Impact of Macroeconomic variables on stock returns Case Study: Companies Accepted in Tehran Stock Exchange

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Abstract: This study investigates the relationship between Macroeconomic variables and stock returns of Companies Accepted in Tehran Stock Exchange. In this paper, 4 macroeconomic variables are selected (interest rates, Import, Liquidity and Profit margins). Also the correlation coefficient and multiple regressions are used for surveying research hypothesis. The results indicates that Liquidity and Profit margins have a positive impact on stock returns of Companies and interest rates, Import Have a negative impact on stock returns of Companies Accepted in Tehran Stock Exchange.

Keywords: stock returns, interest rates, Import, Liquidity, Profit margins

1. Introduction

Financial managements' goal is shareholders 'wealth maximization, which means maximizing the value of the company as measure by the price of common stock. This goal can be achieved by giving the shareholders a fair payment on their investments. The objective of the finance management should be to discover an optimal dividend policy that will increase value of the firm. It is often argued that the stock price tend to be reduce whenever there is a decrease in the dividend payments. Several empirical researches on the relevance of the relationship between the dividends and stock prices, it is inconclusive (Kadir, 2011). Jensen and Meckling (1976) and Black (1976) propose that dividends play a rule in decreasing agency conflict between manager and shareholder. When manager decision to pay out dividends for used to remove the free cash from the control and pay it off to shareholders. John and Williams (1987) predict a positive relationship between dividends and stock prices. Another opinion is that dividend changes signal permanent change in current earnings.

Stock returns are a unique measure of performance that is comparable across firms and countries, forward-looking, comprehensive in scope, and insensitive to differences in accounting rules. In normal times, a firm's stock returns reflect a combination of expected returns (its loadings on risk factors) and residual returns that are associated with firm-specific news. At times of significant economy-wide shocks, however, the cross-section of residual returns can be understood as reflecting the exposure or sensitivity of firms to unexpected shocks. There have

been numerous studies of the effects of the crisis and the role of credit contraction and illiquidity crisis-induced selling on the redemptions of money market debts and the widening of bond spreads. These studies identify important effects of correlated selling pressure traceable to illiquidity problems in generating the contraction of quantities and the declines in prices in different debt markets. Billio et al. (2010) examine correlations in returns across different equity investors and document apparent crisis-specific linkages in returns that they argue reflect this selling pressure. Previous research on the effects of financial constraints on stock returns confirms that the effects are relatively pronounced during macroeconomic downturns. Lamont et al. (2001) surprisingly found "no evidence that the relative performance of constrained firms reflects monetary policy, credit conditions, or business cycles". Subsequent research by Campello and Chen (2010), however, shows that macroeconomic conditions do affect the magnitude of the financial constraint factor, once one properly identifies cross-sectional variation in the extent of financing constraints, which they show Lamont et al. (2001), did not do. There were some studies where the imports were also taken as variables. Thus, as the study pointed out, imports had played a major role in deriving such relation & conclusion. The next useful contribution was by Dutta & Ahmed (2000). They gave more importance to imports and apart from considering real GDP; they also considered two more variables – imports and import price. Other studies related to Basel III have mainly focused on its macroeconomic impact. The Basel Committee

(BCBS, 2010) while analysing the long-term effect of the new capital rules on economic output found it to be positive. On one hand, they conclude that as higher capital requirements will make it more expensive for banks to fund their operations, the costs will be passed on to the borrowers through higher lending rates which will translate in reduced new lending activity.

Dutta and Ahmed (1997) study Bangladesh import performance and use quarterly data for the period 1974-1994. They applied cointegration and error correcting modeling approaches and find unique equilibrium relationship exists among the real quantity of imports, real import prices, real GDP and real foreign exchange reserves. Erlat and Erlat (1991) study Turkish export and import performance and use annual data for the period 1967-87. The demand for imports in an economy is a crucial macroeconomic relationship with significant implications for the design and conduct of economic policy. When economists and business managers use statistical forecasting methods, they tend to overly favor regression analyses (Koop, 2006; Lindsey & Pasvur, 2005; Septhon, 2009). However, the increasing use of computers, data repositories, and ubiquitous data over the last 20 years are demanding more computational and automatic ways to efficiently mine, analyze, and forecast future economic conditions to provide information that afford a competitive advantage to firms in this ever changing dynamic business environment.

2. Literature review and hypotheses

Banks are required to have a minimum amount of capital to be able to absorb losses and still operate as going concerns. However, during the recent crisis, the losses that banks suffered in their trading books have far exceeded minimum capital requirements (BCBS, 2009). Stock returns are a unique measure of performance that is comparable across firms and countries, forward-looking, comprehensive in scope, and insensitive to differences in accounting rules. In normal times, a firm's stock returns reflect a combination of expected returns (its loadings on risk factors) and residual returns that are associated with firm-specific news. At times of significant economy-wide shocks, however, the cross-section of residual returns can be understood as reflecting the exposure or sensitivity of firms to unexpected shocks.

2.1. Interest rate

An interest rate is the rate at which interest is paid by a borrower for the use of money that they borrow from a lender. Specifically, the interest rate (I/m) is a percent of principal (I) paid at some rate (m). For example, a small company borrows capital from a bank to buy new assets for their business, and in return the lender receives interest at a predetermined interest rate for deferring the use of funds and instead lending it to the borrower. Interest rates are normally expressed as a percentage of the principal for a period of one year. Interest rates targets are also a vital tool of monetary policy and are taken into account when dealing with variables like investment, inflation, and unemployment. Although most of the assumptions and expectations made by the Central Banks or Reserve Banks by countries (and economies) that by technically lowering the interest rate would produce the effect of increasing investments and consumptions (Adllan, 2005).

2.2. Import

The term import is derived from the conceptual meaning as to bring in the goods and services into the port of a country. The buyer of such goods and services is referred to an "importer" who is based in the country of import whereas the overseas based seller is referred to as an "exporter". Thus an import is any good (e.g. a commodity) or service brought in from one country to another country in a legitimate fashion, typically for use in trade. It is a good that is brought in from another country for sale. Import goods or services are provided to domestic consumers by foreign producers. An import in the receiving country is an export to the sending country. Imports, along with exports, form the basis of international trade. Import of goods normally requires involvement of the customs authorities in both the country of import and the country of export and are often subject to import quotas, tariffs and trade agreements. When the "imports" are the set of goods and services imported, "Imports" also means the economic value of all goods and services that are imported. The macroeconomic variable I usually stand for the value of these imports over a given period of time, usually one year (Lequiller and Blades, 2006).

2.3. Liquidity

In business, economics or investment, liquidity is an asset's ability to be sold without causing a significant movement in the price and with minimum loss of value. Money, or cash, is the most liquid asset, and can be used immediately to perform economic actions like buying, selling, or paying debt, meeting immediate wants and needs. However, currencies, even major currencies, can suffer loss of market liquidity in large liquidation events. For instance, scenarios considering a major dump of US dollar bonds by China or Saudi Arabia or Japan, each of which holds trillions in such bonds, would certainly affect the market liquidity of the US dollar and US dollar denominated assets. There is no asset whatsoever that can be sold with no effect on the

market. An act of exchange of a less liquid asset with a more liquid asset is called liquidation. Liquidity also refers both to a business's ability to meet its payment obligations, in terms of possessing sufficient liquid assets, and to such assets themselves. Liquidity is defined formally in many accounting regimes and has in recent years been more strictly defined. For instance, the US Federal Reserve intends to apply quantitative liquidity requirements based on Basel III liquidity rules as of fiscal 2012. Bank directors will also be required to know of, and approve, major liquidity risks personally. Other rules require diversifying counterparty risk and portfolio stress testing against extreme scenarios, which tend to identify unusual market liquidity conditions and avoid investments that are particularly vulnerable to sudden liquidity shifts. A liquid asset has some or all of the following features. It can be sold rapidly, with minimal loss of value, any time within market hours. The essential characteristic of a liquid market is that there are ready and willing buyers and sellers at all times. Another elegant definition of liquidity is the probability that the next trade is executed at a price equal to the last one.

2.4. Profit margin

The profit margin is mostly used for internal comparison. It is difficult to accurately compare the net profit ratio for different entities. Individual businesses' operating and financing arrangements vary so much that different entities are bound to have different levels of expenditure, so that comparison of one with another can have little meaning. A low profit margin indicates a low margin of safety: higher risk that a decline in sales will erase profits and result in a net loss, or a negative margin. Profit margin is an indicator of a company's pricing strategies and how well it controls costs. Differences in competitive strategy and product mix cause the profit margin to vary among different companies.

Based on the literature review and research objectives, the following hypotheses were derived:

Hypothesis1. Interest rate is positively related to stock returns of Companies Accepted in Tehran Stock Exchange.

Hypothesis2. Import is positively related to stock returns of Companies Accepted in Tehran Stock Exchange.

Hypothesis3. Liquidity is positively related to stock returns of Companies Accepted in Tehran Stock Exchange.

Hypothesis4. Profit margin is positively related to stock returns of Companies Accepted in Tehran Stock Exchange.

3. Research methodology

The population of the present study consists of Companies Accepted in Tehran Stock Exchange and time Period is December 2008- April 2010. The correlation coefficient and multiple regressions are used for surveying research hypothesis. In this paper the independent variables are interest rates, Import, Liquidity and Profit margins and the dependent variable is stock returns. The correlation coefficient and multiple regressions are used for surveying research hypothesis.

4. Analysis and results

This study attempts to understand the relationships among Macroeconomic variables and stock returns in Companies Accepted in Tehran Stock Exchange. Table 1 displays the standard deviations, correlations and regression analysis of all variables. Coefficients of Liquidity and Profit margins are positive and significant for stock returns (0.65, 0.11, respectively). These findings indicate that companies would achieve a higher level of stock returns if they have well-developed Liquidity, and Profit margins. Accordingly, the results moderately support Hypothesis 3 and 4, which states that Liquidity and Profit margin are positively related to stock returns. Coefficients of interest rates and Import are negative for stock returns (-0.34, and -0.65, respectively). Accordingly, the results reject Hypothesis 1 and 2.

Table 1. Impact of Macroeconomic variables on stock returns by multiple regressions

variable	Coefficient	t	S.E
interest rates	-034	3.62	5.8
Import	-0.65	-4.12	0.68
Liquidity	0.65	-3.16	0.002
Profit margins	0.11	2.55	0.007
Moving Average	-032	-033	0.05
F		5.24	P=0.005
$R^2 = 0.56$	0.68	D.W	1.95

5. Discussion and conclusions

This study examines the role of Macroeconomic variables on stock returns in Companies Accepted in Tehran Stock Exchange. Our results indicate that Liquidity and Profit margin have positive and significant effects on stock returns. These findings highlight the critical roles of Liquidity and Profit margin on stock returns. Also our results indicate that interest rates and Import have negative impact for stock returns. As shown by Kealhofer et al. (1998) and Kealhofer (2003) there is a substantial difference in migration and default patterns between point-in-time (PIT) ratings and through the cycle (TTC) ratings. A through-the-cycle rating is typically produced by rating agencies and evaluates the performance of a

company over the medium to the long-term. The objective is to arrive at a stable rating that is not affected by changes in a company's outlook due to temporary variations in economic conditions. The implications for banks' profitability, availability of credit, financials stability and economic growth may be substantial and deserve further research. This study only investigates Iranian companies, hence, the findings and conclusions drawn from this research are representative of the Iranian companies, and the findings may not generalize to other geographic regions or cultures. Future studies can also examine the proposed relationships in other countries. Future study can examine the role other Macroeconomic variables on stock returns in Companies Accepted in Tehran Stock Exchange. Future study can examine the role other of Macroeconomic variables on stock returns in other Companies Accepted in Iran Stock Exchange.

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