IMPACT OF GDP, FOREIGN RESERVES AND EXCHANGE RATES ON PERFORMANCE OF AUTOMOTIVE INDUSTRY OF PAKISTAN

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Abstract

This paper works on the performance of automobile sector of Pakistan. This paper analysis the performance of these firms, Most of the economic policies directly affect the performance of the firms. These policies set the standards for economic measures like GDP, inflation, foreign reserves, exchange rates, exports, imports etc. these measures directly impact the production and services industries. Secondary data has been used in this paper, as ten automobile companies from Pakistan have been selected randomly. EPS has been taken on annually basis from the year 2001 to 2015. EPS has been used as dependent variable as we need to measure the performance of the automobile industry of Pakistan. Reserves of the country, exchange rate of the currency comparatively to the USA dollar and annual gross domestic product (GDP) have been used as predictor. All three types of analytical tool like regression, correlation and Durbin Watson test have been given the same results as in regression p values or significance values we can say that these values are lower than level of significance so there is no difficulty to decide about the hypothesis sig value of constant, ER, GDP are lower than 0.05 and sig value of reserve is little bit higher. Finally we can say that we can accept alternate hypothesis and reject null hypothesis with a resultant statement that there is relationship between dependent variables and predicted and this is strong positive relationship in cease of ER and reserves with EPS and week relationship between GDP and EPS.

Keywords: EPS, exchange rates, GDP, foreign reserves, automotive industry

Introduction

Automobile sector of Pakistan consist on different firms of some foreign countries working in Pakistan. Most of the firms transfer their spare parts and these parts are assembled in Pakistan. This paper works on the performance of these firms collectively as automobile sector of Pakistan. This paper analysis the performance of these firms, Most of the economic policies directly affect the performance of the firms. These policies set the standards for economic measures like GDP, inflation, foreign reserves, exchange rates, exports, imports etc. these measures directly impact the production and services industries.

Pakistan Automotive Manufacturers Association Licensed by the Ministry of Commerce, Government of Pakistan under the Trade Organizations Ordinance 2007 and enrolled under the Companies Ordinance 1984 as an organization with constrained obligation.

Normally utilized as a general gage of financial wellbeing for a country, Gross Domestic Product, or GDP can be a gigantic impact on your investment returns. Essentially, GDP is the aggregate sum of administrations and products created in a given nation's outskirts. This incorporates all of private and open utilization, government costs, investments and exports less imports that happen inside a characterized region (Ali, 2014).

As you would expect, this estimation of a country's monetary wellbeing huge affects securities exchange returns. Any noteworthy change in GDP-up or down-as a rule significantly affects the course of the share trading system. For instance, when an economy is solid and developing, it is normal that organizations will report better profit and development. Clearly, these sorts of higher benefits please speculators of all stripes and will push them into values. In the meantime, bring down GDP estimations can have the inverse impact on stock costs as associations endure.

A prime case of this was amid the late Recession. As U.S. Gross domestic product fell and contracted, expansive securities exchange records - like the SPDR 500 S&P - sank to decade lows.

Grasping the wellsprings of exchange rate vacillations and their effects on the economy has been a problem that needs to be addressed for analysts taking after the breakdown of the Bretton Woods framework. Thus, the monetary effects of the level and unpredictability of conversion scale developments are investigated widely utilizing an assortment of observational and hypothetical systems. By and by, we know almost no about how changes in the level and instability of trade rates affect efficiency. In spite of a noteworthy measure of examination created on the impacts of rate of trade developments on speculation, development, and fare performance of firms, investigation on

firm level profitability has been confined. SPDR 500 S&P - sank to decade lows (Katch, 2015).

As a rule, foreign exchange reserves holds comprise of any foreign cash held by an incorporated fiscal power, similar to the U.S. Central bank. Foreign trade holds incorporate outside banknotes, bank stores, securities, treasury bills and other government securities. Informally, the term can likewise include gold stores or IMF reserves. Outside store resources fill an assortment of needs, however are essentially used to give the focal government adaptability and versatility; if one or more coinage crash or turn out to be quickly cheapened, the focal managing an account mechanical assembly has possessions in different monetary forms to help them withstand such markets stuns (Katch, 2015).

Objectives of study

The basic object of the study is to know the relationship between performance of the firm and economic indicators like GDP, exchange rate and reserves of the country. This relationship can explain the strength of these variables with earning per share. In other words it can be seen that which variables is most important to increase the performance of the firm.

Gap statement

In different nations of the world, a great deal of examination has been finished with the development of economic indicators. Concentrating on this examination there is no work done in this term of office of era by any analyst on Pakistan (from 2001 to 2015), on GDP, exchange rates, reserves and performance of organization.

Literature review

The monetary study of Pakistan 2014-15 (Finance Division Government of Pakistan) in its report expresses that the development in vehicle industry over the world depends vigorously on financial development and accessibility of financing from money related organization at positive terms. The part recorded positive development in autos, LCVs/Jeeps and two/three wheelers amid July-March-2014-15 when contrasted with same time of the former year though the Busses, trucks and tractors saw a decrease in their creation when contrasted with the earlier year (FDGP, 2014). The car division has investigated the fare business sector, for example, 7563 bikes and 64 auto rickshaws were sent out in the last money related year. Be that as it may, 9022 bikes and 72 auto rickshaws have been sent out up to (July-March) 2014-15. The Car/LCV division has likewise traded 359 vehicles and parts worth US $ 1.58 million in the last monetary year and 397 vehicles and parts worth US $ 1.66 million in the present year up to (July-March) 2014-15 (SBP, 2014). As indicated by financial overview regardless of minimal development of 0.5% focuses the performance of the

vehicle business is influenced by the components like debilitating of interest in the universal and household market, swelling, high info costs, high government part obtaining swarming out accessibility of credit to the private segment and intense vitality deficiencies. Be that as it may, occasions like the phenomenal surges and demolition in production network because of seismic tremor and wave in Japan, aggravated with a general moderate down in the monetary environment, lower GDP development, rising loan fees, constrained credit accessibility for automobile financing, deterioration of the Pak Rupee against real coinage, extraordinary ascent in costs steel and different inputs, expansion, and so on affected the interest adversely (Kamran, 2014).

Aslam (2011) studied the performance of automobile sector of India. He used secondary data from the year 2001 to 2010. He used regression analysis to find out the results. Manufacturing performance is basic to the success of numerous organizations. Better performance leads than the intensity. Keeping in mind the end goal to stay focused; manufacturing organizations should routinely assess their performance. Therefore, it is crucial for assembling organizations to recognize and guarantee great performance in the worldwide rivalry. Performance assessment can be utilized as a part of managing hierarchical change and advancement and to depict and survey the verifiable performance and in addition to set execution focuses for the future. Performance markers don't just portray what has happened; they impact what will happen, as they give data to leader to settle on choices which may influence the future aggressive position of the association. The part of assembling performance markers is to mirror the present condition of assembling circumstance, to screen and control operational proficiency, to drive change program, and to gage the adequacy of assembling choices. Four of the most ordinarily referred to markers to assess producing performance are quality, cost, conveyance, and adaptability (Aslam, 2011).

Micheal (2014) used secondary data from the year 2000 to 2012 using regression analysis to find out the results. Despite the fact that these information are certain from a monetary point of view, there has been a significant increment in the ecological effect produced all through the production network as an aftereffect of the utilization of regular assets and the waste created. The creation of cars devours tremendous measures of characteristic assets and produces gigantic amounts of waste all through the production network (Micheal, 2014).

As indicated by (2003), more than 10,000 things can be utilized as a part of the creation procedure, and changing these things into a vehicle can produce negative effect to the reasonable advancement process, which is referred to in the business environment as the triple primary concern, went for adjusting monetary, ecological, and social improvement. Study used granger causality test and

correlation analysis for results finding. Data set was used from the year of 1997 to 2003. A large portion of the activities did in the car inventory network organize the era of huge monetary effect for organizations and for society, setting less accentuation on the ecological and social measurements (Karlsson, 2003) ((Gerrard & Kandlikar, 2007).

Freyssenet (2011) declares that the car business is experiencing a second transformation. This insurgency is constructing generally with respect to the petroleum deficiency and developing needs in enormous urban areas. Accordingly, organizations identified with the car business are looking to create lucrative, ecologically inviting vehicles, particularly because of administrative fines and client request (Freyssenet, 2011) (González, Sarkis, & Adenso-Díaz, 2008; Elmquist & Segrestin, 2009; Seuring, 2010). Study used descriptive statistics, with likert scaling technique on primary data. Other than the ecological effect, social activities completed by organizations can likewise create a noteworthy return, for example, positive corporate picture and monetary increases (Petrini & Pozzebon, 2010).

Seuring (2010) used vector auto regression model. Variables used in the study are EPS, inflation, GDP and foreign exchange reserves in which EPS is dependent There has been a developing enthusiasm for the appropriation of reasonable practices in the car production network and an expansion in the quantity of distributions identified with the cause-and effect connections of such practices; be that as it may, there is an absence of exploration that arranges these practices and in addition an absence of examination on performance measures used to gauge the advantage of such practices. Applying granger causality test, hefty portion of the studies concentrate on exhibiting separated results from particular makers (Seuring, 2010).

Chaharbaghi and Willis (1999) bring up that numerous creators concentrate on talking about hypothetical models of maintainability as opposed to introducing the aftereffects of genuine practices. In this sense, this article means to distinguish the principle hones and maintainable performance measures in the car segment. This article is used vector auto regression model. Variables used in the study are EPS, inflation, GDP and foreign exchange reserves in which EPS is dependent. Results showed that EPS is directly proportional to inflation and inversely proportional to the GDP and foreign exchange reserves. At long last, the conclusions from the examination are accounted for and recommendations for future work are given (Chaharbaghi & Willis, 1999).

Research Methodology

Secondary data has been used in this paper, as ten automobile companies from Pakistan have been selected randomly. EPS has been taken on annually basis from the year 2001 to 2015. Than the

average of these ten companies' EPS has been calculated. Finally this average has been used as dependent variables. Research data of the variables has been taken on annual basis.

Types of variable used

EPS has been used as dependent variable as we need to measure the performance of the automobile industry of Pakistan name of the companies has been listed in appendix.

Reserves of the country, exchange rate of the currency comparatively to the USA dollar and annual gross domestic product (GDP) have been used as predictor.

Hypothesis

H_0= there is no relationship exist between dependent and predictor variables

H_1= Relationship exist between dependent and predictor variables

Model summery

Linear regression has been applied to this paper as (Aslam (2011) and Micheal (2014) studied the regression to find out the results of the study. The equation of the regression builds as given

$Y = a + bx_1 + bx_2 + bx_3 + \mu$

Y = EPS

x_1 = Exchange rate

x_2 = GDP

x_3 = Reserves

a = alpha

b = slope

μ = regression residual

Applying regression in SPSS this paper examined the results of the regression, Durbin Watson test, and correlation analysis.

To study the relationship of the variables all these three analysis tolls would be compared after completing results.

Using above methods and techniques relationship/interdependence of the variables would be studied.

Analysis

Analyzing the descriptive statistics, here it could be seen that mean and standard deviation has been calculated. The average of the EPS resulted near 20.05 that means automobile companies in Pakistan earn about 20 rupees per share annually. Exchange rate fluctuated since the independence of the Pakistan but the average of the exchange rate remains near 76.04 rupees per dollar since last

fifteen years. DPS on annual basis remains near 4.20% and reserves of the country 34,272 thousand dollars of Pakistan.

Descriptive Statistics

	Mean	Std. Deviation	N
EPS	20.054933	9.0956861	15
ER	76.049114	17.7768590	15
GDP (Annual %)	4.209224	1.9308579	15
Reserves	1257274738 5.734272	4197144526. 9763640	15

Now going towards the results of first statistic tool and that is correlation analysis, correlation analysis directly studies the relationship of the variables, here the most importance relationship exist between EPS and other variables.

Correlation between exchange rates and EPS valued 0.67 that indicates positive relationship, in other words it means increasing the exchange rate of the currency would increase the earning per share of the automobile companies in Pakistan. This indicates that this paper reject the null hypothesis and accept alternate hypothesis. Same results have been seen on reserves of the country and GDP but the value of relationship between GDP and EPS of the companies is 0.29 that means weak positive relation. On the other hand the relationship between reserves and EPS is strong up to the value of 0.66, so here can accept alternate hypothesis saying that positive relationship exist between EPS and predictor variables. The values of significance accept the alternate hypothesis in case of exchange rate and reserves as it remain near zero in both cases but increase of GDP it is on upper limit from 0.05.

Correlations

		EPS	ER	GDP (Annual %)	Reserves
Pearson Correlation	EPS	1.000	.665	.298	.658
	ER	.665	1.000	-.229	.435
	GDP (Annual %)	.298	-.229	1.000	.093
	Reserves	.658	.435	.093	1.000
Sig. (1-tailed)	EPS	.	.003	.140	.004
	ER	.003	.	.206	.053
	GDP (Annual %)	.140	.206	.	.370
	Reserves	.004	.053	.370	.
N	EPS	15	15	15	15
	ER	15	15	15	15
	GDP (Annual %)	15	15	15	15
	Reserves	15	15	15	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Reserves, GDP (Annual %), ER[b]	.	Enter

a. Dependent Variable: EPS

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.870[a]	.756	.690	5.0638182	1.638

a. Predictors: (Constant), Reserves, GDP (Annual %), ER

b. Dependent Variable: EPS

The above model summary explains the values of R squire and adjusted R squire. Interpreting these values we can see that the values of R squire and adjusted R squire are 0.76 and 0.69 respectively. It's good to have the values above 60% that means the variations are explained. On other hand the difference between these two values should be minimum that means regression line best fit to the

model. The value of Durbin Watson shows that the relationship is positive as it resulted 1.63 in other words from 0 to 2.0.

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	876.176	3	292.059	11.390	.001[b]
	Residual	282.065	11	25.642		
	Total	1158.241	14			

a. Dependent Variable: EPS

b. Predictors: (Constant), Reserves, GDP (Annual %), ER

Here we can see the values of F significance that is near to zero. It means the probability of by chance results is zero. In other words we can say that results are not by chance.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-21.102	7.423		-2.843	.016
	ER	.307	.089	.601	3.469	.005
	GDP (Annual %)	1.895	.738	.402	2.568	.026
	Reserves	7.793E-010	.000	.360	2.123	.057

a. Dependent Variable: EPS

Analyzing the values of coefficients, the values of standard errors are under control. Now deciding abut p values or significance values we can say that these values are lower than level of significance so there is no difficulty to decide about the hypothesis sig value of constant, ER, GDP are lower than 0.05 and sig value of reserve is little bit higher. Finally we can say that we can accept alternate hypothesis and reject null hypothesis with a resultant statement that there is relationship between dependent variables and predicted and this is strong positive relationship in cease of ER and reserves with EPS and week relationship between GDP and EPS.

Conclusion

All three types of analytical tool like regression, correlation and Durbin Watson test have been given the same results as in regression p values or significance values we can say that these values are lower than level of significance so there is no difficulty to decide about the hypothesis sig value of constant, ER, GDP are lower than 0.05 and sig value of reserve is little bit higher. Finally we can say that we can accept alternate hypothesis and reject null hypothesis with a resultant statement that there is relationship between dependent variables and predicted and this is strong positive relationship in cease of ER and reserves with EPS and week relationship between GDP and EPS. In case of correlation all three predictor variables are positively correlated with dependent variable and the values of Durbin Watson is also lower than 2.0. This indicates that this paper reject the null hypothesis and accept alternate hypothesis. Research further suggests investigating the relationship of ER, reserves and GDP with ROI, ROE and stock market index movements.

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Appendix

Automotive companies selected on the basis of random sampling are listed below

- Pak suzuki motors
- MILLAT TRACTORS Pakistan
- Hino Pak
- Indus Motors Pakistan
- Atlas Batteries
- Agriautos Pakistan
- General Tyres and Rubber Company
- Excide Batteries
- Honda AT
- Hinda BT