficient knowledge regarding the working capital determinants. Leverage, the growth of the company, finance, and operating expense has an impact on working capital (Zhou, 1995).

Kim et al. (1998) explored the price of exterior financing and the return on prospect investments is growing due to the optimal investment in liquidity. They also identified that opportunities in growth and cash flow fluctuations in future would enhance the cash and subsequently the short-term investments of a firm. In a study conducted by Opler et al. (1999) found that companies maintain the maximum proportion of cash at the time of maximum growth opportunities. It was also explored by them that by increasing surplus cash, firms paid more money on the acquisition of assets. Chiou and Cheng (2006) investigated the determinants of working capital management. The proxies used by them were net liquid balance and working capital requirements. Results showed that companies' working capital management is affected by operating cash flows and debt ratio.

Capital expenditure impact on the management of working capital was also studied by Appuhami (2008). He used WCR and NLB as proxies for working capital management. The results showed that capital expenditure of a firm has the effect on working capital management. Such results are consistent with the earlier findings of different researchers. Such result increases the knowledge base on working capital management. In a research conducted by Valipur et al (2012), the results were not consistent with Appuhami research (2008). Results showed no significant relationship between firm's capital expenditure and Net Liquidity Balance. It means the capital expenditure has no effect on the management of working capital.

3. Research and Methodology

In this study, capital expenditure impact on working capital is examined by using Fixed Effect Model.

For this study, data of different industrial sectors have been collected from the financial statements of different companies. Data spans from 2007-2010. The rationale for taking this time period is that data is easily available. The sample size comprises of 96 companies. NLB and WCR were used as proxies of the working capital.

Independent Variables

Capital expenditure

Expenses incurred by companies for purchase and advancement of material assets. Examples include land, buildings etc.

Operating expense

The cost of continuing operations.

Finance expense

Interest on loan and long-term liabilities.

Dependent Variables

Net Liquidity Balance (NLB)

This is related to the liquidity of the firm.

Working Capital Requirement (WCR)

This relates to the working cycle.

Control Variables

Firms' operating cash flow

Growth (This is usually calculated by the change in sales)

Leverage (This is usually calculated by dividing total debt by equity).

Development of Hypotheses

Working capital management is usually rated by net working capital, current ratio and quick ratio. Shulman and Cox (1985) point of view is that these ratios don't measure the liquidity in an appropriate manner. To forecast the economic position of a firm, Shulman & Cox divided net working capital into two variables. One is the working capital requirement (WCR) and other is net liquidity balance (NLB). To assess the management of working capital, WCR is usually calculated. To assess the liquidity of the company, NLB is usually calculated. According to Shulman and Cox, NLB is good to predict the liquidity of a firm. Hawawini, Viallet, and Vora (1986) concluded that on the basis of NLB and WCR, assessment of working capital was good as compared to other indicators. NLB and WCR were also used as a proxy for working capital by Jeng-Ren and Li Cheng (2006) to evaluate the underlying forces of working capital.

Because of growth opportunities in a company, it wants to obtain fixed assets for its further expansion plans. Consequently, NLB is positively related with estimated capital expenditure. Because of growth chances, a company can enhance the cash holdings. In these situations, conditions regarding liabilities related to operations are delayed and in collection accounts receivables can be accelerated. This, in turn, shows the low working capital demand. Because of this, a negative relationship is found between capital expenditure and the working capital requirement. Due to these reasons, companies with high growth rate

give extra time on the capital expenditure management.

Hypothesis

H1a- Capital expenditure has positive relationship with NLB

H1b- Capital expenditure has negative relationship with WCR

H2a- Operating expenditure has positive relationship with NLB

H2b- Operating expenditure has negative relationship with WCR

H3a- Finance expenditure has positive relationship with NLB

H3b- Finance expenditure has negative relationship with WCR

Model Specification

$$NLBi = \beta OPXi + \beta FIXi + \beta CAXi + \beta Grti + \beta Dt/Ei + \beta OCH + \varepsilon \quad (1)$$

$$WCRi = \beta OPXi + \beta FIXi + \beta CAXi + \beta Grti + \beta Dt/Ei + \beta OCH + \varepsilon \quad (2)$$

NLB = (cash & cash equivalents + short term investments) – (short term debt + commercial paper payable + Long term debt year term)

WCR = (accounts receivable + inventories) – (accounts payable + other payable).

β = coefficient of regression, OPX = operating expense, FIX = finance expense, CAX = capital expense, Dt/E = total debt to total equity, Grt = growth in sales, OCH = operating cash flow in firm, ε = the error term

We used Hausman test to check either fixed or random effect model is suitable. Hausman test results confirm the validity of the fixed effect model. We also used GMM method on the data to see the effects. Results of GMM are appended as table 2(a) and 2(b).

4. Empirical Results

Table 1(A)

Results shown in table 1 are as follows:

- a) Capital expenditure has the insignificant relationship with NLB.
- b) Operating expense has the significant negative relationship with NLB. The co-efficient of operating expense is -0.077425 meaning that NLB is reduced by 0.07 for each one bath of operating expense.
- c) Finance expense has the significant negative relationship with NLB. The regression co-efficient of finance expense is -1.878039 showing that NLB is reduced by 1.87 for each one bath of finance expense.
- d) Growth has the insignificant relationship with the NLB. Growth cannot be considered as underlying force in estimating net liquidity balance.
- e) Leverage has the significant negative relationship with NLB.
- f) Operating cash flows have the significant positive relationship with NLB. The regression co-efficient of operating cash flows is 0.339365 showing that NLB is increased by 0.339365 for each one bath of operating cash flow.

Table 1(B)

Results shown in table 1 are as follows:

- a) Capital expenditure has the insignificant relationship with WCR. In light of the findings, capital expenditure cannot be considered as a pivotal factor in prediction of working capital requirement.

- b) Operating expense has the significant positive relationship with WCR. The co-efficient of operating expense is 0.381825 showing that WCR is increased by 0.381825 for each one bath of operating expense.
- c) Finance expense has the significant positive relationship with WCR. The co-efficient of finance expense is 0.847687. It means WCR is increased by 0.847 for each one bath of finance expense.
- d) Growth has the significant positive relationship with the WCR.
- e) Leverage has the positive significant relationship with WCR.
- f) Operating cash flows has the significant negative relationship with WCR. The regression co-efficient of operating expense is -0.093734.

5. Conclusion and Recommendations

Results from Testing the First Group of Hypotheses

H1 a - Capital expenditure has positive and significant relation with NLB.

The results explain that capital expenditure has no significant association with NLB. Such results help us in developing the understanding that capital expenditure has no contribution in determining amount of liquidity in companies listed in Pakistan stock exchange. On the basis of such finding, we hereby reject H1a. Such conclusion of the study is inconsistent with the Appuhami research (2008). But the conclusion of this study is consistent with the Valipour research (2012). It looks that inflationary condition in Pakistan motivates the finance managers not to maintain the liquidity. Finance managers desire to invest in other good projects to exploit such inflationary condition. Most likely, the finance managers attempt to utilize the short-term liabilities for financing the capital expenditure.

H2 a - Operating expenditure has positive and significant relation with NLB.

The results show that operating expenditure has the significant negative relationship with NLB explaining that when operating expense occurs, managers do not prefer liquidity. On the basis of such finding, we hereby reject H2 a. The conclusion of this study is inconsistent with research of Appuhami (2008) and Valipour (2012).

H3 a - Finance expenditure has a positive and significant relationship with NLB.

The results show that finance expenditure has the significant negative relationship with NLB. On the basis of such finding, we hereby reject the hypothesis. When finance expense occurs, financial managers don't have a tendency to hold liquidity. Managers use other sources of finance to pay financial charges. This conclusion is consistent with Valipour (2012).

Results from Testing the Second Group of Hypotheses

H1 b - Capital expenditure has a negative and significant relationship with WCR.

The results show that capital expenditure has no significant relationship with WCR. Such results help us in developing the understanding that capital expenditure has no contribution in determining the amount of Working Capital Requirement in companies listed in Pakistan stock exchange. On the basis of such finding, we hereby reject H1b. Such conclusion of the study is inconsistent with the Appuhami research (2008). But the conclusion of this study is consistent with the Valipour research (2012). It looks that inflationary condition in Pakistan motivates the finance managers not to maintain the liquidity. Finance managers desire to invest in other good projects to exploit such inflationary condition. Most likely, the finance managers attempt to utilize the short-term liabilities for financing the capital expenditure.

H2 b - Operating expenditure has negative and significant relation with WCR.

The results show that operating expense has a positive and significant relationship with WCR explaining

that operating expenditure has the dominant role in shaping the amount of WCR in companies listed in Pakistan stock exchange. On the basis of such finding, we hereby reject *H2 b*. The conclusion of this study is consistent with research of Appuhami (2008) and Valipour (2012).

H 3b- Finance expenditure has negative and significant relation with WCR.

The results show that finance expenditure has the significant and positive relationship with WCR. On the basis of such finding, we hereby reject *H3b*. The conclusion of this study is consistent with Valipour (2012) explaining that firms are responsible to enhance WCR when there is increase in the finance expense. It looks that when firms want to pay the cost of financing like interest, they desire to hold greater amount of liquid assets. On the basis of such finding, we hereby reject *H3 b*. It looks that in Pakistan, firms possess more current assets because of special economic environment. Firms usually have a desire to adopt the conservative policy to obtain a reasonable level of profitability.

Growth and leverage have the significant positive relationship with the working capital requirement. It means that growth and leverage play a significant role in shaping the amount of Working Capital Requirement of firms in Pakistan. Operating cash flows has the significant negative relationship with the working capital requirement.

Suggestion for Future Researchers

1. This research has been performed on various companies. By using the same model in the study of each sector, financial personals can perceive behavior of a firm's working capital related to capital, operating and finance expenses.
2. Further research projects can be used on the similar issue in different parts of the world. In order to evaluate the policies of working capital management, it can be compared between developed and under - developed countries.
3. In this study, age and size of the firms has not been incorporated. These two variables can be added in further research.
4. In further studies NWCR can be used instead of NLB and WCR.

References

- Appuhami, B., Ranjith, A. (2009), "The impact of firm's capital expenditure on working capital management", *Journal of International Management Review*, VOL. 4, NO.1, PP: 8-21.
- Autukaite, R. and Molay, E. (2011), "Cash holding, working capital and firm value: evidence from France", *International Conferences of the French Finance Association*, May 11-13.
- Carpenter M D and Johnson K H (1983), "The Association between Working Capital Policy and Operating Risk", *Financial Review*, Vol. 18, No. 3, pp. 106-106.
- Chiou, Jeng-Ren., & Li, C. (2006), "The determinants of working capital management", *The Journal of American Academy of Business*, Cambridge, Vol. 10, pp. 149-155.
- Eljelly, A. (2004), "Liquidity-profitability tradeoff: an empirical investigation in an emerging market", *International Journal of Commerce & Management*, Vol. 14(2), pp: 48 – 61
- Fathi, S. and Tavakoli, Y. (2009), "Investigating relationship between working capital management and performance", *Journal of Commercial Investigating*, Issue 36, PP: 104-116.
- Filbeck, G. & Krueger, T. (2005), "Industry related differences in working capital management", *Mid- American Journal of Business*, Vol 20(2), pp: 11 – 18

- Gardner M J, Mills D L and Pope R A (1986), "Working Capital Policy and Operating Risk: An Empirical Analysis", *Financial Review*, Vol. 21, No. 3, PP: 31.
- Horrigan, J. O. (1965), "Some empirical base of financial ratios analysis", *The Accounting Review*, July, PP: 558-568.
- Kim, C. S., Mauer, D. C., & Sherman, A. E. (1998), "The determinants of corporate liquidity: theory and evidence", *Journal of Financial and Quantitative Analysis*, Vol. 33(3), pp. 335-359.
- Lamberson M (1995), "Changes in Working Capital of Small Firms in Relation to Changes in Economic Activity", *Mid-American Journal of Business*, Vol. 10, No. 2, pp. 45-50.
- Luo, C. H. (1984), "The operation performance and the financial ratio in Taiwan", Unpublished Master's dissertation, Department of Industrial and Information Management, National Cheng Kung University, Taiwan.
- Opler, T., Pinkowitz, L., Stulz, R., and Williamson, R. (1999), "The determinants and Implications of corporate cash holdings", *Journal of Financial Economics*, VOL. 52, NO. 1, PP: 3-46.
- Osioma, B. C. (1997), "Sources and management of working capital. *Journal of Management Sciences*", Vol 2.
- Shulman, J.M. and Cox, R.A.K. (1985), "An integrative approach to working capital management", *Journal of Cash Management*, VOL. 5, NO. 6, PP: 64-68.
- Su, F. C. (2001), "The impact of the change of business cycle in manufacturing industry", Unpublished master's dissertation, Department of Accounting, National Cheng Chi University, Taiwan.
- Smith M B and Begemann E (1997), "Measuring Association between Working Capital and Return on Investment", *South Africa Journal of Business Management*, Vol. 28, No. 1, pp. 1-5.
- Valipour, H. and Hossiani, Z.S. (2009), "Working capital policies and profitability & stock return in Tehran stock exchange", *Iranian Journal of Financial Studies*, VOL. 2, NO.1, PP: 15- 33.
- Van Horne, J. C. (1977). *Financial management and policy*. Englewood Cliffs: Prentice Hall International.
- Van Horne, J. C. & Wachowicz (2004). *Financial management and policy*. Englewood Cliffs: Prentice Hall International.
- Weinraub H J and Visscher S (1998), "Industry Practice Relating to Aggressive Conservative Working Capital Policies", *Journal of Financial and Strategic Decision*, Vol. 11, No. 2, pp. 11-18.
- Wu, Q.S. (2001), "The determinant of working capital management policy and its impact on performance", National science council project. Project No. NSC 89-2416-H-224-028.
- Zhou, D. C. (1995). The impact of the change of business cycle on financial ratio in manufacturing industry. *Journal of the Bank of Taiwan*, 46(2), 67-98.

Appendix

Table 1(A) (Fixed Effect Model)

Dependent Variable: NLB

Method: Panel EGLS (Cross-section weights)

Date: 05/20/12 Time: 00:02

Sample: 2007 2010

Cross-sections included: 96
 Total panel (balanced) observations: 384
 Linear estimation after one-step weighting matrix
 White cross-section standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	308581.1	81265.89	3.797179	0.0002
CAPEXP	0.007706	0.007842	0.982673	0.3266
	-			
OPEXP	0.077425	0.069023	-1.121732	0.2629
	-			
FINEXP	1.878039	0.068607	-27.37373	0.0000
	-			
GRO	5894.383	8530.880	-0.690947	0.4902
	-			
LEV	6150.719	1085.796	-5.664709	0.0000
OP_CASH	0.339365	0.034456	9.849238	0.0000

Effects Specification

Cross-section fixed (dummy variables)

Weighted Statistics

R-squared	0.939528	Mean dependent var	-	2931659.
Adjusted R-squared	0.917869	S.D. dependent var		10818533
S.E. of regression	3100425.	Sum squared resid		2.71E+15
F-statistic	43.37918	Durbin-Watson stat		2.157871
Prob(F-statistic)	0.000000			

Unweighted Statistics

R-squared	0.789711	Mean dependent var	145179.8
Sum squared resid	3.15E+15	Durbin-Watson stat	1.826152

Table 1(B) (Fixed Effect Model)

Dependent Variable: WCR

Method: Panel EGLS (Cross-section weights)

Date: 05/19/12 Time: 23:58

Sample: 2007 2010

Cross-sections included: 96

Total panel (balanced) observations: 384

Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	714203.1	92001.19	7.762976	0.0000
-	-	-	-	-
CAPEXP	0.003343	0.009658	-0.346107	0.7295
OPEXP	0.381825	0.062616	6.097845	0.0000
FINEXP	0.847687	0.136890	6.192482	0.0000
GRO	46196.21	19559.74	2.361800	0.0189
LEV	37622.87	12166.35	3.092370	0.0022
-	-	-	-	-
OP_CASH	0.093734	0.026008	-3.604072	0.0004

Effects Specification

Cross-section fixed (dummy variables)

Weighted Statistics

R-squared	0.937049	Mean dependent var	4720308.
Adjusted R-squared	0.914503	S.D. dependent var	6557384.
S.E. of regression	1917372.	Sum squared resid	1.04E+15
F-statistic	41.56121	Durbin-Watson stat	2.305198
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.918714	Mean dependent var	1371203.
Sum squared resid	1.31E+15	Durbin-Watson stat	1.758559

Table 2(A) (Panel Generalized Method Of Movement)

Dependent Variable: NLB

Method: Panel Generalized Method of Moments

Transformation: First Differences

Date: 05/23/12 Time: 08:36

Sample (adjusted): 2009 2010

Cross-sections included: 96

Total panel (balanced) observations: 192

White period instrument weighting matrix

White period standard errors & covariance (d.f. corrected)

Instrument list: @DYN(NLB,-2) NLB NLB(-1) CAPITALEXP(-1)

OPERATINGEXP(-1) FINANCEEXP(-1) LEVERAGE(-1)

GROWTH(-1) OPERCASHFLOW(-1) @LEV(RESIDUAL)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NLB(-1)	0.013802	0.035895	0.384522	0.7010

	-			
CAPITALEXP(-1)	0.007657	0.031442	-0.243532	0.8079
OPERATINGEXP(-1)	0.170808	0.281232	0.607357	0.5444
FINANCEEXP(-1)	0.104908	0.585300	0.179237	0.8579
LEVERAGE(-1)	41804.20	28752.09	1.453953	0.1477
	-			
GROWTH(-1)	28250.22	75288.40	-0.375227	0.7079
OPERCASHFLOW(-1)	0.129386	0.049943	-2.590680	0.0103
RESIDUAL	1.033294	0.055532	18.60727	0.0000

Effects Specification

Cross-section fixed (first differences)

			-
R-squared	0.815485	Mean dependent var	147452.3
Adjusted R-squared	0.808465	S.D. dependent var	4739927.
S.E. of regression	2074415.	Sum squared resid	7.92E+14
J-statistic	4.877938	Instrument rank	12.00000

Table 2(B) (Panel Generalized Method Of Movement)

Dependent Variable: WCR

Method: Panel Generalized Method of Moments

Transformation: First Differences

Date: 05/23/12 Time: 08:48

Sample (adjusted): 2009 2010

Cross-sections included: 96

Total panel (balanced) observations: 192

White period instrument weighting matrix

White period standard errors & covariance (d.f. corrected)

Instrument list: @DYN(WCR,-2) WCR WCR(-1) CAPITALEXP(-1)

OPERATINGEXP(-1) FINANCEEXP(-1) LEVERAGE(-1)

GROWTH(-1) OPERCASHFLOW @LEV(RESIDUAL)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
	-			
WCR(-1)	0.011086	0.011737	-0.944476	0.3462
CAPITALEXP(-1)	0.016085	0.007912	2.032889	0.0435
OPERATINGEXP(-1)	-			
	0.077983	0.115786	-0.673508	0.5015
FINANCEEXP(-1)	0.151110	0.105268	1.435485	0.1528
LEVERAGE(-1)	42454.02	9136.312	4.646735	0.0000
	-			
GROWTH(-1)	57200.76	15379.35	-3.719321	0.0003
OPERCASHFLOW	0.561543	0.021575	26.02697	0.0000

RESIDUAL	0.999961	0.015355	65.12110	0.0000
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Effects Specification

Cross-section fixed (first differences)

R-squared	0.967344	Mean dependent var	-
Adjusted R-squared	0.966102	S.D. dependent var	123837.6
S.E. of regression	492076.4	Sum squared resid	2672656.
J-statistic	1.383073	Instrument rank	4.46E+13
			12.00000

Correlated Random Effects - Hausman Test

Equation: EQ01

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	97.070511	6	0.0000

Hausman Test:

As Probability is .000 so we reject null hypothesis that random effect model is more efficient and consistent and conclude that fixed effect model is better.