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THE RELATIONSHIP BETWEEN STOCK MARKET PRICES AND MONEY SUPPLY IN SAUDI ARABIA

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ABSTRACT:

As Saudi Arabia is an economy, which depends on the oil, prices, thus the change in the oil prices affect the stock market price. While sentimental changes regularly affect money markets quickly, real changes will produce results over the more extended term. In the event that oil costs stay low, this at last influences monetary arrangement structure, private sector action and corporate profitability. The purpose of this research is to analyze the relationship between stock price and money supply in Saudi Arabia. This research contributes to the literature on Saudi Arabian Economy, and shows how economic factors work and how they affect each other and lead to changes in stock market price. It also shows the summery statistic for (unemployment rate, government expenditure, GDP, stock index, money supply, public debt.). The data period that considered for this study is from 1980 to 2017, obtained from World Development Indicators (WDI) and Bloomberg. Least Squares OLS method is sued to obtain the statistical result of this study. This research finds a negative and statistically significant relationship between money supply and stock prices. This research helps the investors in making a good decision of investment on stock market.

INTRODUCTION:

Billions of riyals worth of shares are traded in the Saudi stock market on a daily basis, half of people depend on the stock market as their primary source of income while others have their retirement funds attached to the stock market [1-3]. Stock performance is important; history has shown that a downturn in stock prices can cause major disturbances in the lives of many. In addition, the upturn of a stock have a major effect on the economy and its activities such as consumption, government tax, etc. Shares and stock markets are to a great degree touchy to any price-forming data, important for future patterns and market improvement. The price-molding factors for the most part incorporate macroeconomic and microeconomic elements, yet in addition the mental and subjective impact of financial specialists who can influence the conduct of the whole market and its unpredictability (which developments close by the developing number of market members), the Advancement of innovations and the effects of globalization. A noteworthy part in the assurance of offer prices is held for the most part by different macroeconomic variables, for example, a change in loan costs, money supply, swelling, political stuns, enactment revisions, and so on [4].

Sellin [5] lays out competing theories on how the money supply affects the stock market prices. In similar words, the money supply or cash flow is the blood of the market and stock prices are the value of the stock of companies in which people invest to get benefit. Government or banks by the use of monitory policy can change the money supply. This change can be planned or unplanned but the lives of many people are depended on it as they have invested in stocks and slight wrong calibration can take them away with a blow. Maskay and Chapmanclaims [6] that let suppose that someone have invested heavily in a company stocks and suddenly they find out that the bank has put some sanctions on the company and suddenly the company cannot take out cash for its investors and they have lost a lot of money due to the stock loss. The monitory policy decides the value of the future stock based on the cash available currently. As the cash flow and money supply is low, so the interest rates will go high and so the value of the stocks falls. Most of the business traders in the stock market are the small business owners and people with retirement funds so in any case they will be under debt of interest either way [6].

The money supply depends on the commodity a bank or company has. A bank has a lot of gold so it can issue trading stocks and make a lot of money so do people. However, sometimes to get out of debt the banks and the Government put their assets on sales or lease to get money supply bank in order to refresh their stocks and make their value up. This is very fundamental policy, which is followed by many companies and Government around the globe. Take an example of Pakistan that they put their Motorways and Airports on sale as to replenish their already going interest and loans. Therefore, the result is very simple more money supply will give more benefits in the stock market and raising the value of shares [6].

The money supply plays a vital role in booming a nation’s fortune towards progress. The basic narrative discussed here that how stock market will flourish with the stable and not fluctuation market and supply chain of money and then how people will get benefit from it. Mostly low earning people are investing the market to get some fortune for them to raise their children and get aid for themselves. The growth or GDP of any country directly depend on the foreign investment coming to the country and the international investor does not want to risk anything investing in a market that is very volatile [7]. Nigeria is such country where the market is very volatile and they have suffered a lot due to this. After the interest rates are so high and many people are not investing the market, the economic growth stops due to this. Also now, the inflation is so high and people have money but the prices are still very high. This is very dangerous for any country, which is under developed and lack basic economic structure [8]. Also, such phenomena in cross-country like Canada and America where they have a continental policy to stop the inflation and makes people follow the policy. They have a very stable and more result producing formula by which their currency exchange rates are very much stable from last 2 decades. The Canadian investors have more privileges in USA to buy the stocks and invest. Canada exports 30% of its products to USA almost 80% of its GDP comes from USA, so Canada wants to invest that money in USA to get more benefit for two countries [9].

The census from last 2 decades shows that the second oil boom came in mid 2000s is now over which was the result of major geo-political shift and American thrashing of some oil producing countries. Now the share of market is back to normal and from 2012, the oil prices are continuously dropping which is making the Saudi market very volatile and cataclysmic in terms of uncertainty. The Saudi Aramco production is at its best but the production is cost too much high as compare to the prices in market. Therefore, in all these scenarios the changing of mentality and business ecosystem is crucial for survival [10]. Therefore, the goal of this study is to study the relation between money supply and stock market price and its effect on the economy of Saudi Arabia by taking into consideration data from 1980 to 2017.

METHODOLOGY

Qualitative Methodology

The word qualitative infers an accentuation on the qualities of elements and on procedures and processes that are not experimentally analyzed or measured and if estimated at all as far as amount, sum, force, or recurrence. Qualitative researchers push the socially developed nature of reality, the connection between the researcher and what is being studied, and the situational requirements that shape inquiry. Such researchers underscore the esteem-loaded nature of request. They look for answers to questions that pressure how social experience is created and given importance.

Quantitative Methodology

Quantitative strategies underline target estimations and the measurable, scientific, or numerical investigation of information gathered through surveys, polls, and overviews, or by controlling prior information utilizing computational procedures. Quantitative research centers on social occasion numerical information and summing it up crosswise over gatherings of individuals or to clarify a specific phenomenon.

Research Method

This research investigates the multifaceted of Saudi economy, which included many diverse factors. Hence, for this Quantitative research method has been chosen for this study.

Data Source

The information used in this study was obtained from World Development Indicators (WDI) and Bloomberg. The research will use data since 1994-2017 for money supply, unemployment rate and real federal government expenditure, gross domestic product and public dept.

RESULT AND DISCUSSION

This study analyzes the relationship between the stock price and the money supply in Saudi Arabia. The observation period for the summary statistics of mean, median, minimum and maximum are from 1994 to 2017. The summary statistics were evaluated for the economic factors such as public debt (l_pb_debt), unemployment rate (l_unemployment), government expenditure (l_government_expe), money supply (l_M1), stock index (l_stock_index) and GDP (l_gdp).

Mean

The mean is the average, where add up all the numbers and then divide by the number of total numbers. The graph in Figure 1 shows that money supply has the highest mean. On the other hand, unemployment rate has the lowest mean. The economic factors that have strong mean are money supply, GDP and public debt.

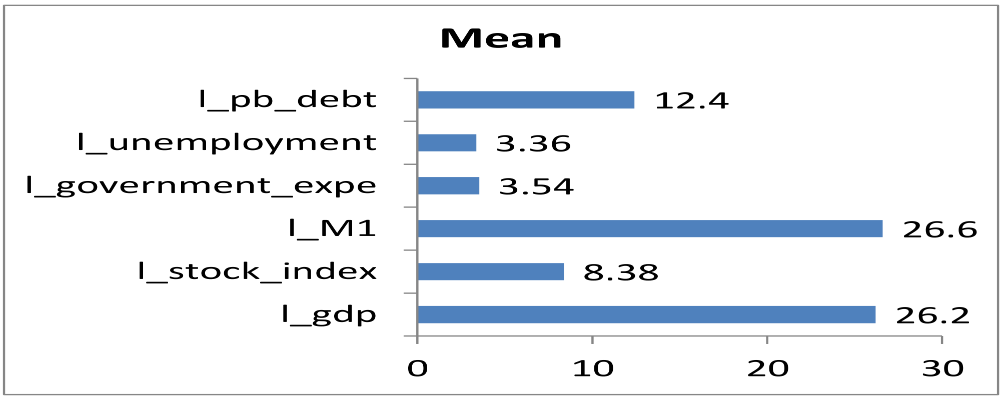

Figure 1: Mean of the economic factors

Median

The median is a simple measure of central tendency through arranges the observations in order from smallest to largest value. The graph in Figure 2 shows that GDP has the highest median. On the other hand, the government expenditure has the lowest median. The economic factors that have strong median are GDP, money supply and public debt.

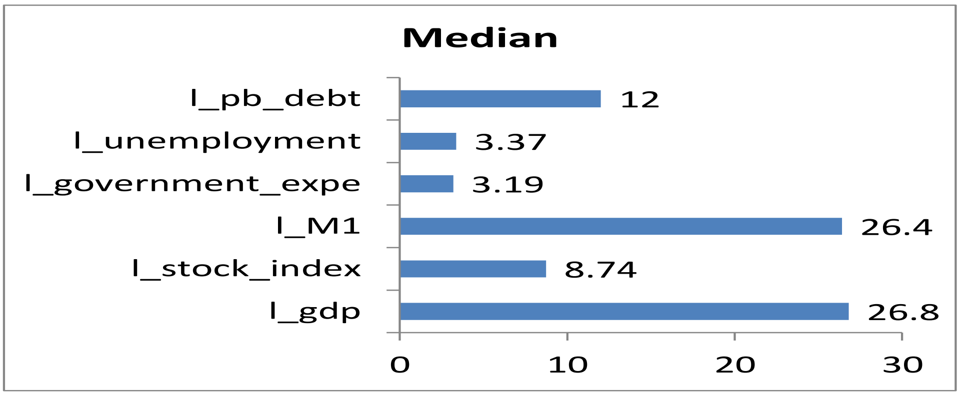

Figure 2: Median of the economic factors

Min and Max

The graph in Figure 3 shows that the money supply, GDP and public debt mark the highest maximum value by 27.8%, 27.3% and 19.3 respectively. The money supply, GDP and public debt also mark the highest minimum value by 25.6%, 12% and 11.3 % respectively. On the other hand, unemployment, stock index and government expenditure mark the lowest maximum value by 3.53%, 9.73% and 12.3% respectively. While, the lowest minimum value marks by government expenditure, unemployment and stock index are 2.87%, 3.15% and 7.15% respectively.

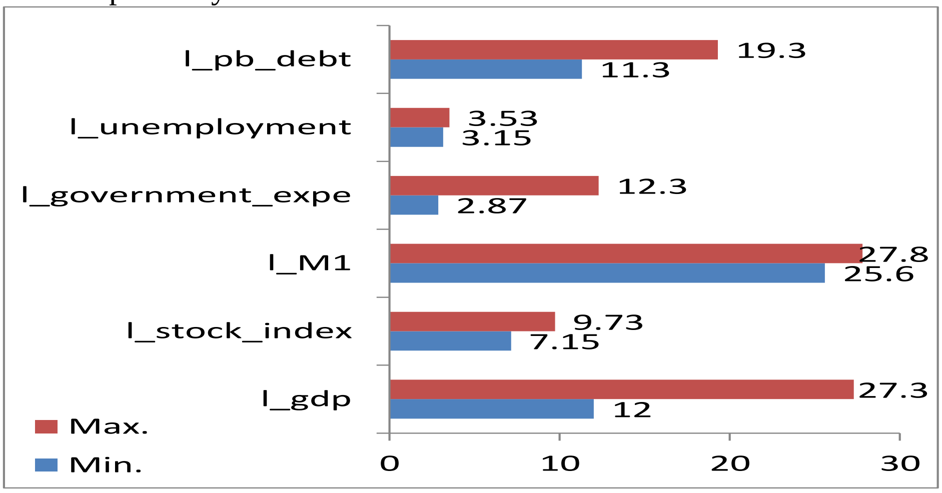

Figure 3: Maximum and minimum value of the economic factors

Empirical Model

The independent variables in the model are past money supply, unemployment rate and real federal government expenditure, gross domestic product from

(1994-2017) compared with stock index in order to figure out the relationship between stock price and each independent element. The empirical model:

DMt = a0 + a1*DM(t-1) + a2*DM(t-2) + a3*DM(t-3) + a4*un(t-1) + a5*un(t-2) + a6*un(t-3)

DMt, here, is defined as a difference in change in money supply in year one t from change in money supply in year two. In other words, DMt is defined as a difference in money supply year over year. Unemployment rate is used to capture a countercyclical policy response in money supply. The Least Squares OLS method is used in this study with observations 1995-2017 (T = 23). The statistical results are tabulated in Table 1 and Table 2.

Table 1: Statistical result

Variable	Coef.	Std. Error	t-Stat	Prob.
C	-28435.43	8296.935	-3.4272	0.003
GDP	8.25E-08	2.56E-08	3.2268	0.0047
M1	-2.18E-08	7.50E-09	-2.9101	0.0093
PB_DEBT	0.002052	0.007908	0.2595	0.7982
UNEMPLOYMENT	139.1126	259.9203	0.5352	0.5991
GOVERNMENT_EXPENDETURE	-1.892357	8.297979	-0.2281	0.8222

Table 2: Statistical result

Analysis	Result
R-squared	0.593115
Adjusted R-squared	0.480092
S.E. of regression	2698.703
Sum squared resid	1.31E+08
Log likelihood	220.2150
F-statistic	5.247717
Prob(F-statistic)	0.003809
Mean dependent var	5587.632
S.D. dependent var	3742.759
Akaike info criterion	18.85125
Schwarz criterion	19.14576
Hannan-Quinn criter.	18.92938
Durbin-Watson stat	2.019809

The Significance Level

The economic factor considered as significant relation when it's 1% and above, less than that it’s consider as insignificant. The significance levels of the economic factors are tabulated in Table 3. As the model shows when money supply increase by 2% stock price decrease by 2%. Which means the relationship between money supply and stock price is negative, on the other hand when GDP increase by 3% stock market price increase by 3% because the relationship between them is positive.Summary of the model result that stock price have negative and positive relationships and economic elements are as cycles when of them decreases or increase they will affect the other elements. Stock price is related to money supply and their relationship is negative when one of them increases the value of the other decrease. Moreover, when the money supply affect by other elements such as unemployment rate, public debt and GDP, the stock market of the country is affected immediate.

Table 3: Significance Level

Economic Factors	Sign. Level	Status
GDP	3.22%	Significant
Money Supply	-2.90%	Significant
Public Debt	0.25%	Insignificant
Unemployment Rate	0.53%	Insignificant
Government Expenditure	-0.22%	Insignificant

CONCLUSION

The purpose of this research is to analyses the relationship between stock price and money supply in Saudi Arabia and therefore contributes to the literature on Saudi Arabian Economy. In this research the relationship between money supply and stock market price have been examined and the economic factors that might affect or lead to impact relationship of them. Model observation has been used in order to compare the result of the change since 1991 until 2017 and how both of stock market prices and money supply act on each other. Also, its shows how public debt and GDP lead to affect money supply which will affect stock market price as the result of the examination. The research shows the relationship between money supply and stock market is negative relation which means when money supply increase stock market prices decrease.

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