International Journal of Computational Research and Development (IJCRD)
Impact Factor: 5.015, ISSN (Online): 2456 - 3137
(www.dvpublication.com) Volume 6, Issue 1, 2021

A STUDY OF ECONOMIC INDICATOR AND PREDICTION OF SHARE PRICE IN IT SECTOR

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Cite This Article: Dr. Jayaram Kanzal, "A Study of Economic Indicator and Prediction of Share Price in IT Sector", International Journal of Computational Research and Development, Volume 6, Issue 1, Page Number 1-5, 2021.

Abstract:

The stock market is often considered the primary indicator of a country's economic strength and development. The main aim of the study is to determine out the movement of IT sector share price in the share market. This study is based on secondary data. This study contains a secondary data of IT sector. The financial data needed for the study has been collected from website of money control, morning star, finance. yahoo. The collected data has been analysed using multiple regression analysis. The study concludes that there is a relationship between gold and share price in TCS, INFOSYS, HCL TECH, HEXAWARE, SONATA, NIIT, WIPRO, TECH MAHENDRA, REDINGTON, and CMC.

Key Words: Computer, IT, Sector, Stock , Market, Economic, Strength, Indicator, Investor, Predicting, Shares, Etc.,

Introduction:

Stock market participation refers to the number of agents who buy and sell equity backed securities either directly or indirectly in a financial exchange. Participants are generally subdivided into three distinct sectors; households, institutions, and foreign traders. Direct participation occurs when any of the above entities buys or sells securities on its own behalf on an exchange. Indirect participation occurs when an institutional investor exchanges a stock on behalf of an individual or household. Indirect investment occurs in the form of pooled investment accounts, retirement accounts, and other managed financial accounts.

The stock market is one of the most important ways for companies to raise money, along with debt markets which are generally more imposing but do not trade publicly. This allows businesses to be publicly traded, and raise additional financial capital for expansion by selling shares of ownership of the company in a public market. The liquidity that an exchange affords the investors enables their holders to quickly and easily sell securities. This is an attractive feature of investing in stocks, compared to other less liquid investments such as property and other immoveable assets. Some companies actively increase liquidity by trading in their own shares.

History has shown that the price of stocks and other assets is an important part of the dynamics of economic activity, and can influence or be an indicator of social mood. An economy where the stock market is on the rise is considered to be an up-and-coming economy. The stock market is often considered the primary indicator of a country's economic strength and development.

The smooth functioning of all these activities facilitates economic growth in that lower costs and enterprise risks promote the production of goods and services as well as possibly employment. In this way the financial system is assumed to contribute to increased prosperity, although some controversy exists as to whether the optimal financial system is bank-based or market-based.

The computer and networking market continues to grow globally, fuelled by the growth in enterprise computing and the proliferation of mobile communications devices. The computer or information technology, or IT industry is the range of businesses involved in designing computer hardware and computer networking infrastructures, developing computer software, manufacturing computer components, and providing information technology (IT) services.

Objectives:

- To know the impact of economic indicators on IT sector share price.
- To determine out the movement of IT sector share price in the share market.
- To find the significance of macro-economic indicators in predicting IT sector share price.

Limitations of the Study:

- This study is confined to the extent of interpreting the data is collected only from IT sector.
- This study based on the historical data and information provided in the reports.
- The entire financial position of the company cannot be disclosed.

Review of Literature:

Maysami and Koh (2000) examined the long-term equilibrium relationships between selected macroeconomic variables and stock indices using a VECM model through yearly data between 1988-2003. They found that changes in stock market levels cause a co-integrating relationship with changes in price levels, money supply, short- and long-term interest rates, and exchange rate except industrial production and trade. And also they detected that stock market is significantly and positively co-integrated with stock markets.

Al-Shubiri (2010) investigated the determinants of market stock price movements of Jordanian commercial bank. The study includes the commercial bank of Amman stock exchange for the period 2005-2008. The study used simple and multiple regression analysis to investigate the determinants of market stock price. The empirical findings showed highly positive significant relationship between market price of stock and the factor like net asset value per share, stock dividend percentage and GDP while inflation had a negative significant relationship with the share price.

Khalid Mustafa (2013) investigated the relationship between money supply, interest rate and stock prices. Monthly basis data are chosen from January 1992 to June 2009. Models applied are error correction model, co-integration nd Granger Causality test to check the relationship between money supply and share prices. The suggestions are there exits uni-directional association between share prices and supply of money. The results also reveal that money supply is negatively affected by share prices in a short run relationship.

Research Methodology:

- **Nature and Source of Data:**
  The study is based on Secondary data; they are collected from related journals, magazines and books. For this study independent variables are identified and grouped. Group of variables are "Macro-economic Variables" such as Gold, Silver, US dollar, Crude oil are the economic indicators of the country. The financial data of the IT sector have been collected from website of money control, morning star, finance, yahoo
- **Statistical Tools Used for the Study:**
  Multiple regression analysis
- **Period of Study:**
  This study contains a secondary data of IT sector from 2015 to 2017 period.

IT Sector:

- TCS- Tata Consultancy Services.
- INFOSYS
- HCL TECH
- HEXAWARE
- SONATA
- NIIT- National Institute of Information Technology
- WIPRO
- TECH MAHENDRA
- REDINGTON
- MC – Computer Management Corporation

Analysis and Interpretation:

Table 1: Table showing multiple regression value for IT Sectors

Company	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					Rsquare Change	F Change	df1	df2	Sig. F Change
TCS	0.737	0.544	0.537	79.148	0.544	76.262	4	256	0
INFOSYS	0.637	0.406	0.396	294.905	0.406	43.656	4	256	0
HCL	0.839	0.703	0.699	29.532	0.703	151.78	4	256	0
HEXAWARE	0.793	0.629	0.623	15.0905	0.629	108.63	4	256	0
SONATA	0.575	0.331	0.32	10.6494	0.331	31.623	4	256	0
NIIT	0.487	0.237	0.225	54.3243	0.237	19.888	4	256	0
WIPRO	0.526	0.277	0.265	18.1396	0.277	24.472	4	256	0
TECH	0.691	0.477	0.469	40.2223	0.477	58.396	4	256	0
REDINGTON	0.560	0.313	0.302	7.26559	0.313	29.172	4	256	0
CMC	0.876	0.767	0.764	0.00818	0.767	211.09	4	256	0

Table 1 shows that model summary R representing the multiple correlation coefficient, shows the linear correlation between all the independent and dependent variables. The maximum the value of R, there will be a strong relationship between the predictor and criterion variables. In this CMC Company, the value of R is .876, which is high, representing a correlation among the variables. R- Square is a square is a squared value of multiple correlation coefficients. The value of R- square is .764, which depicts that 76.4 % of the variance in share price can be predicted through gold, silver, crude oil and US dollar. Similarly for all companies in this sector like TCS, INFOSYS, HCL, HEXAWARE, SONATA, NIIT, WIPRO, TECH MAHENDRA, REDINGTON, CMC

Table 2: Table Showing Coefficients of IT Sectors

Company	Model	Un standardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
TCS	(Constant)	4203.954	440.329		9.547	0
	Gold	0.009	0.017	0.021	0.493	0.623
	Silver	-10.008	2.474	-0.194	-4.046	0
	Crude oil	3.642	1.094	0.299	3.331	0.001
	US dollar	-23.97	6.354	-0.353	-3.773	0
INFOSYS	(Constant)	8075.706	1640.664		4.922	.000
	Gold	.068	.064	.052	1.052	.294
	Silver	54.652	9.217	.325	5.930	.000
	crude oil	3.805	4.075	.096	.934	.351
	US dollar	-137.734	23.673	-.621	-5.818	.000
HCL TECH	(Constant)	1513.819	164.297		9.214	.000
	Gold	.000	.006	-.002	-.054	.957
	Silver	-12.223	.923	-.513	-13.244	.000
	crude oil	2.011	.408	.357	4.928	.000
	US dollar	-4.517	2.371	-.144	-1.905	.058
HEXAWARE	(Constant)	1272.613	83.954		15.158	.000
	Gold	.002	.003	.018	.458	.647
	Silver	1.470	.472	.135	3.116	.002
	crude oil	-.775	.209	-.301	-3.718	.000
	US dollar	-15.790	1.211	-1.099	-13.035	.000
SONATA	(Constant)	726.624	59.246		12.264	.000
	Gold	-.001	.002	-.014	-.264	.792
	Silver	.852	.333	.149	2.559	.011
	crude oil	-1.613	.147	-1.193	-10.962	.000
	US dollar	-8.064	.855	-1.069	-9.433	.000
NIIT	(Constant)	2101.889	302.226		6.955	.000
	Gold	-.015	.012	-.070	-1.262	.208
	Silver	1.795	1.698	.066	1.057	.291
	crude oil	-4.979	.751	-.771	-6.633	.000
	US dollar	-14.602	4.361	-.405	-3.348	.001
WIPRO	(Constant)	1461.766	100.917		14.485	.000
	Gold	.001	.004	.020	.373	.709
	Silver	-.369	.567	-.039	-.651	.516
	crude oil	-1.600	.251	-.722	-6.382	.000
	US dollar	-12.522	1.456	-1.013	-8.600	.000
TECH	(Constant)	1681.892	223.771		7.516	.000
	Gold	.004	.009	.022	.481	.631
	Silver	.815	1.257	.033	.649	.517
	crude oil	.799	.556	.138	1.437	.152
	US dollar	-18.679	3.229	-.580	-5.785	.000
REDINGTON	(Constant)	475.203	40.421		11.756	.000
	Gold	.000	.002	-.004	-.073	.942
	Silver	1.260	.227	.327	5.548	.000
	crude oil	-.635	.100	-.697	-6.322	.000
	US dollar	-5.746	.583	-1.131	-9.851	.000
CMC	(Constant)	.340	.046		7.477	.000
	Gold	3.078E-06	.000	.053	1.721	.086
	Silver	-.001	.000	-.166	-4.844	.000
	crude oil	.001	.000	.355	5.539	.000
	US dollar	-.005	.001	-.459	-6.863	.000

Table 2 depicts the coefficients between variables when multiple regression analysis is applied. Beta coefficient reflects the change in the dependent variable for each unit change in the independent variable. It can be used to compare the relative strength of various predictors within the model. Larger will be the beta coefficient, the smaller will be the significant level.

As per the table 2, TCS - Gold (Beta = .021, p > 0.01), Silver (Beta = - 0.194, P < 0.01), Crude oil (Beta = .299, p < 0.01) and US dollar (Beta = - . 353, p < 0.01) has largest beta coefficient which is statistically significance at the 1% and 0.1 % significance level. There is a relationship between gold and share price and there is no relationship between silver, crude oil and US dollar in predicting the share price.

As per the table 2, INFOSYS -Gold (Beta = .052, p > 0.01), Silver (Beta = - 0.325, P < 0.01), Crude oil (Beta = .096, p < 0.01) and US dollar (Beta = - . 621, p < 0.001) has largest beta coefficient which is statistically significance at the 1% and 0.1 % significance level. There is a relationship between gold, crude oil and share price and there is no relationship between silver and US dollar in predicting the share price.

As per the table 2, HCL TECH- Gold (Beta = -.002, p > 0.01), Silver (Beta = - 0.513, P < 0.01), Crude oil (Beta = .357, p < 0.01) and US dollar (Beta = - . 144, p > 0.01) has largest beta coefficient which is statistically significance at the 1% and 0.1 % significance level. There is a relationship between gold, US dollar and share price and there is no relationship between silver and crude oil in predicting the share price.

As per the table 2, HEXAWARE - Gold (Beta = .018, p > 0.01), Silver (Beta = 0.135, P < 0.01), Crude oil (Beta = -.301, p < 0.01) and US dollar (Beta = - 1.099, p < 0.01) has largest beta coefficient which is statistically significance at the 1% and 0.1 % significance level. There is a relationship between gold, silver and share price and there is no relationship between US dollar and crude oil in predicting the share price.

As per the table 2 SONATA - Gold (Beta = -.014, p > 0.01), Silver (Beta = 0.149, P < 0.01), Crude oil (Beta = .147, p < 0.01) and US dollar (Beta =. 855, p > 0.01) has largest beta coefficient which is statistically significance at the 1% and 0.1 % significance level. There is a relationship between gold, silver and share price and there is no relationship between US dollar and crude oil in predicting the share price.

As per the table 2, NIIT Gold (Beta = -.070, p > 0.01), Silver (Beta = 0.066, p > 0.01), Crude oil (Beta = -.771, p < 0.01) and US dollar (Beta = -.405, p > 0.01) has largest beta coefficient which is statistically significance at the 1% and 0.1 % significance level. There is a relationship between gold, silver and share price and there is no relationship between US dollar and crude oil in predicting the share price.

As per the table 2, WIPRO - Gold (Beta = .020, p > 0.01), Silver (Beta = -0.039, p > 0.01), Crude oil (Beta = -.722, p < 0.01) and US dollar (Beta = -1.456, p > 0.01) has largest beta coefficient which is statistically significance at the 1% and 0.1 % significance level. There is a relationship between gold, silver and share price and there is no relationship between US dollar and crude oil in predicting the share price.

As per the table 2, TECH MAHENDRA- Gold (Beta = .022, p > 0.01), Silver (Beta = 0.033, p > 0.01), Crude oil (Beta = .138, p > 0.01) and US dollar (Beta = -.580, p < 0.01) has largest beta coefficient which is statistically significance at the 1% and 0.1 % significance level. There is a relationship between gold, silver, crude oil and share price and there is no relationship between US dollar in predicting the share price.

As per the table 2, REDINGTON- Gold (Beta = -.004, p > 0.01), Silver (Beta = 0.227, p < 0.01), Crude oil (Beta = .100, p < 0.01) and US dollar (Beta = -.583, p< 0.01) has largest beta coefficient which is statistically significance at the 1% and 0.1 % significance level. There is a relationship between gold, and share price and there is no relationship between silver, crude oil and US dollar in predicting the share price.

As per the table 2, CMC- Gold (Beta = .053, p > 0.01), Silver (Beta = -0.166, p < 0.01), Crude oil (Beta = .355, p < 0.01) and US dollar (Beta = -.459, p< 0.01) has largest beta coefficient which is statistically significance at the 1% and 0.1 % significance level. There is a relationship between gold, and share price and there is no relationship between silver, crude oil and US dollar in predicting the share price.

Findings of the Study:

- The value of R is highly predictable for the companies like TCS, INFOSYS, HCL TECH, HEXAWARE, and CMC with Gold, Silver, Crude oil and US dollar.
- The value of R is predictable for the companies like SONATA, NIIT, WIPRO, TECH MAHENDRA, and REDINGTON with Gold, Silver, Crude oil and US dollar.
- There is a relationship between gold and share price in TCS, INFOSYS, HCL TECH, HEXAWARE, SONATA, NIIT, WIPRO, TECH MAHENDRA, REDINGTON, and CMC.
- There is a relationship between silver and share price in HEXAWARE, SONATA, NIIT, WIPRO and TECH MAHENDRA.
- There is a relationship between US dollar and share price in HCL TECH.
- There is relationship between Crude oil and share price in INFOSYS and TECH MAHENDRA.

Conclusion:

In India, IT sector contributes more for the Indian economy. The phenomenal growth of the IT is the positive sign for the growth and development of the country as the more number of investors are interested to invest in share market. The study concludes that current economic scenario IT sector is performing outstanding performance for its consistent profit from the last 4 years.

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