Can Stock Market Returns be used as a Hedge against Inflation? - Evidence from Three Asian Countries

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Abstract

Inflation is one of the main causes of depreciating real value of money which in long run become the cause of downturn of the economic state of any country. This study investigates the typical mechanism of inflation which is the major concern of every economy all over the globe and which also influences on the investor's investment and return in stock markets. Share price index, industrial production, interest rates monthly basis data for the July 1997 to December 2017 were collected to check Co-Integration evidence by using Vector Error Correction Model (VECM) and the Johansen co-integration model. The results found Co-Integration among selected variables to investigate these three countries. Similarly, VECM results suggested that inflation, IPI converge, Interest rate, Stock returns are significant for long-term equilibrium but its rate of adjustment toward equilibrium is slow. The results also indicate that all variables including inflation are not showing any significant effect on stock market returns. Hence, this study concluded that in the long run China and Pakistan's stock markets provide a safety umbrella to investors against inflation but for the shortterm, it is not secure. On the other hand, for India, both short and long-term association is not found. This study outcome helps policymakers to devise suitable policies for raising investments in financial markets which in the long run results in stable economic growth.

Keywords: Stock Market Returns, Hedge, Inflation, Interest Rate, Industrial Production Index.

Introduction

In terms of economic, an overall rise in the prices of services and goods is called inflation. The term inflation can be defined as the slow loss of actual value of money. Similarly, one of the major causes of the rise in inflation is a rise in the supply of money in the financial market which then results in a reduction of the purchasing power of people. During the

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high inflation period, people basically focus on purchasing items as they assume that in future, prices of things will rise hence, as a result, shortage of good may face in the market. Price inflation is basically calculated by the rate of inflation. The rate of inflation is checked over various time intervals by differentiating all indexes like the Consumer Price Index (CPI). In other words, preferred or ideal prices of services and goods which are adopted by individual consumers are referred to as the Consumer Price Index.

The inflation hit economy in both positive and negative ways. Uncertainty about upcoming rise in prices and the decreasing money value may discourage investments and savings. This encourages stock investors infocusing on bond purchasing after selling stock which results in an increase of non-productive savings of assets and lowering the fruitful capital investment. Increasing Inflation also decreases the value of debt which is the positive impact of inflation.

In the Stock market, investors basically invested their capital to earn a profit as this will impact the influence of inflation in several ways. Generally, people focus on equity share investments and product of fixed income securities to invest their funds in the capital market. Mostly, fixed income securities included corporate bonds, Bank deposits, Government fixed income securities etc. Though, investor expectation regarding required return depends on many determinants and risk premiums for examplerisk premium of inflation (IP), risk-free security (K_{RF}),the risk premium of maturity (MRP), the risk premium of default and risk premium of liquidity (LP) etc.

$$Required\ Rate\ of\ Return = MRP + IP + DRP + LP + K_{RF}$$

In Pakistan, the public mostly focuses on investment in financial or capital markets and strong goods products. Similarly, like other countries in Pakistan, public focused on investment of low risky products and invest their savings in different assets like foreign exchange, gold and many different horizons which mostly taken as a hedge in contrary to inflation. This seems that stakeholders in Pakistan normally avoid the risk and focus more on the gain. Due to this mentality of investors, they only look toward less risky products or item as compare to riskier or long-term products.

Choudhri, & Mohsin (2002) proved in their investigation that in short period the actual economics steps can fundamentally be corrected by monetary policy, while the effect which comes after the policy implementation become the cause of excess money supply in long term this is the result of inflation. Though Riazudin (2008) gives suggestion to reduce the consequences of inflation but still, SBP must take strict steps which directed toward all those options which grip the causes of

inflation. In Pakistan, to handle inflation SBP is already following a rigid monetary policy which is implemented from the financial year 2014-15. Similarly, the SBP (2015-16) sued that in short-term interest rates are closer to the discount rates. Eventually, it is summarized that from period 1971to 2016, Stock market of Pakistan shows fluctuation under the policy of economic reform with uncertainty particularly in the year 2002 and 2008.

In India, K.V.S.S. Narayana Rao & L M Bhole (1990) investigates stock return in oppose of inflation by taken it as a hedge, they studied inflation influences on market of equity return rate of equity. Hence, Indian reserve bank collected return and equity yield investment return during the period of 1953-1987. Similarly, Consumer price index and index of the wholesales prices index are used for calculation of Inflation. However, Malathy P. (1989) took annual middling indexes of shares price and wholesale price of all businesses composed from the Indian reserve bank which in the end found that return on the stock is not sufficient to give hedge for handling inflation for short time period. Although; Samiran (2013)examined the connotation between actual stocktakings and impact of inflation in the capital market of India which pointing toward Fisher theory which means that shareholders' are compensated aimed at rising in the overall level of price by a rise in nominal earnings hence, this not affected stock returns. This investigation determined that for the economy of India Fisher theory is relevant in reforming era but it is irrelevant after the reforming was done and other periods.

By investigating the connection between common stock outcomes and inflation, this study adds new to literature by considering Pakistan, China, and India. Inflation risk is not only alike and serious as compared to other financial risks so the return of stocks is mostly affected by inflation during the period when it is on its rising stage.

The investigation about the association among return of stock by inflation has been checked by many scholars. Previously, researchers using Fisher theorem to check that there is positive association among inflation and return gain by investing in stock but now various studies on developed countries results that the actual association between inflation and return gain from the stock market is negative instead of positive. The three investigating countries are mainly focusing and depending on their economic development and their stock markets play a very important role to fulfill their economic growth development needs. Hence, the aim of this investigation is to check that in these three countries whether common stock markets return is used as a hedge against Inflation.

The main aim of the study is to check and find that is there any association between stock market return and inflation in Pakistan, China, and India and to determine how stock market returns endure alterations in inflation rate in the short-run and long-run in all three countries. Furthermore, the study focuses on the effect of interest rate and industrial production on stock returns and how the outcome of our study will facilitate and help investor in understanding and taking better decision related to all factors and stock markets.

Literature Review

Because of hidden cold war among developed and developing economies of Asia, Inflation is taken as one of the main issues and different studies have been giving different views to handle it. Bodie (1976) investigate and found that stock investment and asset return can take as a hedge for handling inflation. He cleared that assets which are not depending, or inflation rate are only assets which can take as a hedge against inflation. Similarly, they also declared that hedge is declared by the power of buying for both formal and informal stockholders.

From last few decades, the relationship between inflation and capital market become the main point of study for researchers. Fisher (1930) gives a theory which is opposedtotaking actual assets as a hedge for inflation. In oppose of real assets, this theory states that equity assets are best to use it against inflation. To find out the answer that in real return from stock is serve as a hedge for inflation many research have been advised for further research and presented their empirical investigations for example Barnes et al. (1999), Boudoukh & Richardson (1993), Fama and Schwert (1977), Gultekin (1983) , Robinson (1997) and Ely and Robinson (1997) in their studies investigate and found that because of increase in inflation stock market fall down and therefore it results in decrease of actual return. They also searched out fluctuations in stock markets by consuming actual growth of production and discount rates fluctuations as extra explanatory proxies. The theory of inflation related to hedge was checked by showing significant inflation coefficient. Due to the reality that the return of equities is a symbol of actual return actual prices of equity will not take any influence because of inflation effects. Hence, it can consider a hedge as opposed to inflation.

Similarly, to check various assets returns which is in opposite to inflation, Chatrath et al. (1976) investigate by considering seven different returns of using assets which include banks an precious assets items by considering the time period of three to five years and suggests that other than stock no other items for hedging is opposite to inflation. An

investigation done by K.V.S.S et al. (1990) has checked and suggested inflation impact on equity return of the Indian market. Hence, the value of shares and values of equity were suggested by Indian reserve bank for approximating minimal return. Additionally, Feldstein (1980) theoretical connect change in generating of return because of assets. He found that un handling of taxation matters result in a reduction of profit after tax and this become cause of the reduction in the affection of stock return on market inflation. Similarly, Fama (1981) hypothesize that money position and its demand theory which shows connotation among inflation and market return on the stock is unfair. Moreover, to check and connotation between stock market revenue and inflation Boudoukh and Richardson (1993) gave a minimal term investigation proof which was similarly presented by Ely and Robinson (1997) in their studies.

Yeh and Chi (2009) studied the theorem of Fama and found that if action taken for economic is opposed of direction to inflation then it would become the cause of spurious correlation among them. Furthermore, Zafar et al. (2010) investigated that whether returns of stock in stock market proposal hedge associated to market inflation and it shadows the Fisher's philosophy and whether countries of SAARC holds Fisher hypothesis or not. The assumption presented positive relationship for terms which are a long and short-term in nature among return of market on and on inflation.

The empirical investigation proved that a large sample set to check the relationship between inflation and stock market return gives appropriate results. The empirical studies which were done by Bodie (1976), Nelson (1976), and Fama and Schwert (1977) are the core studies for researchers to check the impact of inflation on various economies. These studies were done by taken united states stock markets as a sample set. Like this, Firth (1979) and Gultekin (1983) chose the United Kingdom stock market as a sample for investigation but found oppose results as compare to the results given by other researchers. Similarly, Jaffe and Mandelker (1976) produced a negative result of association among stock market return and inflation but they indicate that data during the period 1875 to 1970 produced a positive association among both variables. Like this, Marshall (1992) at the time of high inflation the opposite relation between market return and inflation is not good.

Reilly et al., (1970) conducted an investigation to find the stock association as a hedge with inflation. They found individual stocks which are common in nature are not considered as a safety at the time when prices are up. Their results showed that association between the return of stock and inflation is negative. However, Ghulam et al. (2011) used linear regression to generate results and find an associationbetween these

two variables of inflation and market return on stock investment. Their investigation found a negative correlation between inflation and return generated by the stock investment. After this, similar to the above-said investigation another investigation was conducted by Mark (2001) who found similar relation as above, a negative correlation between inflation and return by stock. Glenn et al.,(1971) investigate and found that during high prices times of goods and services equity return would not give any back to inflation. Boucher (2006) focused on the United States market and found a negative association among these two variables. While Geske and Roll (1983) suggested a positive relationship between these variables.

This study is conducted with the aim to find an association in both short and long-term between inflation and investment return in the stock market. The stock market of any country plays a very vital role in growth and development of that country. Hence, the three countries which are considering in this research depending on their stock markets which are also an indicator or economic growth of their country. The association between the inflation rate and generated return from the stock is previously also checked by Fama & Schwert (1977), Gultekin (1983) and, Boudouch & Richardson (1993).

Methodology

To analyze the relationship of common stocks return with inflation and another variable in China, India, and Pakistan, the researchers collected monthly data from Thomson Reuters for the period of 1997 to 2014. All variables have been transformed by taking natural log to linearize the data which help in minimization of heteroskedasticity problem. After linearization of data, stationarity of all variables have been check through ADF test and then Johansen co-integration test has been applied to investigate the co-integrating relationship. Short run and long run causality among all variables to evaluate Fisher's hypothesis in all three countries have been tested through the Vector Error Correction Model (VECM). Lastly, various diagnostic tests (normality test, heteroskedasticity,and autocorrelation) after model estimation have been performed to tests certain the assumptions of normality, homoscedasticity and no serial correlation of residuals of the model. The conceptual diagram of the study is given below:

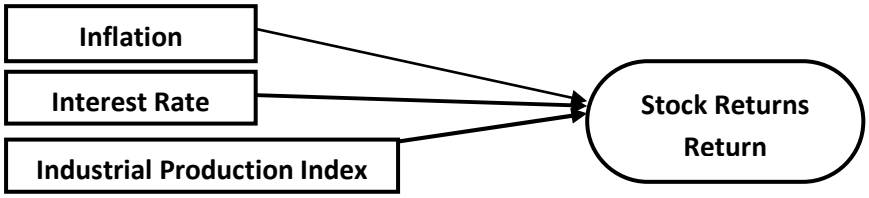

Figure 1: Conceptual Diagram

Following hypotheses are tested in this research:
H_{A1}: Common stocks returns are a significant hedge against in Pakistan.
H_{A2}: Common stocks returns are a significant hedge against in India.
H_{A3}: Common stocks returns are a significant hedge against in China.
H_{A4}: There is a significant association between inflation, interest rate, IPI and stocks returns in long-run in all three countries.
H_{A5}: There is a significant association between inflation, interest rate, IPI and stocks returns in the short run in all three countries.

Furthermore, in this study the model the data is specified in log-linear form as Bowers et al. (1975), Ehrlich (1975), Layson (1983) and Muhammad, S. &Faridul I. (2010) claimed that better empirical results can be generated by using log-linear models.

$$Y(LSR) = \alpha + \beta_1(LCPI) + \beta_2(LIR) + \beta_3(LIPI) + \varepsilon$$

(Source: Author's construction followed by Muhammad, S. &Faridul, I. (2010).

Whereas,
LSR is log stocks returns from equity price index
LCPI is inflation proxied by log transformation of consumer price index
LIR is a log of interest rate calculated by using six months T-Bills rate
LIPI is a log of industrial production index
ε_t is error term

The main idea of Fisher's relationship is the notion that the real return on investment in the main focus of individual investors as they considered return after inflation adjustments. It is, therefore, expected that nominal stocks returns should be the sum of expected inflation rate and an individual's required real rate of return. Hence, if the company's income grows with the same pace as inflation is increasing then only the investor will be able to maintain his investment value in equity market without any radical change in real return. Hence, a conclusion can be drawn that inflation can be hedge by investing in stock market. Firth, (1979); Lothain and McCarthy, (2001); and Muhammad, and Faridul

(2010) explained that if $\beta_1 > 0$ under the Fisher relationship then it means that investors received full compensation for expected rise in inflation rate.

In this study, the interest rate is estimated using six months treasury bills as inflation reduces the fundamental value of shares (present value of expected future earnings) and increase the discount rate. Therefore, the relationship between both the variables is expected to be negative/inverse i.e. $\beta_2 < 0$. Moreover, industrial production index is the basis for determination of real production output for any country as it creates a positive impact on economic development and significantly boosts performance of financial markets. Therefore, this study expects $\beta_3 > 0$.

Results & Empirical Findings

Table 1: Unit Root Test Analysis

Countries	Level			First Difference		
	t-Stats	P-value	Result	t-Stats	P-value	Result
			PAKISTAN			
Stock Market Index	0.093	0.964	*Non-stationary*	-14.080	0.000	*Stationary*
CPI	2.368	1.000	*Non-stationary*	-5.710	0.000	*Stationary*
Interest Rate	-2.159	0.222	*Non-stationary*	-4.953	0.000	*Stationary*
IPI	-1.761	0.398	*Non-stationary*	-5.861	0.000	*Stationary*
			INDIA			
Stock Market Index	-0.128	0.943	*Non-stationary*	-13.711	0.000	*Stationary*
CPI	2.099	0.999	*Non-stationary*	-10.728	0.000	*Stationary*
Interest Rate	-1.778	0.390	*Non-stationary*	-13.614	0.000	*Stationary*
IPI	-1.126	0.705	*Non-stationary*	-19.964	0.000	*Stationary*
			CHINA			
Stock Market Index	-1.517	0.522	*Non-stationary*	-7.922	0.000	*Stationary*
CPI	0.244	0.974	*Non-stationary*	-3.056	0.031	*Stationary*
Interest Rate	-0.827	0.808	*Non-stationary*	-10.681	0.000	*Stationary*
IPI	-2.637	0.087	*Non-stationary*	-16.536	0.000	*Stationary*

The above table 1 shows ADF test results that in all three countries, all variables have unit root at levels. However, at first difference, all variables for all three countries are stationary i.e. non-existence of unit root in all the series. Hence, results explain that stationarity of all series can be attained by taking the first difference. Moreover, for all three countries, the order of integration of all variables is same i.e. *I(1)* so it can be determined that Johansen co-integration procedure can be applied on all variable series.

Next step after ADF unit root analysis is the co-integration test to explore the existence of long-run equilibrium relation among variable in India, Pakistan, and China. Then the lag length of VAR is determined to use this method by considering Akaike Information Criterion (AIC). If AIC is used to determine the lag length then the following step is to perform LM test to check serial correlation of residual term.

Table - 2: Co-integration Analysis

PAKISTAN				
		Trace		
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.155	60.349	47.856	0.000
At most 1	0.072	26.627	29.797	0.111
		Maximum Eigenvalue		
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.155	33.722	27.584	0.007
At most 1	0.072	15.005	21.131	0.288
		INDIA		
		Trace		
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.126	45.370	47.856	0.084
At most 1	0.038	17.700	29.797	0.588
At most 2	0.026	9.692	15.494	0.305
At most 3 *	0.019	4.126	3.841	0.042
		Maximum Eigenvalue		
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None	0.126	27.668	47.856	0.048
At most 1	0.038	8.009	29.797	0.903
At most 2	0.026	5.566	14.264	0.669
At most 3 *	0.019	4.126	3.8414	0.042

CHINA				
Trace				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.127	48.063	47.856	0.047
At most 1	0.062	20.127	29.797	0.414
Maximum Eigenvalue				
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.127	27.936	27.584	0.045
At most 1	0.062	13.135	21.131	0.439

In table 2, Trace and Maximum Eigenvalues are presented for all three countries. The results clearly indicate that at 5% significance level both Trace and Max Eigenvalues are greater than their respective critical indicating 1 co-integration relationship which supports our research objective that long-term association exists between all variables in China, India, and Pakistan.

Table - 3: Normalized Co-integrating Coefficients

Variable	LSR	LCPI	LIR	LIPI
PAKISTAN				
Coefficient	1.000	-0.098	0.126	-3.641
Std. Error		(0.347)	(0.137)	(0.428)
T-Value		0.002	-0.008	0.063
Log Likelihood		1389.425		
INDIA				
Coefficient	1.000	0.347	-0.786	-2.507
Std. Error		(0.385)	(0.155)	(0.374)
T-Value		0.004	0.102	0.017
Log Likelihood		1820.622		
CHINA				
Coefficient	1.000	-0.708	0.007	-2.125
Std. Error		(1.125)	(0.080)	(1.435)
T-Value		0.003	-0.071	0.015
Log Likelihood		1557.377		

Results of table 3 present the Co-integrating coefficients to conclude the existence of long run equilibrium among all variables. The equation used in this model is:

$$SR = \beta_1(LCPI) + \beta_2(LIR) + \beta_3(LIPI) + \varepsilon$$

The above results clearly indicate that inflation and share prices have a positive relationship in China and Pakistan which is coherent with the Fisher Hypothesis i.e. $\beta_1 > 0$, which elucidate that by investing in stock market, an investor expects returns above inflation rate to safeguard his purchasing power (see: Levi and Makin, 1979; Ely and Robinson, 1997; Choudhry, 2001). Hence, a conclusion can be drawn that in the long run a stock market returns offera hedge against inflation in both China and Pakistanbut fails in India. Furthermore, the coefficient value of interest rate for both countries is less than zero (negative) indicating an impact an inverse impact of interest rate on stock market return in China and Pakistan. However, the interest rate result for India is positive which in contradicting economic theory and expected outcome. The possible reason for such positive relationship in difficult to comprehend and the only reason that can be concluded is that investors in India expect that with the increase in interest rate there will a boost in Indian economy in the long run. The results of industrial production index shows a positive beta which explains that there is a positive relationship of industrial production with the stock market as its growth enhances economic growth and creates a positive impact on stock market in all three countries.

Table - 4: VECM – Long-Run Causality Analysis

	PAKISTAN	INDIA	CHINA
C(1)	-0.035	-0.014	-0.054
	P = 0.012 < 0.05	P = 0.614 > 0.05	P = 0.002 < 0.05
R^2	0.096	0.080	0.158
F-Stats	4.205	0.957	1.632
	P = 0.001 < 0.05	P = 0.508> 0.05	P = 0.046 < 0.05
D-W	1.956	2.014	1.957

On the basis of the results presented in table 3, it can be concluded that all variables are co-integrated in all three countries so we proceed to the Vector Error Correction Model (VECM) application.In table 4, C(1) is the coefficient of error correction term explaining the speed of adjustment towards long-run equilibrium and as it value is negative and significant (0.002 and 0.012) for China and Pakistan respectively so it can be concluded that long run unidirectional causality is running from

inflation, interest rate and IPI to stock market returns. Our results are similar to Frimpong (2011) and Issahaku et al. (2013) outcomes as they also indicated unidirectional causality in the long run. Hence, this elaborate that investors in the stock market are compensated for a hike in general price level. On the other hand, the value C(1) for India is negative and insignificant indicating non-existence of long-run causality and suggesting that stock market returns, inflation, interest rate, and IPI series converge to long-run equilibrium; deviations from this equilibrium relationship as a result of shocks will be corrected over time. The similarlong-run validity of Fisher's effect was generated by Al Khazali (2003). Moreover, the value of C(1) is comparatively very low for China and Pakistan which highlight that in the long run, the speed of adjustment to equilibrium is very slow i.e. 5.4% and 3.5% of the deviation from the equilibrium is adjusted per month in China and Pakistan respectively.

The variance in the stock market through inflation, interest rate, and industrial production can be explained by R-square. The above results clearly explain that 15.84%, 8.00% and 9.68% variance in stock market returns is accounted by all variable in China, India, and Pakistan respectively and it can also be concluded that no correlation exists in all three models as the value of Durbin Watson (DW) in close to 2 for all three countries.

Lastly, Ganger causality or short-run causality from inflation, interest rate, industrial production to stock market returns was estimated through the Wald Test. In table 5, the results of Granger causality or short run causality with their chi-square values are presented:

Table - 5: Wald Test – Short Run Causality Analysis

	Inflation	Interest Rate	IPI
		PAKISTAN	
Chi Square	0.150	5.946	2.008
p-values	0.698 > 0.05	0.104 > 0.05	0.156 > 0.05
		INDIA	
Chi Square	5.881	8.385	2.678
p-values	0.208> 0.05	0.078> 0.05	0.613> 0.05
		CHINA	
Chi Square	3.709	4.205	7.741
p-values	0.592> 0.05	0.520> 0.05	0.171> 0.05

In table 4, the results of VECM confirm the existence of long-run causality among variables but the results of Wald test in table 5 for all three countries indicates that p-values of all variables are greater than

0.05 which means we fail to reject the null hypothesis and conclude non-existence of short-run causality among variables in all three countries.

Table - 6: Diagnostic Tests for Pakistan, India, and China

	Serial Correlation	heteroscedasticity	Normality
		PAKISTAN	
Obs R-Squared	0.37	12.60	JarqueBera = 289.8
P-values	0.539	0.126	0.000
		INDIA	
Obs R-Squared	4.97	29.17	JarqueBera = 10.84
P-values	0.289	0.084	0.004
		CHINA	
Obs R-Squared	4.71	43.74	JarqueBera = 11.65
P-values	0.451	0.080	0.002

The results of the diagnostic tests in table 6 show that the error term is not normality distributed as the p-value is 0.000 < 0.05 for all three countries. Furthermore, the serial correlation LM test reveals that Obs-R squared value is 4.71, 4.97 and 0.37and p-values are greater than 0.05 for China, India, and Pakistan respectively which means there is no serial correlation in the model. The heteroscedasticity test concluded that data is homoscedastic in all three countries as their p-values are more than 0.05 indicating the acceptance of the null hypothesis of no heteroscedasticity in the residual terms.

Discussion, Conclusion & Recommendations

This study provides an empirical investigation of hedging abilities in contradiction to inflation both types i.e short and long-run inflation with its association and effects on the production of industries and rate of interest on stock market return. For investigation purposes, three Asian countries Pakistan, China and India were selected. In view of Fisher's theorem, the results indicate that stock market return of two countries Pakistan and China providing a hedge against in long-run inflation but for India, stakeholders are safe from inflation long-run effect. However, Short run inflation effects are not covering by the return from the stock market in these countries. Furthermore, the association among increasing interest rate and prices of stock i.e Share prices were showing negative relation because rising interest rates push investors to sell out their investment in stock and capital market with high profit which in the end become results of fall in share prices and the stock market.

This study shows that out of three, China and Pakistan's have inverse association and relationship among return from share market and rate of interest, but India as compare to other two countries standing on opposite side. This proved that these two countries Chinese and Pakistani investors act rationally to invest their investment in stock market. In comparing to previous studies, by Richard A. C. & Donald R. L. (1980) found the similar outcomes from their investigations. Like this, the association among stock market return and industry outcome or production and economic growth would result in the development and growth of the whole economy which produces a positive effect on stock market output. These results for all these trice countries are similar to Yeh and Chi (2009) investigation outcomes.

To investigate stationary element, Unit root method ADF is used to check Co-Integration and found that these three republics are integrated in a similar way and with first changes I(1).This indicates that all these three countries are stationary without unit root. Similarly, by using co-integration of Johansen it is found that long-term equilibrium exists among all these three proxies. Johansen results give 5% values which are significant which shows that there is a minimum one Co-Integration regression or there is one error term which is for these three countries. Hence results indicate that long-run relationship exists among all countries or variables and similarly outcomes of VECM shows that China and another nation Pakistan gives hedges to inflation against market return from stock but in case of India it is reverse. The investigation also found that adjustment speed in all three countries against inflation is extremely slow. Therefore, no association and relationship were found during the empirical investigation between stock market return and its use as a hedge for inflation. As it seems, that investors who invest in these three countries stock markets to get a higher return may face a higher risk.

Similarly, Inflation may produce a negative impact on return from the stock market which in the end effect on corporate sector income and which also raise nominal discount prices in the future. This study suggests that all three countries must make their monetary policy that it is able to handle shocks of inflation, especially in the short run. This study recommended for future investigation to continue research on the topic by using similar proxies, as very rapidly changing in the inflation rate, actual stocks and return from the stock market is occurring. Continuing study would help these three countries to maintain their monetary policy in a way that helps them to save from high inflation effects.

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