# THE STRUCTURAL RELATIONSHIP BETWEEN GOLD FUTURE PRICES & DEMONETIZATION: INDIA

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### Abstract

The paper aims to assess the impact of demonetization in India in NOV 2016 on Gold Prices in Multi Commodity Exchange of India Limited. In Contemporary times, globalization and international markets cannot be studied in isolation. The Gold Price as are impacted by several factors, namely monetary policy which can be represented using FED rates, Economic Data is represented by GDP per capita, inflation using CPI, Unemployment rate etc., Currency movements can be studied using foreign exchange market and Supply &Demand of Gold. All these factors can be combined and Economic factors can be summarized using the dataset with 5 variables, namely Dow Jones, USD/INR, SENSEX, FII, DII. The Gold Prices impact the prices of Gold futures contract in the Gold Futures market. This paper aims to study this impact as well. The study uses seven variables namely; Gold Prices, Gold Future Prices, INR/USD exchange rate, Foreign Institutional Investments, Domestic Institutional Investments and consecutive impact on Closing Values of SENSEX and DOW JONES. However, these variables are interdependent and are simultaneously impacted by other factors as well. So, this paper will also assess the causal patterns among the variables rather than just the impact of demonetization on the time series.

**Keywords:** Sensex, demonetization, gold futures, dow jones, foreign institutional investors, domestic institutional investors, usd/inr, mcx, path analysis, structural equation modelling, fit statistic, gold prices.

## Introduction

When a currency is scratched from the status of fiat money, the act is known as Demonetization. Such a currency is often replaced by new currency notes. The act of

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Demonetization has generally been adopted as an inflationary measure, corruption combat measure, anti cash dependency or to improve trade.

The act of demonetization has been announced in the past in several countries like **Nigeria**, **Ghana**, **Pakistan**, **Zimbabwe**, **North Korea etc.** In India, demonetization took place for large currency notes in the year 1946 and in the year 1978. It was last announced in 2016 on 8<sup>th</sup> of Nov. The process of returning the old currency notes continued till 31<sup>st</sup> March, 2017.

The paper aims to evaluate the impact on gold futures prices during this period. For a comparative analysis, the study has been done from Aug'16 to March'17 to understand the pre and post comparison (Veerakumar, 2017).

Demonetization is a tool used to curb black money which pulls down the economy and impacts all its sectors.(Pimputkar, 2016). There are several other benefits of demonetizing currency such as Real estate cleansing, Hawala transactions, Counterfeit currency, Terror financing, Combat Maoism & Kashmir unrest(Veerakumar, 2017). On the contrary, demonetization has few negative impacts on the economy as well. An economy may face the problem of anarchy and the banking system faces currency crunch which adversely impacts the capital market & money market. It involves huge costs on printing new currency (Pattnaik, 2016).

## IMPACT OF DEMONETIZATION ON FUTURE CONTRACTS OF GOLD

Demonetization effects on gold prices were seen immediately after the announcement of demonetization on the 8<sup>th</sup> of November as there was an immediate rush to buy this precious metal which lifted the gold prices to 3-year highs. With investors fearing that the Income Tax department will tighten the noose around the jewellers who are into money laundering using gold as the route, the prices of the precious metals started to witness a downward trend.

The actions that were taken by the IT department have put immense pressure on the gold prices domestically. From rising to more than Rs. 31, 700 for 10 grams on the 9<sup>th</sup> of November, the gold price has dropped to about Rs. 27350 across major markets in India.

The currency notes of 500 & 1000 rupee notes were traded with high volumes of gold. Premiums up to 50 % were paid for 10 grams of gold. Experts say that with the high demand the country has for gold, there might not be an immediate impact, but a long-term impact on the gold prices will certainly be seen. Some of the funds that can be tracked to check the changes in the prices of gold and silver are the shares of Gold Trust Exchange traded Fund & Silver Trust Exchange Traded Funds.

The fall of prices in precious metals has also spurred up the demand and the experts say that this could be temporary and whether it would remain the same in the long term still remains as a question. The retail demand for gold in India was affected due to the cash crunch after the demonetization move. It is also a fact that a number of dealers from the Gold market are charging the premiums that are more than \$12 for one ounce over the official prices. The acceptance of the banned bank notes of 500 and 1000 rupees is said to be the reason behind the same. (www.motilaloswal.com, 2016)

The price of gold future contracts are affected by the gold price fluctuations which in turn would have been affected by demonetisation, this causal effect is empirically studied in this paper.

### LITERATURE REVIEW

The demonetization announcement and implementation has affected various domains of finance and economics. Several researches have been conducted to elaborate on such domains. Sarkar (2010) has mentioned in his paper about the positive impacts of demonetization to solve the problem of parallel economy. He has stated that demonetization is an effective tool to curb the black money and solve the political issues related to it.Jaiswal, (2015) has study the impact of gold price variation in the Indian economy's commodity market. It has studied the impact on price of gold as it is used as a hedge against inflation.Nidhi Aggarwal (2014) in her paper "Do futures markets help in price discovery and risk management for commodities in India?" identifies the price-determination along with hedging the commodity futures during demonetization. There are various researches on demonitization impact on economy like Muthulakshmi (2016). In her paper has identified the positive as well as negative impact of demonetisation as well as its impact on different sectors of economy. She stated that Demonetization has both pros and cons. If it is beneficial as a cleaning-exercise, it causes problems in consumption expenditure for the poor due to liquidity crunch. This dampens the economic growth of the country in short term but it is beneficial in the long term. While Pattnaik (2016) in his paper he has studied the pros and cons of demonetization on economy of India in terms of employment contracts, aggregate demand, inflationary pressure, fiscal deficit. He identified that there was almost a meltdown of 55% in consumption and working population. On the contrary, the growth of the economy spurred which made the overall policy change beneficial for the country. Palanisamy (2016) in his paper" DEMONETIZATION- A COMPARATIVE STUDY " WITH SPECIAL REFERENCE TO INDIA" stated that Historical data clearly state that no country can

efficiently handle this demonetization as it is a **double-edged weapon** to destroy the black economy. Though the intent or a dream of a black money free economy and the cashless transactions even at the lowest level possible is a noble one and a necessary evil, the implications of such initiatives should actually be visibly successful and precise in terms of targeting the roots and branches of the black market and not the harming the innocent general public paying much for the cause of a few black money holders being fixed. Demonetization in India also has a considerable impact in International Financial Markets especially in Asian Markets. While there are studies on impact of demonitization on commodity markets like **Veerakumar (2017)** in his paper "A STUDY ON PEOPLE IMPACT ON DEMONETIZATION" identified Relationship between the Demographic Profile of the Respondents and Impact of Demonetization.

## **Objectives:**

- To evaluate the gold future prices trend pre and post demonetization in India.
- Further, analyse structural relationship using multiple variables to study their impact on gold future prices.
- To calculate the magnitude and significance of set of variables on gold.

## **Data Collection:**

## **Data Assortment**

The paper aims to assess the impact of demonetization in India in NOV 2016 on Gold Prices in Multi Commodity Exchange of India Limited (MCX). In Contemporary times of globalization and international markets, we cannot study this impact in isolation of other factors. The Gold Prices are impacted by several factors, namely monetary policy/Fed which can be represented using FED rates, Economic Data is represented by GDP per capita, inflation using CPI, Unemployment rate etc., Currency movements can be studied using foreign exchange market and Supply & Demand of Gold. All these factors can be combined and Economic factors can be summarized using the dataset with 5 variables, namely Dow Jones, USD/INR, SENSEX, FII, DII. The Gold Prices impact the prices of Gold futures contract in the Gold Futures market. This paper aims to study this impact as well.

The study uses seven variables namely; Gold Prices, Gold Future Prices, INR/USD exchange rate, Foreign Institutional Investments, Domestic Institutional Investments and consecutive impact on Closing Values of SENSEX and DOW JONES. However, these variables are interdependent and are simultaneously impacted by other factors as well. So, this paper will

also assess the causal patterns among the variables rather than just the impact of demonetization on the time series.

## **Gold Prices**

The Prices of Gold were highly affected by Demonetization. The Gold Exchange Traded Funds Prices data has been collected from Multi Commodity Exchange India Commodity Indices. The Prices of Gold Exchange Traded Funds and Physical Gold is the same. So this paper gold market was impacted by the supply and demand of physical gold in the market. The impact on gold prices of demonetization could be seen immediately post the announcement. There was an immediate rush to buy precious metal which spurred the price of gold manifolds. This phenomenon was observed to convert black money into white. Later, the Income Tax Department of India took actions against this act of money laundering which led to the downward trend in the Gold Price. This dataset will help us understand the intensity of the impact.

## **Gold Future Prices**

Gold Prices are impacted by several factors. It is highly consequent to the London OTC spotgold market trading and COMEX gold-futures trading. It thus, refers to the significance of paper gold market onto the gold prices internationally and insignificant relevance of physical gold-market on the same. This happens because physical-gold markets across the globe along with Shanghai Gold Exchange and Multi commodity Exchange accept prices set by papergold markets of London and New York.

In essence, an entity can dump gold futures contracts in COMEX without having to hold any physical-gold. However, these transaction have immediate effect on gold-prices. This cascading effect has real-world impact, since physical gold prices are taken from this international price. We have taken Gold Futures as variable to study the impact on Gold Prices. The data has been collected from MCX India Commodity Indices.

## USD/INR Exchange Rate

Gold is a hedge against volatile economic conditions due to its elastic demand -inelastic supply. Hence, it's considered as a safe-haven by the investors and even central banks.

On the contrary, USD (\$) is accepted as an instrument of global currency-exchange widely. Therefore, most investors and central banks invest in USD. Thus exists a built-in relation among our two variables of the study, USD and gold-prices. There is an inverse relationship between the two.

We have accumulated the data from BSE website. This dataset is taken to study the impact on Gold Prices.

## **SENSEX**

The dynamism of the economy is majorly impacted by the capital market cycle of peak and trough. The fall in stock prices is a warning towards crisis. The USD is high up currency in foreign trade and exchange rate with Rupee and therefore, it becomes imperative to study the impact of BSE (Sensex) and NSE (Nifty) for economic development.

The data has been collected from BSE Website. This dataset is taken to study the impact of SENSEX on USD/INR which impacts the gold prices.

## **DOW JONES**

This index is utilized to track the USD value fluctuations against major currencies. The Dow Jones Industrial Average over 20 years shows positive correlation with USD Exchange of 35 %.Currency holds value when either its supply or demand fluctuates in rest of the world which then appreciates or depreciates the currency. An appreciation in the US dolaar highly impacts the stocks in the American stock market as it is required for buying and selling of shares. The values of American stocks, especially those that are included in market indexes, tend to increase along with the demand for U.S. dollars - in other words, they are positively correlated.

The data has been collected from Market watch of Dow Jones. This dataset is taken to study the impact of DOW JONES on USD/INR which impacts the gold prices.

# FII & DII

Foreign Institutional investors invest via equity-debt which is an important component in the volatility in the stock exchange. Therefore, this variable captures such fluctuations in the SENSEX.

With the demonetization announcement had an influence on the investment behaviour by the FIIs and DIIs. For this paper, we have used the daily FII & DII figures.

# **Research Design:**

We have used secondary data to perform a Correlational Study. The aim is to evaluate the dynamism of the variables with respect to the announcement of demonetization.

# **Ordinary least square regression**

We have first performed Ordinary least square regression. The basic assumption of OLS regression is homogeneous error variance / residual variance. When we violate this assumption, the errors exhibit heteroskedasticity. Effects are not really present concerning the standardized regression coefficients but shows effects on standard errors. It increases the likelihood of committing type 1 or type 2 errors while making inferences about corresponding population parameters. So, to illustrate this process of evaluating errors, we will start off by a running least square-regression.

Table 1: Variables added or subtracted

Mode.1	Variables Added	Variables Subtracted	Methodology
1	DOWJONES, USDINR, DII, FII, GoldfutureP, SENSEX <sup>a</sup>		Enter

Dependent - Variable: GoldP

# Table 2: Model-Summary

Mode.				
1	R	R ^2	Adjusted-R^2	Std. Error
1	.991 <sup>a</sup>	.980	.980	176.26394

a. Predictors- (Constant), DOWJONES, USDINR, DII, FII, GoldfutureP, SENSEX

Mode	2.1	Sum of Squares	Df.	Mean-Square	F	Sig.
1.	Regression	2.988E8	6	4.980E7	1.603E3	.000 <sup>a</sup>
	Residual	5406002.042	174	31068.977		
	Total	3.042E8	180			

**Table 3: ANOVA** 

a. Predictors: (Constant), DOWJONES, USDINR, DII, FII, GoldfutureP, SENSEX

b. Dependent Variable: GoldP

# Table 4: Coefficients

		Unstandardized- Coefficients Coefficients			Significan	
Mode	e.1	В	Std. Error	β	T test	ce
1.	(Constant)	-17140.475	2745.929		-6.242	.000
	GoldfutureP	20.002	.480	.975	41.632	.000

FII	014	.016	014	921	.358
SENSEX	.103	.034	.078	3.007	.003
DII	032	.021	022	-1.504	.134
USDINR	317.742	31.183	.199	10.190	.000
DOWJONES	131	.026	100	-5.004	.000

a. Dependent Variable: GoldP

Inference:

We get R2 value, F-test addressing the significance of R2 value, standardized coefficient values, standard error and t-test values which are basically formed by taking ratio of given un-standardized regression coefficient to its standard error and p values to analyze statistical significance. We can adopt two approaches to evaluate for heteroscadastic errors:

# Visual

To perform visual evaluation we run the OLS again by analyzing un-standardized, standardized residuals and students test which is also helped in analyzing the outliers. But we will focus on heteroscadasticitc errors.

In our data we get the fitted y value (predicted value), un-standardized residuals, standardized residuals and student t-test.

	Min.	Max.	Mean	Std. D.	Ν
Predicted-Value	2.7049E4	3.1812E4	2.9425E4	1288.40253	181
Std. Predicted-Value	-1.845	1.853	.000	1.000	181
Standard-Error of Predicted-Value	19.839	98.446	32.820	11.185	181
Adjusted Predicted Value	2.7050E4	3.1813E4	2.9425E4	1288.25747	181
Residual	-4.56646E2	5.79609E2	.00000	173.30131	181
Std. Residual	-2.591	3.288	.000	.983	181
Stud. Residual	-2.638	3.336	.002	1.003	181
Deleted Residual	-4.73601E2	5.96369E2	.91357	180.52728	181
Residual	-2.685	3.438	.003	1.010	181
Mahal. Distance	1.286	55.154	5.967	7.119	181
Cook's Distance	.000	.144	.006	.014	181

Table 5: R	esiduals-Statistics <sup>a</sup>
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Centered Leverage Value	.007	.306	.033	.040	181
	10				

a. Dependent Variable: GoldP

We would then make a scatter plot of the results. **Figure 1: Scatter Plot** 



We will now check how the residuals are distributed around zero. The errors exhibit greater dispersion in the middle values. The middle values depict the period around demonetization. This depicts some proof of heteroskedasticity.

Therefore, the high value of .982 of R-square or adjusted R squared value cannot be used for the analysis as it is spurious regression. There is existence of heteroskedasticity. Nor can we rely on the value, 176.26394 of the standard error of estimates.

# **UNIT ROOT TEST**

Now, in order to remove the problem of heteroskedasticity, we need to transform the data into logs before we run the hypothesis testing as the data is not normal. Post The removal of heteroscadasticity, we have performed autoregression.

We now start off by running linear regression and using durbin Watson test to assess for autocorrelated errors.

				J	
					Durbin-
Mode.					Watson
1	R	R^2	Adjusted-R^2	Std. Error	Statistic

Table 6: Model-Summary<sup>b</sup>

	1.	.991 <sup>a</sup>	.982	.982	.00598	.815
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a. Predictors: (Constant), LnFII, LnDow\_Jones, LnDII, LnUSD\_INR, LnGoldFuture\_P, LnSENSEXb. Dependent Variable: LnGold\_PDW

The above data shows that values less than 8 shows positive autocorrelated errors and values greater than 8 shows negative auto correlated errors. We need. To determine if this is statistically significant autocorrelation in residual error or not.

To assess significance Test statistics value greater than d then you want to test Null hypothesis against that hypothesis is negative auto correlation or if it less than d then we test significant positive autocorrelation. Table Values LL 1.613 & UL 1.735 (No. of Predictors: 6 & No. of Observations: 181). If DW is <LL, then yes we have significant positive autocorrelation and if it is greater than UL, then there is insignificant autocorrelation. If it falls between, then results are inconclusive.

DW is .815, which is less than LL i.e. 1.613. therefore, there is significant positive autocorrelation.

Series: Unstandardized Residual						
Lag-			-	BoxLjung	Statistic	
Value	Autocorrelation	Std. Error	Value	df	Sig. <sup>b</sup>	
1	520	.074	49.575	1	.000	
2	.066	.074	50.368	2	.000	
3	.042	.074	50.700	3	.000	
4	029	.073	50.856	4	.000	
5	.057	.073	51.466	5	.000	
6	120	.073	54.181	6	.000	
7	.101	.073	56.132	7	.000	
8	096	.072	57.873	8	.000	
9	.051	.072	58.371	9	.000	
10	021	.072	58.453	10	.000	
11	.029	.072	58.613	11	.000	
12	013	.072	58.648	12	.000	
13	.025	.071	58.771	13	.000	
14	.041	.071	59.095	14	.000	
15	151	.071	63.632	15	.000	
16	.173	.071	69.618	16	.000	

# **Table 7: Autocorrelations**

a. The underlying process assumed is independence (white noise).

b. Based on the asymptotic chi-square approximation.





#### Table 8:

# **Partial-Autocorrelations**

Series: Unstandardized-Residual

Lag-		
value	Parual-Autocorrelation	Sta. Error
1	520	.075
2	281	.075
3	090	.075
4	036	.075
5	.061	.075
6	083	.075
7	010	.075
8	094	.075
9	044	.075
10	040	.075
11	.029	.075
12	.012	.075
13	.056	.075
14	.098	.075

1	5	108	.075
1	6	.029	.075





Partial helps in determining the autocorrelation. We have 1 autocorrelation which is significance. This is AR1 Process evident.

We have run the fit statistics to establish the acceptance of our model. The fit index is derived from the Chi^2 Method:

# **Table 9: Fit Statistic**

Fit-Statistic	Value.	Description
Likelihood-ratio		
Chi^2_ms		model vs. saturated
$p > chi^2$		
Chi^2_bs (6)	7.377	baseline vs. saturated
$p > chi^2$	0.000	
Population-error		
R.M.S.E.A.	0.000	Root-meansquared error of approx.
90% ConfidenceInterval, lower-bound	0.000	
Upper-bound		
p-close		Prob. R.M.S.E.A.<= 0.05
Information-criteria		

	A.I.C. B.I.C.	1.626 1.635	Akaike's information-criterion Bayesian informatics-criterion
Baseline-comparison			
	C.F.I.	1.000	Comparativ-fit index
	T.L.I.	.90	TuckerLewis index
Size-of-residuals			
	S.R.M.R.	0.000	Standardized root mean squared residual
	C.D.	0.983	Coefficient of determination

The root mean squared is 0 which represents perfect fit and upper bound als0 does not exceed the given .08 value. The comparative fit index value of "1" represents progress and is thus, acceptable. The tucker Lewis index is not dependent on the sample-size and is .90 which is acceptable. The Akaike's information criterion measure the goodness of fit. The value of AIC is closer to zero and hence, signifies a good model.

We have then tried to get the saturated model. Saturated model is used to find variance, means and covariance. For the model, we have used total of 27 parameters - 6 Means, 6 variances and 15 covariances.

	OIM					
	Coef.	Std. Err.	Z	P >  z	[95% Conf.	interval]
Structural						
dLnGoldFuture_P						
dLnGold_P	0.0454329	0.00107	42.46	0.000	0.0433358	0.0475301
dLnSENSEX	-0.0007049	0.0016331	-0.43	0.666	-0.0039057	0.002496
dLnDow_Jones	0.0017467	0.0013016	1.34	0.180	-0.0008045	0.0042979
dLnUSD_INR	-14.25995	1.505557	-9.46	0.000	-17.21078	-11.30911
dLnFII	0.0006803	0.0007292	0.93	0.351	-0.001	0.0021094
dLnDII	0.0009931	0.0009969	1.00	0.319	-0.010	0.002974
_cons	852.067	127.043	6.71	0.000	603.068	1101.066
mean (dLnGold P)	29425.48	96.36135	305.37	0.000	29236.61	29614.34
mean (dLnSNESEX)	27801.2	73.29798	379.29	0.000	27657.54	27944.86
mean (dLnDow_Iones)	19316.83	73.37347	263.27	0.000	19173.02	19460.64
mean (dL nUSD_INR)	67.098	0.603	1112.09	0.000	66.98	67.21652
mean (dLnFII)	84.606	96.904	0.87	0.383	-105.4798	274.692

# Table 10: Saturated Model

mean (dLnDII)	168.9481	66.72954	2.53	0.011	3816062	299.7356
var (e.dLnGoldFuture_P)						
var(.dLnGold P)	1680677	176668.9			1367754	2065193
var(dLnSENSEX)	972439.4	102220.6			791382.1	1194920
ver(dLnDow, Jones)	974443.4	102431.2			793013	1197383
var(dLnDow_jones)	0.659	0.069			0.536	0.8096554
var(dLnFII)	1702481.0	178960.8			1385498.000	2091985
var(dLnDII)	805962.60	84720.900			655901.400	990355.7
cov	568670.3	104001.2	5.47	0.000	364831.6	772509
(dLnGoldFuture_P,dLnS ENSEX)						
cov (dI.nGoldFuture. P.dI.n	-873389.5	115163.4	-7.58	0.000	-1099106	-647673.3
Dow_Jones)						
cov (dLnGoldFuture PdLn	-393.9355	83.52042	-4.72	0.000	-557.6325	-230.2385
USD_INR)						
cov (dLnGoldFuture PdLnF	179867.80	126440.30	1.42	0.155	-67950.580	427686.2
(ulliforat uture_i ,ullii II)						
cov (dI nGoldFuture P dI n	-186740.60	87615.280	-2.13	0.033	-358463.400	-15017.78
(dElifootal diare_i ,dEli DII)						
cov (dI nSENSEX dI nDow	157388.40	73294.920	2.15	0.032	13733.020	301043.8
Jones)						
COV (dl nSENSEX dl nUSD	-678.637	78.003	-8.70	0.000	-831.521	-525.7537
(dEIISENSEX,dEIIOSD _INR)						
COV (dl nSENSEY dl nEII)	592940.40	105305.10	5.63	0.000	386546.300	799334.5
(ULIISENSEA,ULIIFII) COV	-293275.1	69320.3	-4.23	0.000	-429140.4	-157409.8
(dLnSENSEX,dLnDII)	13 22056	50 6461	0.72	0 460	160 1228	72 67465
(dLnDow_Jones,dLnUS	-45.22930	39.0401	-0.72	0.409	-100.1558	/3.0/403
D_INR)	241075 0	00026.0	2.44	0.001	1460665	525104
cov (dLnDow_Jones,dLnFII)	341075.2	99036.9	3.44	0.001	146966.5	535184
	-136905.8	66652.73	-2.05	0.040	-267542.7	-6268.809
(aLnDow_Jones,dLnDII)						
	-371.647	83.43116	-4.45	0.000	-267542.7	-208.125
(dLnUSD_INR,dLnFII) cov	149.129	55.201	2.70	0.007	-535.169	257.5929
(dLnUSD_INR,dLnDII)			25			

				-628117.7
cov (dLnFII,dLnDII)	-837935.10	107051.00	-7.83 0.000	40.764

## Path Analysis

We have now done the path analysis to estimate the significance and magnitude of the hypothesised–casual connection. Path analysis helps us to determine the path-coefficient. We have shown the diagram to show the impact of Domestic institutional Investments, Foreign Institutional Investments, Gold Futures Prices, USD/INR exchange rate, Dow Jones Index and Sensex on Gold Prices. The diagram also shows casual relationship and impact of Domestic Institutional Investment on Sensex, impact of gold futures on USD/INR and Sensex on USD/INR and Dow Jones.



## Conclusion

The paper aims to assess the impact of demonetization in India in NOV 2016 on Gold Prices in Multi Commodity Exchange of India Limited (MCX). In Contemporary times of globalization and international markets, we cannot study this impact in isolation of other factors. The Gold Prices are impacted by several factors, namely monetary policy/Fed which can be represented using FED rates, Economic Data is represented by GDP per capita, inflation using CPI, Unemployment rate etc., Currency movements can be studied using foreign exchange market and Supply & Demand of Gold. All these factors can be combined and Economic factors can be summarized using the dataset with 5 variables, namely Dow Jones, USD/INR, SENSEX, FII, DII. The Gold Prices impact the prices of Gold futures contract in the Gold Futures market. This paper aims to study this impact as well. The study uses seven variables namely; Gold Prices, Gold Future Prices, INR/USD exchange rate, Foreign Institutional Investments, Domestic Institutional Investments and consecutive impact on Closing Values of SENSEX and DOW JONES. However, these variables are interdependent and are simultaneously impacted by other factors as well. So, this paper will also assess the causal patterns among the variables rather than just the impact of demonetization on the time series.

We have used secondary data to perform a Correlational Study. The aim is to evaluate the dynamism of the variables with respect to the announcement of demonetization. We have first performed Ordinary least square regression. Therefore, the high value of .982 of Rsquare or adjusted R squared value cannot be used for the analysis as it is spurious regression. There is existence of heteroskedasticity. Nor can we rely on the value, 176.26394 of the standard error of estimates. DW is .815, which is less than LL i.e. 1.613. therefore, there is significant positive autocorrelation. The root mean squared is 0 which represents perfect fit and upper bound als0 does not exceed the given .08 value. The comparative fit index value of "1" represents progress and is thus, acceptable. The tucker Lewis index is not dependent on the sample-size and is .90 which is acceptable. The Akaike's information criterion measure the goodness of fit. The value of AIC is closer to zero and hence, signifies a good model. We have shown the diagram to show the impact of Domestic institutional Investments, Foreign Institutional Investments, Gold Futures Prices, USD/INR exchange rate, Dow Jones Index and Sensex on Gold Prices. The diagram also shows causal relationship and impact of Domestic Institutional Investment on Sensex, impact of gold futures on USD/INR and Sensex on USD/INR and Dow Jones.

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