Analyzing the Impact of Monetary Policy on the KSE-100 Index in Pakistan

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Abstract

This research aims to examine the influence of monetary policy on the KSE-100 Index, which represents the performance of the Pakistan Stock Exchange. Monetary policy plays a crucial role in shaping economic conditions and investor sentiment, thereby affecting stock market dynamics. The aim of this research paper is to find whether there is a significant direct relationship between monetary policy of Pakistan and KSE-100 index. The research was based on sample of 100 companies our 581 companies listed on Pakistan stock exchange our research data was based on 15 years i-e from 2006-2020. The research gap that this research paper was targeted to encounter was to analysis impact of monetary policy of Pakistan on KSE-100 index on recent data of last fifteen years as research of recent data on such a large sample have ever done before in Pakistan. The research performs Pearson's correlation and simple linear regression analysis, where one independent variable "Monetary Policy" was compared with on dependent variable "KSE-100 index" to find if there is any direct relationship with monetary policy and KSE-100 index. The research is based on secondary data two sites were mainly used, i-e official site of State Bank of Pakistan and Pakistan Stock Exchange. After validating all the assumptions, it was concluded that Monetary Policy of Pakistan has a direct significant relationship with KSE-100 index but with small correlation which means alone monetary policy fails to predict movement in KSE-100 index.

Introduction

Stock market involves selling and buying shares and securities, divided into primary and secondary markets. Primary markets involve government and company-issued shares to channel savings to productive ventures, while secondary markets allow investors to sell their securities to other investors (Aslam, Kalim, & Fizza, 2019). Brokers facilitate trades in Pakistan's secondary markets, including Lahore and Karachi Stock Exchanges. The country has three stock exchanges: Islamabad, Lahore, and Karachi. Stock interactions in the financial system include revenue sharing, corporate development, speculation reserves, and opportunities for small financiers. (Shaikh & Kanasro, 2021).

The Pakistan Stock Exchange (PKSE) was established in 1947 and merged in 1949. Initially, only five companies were listed, with a combined investment of 3 million. The KSE 50 index was formed, and trading was conducted in an open outcry system. Computerized trading introduced in 2002, allowing 1 million daily transactions. In 1970, a second stock exchange was established in Lahore, catering to major cities in Punjab.In 1989, another stock exchange was formed in Islamabad, catering to less developed sectors in northern Pakistan. The market was licensed on 7th January 1992. (Teng, et al, 2022).

The Demutualization Act of 2012 merged the three stock exchanges, forming the Pakistan Stock Exchange on January 11, 2016. The merger was aimed at disintegrating membership rights and trading rights, making the functioning of the stock exchange more efficient and aligned with international standards. The exchanges had a shared structure, creating conflict of interests and threats to investors. As of December 19, 2017, the number of listed companies in PSX was 581, with a market capitalization of Rs 8191 billion. The listing was based on rules and regulations developed by SCEP and PSX, with 35 sectors listed on the exchange. (ksestocks.com, 2017).

In 1991, KSE-100 INDEX introduced a 1000-point base value index with 100 companies categorized by sector image and high free-float market capitalization. Over 80% of the listed companies have free-float market capitalization. Top 35 companies are selected from each sector based on major free-float market capitalization, while 65 companies are chosen based on deteriorating largest free-float market capitalization. (Burki, 2016).

The central bank uses monetary policy to boost the economy by increasing the money supply and lowering interest rates. Expansionary policy increases purchasing power by injecting money into the system, reducing discount rates and reducing interest rates. This policy discourages contractionary phases of the business cycle and is primarily applied during recessions. Contractionary policy, a defense strategy against inflation, involves decreasing the money supply by increasing interest rates. However, this policy can lead to unemployment and a decrease in GDP. (Hassan, Ali, Rahman & Parveen, 2021).

The relationship between monetary policy and the KSE-100 index is crucial in risk management, asset allocation, transmission of monetary policy, and risk diversification. Monetary policy influences stock prices through reserve ratio changes, open-market operations (OMOs), and interest rate variations. The decline in fixed-income securities makes stocks more attractive, leading investors to seek higher yields in equities. This leads to increased demand and prices for stocks. (Siddiqui & Iqbal, 2020).

The relationship between interest rates and money supply is also direct, as change in the money supply affects the interest rates. Therefore, monetary policy has considerable impact on the interest rate, availability of credit and cost. Among financial assets, stock prices are regarded as highly sensitive to economic conditions. Moreover, it is the most closely monitored asset prices (Ullah & Jan, 2020). Monetary policy actions have considerable impact on the stock market valuation. Therefore, the selected research topic "impact of Monetary Policy on KSE index" has an important and practical implication. As the objective of this study is to analyze impact of monetary policy which affects the performance of KSE-100 INDEX index over the period from 2007 to 2021 by taking into account the main monetary policy trends which change frequently. The result of this analysis will help investors to forecast the behavior of stock market. This will also help policy regulators to understand the stock market and its trends so that they can make prudent decisions. On the other hand it will help students to enhance their knowledge and understanding of monetary policy trends.

Objectives of the Study:

- to determine whether there is a direct connection between monetary policy and the KSE 100 index?

- to determine whether there is a negligible correlation between monetary policy and the KSE 100 index?

Hypotheses of the Study (for quantitative research only):

H1 – Monetary policy has a direct relationship with KSE 100 index.

H0- Monetary policy has no relationship with KSE 100 index.

Definition of the Key Terms:

KSE 100: This is the most recognized index of PSX which includes the largest companies on the basis of market capitalization. KSE 100 Index stocks have a representation of all the market sectors of PSX. The Index represents 85% of all the market capitalization of the Exchange. It is calculated using Free Float Market Capitalization methodology (psx.com.pk, 2021).

Monetary Policy: Monetary policy is a set of tools that a nation's central bank has available to promote sustainable economic growth by controlling the overall supply of money that is available to the nation's banks, its consumers, and its businesses (BROCK, 2021).

Delimitations: Due to limited time resources and unavailability of full and proper data, the study will select monetary policy factors and KSE 100 index. The researchers may also take fiscal policy announcements or decisions to test their impact on stock prices.

Review of the Literature

Monetary policy aims to achieve macroeconomic objectives like real output, inflation, and employment. It indirectly affects these variables through changes in the central bank's discount rate. Understanding the connection between monetary policy and financial asset prices is crucial for a better understanding of the transmission mechanism. Stock prices are highly sensitive to economic conditions, making them highly affected by monetary policy actions. (Ahmed, Ali, Raza, & Sibghat, 2019).

The discounted cash flow model suggests that stock prices equal the present value of expected future net cash flows. Monetary policy plays a crucial role in determining equity returns by influencing market participants' expectations and adjusting discount rates. Restrictive policies lead to lower future cash flows and higher discount rates, while expensive environments are associated with increased economic activity, low interest rates, and firm earnings. (Hassan, Jusoh, Khan, Khan, Naseem, & Khan, 2021).

Impact of Monetary Policy on KSE-100 index

The study conducted by (Chang, Meo, Syed, & Abro, 2019) suggests that most of the countries in the periods of tight money experience contemporary declines in the value of stock market. Moreover, changes in monetary policy considerably affect the future stock returns across a number of specifications. It is also found that the stock return decreases under a restrictive monetary policy stance. These changes in the required returns do not oppose market efficiency because central bank generally takes on expensive monetary policy when the concern regarding economic downturn increases. Hence, it is stated that stock market valuation affected as a result of interest rates alteration. Furthermore, price stability is considered as the major goal of monetary policy across different economies in the world. However, during the late 1990s-early 2000, considerable fluctuations in stock prices generated an intense debate about appropriate reactions of monetary policy to stock prices movements. Therefore, the monetary authority is responsible for adjusting policy response to stock price misalignment (Shehzad, Xiaoxing, Kazouz, Balsalobre-Lorente, Zeraibi, & Rauf, 2021).

Low inflation rates in many countries have led to price stability and economic efficiency, but also pose challenges for central banks in achieving macroeconomic stability. Declining short-term nominal interest rates affects monetary policy and reduces interest rates, stimulating the economy and addressing adverse shocks. Monetary policy can effectively change economic agents' work, affecting variables like investment, consumption, and GDP. Federal Reserves have access to tools that affect money quantity and interest rates, but these only impact policy objectives. Monetary policies influence financial markets and equity markets, determining equity returns through future economic planning, market expectations, and discount rate changes.

Numerous studies have explored the relationship between stock returns and money growth rates, finding that current stock returns impact future money growth rates. However, few have found such results. While some argue that money growth is less influenced by stock prices, Rozeff argues that stock returns are not a low variable in financial markets. Current returns are affected by money growth rates, possibly due to other variables. Stock price adjustments may also lead to money growth rates. The "reversed causation with accurate anticipations" model reveals the expected growth of money in the market, and the evaluation of stock returns and future predictions of money growth are directly connected. (Davidson, & Froyen, 2020).

According to Bissoon, et, al. (2016) stock markets and financial markets play a sensitive role in the change of economy. In addition, monetary policy has a significant role in restoring and balancing economy. It is done by Central Banks when they introduce policies that utilize both interest rates and money supply. Through future cash flow the important task of stock valuation is undertaken, this is directly connected with stocks and interest rate that can be found out by checking the general interest rate of the economy. When the expansive period undergoes the interest rate is lower and the stock prices go higher, due to the boost in economic activity. A period of restriction determines low economic activity and high interest rates that result in low stock prices.

The research of Bissoon, et, al. (2018) The 2004-14 study examined monetary policy instruments, stock prices, money supply, and other economic variables. It found that interest rates and money supply rates are crucial for stock returns. Financial investors can analyze these variables to make informed decisions. A financial crisis can occur when stock prices are not affected by the money supply. Additionally, during a crisis, people stop relying on bank rates for investments, affecting countries like Mauritius, Japan, Australia, London, and Trinidad. (Bissoon, et. al, 2016).

Neuhierl, and Weber, (2017) suggested that Stock prices indicate future cash flow and can change based on short-term interest rates. A slope factor can be constructed from changes in Federal Funds future rates, indicating negative stock returns and future increases in federal funds target rates. Predicting stock return data is crucial in economic studies, as it can increase the weekly Sharpe ratio to 20%. Monetary policy is 98 percent talk and only 2% action, with chair and vice-chair contributing to the change in slope factors. Stock markets are directly affected by monetary policy throughout the year, not only during event-stand meetings like FOMC. This research supports the prediction that stock markets are directly affected by monetary policy news and speeches, as well as loose and tight policy under affect.

Expansionary and Contractionary Monetary Policy

The Fed uses expansionary monetary policy to combat a recession gap by increasing money supply and decreasing interest rates. This directly affects borrowing costs and rate of return. This leads to households investing in housing at lower interest rates, while businesses invest in new equipment and plants. Low interest rates increase demand for goods and services, resulting in a higher supply of money in the market. (Dhankhar, 2018).

A contractionary monetary policy is implemented when an inflationary gap arises, causing the Fed to increase interest rates and decrease the money supply. This leads to increased borrowing and saving rates, increasing costs for investment in plant and equipment, as well as financing new homes. The Fed's goal is to reduce the money supply by decreasing the quantity of goods and services. (Deist, 2019).

Another study conducted by Muthama, (2014), The study examined the relationship between stock market returns and monetary policy decisions using variables such as cash reserve requirements, treasury bills rate, money multiplier, and REPO rate. Results showed no significant effect of cash reserve requirements, Repo rate, and Treasury bills on stock prices. However, a negative effect of treasury bills was found, while repo rate and case reserve requirement had a positive effect. The money supplier multiplier significantly influenced stock market returns. External economic factors, such as world oil prices, also affect the stock market. Expansionary monetary policy positively impacts the stock market due to increased money supply, while contractionary policy has the opposite effect. However, stock index responses are negative towards monetary expansion in the long term due to increased money supply, which raises inflation rates and negatively impacts the stock market and economy. (Thanh, et al. 2017).

Interest Rates and KSE 100 index

Alam, & Uddin, (2009) found empirical relationship between stock index and interest rate for fifteen countries, including both the developing and developed countries, such as Canada, Germany, Australia, Mexico, Bangladesh, Italy, Chile, Malaysia, Colombia, Spain, Philippine, Africa, Jamaica, Japan, and Venezuela. The study found that there is a negative connection between share prices and interest rate for entire of the countries. Moreover, the negative relationship of interest rate with changes of share price also found for six countries. Therefore, control on interest rates became more important for these countries to bring more investors in the share market.

Ahmad, Gul, &Saeed, (2010) also confirmed the interest rates have a significant impact on a country's economy, as they reduce money circulation, lower inflation rates, and make borrowing more expensive. This affects businesses and consumers, lowers earnings, increases expenses, and makes the stock market less attractive for investors. Factors such as political stability, government policies, and foreign direct investments also affect stock market capitalization. A study found a positive relationship between interest rate changes and market capitalization, with

lending financial institutions increasing liquidity as KIBOR increases. This liquidity generates returns on deposits and savings, ultimately increasing stock market capitalization. (Ahmad, Gul, & Saeed, 2019).

Hussnain, Zaman, and, Baloch (2019) studied examined the short and long-term relationships between stock markets and interest rate changes using Engel Granger tests. Results confirmed by co-integration and Error-Correction Mechanism. However, the casualty method, proposed by Engel Granger, found no relationship between interest rate and stock prices, making the relationship unavailable in Pakistan markets.

Jawaid & UlHaq (2019) found a short-term relationship between stock prices and interest rates. Similarly, there also exists a significant positive relationship between stock prices with both of the exchange and interest rates. After a casualty analysis, the existence of bidirectional causality also confirmed between exchange rate and stock prices. On the other hand, directional casualty builds a relationship between exchange rate and stock prices. Therefore, it is suggested that the investors can easily invest in the banking sector when there are a high exchange and interest rate. All these results suggest that both exchange and interest rates can be utilized for investment decision in the banking stock sector.

It is found that in order to explain the stock returns properly, it was important to study industrial protection, yield curve, and risk premium. Another researcher Hsing (2018), applied GDP growth rate, government bond yield, exchange rate, domestic inflation rate, the ratio of the money supply, and government deficit to understand the effects on the stock index. He found that each and every aspect had a different effect on stock prices. Osisanwo and Atlanda (2021) found out that factors that affect corporate cash flow and discount rate factors are similar to that effect stock returns. It is also found that bank lending rate; oil prices, corporate detail risk, and retail price index are important factors that help in explaining stock returns.

Maysami et al, (2020) detected Co-integration in the rate of currency exchange, real economic activity, growth rate of money supply, inflation rate, and long-term bond rate and call money rate. Professor Patel undertook a study in 2012, he investigated interest rate, exchange rate, inflation, industrial production, gold and silver price, oil prices, and exchange of industrial production. He confirmed that all these things had a possible effect on stock prices.

Research Methodology

Demographic Distribution of the Sample

Demographic distribution ranks respondents by demographics like the education, family, age, race, family size, and nationality. The demographic segmentation is mostly used by service providers because the service and products that we purchase, the product usage, and willingness to spend is based on this factor. In this study, the demographic distribution was also not applicable due to use of secondary data.

Population, Sample & Sampling Technique

Population is defined as the units or individuals of interest in a study. In general, data is not available for entire individuals in a population. On the other hand, a subset of individuals called a sample in a population and data is available for individuals in samples (Hanlon, & Larget, 2011).Furthermore, in this research, the researcher used non-random sampling approach, which is less expensive, less complicated and can be done at the spur of the moment. Among non-random sampling approach, purposive sampling was used. In purposive sampling, the researcher uses his/her own judgment in terms of selecting more relevant respondents in order to meet the purpose of research study (Ecker, Francis, Olsson, & Schipper, 2015). Therefore, The study analyzes the impact of monetary policy on the KSE 100 index using 100 companies out of 151. The closing index of the Pakistan stock exchange and interest movement are analyzed weekly, tracking share performances and determining the country's expansion or contractionary policy. The sample data is based on Pakistan stock index values from 2006 to 2020, providing adequate points for the research.

Research Design

The researcher employed a descriptive approach in this study, which is a quantitative and structured approach that provides statistically inferable data and measures the significance of results on the population studied. This approach aims to explore and explain information, analyze secondary data, and test research hypotheses, ultimately improving understanding of the subject area. The study also employed inductive and deductive research approaches, with the deductive approach developing a hypothesis based on existing theory and designing a research strategy to test it. Inductive reasoning, on the other hand, does not deal with hypotheses and

provides reasoning from particular to general concepts. The deductive approach aims to explain relationships between variables and concepts, measure concepts quantitatively, and generalize research findings, following the path of logic most closely.

Figure 1

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Conceptual Framework

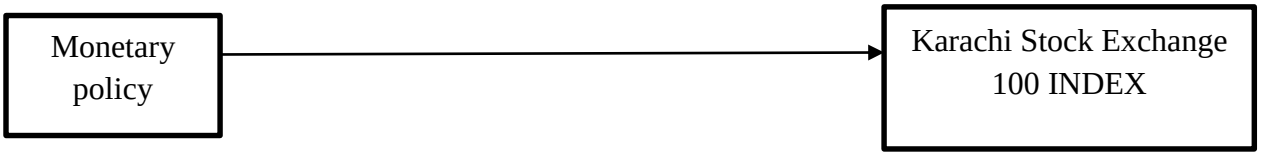
Variables: There are two variables in this study:

Independent variables: Monetary Policy

Dependent variables: KSE-100 index

Figure 2

Conceptual Framework



Data Collection and Analysis

The research used secondary data collection method. It refers to the data already collected by someone other than the researcher itself. Secondary data already published in the journals, books, online portals, magazines, and newspaper (Daas, &Arends-Tóth, 2009). The study used a quantitative research method to analyze stock market data from various reliable sources, including journals, articles, and official websites of the Pakistan Stock Exchange and State Bank of Pakistan. Data analysis involves inspecting and transforming numerical data to discover useful information, support decision-making, and suggest conclusions. The researcher utilized SPSS for regression analysis, descriptive statistics, and co-relation to determine the impact of monetary

policy. A categorical variable was selected to create a new variable, monetary policy. The regression equation for the study was based on the selected variables.

$$\mathbf{Y = \alpha + \beta x}$$

Or,

KSE-100 index=$\boldsymbol{\alpha + \beta}$**(monetary policy)**

Where, monetary policy=0 or 1

Descriptive statistics includes Mean, Median, Mode, Standard Error, Range, Standard Deviation, Sample Variance, Kurtosis, Skewness, Minimum, Maximum, and Sum. "True" Mean and Confidence Interval. Generally, mean is used in the descriptive statistic as it is an informative measure of the variable's central tendency if reported along with its confidence intervals. For the mean, the confidence intervals provide a range of values (Mulrow, 2002). Furthermore, the reliability of mean depends on the sample size. The mean would be less reliable if the variation is larger.

There are two types of correlation, such as constructive or direct correlation and unconstructive or indirect correlation (Heron, 2009). The study used correlation to identify the direction and strength between variables. Correlation coefficient is the summary statistics which describes the strength of association between two variables. It is denoted by r and also called as Pearson's correlation coefficient. 1 denotes a perfect positive correlation and a correlation coefficient is always between 1, while -1 denotes perfect negative correlation which can be any value in between. When an increase in one variable leads to increase in other variable then it is called a positive correlation. On the other hand, a negative correlation shows increase in one variable tends to decrease other variable. The correlation coefficient is simply the average of the products of the standardized variables.

Regression analysis used to identify and analyze relationship between independent and dependent variables. There are multiple factors included in regression, such as Number of observations, R square, Multiple R, Adjusted R square, PValue, Standard Error, significance F, and Coefficient. R Square is the descriptive replica which shows the proportion of variation explained through self-sufficient variables. Coefficient shows the change in the dependent

variable with the change of 1 unit in the independent variables. If significance F is equal or less than 0.05 then it is called significant and it would be insignificant if greater than 0.05.

Finding and Analysis

Result analysis and Discussion

Data Analysis and Interpretation: After gathering the data through, the following tests were done through SPSS software.

Descriptive analysis

Table 1

Statistics

		KSE-CLOSING	Monetary policy
N	Valid	521	521
	Missing	0	0
Mean		11363.3236	.3839
Median		10870.9000	.0000
Std. Deviation		4401.43231	.48680
Skewness		.989	.479
Std. Error of Skewness		.107	.107
Kurtosis		1.095	-1.777
Std. Error of Kurtosis		.214	.214
Range		21105.40	1.00
Minimum		4473.93	.00
Maximum		25579.33	1.00

Pearson Correlation

The Pearson Correlation Coefficient is used to measure that how strongly two variable are related. It estimates the strength as well as the direction of the linear relationship that exist between two variables. The range of the coefficient varies from -1 to 1. "-1" indicates a perfect negative correlation between the two variable while a "+1" shows that the two variables have perfect positive correlation. A coefficient of "0" means there exist no relationship between the two variables, therefore the nearer the coefficient is to zero, the weaker is the relationship between the two variables. The guidelines to interpret the value of the coefficient were proposed by Cohen (1988), as follow:

Table 2

	Coefficient, *r*	
Strength of Association	Positive	Negative
Small	.1 to .3	-0.1 to -0.3
Medium	.3 to .5	-0.3 to -0.5
Large	.5 to 1.0	-0.5 to -1.0

Table No 3
Correlations

		KSE-CLOSING		MONETARY POLICY
KSE CLOSING	Pearson Correlation	1		.292**
	Sig. (2-tailed)			.000
	N	521		521
MONETARY POLICY	Pearson Correlation	.292**		1
	Sig. (2-tailed)	.000		
	N	521		521

**. Correlation is significant at the 0.01 level (2-tailed).

Interpretation

The above SPSS correlation table indicates that the relationship between the two variables is statistically significant because the value of significance is less than 0.05 i.e. 0.000, thus supporting the alternative hypothesis that there is a relationship between KSE CLOSING and MONETARY POLICY.

The Pearson correlation between KES CLOSING and MONETARY POLICY is equal to 0.292, which is near to zero and also according the interpretation given by Cohen, there exist small positive correlation between the two variables. Since the two variables are statistically significant and have a small positive correlation, therefore, if the value of one goes higher the other variable will also move in that direction but it's magnitude will be less.

Simple Linear Regression

Simple Linear Regression is used to predict the value of the dependent variable when there is a single independent variable.

Regression Method

Since there is a one independent and one dependent variable, simple regression method has been used for the analysis.

Table 4
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.292[a]	.085	.083	4214.03865

a. Predictors: (Constant), Dummy_policy

Interpretation

Model Summary is another output of the Linear Regression Analysis. 'R' represents the correlation. In the table its 0.292, showing that small positive correlation exist between independent and dependent variable.

'R-Square' is the square of R and shows the variance between the independent and dependent variable.It indicates proportion of variance in dependent variable that is caused by the independent variable. The value of the R-Square is always between 0% - 100%. The 0% reveals that around its mean, model interprets none of the variability of the response data while 100 percent reveals that around its mean, the model comprehensibly interprets all the variability of the response data. The value of R-Square in the above table is 0.085, indicating that only 8.5% of the variation in the dependent variable i.e. KSE-100 could be explained by the Monetary Policy. The R-Square in our model is positive (.085), and reveals that the model fits our data. Similarly, the table shows significant relationship because the sig value is less than .05.

F Statistics

The F Statistic is used to determine that the dependent variable is predicted significantly well by the regression model.

Table 5
ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	857290136.750	1	857290136.750	48.276	.000[b]
	Residual	9216465170.016	519	17758121.715		
	Total	10073755306.767	520			

a. Dependent Variable: kseCLOSING

b. Predictors: (Constant), monetary policy

Interpretation

The Significance value given the regression row of the table, shows the statistical significance of the regression model and whether it's a good fit for the data for not. As this value is less than 0.05, therefore the regression model is statistically significantly and predicts the outcome variable.

The F statistic is recorded at 48.276 and is highly statistically significant with sig = 0.000. This also shows that there is a direct and positive relationship between dependent and independent variables

Coefficients Table

The coefficient table cam be used to extract the information to predict the value of KSE 100-INDEX from MONETRAY POLICY. It also determines that whether the MONETARY POLICY contributes statistically significantly to the model.

Table 5
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10350.794	235.205		44.008	.000
	MONETARY POLICY	-2637.638	379.621	.292	6.948	.000

The above table reveals the impact of monetary policy on KSE 100- INDEX, that is when there is contractionary policy is imposed then kse100 index returns would fall down on the hand when expansionary policy is imposed then returns of kse100 index will increase to prove that we will use above equation.

KSE-100 index =α + β (monetary policy)

Where,

α=constant

β= constant

Monetary policy=1(contractionary policy), or 0(expansionary policy)

If, government imposes contractionary policy then,

KSE100-index=10350.794+(-2637.638*1)

KSE100-index= 7713.156

And if, x=0 when government imposes expansionary policy then,

KSE100-index=10350.794+ (-2637.638*0)

KSE100-index=10350.794

The above equation proves that when government imposes contractionary policy then returns on KSE100-index will fall. On the other hand if expansionary policy is imposed then returns on KSE-100 index will increase. The above tables also reveal the overall model summary and the ANOVA results for the model estimated using equation. The coefficient for Monetary Policy is recorded at 0.292 respectively which means that for every unit increase in the Monetary Policy, 0.292 unit increase in the KSE Closing can be witnessed. The positive value of beta imply that (a) the corresponding independent variable X is positively correlated with the Y variable, (b) the Y variable, on average, will increase by an amount equal to the beta value for a unit change in X.

T & Sig are the t-statistics & its associated 2-tailed p-values were used in testing whether a given coefficient is significantly different from zero. Using an alpha of 0.05, our analysis shows that the p-value of all the models is 0.000 which is not greater than 0.05. So, we can conclude that the overall our analysis shows a positive relationship and Monetary Policy has a positive impact on the KSE Closing.

Testing the Hypothesis

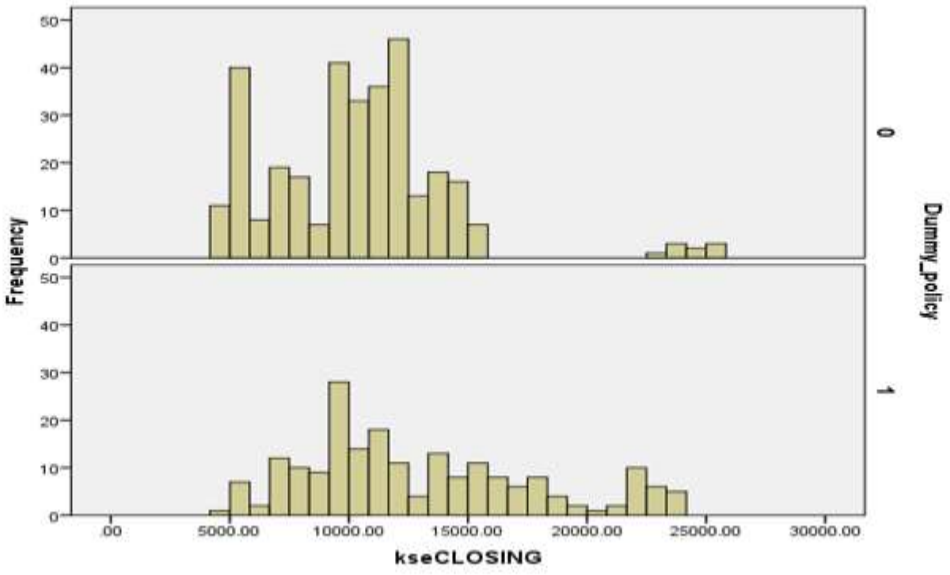
- According to regression model, standardized beta is 29.2 which mean there is small relation between monetary policy and KSE-100 index. The "t" value is significant which is 6.948 and "P" value is significant which is 0.000 which is less than 0.05 and concludes our result as :

  H1 – Monetary policy has a direct relationship with KSE 100 index.

  The reason behind this conclusion is that monetary policy trends are based on interest movements, as the interest rates fluctuates the monetary policy change from expansionary to contractionary and vice versa. Which means when interest rates are high government focus on contractionary policy that is to reduce monetary supply and thus forcing stock returns to lower down. On the other hand when government select's expansionary policy the interest rates decrease thus allowing people to invest more by increasing money supply which as in return indicates investment opportunity and thus investment increases in stock market and KSE-100 index increases. On the concluding note it is quesit evident that our alternative hypothesis is proven that monetary policy has a direct relationship with KSE-100 index.

Histogram:

Figure 2:



Discussion and Conclusion

This research paper aims to determine the significant direct relationship between Pakistan's monetary policy and the KSE-100 index. The study analyzed data from 100 companies and 581 listed on the Pakistan stock exchange between 2003-2017. Monetary policy plays a crucial role in managing the country's money supply pattern, with contractionary and expansionary policies being used to maintain it. Interest trends were used to analyze the government's policy adoption and estimate the impact on the KSE-100 index. The research used Pearson's correlation and simple linear regression analysis, comparing the independent variable "Monetary Policy" with the dependent variable "KSE-100 index." The findings indicate that Pakistan's monetary policy has a direct significant relationship with the KSE-100 index, but with a small correlation, suggesting that monetary policy alone cannot predict the index's movement. This research can benefit equity investors and policy regulators by helping them understand Pakistan's economic dynamics.

Discussion and Conclusion

The research examines the relationship between Pakistan's monetary policy and the KSE-100 index, analyzing data from 100 companies and 581 listed on the stock exchange between 2003-2017. Monetary policy is crucial for managing the country's money supply pattern, with contractionary and expansionary policies employed. Interest trends were used to analyze government policy adoption and estimate the impact on the KSE-100 index. The findings show a direct significant relationship between Pakistan's monetary policy and the KSE-100 index, but a small correlation suggests that monetary policy alone cannot predict the index's movement. This study can benefit equity investors and policy regulators by providing insight into Pakistan's economic dynamics. In conclusion, it can be summed up that stock market is backbone of Pakistan and plays a vital role in uplifting its economy. If stock market works well and efficiently then then economy of Pakistan will prosper and vice versa. In order to justify that stock market performance and trends are based on governmental policies, this research project thus explored that monetary policy has significant impact on the performance of KSE-100 index.

Findings

The SPSS correlation table shows a statistically significant relationship between KSE Closing and Monetary Policy, with a Pearson correlation of 0.292 and a Cohen interpretation of a small positive correlation. This supports the alternative hypothesis that there is a relationship between KSE Closing and Monetary Policy. The regression table shows the variables that have been entered or removed during the linear regression test, with the independent variable being the Monetary Policy.

The R-Square value in the regression table is 0.085, indicating that only 8.5% of the variation in the dependent variable, KSE-100, could be explained by the Monetary Policy. The significance value is less than 0.05, indicating that the regression model is statistically significant and predicts the outcome variable. The F statistic is 48.276, indicating a direct and positive relationship between the dependent and independent variables.

The coefficient table reveals the impact of monetary policy on KSE 100-INDEX. When contractionary policy is imposed, KSE 100 index returns decrease, while when expansionary policy is imposed, returns increase. The overall model summary and ANOVA results show a positive relationship between Monetary Policy and KSE Closing.

The regression model has a standardized beta of 29.2, indicating a small relationship between monetary policy and KSE-100 index. The t-statistics and associated 2-tailed p-values were used to test the significance of the coefficients. The p-value of all models is 0.000, not greater than 0.05, indicating a positive relationship between Monetary Policy and KSE Closing.

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