

## **THE EFFECT OF FIRM GROWTH OPPORTUNITIES AND EARNINGS PERMANENCE ON THE FREE CASH FLOW RETURNS AT PETROLEUM INDUSTRY IN IRAN**

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### **Abstract**

*The purpose of this paper is to document empirically the effect of firm growth opportunities and earnings permanence on the free cash flow returns. The population of this study are the companies that active in Petroleum industry in Iran since 2007 and had this characteristics: (1) Fiscal year is end March 19, (2) During the years 2007 to 2013 be presented annual Audited financial statements (3) Companies has accepted in Tehran stoke Exchange since 2006 and (4) Final sample from 2007 to 2013. With considering this situation, 47 companies were selected as sample. The sampling method of this study is probability - simple random sampling. Data has gathered from [www.rdis.ir](http://www.rdis.ir) and [www.irbourse.com](http://www.irbourse.com). In order to analyze the data, we used deductive and descriptive statistical methods. The results K-S Test shows the test distribution is Normal. So we can use Multi Regression to test the hypothesis of the research. The findings show that growth opportunities has impact on free cash flow returns and earnings permanence has not impact on free cash flow returns.*

**Keywords:** *growth opportunities, earnings permanence, free cash flow returns*

### **INTRODUCTION**

The changing face of globalization will present new challenges for companies in the coming years. As Iran manufacturers face an increasingly competitive global business environment, they seek out opportunities to reduce production costs without negatively affecting product yield or quality. Uncertain energy prices in today's market place negatively affect predictable earnings, which are a concern, particularly for the publicly traded companies in the petrochemical industry. Improving energy efficiency reduces the bottom line of any petrochemical plant. For public and private companies alike, increasing energy prices are driving up costs and decreasing their value added. Successful, cost-effective investment into energy efficient technologies and

practices meets the challenge of maintaining the output of a high quality product despite reduced production costs. This is especially important, as energy-efficient technologies often include “additional” benefits, such as increasing the productivity of the company and reducing the emission of greenhouse gases.

Energy use is also a major source of emissions in the petrochemical industry making energy-efficiency improvement an attractive opportunity to reduce emissions and operating costs. Iran is an energy superpower and the Petroleum industry in Iran plays an important part in it (SHANA (2010; Balamir, 2009). In 2004 Iran produced 5.1 percent of the world’s total crude oil (3.9 million barrels (620,000 m<sup>3</sup>) per day), which generated revenues of US\$25 billion to US\$30 billion and was the country’s primary source of foreign currency (Ministry Of Commerce, 2009). At 2006 levels of production, oil proceeds represented about 18.7 percent of gross domestic product (GDP). However, the importance of the hydrocarbon sector to Iran’s economy has been far greater. The oil and gas industry has been the engine of economic growth, directly affecting public development projects, the government’s annual budget, and most foreign exchange sources (Glenn and Hooglund, 2010).

Share prices can be decomposed into two elements - the value of "assets-in-place" and the value of growth opportunities. This distinction is central to the valuation of corporate equity (e.g. Miller and Modigliani, 1961), corporate financial structure (Myers, 1977), corporate cost of capital and capital budgeting decisions (Myers and Turnbull, 1977, and Majd and Pindyck, 1987).

Despite the importance of growth opportunities (also known as growth options), relatively little work has been done on how to identify the proportion of company value accounted for by the value of growth opportunities. Kester (1984) and Brealey and Myers (1981) developed a model (subsequently referred to as the KBM model) for separating the overall market value of a company into the value of assets-in-place and the value of growth opportunities. Kester (1984, 1986) and Brealey and Myers (1996) have demonstrated this decomposition for very small samples of major US corporations at a single point in time. Based on a sample of 15 companies, Kester (1984) argue that the present value of growth opportunities (PVGO) on average accounts for more than 50% of company market values. In his 1986 paper (based on a total sample of 9 companies split between industries), Kester find PVGO to account for approximately 56 percent of total market value for electronics companies, 43 percent for chemicals companies, and 48 percent for paper companies. Similarly, Brealey and Myers (1996 p. 71) find that, for their set of 5 "income" stocks, PVGO accounts, on average, for 34% of total market value. For the 5 “growth” stocks, PVGO accounts for approximately 66% of the total market values.

Miller and Modigliani (1961) split firm value into:

- the present value of the uniform, perpetual earnings on assets currently held, and
- the present value of the opportunities that the firm offers for making additional investments in real assets that will yield more than the "normal" (market) rate of return.

Both present value calculations are made using the same "cost of capital" discount rate.

Myers (1977) records the distinction as between:

- assets that can be regarded as call options to purchase real assets where ultimate value depends on further discretionary investment by the firm, and
- real assets with a market value which does not depend on further discretionary investment.

Myers notes specifically that maintenance of plant and equipment is a discretionary investment and that the continuance of the firm's current activities is therefore discretionary. Real options

are not simply associated with potential growth. Despite this tangential comment, the distinction used throughout most of his paper is that between growth opportunities and the market value of cash flows from assets-in-place.

Firms envisioning future growth opportunities to finance future growth opportunities, with the expectation of generating future abnormal profits. However, in the real world, firms don't enjoy this luxury because of the presence of capital market imperfections like information asymmetry and transaction costs that force corporate managers to rely on internally generated funds for investing in growth opportunities (Chung et al. 2005).

While the persistence of earnings is unlikely to be a complete definition of earnings quality, it is considered to be an important qualitative characteristic of earnings. Lipe (1990) considers earnings persistence as the degree to which the current period's innovation becomes a permanent part of the earnings stream. Earnings that are more persistent are more predictable and enjoy a market premium (Francis et al. 2004) and, therefore, should be more strongly associated with contemporaneous stock returns compared to earnings that are transitory. Because transitory earnings are valuation irrelevant, investors shift their focus from such transitory earnings to some other valuation matrix, g., FCF, as an input into the equity valuation model.

Penman and Yehuda (2009) examine the market valuation of FCF using accrual-based valuation principles. They reveal that earnings are priced positively as expected but, given earnings, FCF does not have any explanatory power for stock returns. This latter finding contradicts the findings from a substantial volume of research documenting that cash flow from operations does have relative and incremental explanatory power, vis-à-vis earnings, for explaining stock returns. However, they reconcile the findings by noting that, "...accrual accounting operates in a way that recognizes Miller and Modigliani (1961) notion of dividend displacement and ...dividend irrelevance...free cash flow,...is a dividend from the firm that reduces the value of the firm but does not affect the cum-dividend value of the firm" (pp. 454-55). The purpose of this paper is to document empirically the effect of firm growth opportunities and earnings quality on the market valuation of free cash flow.

## **METHOD**

The population of this study are the companies that active in Petroleum industry in Iran since 2007 and had this characteristics:

- Fiscal year is end March 19
- During the years 2007 to 2013 be presented annual Audited financial statements.
- Companies has accepted in Tehran stoke Exchange since 2006.
- Final sample from 2007 to 2013

So, with considering this situation, 43 companies were selected as sample. The sampling method of this study is probability - simple random sampling. Data has gathered from [www.rdis.ir](http://www.rdis.ir) and [www.irbourse.com](http://www.irbourse.com).

In order to analyze the data, we used deductive and descriptive statistical methods. The results K-S Test shows the test distribution is Normal. So we can use Multi Regression to test the hypothesis of the research. The SPSS tool has been used.

**RESULTS AND CONCLUSION**

**A) Deductive Results**

Table 1 to shows the deductive results of variables in Petroleum industry.

	LEV	SIZE	GO	EP	FCFY
n	47	47	47	47	47
Average	.6033	5.8831	1.9252	.3921	.3783
Mean	.5780	5.6770	1.7690	.3300	.2780
Mode	.27	6.81	.72	.51	.35
Standard deviation	.43893	.76754	.82252	.25943	.29719
Variation	.193	.589	.677	.067	.088
Skewness	4.048	.064	.876	.462	2.004
Elongation	22.084	-1.294	.393	-1.022	4.200
Minimum	.16	4.33	.72	.01	.10
Maximum	3.08	7.02	4.25	.88	1.51
Total	28.35	276.50	90.48	18.43	17.78

**B) Hypotheses Results**

In this paper we have two main hypotheses. The statistical way of analysis of hypotheses is two ways, H<sub>1</sub> is acceptance of hypothesis and H<sub>0</sub> is rejecting of hypothesis. In other words, it means that H<sub>1</sub> has positive meaning and H<sub>0</sub> has no meaning.

**First hypothesis: Growth opportunities has impact on free cash flow returns**

- H<sub>1</sub>: Growth opportunities has impact on free cash flow returns
- H<sub>0</sub>: Growth opportunities has not impact on free cash flow returns

Table 2 shows that Multi Regression analysis has been done in order to determine the effect of Growth opportunities as independent variable and free cash flow returns as dependent variable.

$$FCFY = \beta_0 + \beta_1 \times GO + \beta_2 \times SIZE + \beta_3 \times LEV + \varepsilon$$

Table2, Coefficient of Determination and Durbin Watson

	Coefficient Of Determination	Adjusted Coefficient Of Determination	Durbin Watson
Growth opportunities and free cash flow returns	.448	.410	2.306

Table 2 results show that the test distribution is normal, Because Durbin Watson test is 2.306 and is Between 1.5 – 2.5. So, we can used liner Regression.

Table 3 shows the ANOVA results.

	Square	df	Mean square	F	Sig
Regression	34.423	3	11.474	11.653	.000
Difference	42.340	43	.985		
Total	76.763	46			

Table3, Multi Regression of the independent and dependent variables

Explanatory variable	B	SE	BETA	t	sig
constant	3.931	1.303		3.016	.004
GO	.978	.179	.623	5.471	.000
SIZE	-.522	.203	-.310	-2.571	.014
LEV	-.579	.354	-.197	-1.637	.109

According to the table, it is observed that the amount of sig is equal 0.000 at 99% confidence level is less than 1%. Therefore, assuming a linear regression model was significant and the model is confirmed. We can say that Growth opportunities has impact on free cash flow returns.

**Second hypothesis: Earnings Permanence has impact on free cash flow returns**

- H<sub>1</sub>: Earnings Permanence has impact on free cash flow returns
- H<sub>0</sub>: Earnings Permanence has not impact on free cash flow returns

Table 2 shows that Multi Regression analysis has been done in order to determine the effect of Earnings Permanence as independent variable and free cash flow as dependent variable.

$$FCFY = \beta_0 + \beta_1 \times EP + \beta_2 \times SIZE + \beta_3 \times LEV + \varepsilon$$

Table2, Coefficient of Determination and Durbin Watson

	Coefficient Of Determination	Adjusted Coefficient Of Determination	Durbin Watson
Earnings Permanence and free cash flow returns	.123	.062	2.152

Table 2 results show that the test distribution is normal, Because Durbin Watson test is 2.152 and is Between 1.5 – 2.5. So, we can used liner Regression.

Table 3 shows the ANOVA results.

	Square	df	Mean square	F	Sig
Regression	9.442	3	3.147	2.010	.127
Difference	67.321	43	1.566		
Total	76.763	46			

Table3, Multi Regression of the independent and dependent variables

Explanatory variable	B	SE	BETA	t	sig
constant	5.057	1.620		3.121	.003
EP	-1.235	.729	-.248	-1.695	.097
SIZE	-.327	.260	-.194	-1.260	.214
LEV	-.422	.452	-.143	-.932	.357

According to the table, it is observed that the amount of sig is equal 0.097 at 99% confidence level is less than 1%. Therefore, assuming a linear regression model was significant and the model is confirmed. But Earnings Permanence has not impact on free cash flow returns.

**References**

1. Balamir C., B., (Winter 2009), Global Energy Geopolitics and Iran, Uluslararası İlişkiler, Volume5, No 20p. 179-201
2. Brealey, R.A., and Myers, S.C. (1981) Principles of Corporate Finance, (1stEdition), McGraw-Hill.
3. Brealey, R.A., and Myers, S.C. (1996) Principles of Corporate Finance, (5thEdition), McGraw-Hill.

4. Chung, R, Firth, M & Kim, Jeong-Bon 2005, 'Earnings management, surplus free cash flow and external monitoring', *Journal of Business Research*, vol. 58, no. 6, pp766–776
5. Glenn; K., Hooglund E., (2010) Iran, a country study. Washington D.C.: Library of Congress. pp. 160–163. Retrieved November 21, 2010.
6. Kester, W.C. (1984) Today's Options for Tomorrow's Growth, *Harvard Business Review*, (March/April), 153-160.
7. Kester, W.C. (1986) an Options Approach to Corporate Finance, Chapter 5 in Altman, E.I. *Handbook of Corporate Finance*, John Wiles & Sons.
8. Lipe, R 1990, 'The relation between stock returns and accounting earnings given alternative information', *The Accounting Review*, vol. 65, no. 1, pp49-71.
9. Miller, M.H., and Modigliani, F. (1961) Dividend Policy, Growth and the Valuation of Shares, *Journal of Business*, 34(October), 411-433.
10. Ministry Of Commerce, (2009), the Memorandum of the Foreign Trade Regime of the Islamic Republic Of Iran, <http://www.irantradelaw.com/>
11. Myers, S.C. (1977) Determinants of Corporate Borrowing, *Journal of Financial Economics*, 5, 147-175.
12. Myers, S.C., and Turnbull, S.M. (1977) Capital Budgeting and the Capital Asset Pricing Model: Good News and Bad News, *Journal of Finance*, 32(2, May), 21-332.
13. Penman, S H & Yehuda, N 2009, 'The pricing of earnings and cash flows and an affirmation of accrual accounting,' *Review of Accounting Studies* ,vol. 14, no. 4, pp453-479.
14. Rancis, J, LaFond, R, Olsson, P M & Schipper, K 2004, 'Cost of equity and earnings attributes', *The Accounting Review*, vol. 79, no. 4, pp967-1010
15. SHANA (2010), Share of domestically made equipment's on the rise. Retrieved July 26, 2010.