



The effect of cash-flow component (core and non-core) on predicting future cash flow

Fatemeh Abbasi Javedan¹, Mahmood Samadi Largani²

¹Department of Accounting, Science and Research Branch, Islamic Azad University, Guilan, Iran.

²Department of Accounting, Tonekabon Branch, Islamic Azad University, Tonekabon, Iran.

Abstract

Predicting cash flows is one of the important objectives of financial reporting, because it provides important information to users inside and outside the organization. Financial Forecasting is an important activity in economic decision making, because cash flows are basis of operating activities, investment returns, and the interest paid to finance, income taxes, investment activities and financing activities. The main objective of this study was to test the main components of non-core cash flows to predict future cash flows. In order to research objective, two hypotheses have been developed that accordingly the impact of each of the cash flow component has measured on forecasting of future cash flows. For this 106 companies of the total number of accepted companies in Tehran Stock Exchange has been selected in time domain 2006 to 2010 and to verify the predictability items of the Pearson correlation and regression analysis with panel data are used. The results of this study indicate that there is significant negative correlation between variables of sales and operating expenses (as a main component of cash flows) and there is positive and significant correlation between variable cost of goods sold (the other main component of cash flows) and future cash flows. As well as, there is a negative and significant relationship between variables of interest, taxes and other net realized (as non-core components of cash flows) and future cash flows.

Keywords: Cash flow, Core and non-core components of cash flow, Future cash flows

Introduction

One of the recent developments in accounting is preparation of necessary "form of Cash Flows" as one of the basic financial statements by business units. Questions such as "whether the component of cash flows in predicting future cash flow is?" For years has occupied the minds of many researchers. Therefore, a number of assumptions and different theories have been proposed in order to answer these questions. Although, still there is no comprehensive theory in this field, but there are strategies that can be relied upon using core and non-core components and achieved cash flow to Future cash flows. The present study titled as "The effect of cash-flow component (core and non-core) on predicting future cash flow" try to consider cash-flow component (core and non-core) on predicting future cash flow. Therefore, Literature will be discussed in this chapter. Baruch et al, (2010) in a study entitled predict future accounting earnings and cash flow in predicting future earnings have been defined the reason of accounting benefit. Lurk and Vilinger (2009), studied the ability of the operating cash flow and operating income, for predicting future operating cash flows. Chy & Sue (2009) examined the importance of the uncertainty of future cash flows on benefit dividend policy. Helystr et al (2008) conducted research in 9

countries and show that accrual components of accounting earnings of incremental data provided explanation of operating cash flows next year. Bruchet et al (2008) have examined the role of accruals in predicting future cash flows and stock returns. Chengo and Holly (2007) showed that the stability of components of operating cash flow is different. Clearly, operating cash flow with sales components, Cost price of sold goods are related to operating costs and are more stable than other components in predicting future cash accruals. Sabra Manyamo and Nekata Chalam (2007), have studied relative importance of earnings and cash flows in valuation of shareholders rights. Kimokros (2005), considered the ability of current earnings to predict future operating cash flows during 1973 to 2000. Chokakitty (2005), studied the application of liquidity ratios, cash flow and accrual accounting in predicting future operating cash flows in Thailand. Kerdmovin (2004), analyzed the sensitivity of company capital to changes. Alata and Hossein (2004), studied the impact of accounting information, including earnings, cash flows and accruals in predicting future cash flows. Howe et al (2001) examined the information content of accruals and cash flows, demonstrated that benefit has more information content than operating cash flows. Kaplnd et al (2000) in their research studied the ability of predicting operating cash flows with associated with predicting future cash flows. Karito and Club (2000) in their study entitled "relevant profit and cash flows in Japan" to study the information content of profit and cash flows.

Method

The dependent variable is the variable that its changes are affected by the independent variable. Future cash flow is the dependent variable in this study that is measured by core and non-core cash flow and the independent variables are the component of (core and non-core) cash flows consist of:

The core components "sales, cost of sold goods, operating costs"

The non-core components "Interest, Taxes and Other come off"

The research model:

$$CFO_{t+1} = \alpha_0 + \beta_1 SALES_t + \beta_2 COGS_t + \beta_3 OE_t + \mu$$

$$CFO_{t+1} = \alpha_0 + \beta_1 INT_t + \beta_2 TAX_t + \beta_3 OTHER_t + \mu_t$$

In the above equations:

CFO_{t+1} Dependent variable: Future cash flows

$SALES_t$ - Sales: Sales of goods and services to the fraction of the change in trade receivables

$COGS_t$ - Cost of sold goods: Cost of sold goods is deducted from the change in inventory and accounts payable

OE_t - Operating expenses: Operating cash flow and administrative costs as operating costs are calculated as follows: Sales minus cost of sold goods minus operating expenses before depreciation minus the change in net working capital excluding changes in trade accounts receivable, inventory, tax payable and interest payable.

INT_t - Interest: Interest payments

TAX_t - Taxes: Tax payments

$OTHER_t$ - Net other realized by: Deducted from operating profit to cash flow and inventory and accounts Payable and depreciation of fixed and intangible assets.

Analysis

In this paper, in order to test the hypothesis of combined static and dynamic analysis techniques are used. In the combines static data technique after initial tests and the estimation model, attempted to estimate the model coefficients using estimation generalized least squares (EGLS).

Table 1: Correlation coefficients of the first hypothesis

COGS	SALE	CFO _{t+1}	Correlation
			Probability
	1/00	0/50	SALE
	-----	0/00	
1/00	*0/92	0/38	COGS
-----	0/00	0/00	
0/23	0/17	0/07	OE
0/00	0/00	0/11	

According to the above table results is the variance inflation table below:

Table 2: The first hypothesis variance inflation factor

Variance inflation factor	Variable
2/180079	SALE
2/276337	COGS
1/157162	OE

As indicated in the above table Variance inflation factors for all variables is less than the number 5, As a result, there is no problem of linearity between model variables.

Table 3: Test F Lymer the first hypothesis

Probability	Statistics value	Detailed test
0/0000	8.682959	F test
0/0000	587.900761	χ^2 test

As the results of Limer' F test implies, assuming appropriate combination of least-squares is rejected and the method of least squares cross-sectional (panel data) would be appropriate. Now, to determine the most appropriate method of fixed effects or random effects, the Housman test is used. That the results are summarized as follows:

Table 4: Housman test the first hypothesis

Probability	Statistics	Detailed test
-------------	------------	---------------

	value	
0/0000	248/2504	χ^2 test

As the Housman test suggests, assuming appropriate random effect is rejected. According to the test results of two methods to estimate the model first hypothesis, sectional least squares with fixed effects will be constant.

Table 5: Output first hypothesis modeling software

Dependent variable: Future operating cash flows			
Probability	t-statistics	Coefficient	Variable
0/0000	7/1898	236,001/3	C
0/0000	(4/1647)	(0/1691)	SALE
0/0000	5/7576	0/1763	COGS
0/0000	(4/2752)	(0/1532)	OE
13/3448	F-statistic	0/8055	Coefficient of determination
0/0000	Probability of F-statistic	0/7451	Adjusted Coefficient of determination
		2/0902	Durbin Watson statistic

Estimating the results of regression model of present study using least squares cross-sectional (panel) fixed effects is shown in the table above. According to the F-statistic obtained and the significance level can be expressed that pattern totally has well significance. The coefficient of determination adjusted model suggests that Explanatory variable are described, 75% of the variability (future operational cash flow). Correlation coefficient of the model variables of second hypothesis is summarized in Table 7. As seen in Table, none of the correlation coefficients are above 50 percent; therefore, there is no need to test variance inflation. The significant positive correlation between interest and taxes is indicative of future operating cash flow that whatever the amount of interest and taxes of current period is greater, as well as, future operating cash flow will be more.

Table 7: Correlation coefficients of the second hypothesis

Correlation	CFO _{t+1}	INT	TAX
Probability			
INT	0/39	1/00	
	0/00	-----	
TAX	0/41	0/24	1/00
	0/00	0/00	-----

OTHER	(0/15)	(0/08)	(0/00)
	0/00	0/11	0/92

Table 8: the second hypothesis of F-Limer test

Probability	Statistics value	Description of test
0/0000	9/2109	F test
0/0000	607/5813	χ^2 test

As can be seen the results of F- test Limer, least-squares fit assuming the combination is rejected and the method of least squares cross-sectional (panel data) would be appropriate.

Table 9: Houseman test of the second hypothesis

Probability	Statistic value	Description of test
0/0000	124/8179	χ^2 test

As the Housman test suggests, assuming appropriate random effect is rejected. According to the test results of two methods to estimate the model first hypothesis, sectional least squares with fixed effects will be constant.

Estimating the results of regression model of present study using least squares cross-sectional (panel) fixed effects is shown in table 10. According to the F-statistic obtained and the significance level can be expressed that pattern totally has well significance. The coefficient of determination adjusted model suggests that Explanatory variable are described, 75% of the variability (future operational cash flow).

Table 10: Output Software Model the second hypothesis

Dependent variable: Future operating cash flows			
Probability	t-statistics	Coefficient	Variable
0/0000	11/6415	371,562/6	C
0/0000	(6/8267)	(2/1962)	INT
0/0896	(1/7024)	(1/2958)	TAX
0/0815	(1/7474)	(0/0614)	OTHER
13/5102	F-statistic	0/8074	The coefficient of determination
0/0000	Probability of F-statistic	0/7476	Adjusted coefficient of determination

		2/5	Durbin Watson statistic
--	--	-----	----------------------------

Conclusion

The first hypotheses, the effect of three factors «sales, cost of sold goods and operating expenses», “which are the three core components of cash flow, the Company's future operating cash flow forecasts were evaluated. The results of testing this hypothesis implies that the probability calculated three variables 0 and less than error taken into consideration (5 percent), so existence a significant relationship between the three variables in this hypothesis will be accepted.

In second hypothesis, the effect of three factors «Interest payments, tax payments and net other realized » which are the three non-core components of cash flow, the Company's future operating cash flow forecasts were evaluated. The results of testing this hypothesis indicated that three variables were statistically significant. Amount of calculated probability of variable interest payments 0 and taxes variables and other net realized were also significant at 90%.

References

- 1- Barth, M. Cram, D.&.Nelson, K. (2001). “Accruals and the Prediction of Future Cash Flows .”*The Accounting Review* , Vol. ,76Pp.27--58
- 2- Bartov, E. S. R. Goldberg and M. Kim. (2001). «The Valuation-Relevance of Earnings and Cash Flows: an International Perspective» .”*Journal of International Financial Management and Accounting* ,Vol. ,12Pp. .104-103
- 3- Bowen M. R. R. Burgstahler, David and Daley A. Lane:« The Incremental Information Content Of Accrual Versus Cash Flows» *The Accountin Review*, Vol. LC 11, No.4, October 1987
- 4- Bowen, R. M. D. Burgstahler and L. A. Daley. (1986). “Evidence in Relationship Between Earnings and Various Measures of Cash Flow .”*The Accounting Review*, Vol. 61, Pp. .726-713
- 5- Bradley, M., Capozza, D. R., and Seguin, P. J. (1998). Dividend policy and cash flow uncertainty. *Raele state economic*, vol 26, no.4, pp. 555-580.
- 6- Brochet F. Nam S. Ronen J. Accruals and the prediction of future cash flows international business & Economics research journal 2007. Vol.2.3.55-82
- 7- Charitou, A. and C. Clubb. (2000). The value relevance of earnings and cash flows: Empirical evidence for Japan". *Journal of International Financial Management & Accounting*. 11(1). pp 1-22.
- 8- Chay, J. B. and Suh, J. payout policy and cash flow uncertainty. *Journal of financial economics*. Vol. 93. No.1.
- 9- Cheng, A. & Hollie, D. (2007). Do core and non-core cash flows from operations persist differentially in predicting future cash flows? *Review of Quantitative Finance and Accounting*.
- 10- Chotkunakitti P. Cash Flows and Accruals Accounting in Predicting Future Cash Flows, unpublished Ph.D. Dissertation, University of Southern Cross; 2005.
- 11- Copland, T. Koller, T. & Murria, J. (2000). *Valuation: Measuring and Managing The Value of Companies*. New York: John Wiley and Sons.
- 12- Dechow P. M., Kothari S. P., Watts R. L. the Relation between Earnings and Cash Flows, *Journal of Accounting and Economics* 1998; vol. 25, 2:133-68.
- 13- Dechow, P. (1994). « Accounting Earnings and Cash Flows as Measure of Firm Performance: the Role of Accounting Accruals.» *Journal of Accounting and Economics* , Vol. 26, Pp. .34-1
- 14- FASB. (1978). « Objective of Financial Reporting by Business Enterprises.» *Statement of Financial Accounting Concepts* , No. .1
- 15- FASB. (1985). « Element of Financial Statement of Financial Accounting Concepts.» *Statement of Financial Accounting Concepts* , No. .6
- 16- Financial Accounting Standards Board (1987). « Objectives of financial reporting by business enterprises.» *Statement of financial accounting concepts* No.1.
- 17- Finger C. A. 1994. The ability of earnings to predict future earnings and cash flow. *Journal of accounting research*. 32. PP. 210-223
- 18- Greenberg, R. R. G. L. Johnson and K. Ramesh. (1986). “Earnings Versus Cash Flow as Predictor of Future Cash Flow Measures .” *Journal of Accounting , Auditing and Finance*, Vol. ,1 Pp .277-266 .

- 19- Grenberg R.R. G.L. johnsen. And K. ramesh. 1986. Earning versus cash flow as a predictor of future cash flow measure Journal of accounting Auditing of finance. Pp. 266-77.
- 20- Haw, I. D. Qi. and w. wu. (2001). "The Nature of Information in Accruals and Cash Flows in An Emerging Capital Market: The Case of China". The International Journal of Accounting. 36. pp 391- 406.
- 21- Kim, M.& Kross, W. (2005). The Ability of Earnings to Predict Future Operating Cash Flows. Journal of Accounting Research, 753-780.
- 22- Lev, B. Li, S. and T. Sougiannis (2010). The Usefulness of Accounting Estimates for Predicting Cash Flows and Earnings. Review of Accounting Study, Vol. 15, No. 4, pp. 807-779
- 23- Lancaster, Carik; Stevens, L. Jerry. Jennings, A. Joseph, Corporate Liquidity and The Significance Of Earnings Versus Cashflow" Journal Of Applied Business Research; Laramie; Fall 1993
- 24- Lorek k.s. Willinger. G.L. A multivariate time-series prediction model for cash flow data. The accounting review 1996. Vol 71. 81-101.
- 25- Moyer, N. (2004). Investment cash flow sensitivities: constrained versus unconstrained firms. The journal of finance, vol LIX. No.5. Pp 2061-92.
- 26- Patell and Kaplan "The Incremental Information, Content of Earnings, Working Capital From Operation And Cash Flows" Journal of Accounting Research 1977.
- 27- Patell and Kaplan "The Incremental Information, Content of Earnings, Working Capital From Operation And Cash Flows" Journal of Accounting Research 1977.
- 28- Sloan, R. G. (1996). "Do Stock Prices Fully Reflect Information in Accruals and Cash Flows about Future Earnings?" The Accounting Review, Vol. 71, No. 3, Pp. 289-315
- 29- Subramanyam, K. R. & Venkatachalam, M. (2007). Earnings, Cash Flows, and Ex-Post Intrinsic Value of Equity. The Accounting Review, 457- 481
- 30- Werthem Poul; rovinson, Michael A. "Earnings Versus Cash Flow: The Information Provided about Changes in Company Liquidity" Journal Of Applied Business Research: Laramie: Fall 1993