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CONTRIBUTIONS TO BOOKS

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

JOURNAL AND OTHER ARTICLES

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–23

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- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

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- Garg, Bhavet (2011): Towards a New Gas Policy, Political Weekly, Viewed on January 01, 2012 <http://epw.in/user/viewabstract.jsp>

IMPACT OF MONETARY POLICY ON INDIAN STOCK MARKET WITH SPECIAL REFERENCE TO BANKING SECTOR

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ABSTRACT

In relation to the banking sector, the present study has been focused on the impact of monetary policy on the stock market. The research took into account of historical time series data from 2000-2001 to 2018-19. The study examined the relationship between monetary policy and the share capital and banking sector. Historical data from Banks Nifty and the structured monetary policy index were taken into account in the study. The study applied statistical method vector Error Correction Model. The research developed the monetary policy index using the key RBI prices of Repo, Reverse Repo, SLR, M3 and CRR. The Wald test result showed that M3 is primarily a short-term relationship with selected stocks and equity-bank indices, while repo and reverse repo have a long-term relationship with market indices. Accordingly, this study has shown that the key monetary policy rates have a significant relationship to the equity market index, particularly the banking indices. On the basis of many factors, investors in equity markets are making decisions. This present study analyzes the impact of monetary policy on equity markets. The study used the Ordinary Least Square method with the monetary policy key rates on the Bank Nifty indices. Statistics have shown that monetary policy has had a significant positive impact on the nice growth of the bank's index.

KEYWORDS

CRR (cash reserve ratio), SLR (statutory liquidity ratio), NIFTY, bank NIFTY, repo rate, reverse repo rate, bank liquidity.

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1. INTRODUCTION

In its very simplest form, monetary policy is the process by which the monetary authority of a country – mostly a central bank like the RBI – controls the supply of money. It does this by targeting the interest rates at which money is borrowed and lent.

The ultimate target of a monetary policy is to promote economic growth and price stability (or inflation).

A typical monetary policy is referred to as either being “expansionary” or “contractionary”.

In effect, a monetary policy is like a lever in the hands of a central bank, which it pulls up or down to increase or reduce interest rates, which thereby impacts the money supply in an economy.

2. REVIEW OF LITERATURE

Angela J. Black (2002)¹: This study analysis the U.S and Non U.S monetary policy changes on the value and growth returns. The study found that U.S monetary policy affects worldwide stock markets. This study concludes that changes in the monetary policy of the U.S impact the world wide stock market.

Benson Durham J (2004)²: The study investigated the effects of monetary policy on the stock prices and treasure yield from 1978-2002. The study found that changes in the federal rate have affected the treasure yield but not the stock returns. The study concluded that monetary policy has little effect on the asset price.

Don Bredin Stuart Hyde General O Reilly (2005)³: The study concentrates on the influence of the U.K monetary policy on the Returns of the U.K Stock market. The study found that the monetary policy shocks leads to the Negative in terns, if future Returns for a large no of sectors. The study concluded that there is an impact of U.K. monetary policy on the U.K stock price returns.

Christos Ioannidis and alexandros ktonikias (2006)⁴: The study exams the impact of monetary policy on the stock returns in 13 OECD Countries from 1972 - 2002. The study found that the monetary policy has significant effect on the stock return. The study concluded that a change in interest is associate with the asset prices and the tightening monetary policy leads to decrease the expected return on stock.

Akash Joshi (2008)⁵: The study investigates the impact of U.S. and India Monetary policy on the asset prices of India form 2000-2014. The study found that asset prices fluctuated due to the unconventional policy actions, and also it was found that Spillover effect has reduce due to the favorable conditions in Indian economy. The study concluded that U.S monetary policy have impact asset price in India, due to the unconventional monetary policy.

Saibal Ghosh (2009)⁶: The study concentrates on the impact of monetary policy on the output of the Industry from 1981-2004. The study found that Industries output differently due to the monetary policy tightening. The study concluded that the there is an impact of monetary policy on industry value according to their size of the industry, intensity of the working capital use, financial accelerator and interest rate mechanism.

Francis Oghenerukev we Aziza (2010)⁷: The study concentrates on the effect of monetary policy on stock market performance of cross –countries. The study was found that the monetary policy was affect the different stock market and different countries and different period, and also it found the change in the money supply is the main cause for the change in the stock market performance. The study concludes that credit was the main source of variation.

Ioannis Chatziantoniou, David Duffy and George Filis (2011)⁸: The study investigates the impact of both monetary policy and fiscal policy on stock market performance of the Germany, UK and the USA. The study found that both the fiscal and monetary policy will impact on the stock market performance. The study concluded that both fiscal and monetary policy have a significant contribution to analyze the stock behaviour.

Vivek Sharma (2012)⁹: The study focused on the 3 important factors that influence the Indian stock market. The study found that monetary policy; Inflation and policy announcement by government is positively related to the stock market. The study concluded that the stock market performance positively due to the monetary policy, inflation and policy announcement.

Khan Md Saidjaba, Md Sakhawat Hossain Md Habibou Rahman (2013)¹⁰: The study was focused on the impact of monetary policy on the stock prices of the Bangladesh from 1991-2012. The study found that there is long run relationship exist between 91 days Treasury bill rates to the stock market and also exchange and stock market is not significant the study concluded that there is an impact of monetary policy on the Bangladesh stock market.

Ime T. Akpan Queensley Chukwudum (2014)¹¹: The study concentrates on the impact of interest rates on Nigerian stock market (i.e., ASI all share index) from 1986-2011. The study found that interest change of Nigeria central bank not significant to the stock prices. The study concluded that interest rate does not have an impact on the Nigeria all share index.

Rudra sensarma, Indranil bhatta charyya (2015)¹²: The study focused on the monetary policy affect on the bond market in India. The study found that monetary policy has an impact among macro-economic variables. The study concluded that change in the corporate bond market due to the impact of monetary policy.

Clem Nwakoby Alajekwu Udo ka Bernard (2016)¹³: The study investigates the effect of monetary policy on Nigeria stock market performance and it found that there is a long run relationship between monetary policy and Nigeria stock market from 1986-2013. The study concluded that there is a monetary policy impact on the stock market performance.

Alina Kviet kauskiene and modestas plakys (2017)¹⁴: The study concentrates on to know the impact of stock market returns due to the indicators. The study found that Money Supply, Exchange Rate, short and long run interest rates effect the stock prices in positively and negatively. The study concluded that there is impact of indicators for stock market returns.

Taral Pathak (2018)¹⁵: The study focused on the RBI manager asset prices in the event of Bubble. The study was carried form 2004-2013 of BSE variable. The study found that global capital flows and BSE turnover have causality between them with 2 moths of lag, the repo rate and the returns with a 3 months' lag. The studies conclude that there is a link between the global capital flows and stock market and monetary policy in India.

3. STATEMENT OF PROBLEMS

The monetary policy strategy of a Central bank depends on a number of factors that are unique to the country and the context.

It is well recognized that monetary policy is conducted within a particular framework. The relationship among different segments of the equity market and banking sector is also involved in this framework. The change of key monetary policy key rates the banks will change their lending and deposit rates.

These are some items of significance for further research in the realm of monetary policy in India and it overall impact on the equity market with special emphasis on the banking sector will be examined. The present study is made an attempt to understand the economic change influence on the equity market and its reaction on the banking sector.

4. NEED OF THE STUDY

The study is mainly emphasized on how stock market is related to monetary policy rates and how monetary policy is influencing stock market prices that too how banking sector will react with the monetary policy.

5. OBJECTIVES OF THE STUDY

1. To study the relationship off monetary policy key rates with the stocks in banking sector.
2. To study the Impact of Monetary Policy on banking sector benchmark.
3. To study the monetary policy impact on the volatility of banking sector benchmark
4. To suggests the measures to protect adverse impact off monetary policy on equity markets.

6. HYPOTHESIS OF THE STUDY

1st Hypothesis

H0: There is no Relationship of monetary policy key rates with the select stocks in banking sector.

H1: There is a Relationship of monetary policy key rates with the select stocks in banking sector.

2nd Hypothesis

H0: There is no Impact of monetary policy key rates on the select stocks in banking sector

H1: There is an Impact of monetary policy key rates on the select stocks in banking sector

3rd Hypothesis

H0: There is no impact of monetary policy on the returns volatility of select stocks in banking sector.

H1: There is an impact of monetary policy on the returns volatility of select stocks in banking sector.

7. RESEARCH AND METHODOLOGY

PERIOD OF STUDY

The period of the study will be 19 years i.e., 2000-01 to 2018-19. The equity market reacts for every news but bi-monthly policy i.e., monetary policy plays the vital role not only shaping the banking sector but also will have the Indian economy, which is generally reflected by the equity market base indices. The present study will consider the monetary policy key rate along with the equity market bench marks to examine the impact of the market.

SOURCE OF DATA

The study is secondary data. Secondary data were collected from various companies ' annual reports of the study. Further information was gathered from the newsletter of CMIE Prowess (Indian Economy Monitoring Centre), RBI (Reserve Bank of India), and annual Industry Survey, Company Reports, journals and research publications.

STATISTICAL TOOLS

Different accounting and statistical tools were used to analyze the study. Following techniques were used:

Vector Error Correction Model: The VECM has been applied to know the relationship between the independent variable and dependent variable. The study has considered monetary policy key rates relationship with the equity market banking index. The VECM will identify the long run or short run relationship off the independent variables with the dependent variable.

Granger Causality Test: The granger causality test has been applied to know the unif-directional or bi-directional influence between the variables. In the present study RBI monetary policy key rates influence direction on the select banking stocks has been examined.

ARCH Model: The present study examined the volatility of the banking sector with the help of Auto Regressive Conditional Heteroskedasticity test. The monetary policy key rates influence on the banking indices and select banking stocks volatility has been examined by considering the historical time series data with the ARCH test.

8. DATA ANALYSIS

RELATIONSHIP OF MONETARY POLICY KEY RATES AND BANK NIFTY

VAR LAG ORDER SELECTION CRITERIA REGARDING MONETARY POLICY KEY RATES AND BANK NIFTY

TABLE 1.1

VAR Lag Order Selection Criteria						
Endogenous variables : BANK _NIFTY						
Exogenous variables : C REPO _RATE i REVERSE _REPO _RATE i CRR SLR M3						
Sample : 1 216						
Included observations : 207						
Lag	Log	PLR	FFPE	ZAIC	FSC	LHQ
0	-2013.254	NA	17397505	19.50970	19.60630	19.54876
1	-1875.009	267.1399	4619557.	18.18366	18.29636*	18.22924*
2	-1874.949	0.114338	4661787.	18.19275	18.32155	18.24483
3	-1874.471	0.914596	4685431.	18.19779	18.34269	18.25639
4	-1872.716	3.340492*	4651470.*	18.19050*	18.35150	18.25560
5	-1871.979	1.397130	4663386.	18.19303	18.37013	18.26465
6	-1870.831	2.161225	4656902.	18.19161	18.38481	18.26974
7	-1868.364	4.624798	4591508.	18.17743	18.38673	18.26207
8	-1867.833	0.989518	4612567.	18.18197	18.40737	18.27312
* indicates lag order elected by the criterion						
LR : sequential modified LR test statistic (each test at i5 % level i)						
FPE : Final prediction error						
AIC :Akaike information criterion						
SC : Schwarz information criterion						
HQ :Hannan - Quinn information criterion						

Source: Secondary Data

The above table depicts the VAR lag order selection criteria of the monetary policy key rates. The result reveals that the LR test statistics, FPE and AIC prove to be significant at 5 percent level at Lag 4, whereas SC and HQ represents the Lag 1. As the study considers the maximum criterions, the further analysis of VECM will be carry on under the Lag 4 order selection criterion.

Vector Error Correction Estimates Regarding Monetary Policy Key Rates and Bank Nifty

TABLE 1.2

Vector Error Correction Estimates						
Sample (adjusted): 6 216						
Included observations: 205 after adjustments						
Standard errors in() & t - statistics in ii []						
Co integrating Eq:	CoInt Eq 1					
BANK _NIFTY (-1)	1.000000					
REPO _RATE (-1)	1412.544					
	(861.442)					
	[1.63974]					
REVERSE _REPO _RATE (-1)	-1722.054					
	(891.875)					
	[-1.93082]					
CRR (-1)	-2116.452					
	(364.513)					
	[-5.80624]					
SLR (-1)	3138.262					
	(456.469)					
	[6.87509]					
M3 (-1)	-0.424476					
	(0.15489)					
	[-2.74047]					
C	-69417.27					
Error Correction :	D (PBANK _NIFTY)	D (ZREPO _RATE)	D (LREVERSE _PREPO _RATE)	D (CRR)	D (SLR)	D (M3)
CoInt Eq i1	-0.032623	-4.914506	1.941205	5.601105	-2.047805	0.048067
	(0.05661)	(9.24606)	(8.97406)	(1.24605)	(1.11605)	(0.01799)
	[-0.57633]	[-0.53409]	[2.16560]	[4.71245]	[-1.80341]	[2.67222]
D (BANK _NIFTY (-1))	0.510067	2.061205	-4.751005	-4.891605	-8.101206	-0.071185
	(0.11249)	(1.81505)	(1.81105)	(2.41405)	(2.21005)	(0.03575)
	[4.53426]	[1.12826]	[-2.67272]	[-2.06996]	[-0.36062]	[-1.99134]
D (BANK _NIFTY (-i2))	0.504718	-9.255606	-4.664405	-9.501605	-5.796905	-0.031777
	(0.10860)	(1.84505)	(1.71105)	(2.31705)	(2.21805)	(0.03451)
	[4.64751]	[-0.52464]	[-2.71662]	[-4.16959]	[-2.66777]	[-0.92079]
D (BANK _NIFTY (-3))	-0.308882	1.961005	7.081905	-4.565905	2.333605	-0.073098
	(0.10637)	(1.74605)	(1.71605)	(2.23605)	(2.12205)	(0.03380)
	[-2.90379]	[1.13504]	[4.20991]	[-2.04181]	[1.09498]	[-2.16252]
D (BANK _NIFTY (-4))	0.326387	-1.519505	-3.847805	-4.761005	-7.503305	-0.080694
	(0.10698)	(1.76505)	(1.71905)	(2.21305)	(2.11605)	(0.03399)
	[3.05099]	[-0.86980]	[-2.27442]	[-2.11983]	[-3.51174]	[-2.37372]
D (REPO _RATE (-1))	-1746.804	-0.101064	0.189419	0.473301	0.001961	-4.448750

	(487.349)	(0.07913)	(0.07701)	(0.10226)	(0.09734)	(154.868)
	[-3.58430]	[-1.27724]	[2.45980]	[4.62841]	[0.02015]	[-0.02873]
D (REPO_ RATE (-2))	-2391.446	0.091926	0.510324	0.515806	0.192628	26.44949
	(523.428)	(0.08498)	(0.08271)	(0.10983)	(0.10455)	(166.333)
	[-4.56882]	[1.08169]	[6.17028]	[4.69639]	[1.84248]	[0.15902]
D (REPO_ RATE (-3))	1981.773	-0.007831	-0.169578	-0.253438	-0.529553	15.12500
	(553.912)	(0.08993)	(0.08752)	(0.11623)	(0.11064)	(176.020)
	[3.57778]	[-0.08707]	[-1.93752]	[-2.18054]	[-4.78641]	[0.08593]
D (REPO_ RATE (-4))	-1589.950	-0.150660	0.009902	-0.173408	-0.023518	44.83926
	(582.037)	(0.09450)	(0.09197)	(0.12213)	(0.11625)	(184.957)
	[-2.73170]	[-1.59429]	[0.10767]	[-1.41988]	[-0.20230]	[0.24243]
D (REVERSE_ REPO_ RATE (-1))	2927.354	0.344050	-0.273476	-0.505871	0.100404	32.94920
	(574.355)	(0.09325)	(0.09075)	(0.12052)	(0.11472)	(182.516)
	[5.09677]	[3.68944]	[-3.01339]	[-4.19754]	[0.87521]	[0.18053]
D (REVERSE_ REPO_ ii RATE (-2))	3006.758	0.027766	-0.326455	-0.433495	-0.188728	111.3105
	(651.800)	(0.10583)	(0.10299)	(0.13677)	(0.13019)	(207.126)
	[4.61301]	[0.26237]	[-3.16975]	[-3.16960]	[-1.44965]	[0.53740]
D (REVERSE_ REPO_ RATE (-3))	-1827.100	0.107264	0.204450	0.218821	0.285041	-208.1288
	(659.856)	(0.10713)	(0.10426)	(0.13846)	(0.13180)	(209.686)
	[-2.76894]	[1.00121]	[1.96089]	[1.58043]	[2.16272]	[-0.99257]
Di (REVERSE_ REPO_ RATE (-4))	1502.106	0.185977	0.078524	0.000119	0.047705	-94.16356
	(644.892)	(0.10470)	(0.10190)	(0.13532)	(0.12881)	(204.931)
	[2.32924]	[1.77621]	[0.77061]	[0.00088]	[0.37036]	[-0.45949]
D (CRR (-1))	-55.30026	0.251936	-0.073234	-0.020152	0.069607	1.805245
	(331.268)	(0.05378)	(0.05234)	(0.06951)	(0.06617)	(105.269)
	[-0.16693]	[4.68414]	[-1.39909]	[-0.28992]	[1.05199]	[0.01715]
D (CRR (-2))	529.2338	0.146767	0.026335	-0.314623	-0.038845	-28.83439
	(350.046)	(0.05683)	(0.05531)	(0.07345)	(0.06992)	(111.236)
	[1.51190]	[2.58240]	[0.47614]	[-4.28351]	[-0.55559]	[-0.25922]
D (CRR (-3))	-1486.881	0.196134	0.323999	0.248711	0.287105	-1.208721
	(355.496)	(0.05772)	(0.05617)	(0.07459)	(0.07101)	(112.968)
	[-4.18256]	[3.39812]	[5.76801]	[3.33423]	[4.04341]	[-0.01070]
D (CR (-4))	463.9010	-0.199515	-0.066726	-0.077948	-0.034890	-89.34437
	(387.251)	(0.06287)	(0.06119)	(0.08126)	(0.07735)	(123.059)
	[1.19794]	[-3.17325]	[-1.09048]	[-0.95929]	[-0.45107]	[-0.72603]
D (SLR (-1))	773.2077	-0.126189	0.140311	0.158010	0.070275	-167.0598
	(463.816)	(0.07531)	(0.07329)	(0.09732)	(0.09264)	(147.389)
	[1.66706]	[-1.67569]	[1.91454]	[1.62358]	[0.75857]	[-1.13346]
D (SLR (-2))	1882.061	-0.077889	-0.007535	-0.081987	-0.191820	-9.172867
	(483.240)	(0.07846)	(0.07636)	(0.10140)	(0.09652)	(153.562)
	[3.89467]	[-0.99273]	[-0.09868]	[-0.80857]	[-1.98734]	[-0.05973]
D (SLR (-3))	980.7425	0.014710	-0.144431	-0.210911	-0.155776	-118.4959
	(337.085)	(0.05473)	(0.05326)	(0.07073)	(0.06733)	(107.117)
	[2.90948]	[0.26878]	[-2.71168]	[-2.98191]	[-2.31368]	[-1.10623]
D (SLR (-4))	-396.1402	0.013082	0.000748	-0.021987	0.026609	-58.25838
	(269.745)	(0.04380)	(0.04262)	(0.05660)	(0.05388)	(85.7185)
	[-1.46857]	[0.29871]	[0.01754]	[-0.38846]	[0.49388]	[-0.67965]
D (M3 (-1))	-0.057515	-1.024605	-1.371206	-3.194906	-1.601705	0.550508
	(0.22933)	(3.73305)	(3.63205)	(4.82005)	(4.61605)	(0.07288)
	[-0.25079]	[-0.27517]	[-0.03792]	[-0.06621]	[-0.34998]	[7.55404]
D (iM3 (-2))	-0.035238	2.941606	1.811205	3.296305	2.343305	-0.359949
	(0.26264)	(4.31105)	(4.11305)	(5.57805)	(5.25805)	(0.08346)
	[-0.13417]	[0.06905]	[0.43617]	[0.59782]	[0.44675]	[-4.31282]
D (M3 (-3))	0.042641	-3.304606	7.273506	-1.394605	-4.482105	0.054521
	(0.26241)	(4.34705)	(4.19605)	(5.51105)	(5.23205)	(0.08339)
	[0.16250]	[-0.07738]	[0.17531]	[-0.25322]	[-0.85538]	[0.65383]
D (M3 (-4))	-0.079962	-7.417806	-4.339805	3.734905	-5.044505	-0.122341
	(0.22953)	(3.71255)	(3.64505)	(4.83105)	(4.61605)	(0.07294)
	[-0.34837]	[-0.19888]	[-1.19395]	[0.77523]	[-1.09915]	[-1.67729]
C	49.01075	-0.006461	-0.000596	-0.011201	-0.001394	65.78330
	(102.584)	(0.01666)	(0.01621)	(0.02153)	(0.02049)	(32.5986)
	[0.47776]	[-0.38790]	[-0.03676]	[-0.52038]	[-0.06805]	[2.01798]
R -squared	0.668988	0.396977	0.625640	0.634562	0.527534	0.328972
Adj. R_---squared	0.622757	0.312756	0.573355	0.583523	0.461548	0.235252
Sum resides	3.304808	8.688716	8.229287	14.51194	13.14957	33284039
S.E. equation	1356.972	0.220319	0.214415	0.284732	0.271037	431.2126
F -statistic	14.47065	4.713520	11.96598	12.43291	7.994541	3.510188
Log likelihood	-1755.648	33.11854	38.68694	-19.45845	-9.353784	-1520.634
Akaike AIC	17.38193	-0.069449	-0.123775	0.443497	0.344915	15.08911
Schwarz SC	17.80339	0.352006	0.297680	0.864952	0.766370	15.51057
Mean dependent	-7.176075	-0.013415	-0.007024	-0.001220	-0.003415	88.81175
S.D. dependent	2209.330	0.265764	0.328263	0.441205	0.369365	493.0971

Determinant resid covariance(dof adj.)	1837514.			
Determinant resid covariance	814377.3			
Log likelihood	-3140.338			
Akaike information criterion	32.21793			
Schwarz criterion	34.84392			
Number of ii coefficients	162			

Source: Secondary Data

The table considers the analysis of VECM, which inculcates its coefficient value, t-statistics and standard error to know the existence relationship of monetary policies key rates with bank nifty in banking sector for the period of 18 years i.e. 2001-02 to 2018-19. The result indicates that the coefficients are significant at 5 percent level and Repo Rate has shown negative relationship for lag 2 and 4 but positive relationship for lag 1 and 3. Reverse Repo Rate and Statutory Liquidity Ratio identifies the negative relationship in three lags i.e. 1, 2, 4 but in lag 3, it identifies the positive relationship with bank nifty. Whereas Cash Reserve Ratio and M3 (Money Supply/Liquidity) has consider the relationship negatively with bank nifty in banking sector. Further, it concluded that adjusted R squared is above the 0.60 that states the model is strongly fit for the analysis.

The following is the Lag 4 equation considers to know the long run or short run relationship between monetary policies key rates and bank nifty by applying Wald test.

$$D(\text{BANK_NIFTY}) = C(1)*(\text{BANK_NIFTY}(-1) + 1412.54422847*\text{REPO_RATE}(-1) - 1722.05354604*\text{REVERSE_REPO_RATE}(-1) - 2116.45190617*\text{CRR}(-1) + 3138.26240208*\text{SLR}(-1) - 0.424476022669*\text{M3}(-1) - 69417.2657634) + C(2)*D(\text{BANK_NIFTY}(-1)) + C(3)*D(\text{REPO_RATE}(-1)) + C(4)*D(\text{REVERSE_REPO_RATE}(-1)) + C(5)*D(\text{CRR}(-1)) + C(6)*D(\text{SLR}(-1)) + C(7)*D(\text{M3}(-1)) + C(8)*D(\text{BANK_NIFTY}(-2)) + C(9)*D(\text{REPO_RATE}(-2)) + C(10)*D(\text{REVERSE_REPO_RATE}(-2)) + C(11)*D(\text{CRR}(-2)) + C(12)*D(\text{SLR}(-2)) + C(13)*D(\text{M3}(-2)) + C(14)*D(\text{BANK_NIFTY}(-3)) + C(15)*D(\text{REPO_RATE}(-3)) + C(16)*D(\text{REVERSE_REPO_RATE}(-3)) + C(17)*D(\text{CRR}(-3)) + C(18)*D(\text{SLR}(-3)) + C(19)*D(\text{M3}(-3)) + C(20)*D(\text{BANK_NIFTY}(-4)) + C(21)*D(\text{REPO_RATE}(-4)) + C(22)*D(\text{REVERSE_REPO_RATE}(-4)) + C(23)*D(\text{CRR}(-4)) + C(24)*D(\text{SLR}(-4)) + C(25)*D(\text{M3}(-4)) + C(26)$$

H0: There is no long run relationship between Repo Rate and Bank Nifty

H1: There is a long run relationship between Repo Rate and Bank Nifty

Wald Test Regarding Repo Rate and Bank Nifty

TABLE 1.3

Wald Test			
System : % system			
Test Statistic	Value	df	Probability
Chi -square	76.04307	5	0.0000
Null Hypothesis : C (1)=C (3)=C (9)=C (15)=C (21) = 0			
Null Hypothesis Summary :			
Normalized Restriction (= 0)	Value	Std. Err.	
C (1)	-0.038659	0.056202	
C (3i)	-1715.386	485.9513	
C (9i)	-2381.533	523.0981	
C (15)	1990.379	553.6013	
C (21)	-1591.036	581.7923	
Restrictions are linear in coefficients.			

Source: Secondary Data

The table depicts the Long run or Short run relationship between Repo Rate and bank nifty in banking sector. The Wald test results indicates that the chi square value (76.043) is greater than critical value (11.070) and the probability value observed to be significant at 5 percent level i.e. H0 is rejected and H1 is accepted. Hence it is concluded that there is a long run relationship between Repo Rate and bank nifty.

H0: There is no long run relationship between Reverse Repo Rate and Bank Nifty

H1: There is a long run relationship between Reverse Repo Rate and Bank Nifty

Wald Test Regarding Reverse Repo Rate and Bank Nifty

TABLE 1.4

Wald Test :			
System : % system			
Test Statistic	Value	df	Probability
Chi -square	48.28154	5	0.0000
Null Hypothesis: C(1)=C(4)=C(10)=C(16)=C(22)=0			
Null Hypothesis Summary :			
Normalized Restriction (=i0)	Value	Std. Err.	
C(1)	-0.038659	0.056202	
C(4)	2954.333	573.3680	
C(10)	-59.72422	331.0947	
C(16)	-1734.559	651.8973	
C(22)	1535.987	643.5731	
Restrictions are linear in coefficients.			

Source: Secondary Data

The Wald test performed to check whether Reverse Repo Rate has long run relationship or short run relationship with bank nifty in banking sector. Results show that probability value proven significant at 5Zpercent level that indicates the rejection of H0 and acceptance of H1. Under the equation C(1)=C(4)=C(10)=C(16)=C(22)=0, represents that chi square value (48.281) is greater than the critical value (11.070) concluding that long run relationship exists between Reverse Repo Rate and Bank Nifty.

H0: There is no long run relationship between Cash Reserve Ratio and Bank Nifty

H1: There is a long run relationship between Cash Reserve Ratio and Bank Nifty

Wald Test Regarding Cash Reserve Ratio and Bank Nifty

TABLE 1.5

Wald Test :			
System : % system			
Test Statistic	Value	df	Probability
Chi -square	25.42499	5	0.0001
Null Hypothesis: $C(1)=C(5)=C(11)=C(17)=C(23)=0$			
Null Hypothesis Summary i:			
Normalized Restriction (=i0)	Value	Std. Err.	
C(1)	-0.038659	0.056202	
C(5)	-59.72422	331.0947	
C(11)	525.2429	349.8727	
C(17)	-1501.739	354.9812	
C(23)	450.2996	386.8071	
Restrictions are linear in coefficients.			

Source: Secondary Data

The above table examines the Wald test to know the existence of long run or short run relationship between Cash Reserve Ratio and Bank Nifty. The probability value is less than the 0.05 indicates the 5 percent significance level and the chi square value of CRR (25.424) is greater than the critical value (11.070) which signifies the existence of long run relationship among CRR and bank nifty. Hence concluded that the H0 rejected and H1 accepted.

H0: There is no long run relationship between Statutory Liquidity Ratio and Bank Nifty

H1: There is a long run relationship between Statutory Liquidity Ratio and Bank Nifty

Wald Test Regarding Statutory Liquidity Ratio and Bank Nifty

TABLE 1.6

Wald Test :			
System : % system			
Test Statistic	Value	df	Probability
Chi -square	44.46123	5	0.0000
Null Hypothesis: $C(1)=C(6)=C(12)=C(18)=C(24)=0$			
Null Hypothesis Summary :			
Normalized Restriction (=i0)	Value	Std. Err	
C(1)	-0.038659	0.056202	
C(6)	795.2674	463.0035	
C(12)	1863.895	482.6352	
C(18)	991.5490	336.7395	
C(24)	-383.9249	269.3065	
Restrictions are linear in coefficients.			

Source: Secondary Data

The Wald test has applied to check whether Statutory Liquidity Ratio has long run relationship or short run relationship with bank nifty in banking sector. Results show that probability value proven significant at 5 percent level that indicates the rejection of H0 and acceptance of H1. Under the equation $C(1)=C(6)=C(12)=C(18)=C(24)=0$, represents that chi square value (44.461) is greater than the critical value (11.070) concluding that long run relationship exists between Statutory Liquidity Ratio and Bank Nifty in banking sector.

H0: There is no long run relationship between M3 (Money Supply/Liquidity) and Bank Nifty

H1: There is a long run relationship between M3 (Money Supply/Liquidity) and Bank Nifty

Wald Test iRegardingM3 (Money Supply/Liquidity) and Bank Nifty

TABLE 1.7

Wald Test			
System : % system			
Test Statistic	Value	df	Probability
Chi -square	0.702787	5	0.9828
Null Hypothesis: $C(1)=C(7)=C(13)=C(19)=C(25)=0$			
Null Hypothesis Summary :			
Normalized Restriction (= 0)	Value	Std. Err.	
C(1)	-0.038659	0.056202	
C(7)	-0.062093	0.229182	
C(13)	-0.034345	0.262527	
C(19)	0.034694	0.262156	
C(25)	-0.079928	0.229436	
Restrictions are linear in coefficients.			

Source: Secondary Data

The table outlines the Long run or Short run relationship between M3 (Money Supply) and bank nifty in banking sector. The Wald test results indicates that the chi square value (0.7027) is less than critical value (11.070) and the probability value observed to be insignificant at 5 percent level i.e. H0 is accepted and H1 is rejected derived through its equation of $C(1)=C(7)=C(13)=C(19)=C(25)=0$. Hence it is concluded that there is a short run relationship between M3 (Money Supply) and bank nifty.

TABLE 1.8

Pair wise Granger Causality Tests			
Sample:2001 2018			
Lags: 2			
Null Hypothesis	Obs	F-Statistic	Prob.
REPO_RATE does not Granger Cause BANK_NIFTY	16	6.75288	0.0038
BANK_NIFTY does not Granger Cause REPO_RATE		0.51097	0.6135
REVERSE_REPO_RATE does not Granger Cause BANK_NIFTY	16	5.44190	0.0037
BANK_NIFTY does not Granger Cause REVERSE_REPO_RATE		0.94336	0.4187
CRR does not Granger Cause BANK_NIFTY	16	5.91149	0.0003
BANK_NIFTY does not Granger Cause CRR		2.10397	0.1684
SLR does not Granger Cause BANK_NIFTY	16	5.83433	0.0019
BANK_NIFTY does not Granger Cause SLR		1.33297	0.3031
M3 does not Granger Cause BANK_NIFTY	16	8.06715	0.0070
BANK_NIFTY does not Granger Cause M3		5.30403	0.0244

Source: Secondary Data

Table illustrate the Grange cause between Monetary policy key rates to Bank Nifty, here monetary policy key rates includes Repo, Reverse Repo rate, Cash Reserve Ratio, Statutory Liquid Ratio. The result includes that f-statistic value is observed for Repo to Bank Nifty greater than Critical value (6.75288 >) which signify the Repo rate granger cause Bank Nifty. Similarly, Reverse repo rate to Bank nifty and CRR to Bank nifty f-statistic value are observed to be critical value and p-value for these seems to be statistically significant and stated that Reverse repo rate and CRR has Granger cause to Bank Nifty. Statutory Liquidity Ratio to bank Nifty and Money supply (M3) to Bank nifty had rejects the null hypothesis. Hence it is concluded that Monetary Policy key rates Grange cause to Bank nifty.

H0: ARCH model does not exist between Repo Rate with Bank Nifty.

H1: ARCH model do exist between Repo Rate with Bank Nifty

Heteroskedasticity Test of Repo Rate Vs. Bank Nifty

TABLE 1.9

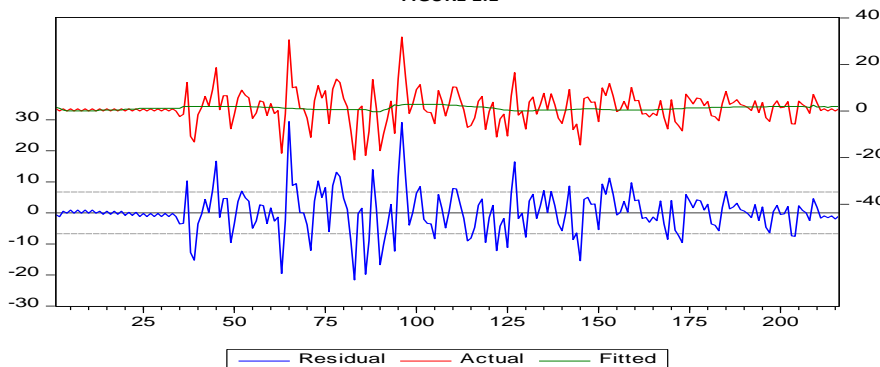
Heteroskedasticity Test: AR(1)			
pF-statistic	4.504549	Prob. F(1, 1216)	0.0083
Obl s*R-squared	0.508083	Prob. Chi-Square(p1)	0.0060

Source: Secondary data

Heteroskedasticity test illustrated the ARCH model exist between Repo Rate and the Bank nifty. The result indicates that the f-statistical calculated value is observed to be higher than the critical value (4.504549>3.9201), and the chi-square probability value appears to be statistically significant (i.e., < 0.05) which signifies rejection H0 and accepts H1.Hence it is concluded that ARCH model can be applied to know the volatility effect.

Residual Graph of Repo Rate Vs. Bank Nifty

FIGURE 1.1



Source: Secondary data

The above graph depicts the influence of Repo Rate and the volatility of Bank Nifty. As the graph movement in the above figure cross the fitted lines at different level which means the existence of volatility, as the one cluster volatility is followed with respect to the other cluster volatility. Hence it is concluded that ARCH model can be applied for the identification of Repo rate on Bank Nifty volatility.

Impact of Repo Rate on the Volatility of Bank Nifty

TABLE 1.10

Dependent Variable: BANK_NIFTY				
Method: ML ARCH - Normal distribution(BFGS) Marquardt steps) j				
LOG (GARCH) j =C (3) + C(4)*ABS(RESID(-1)/@ SQRT(GARCH(-1))) +j C(j5)				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	6.488728	2.939873	2.207146	0.0273
REPO_RATE	-0.755655	0.408570	-1.849512	0.0044
Variance Equation				
C	30.21813	2.166427	13.94837	0.0000
RESID(-1)^2	0.424392	0.111421	3.808889	0.0001
R-squared	0.520989	Mean dependent var		1.426902
AdjustedRpsquaredp	0.016414	S. D. dependent varp		6.778500
Sl.Ep.ofregressionp	6.722639	Akaikeinfolcriterionpl		6.612654
Sumlsquardresidl	9671.489	Schwarz criterion		6.675160
Log likelihood	-710.1667	Hanlnan -Quinnrcriter. P		6.637907
Durbin-Wats on statl	1.484087			

Source: Secondary Data

The table depicts the Volatility impact of Repo rate on Bank Nifty. The coefficient value from variance equation is -0.755655, which is observed to be negatively influenced on Bank Nifty. Where, p-value is seems to be significant and R-square is moderately fit (0.5209). Hence, concluded that volatility impact of Repo rate on bank Nifty.

H0: ARCH model does not exist between Reverse Repo Rate with Bank Nifty.

H1: ARCH model do exist between Reverse Repo Rate with Bank Nifty.

Heteroskedasticity Test of Reverse Repo Rate vs. Bank Nifty

TABLE 1.11

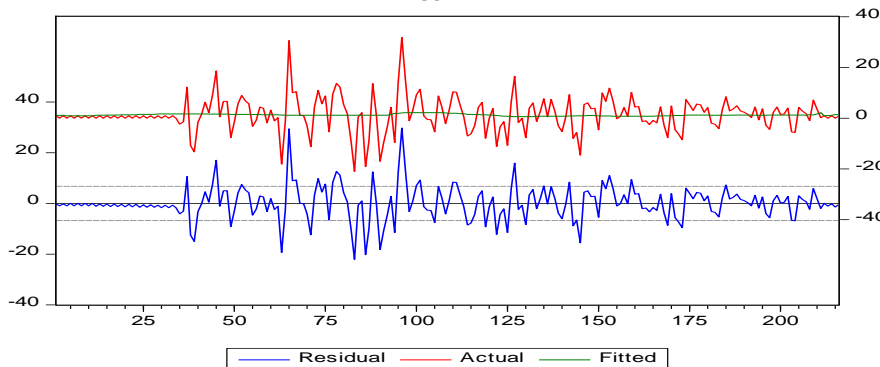
Heteroskedasticity bTest: ARCHj			
pF-statistic	4.344541	Prob. F(1, 12116) I	0.0578
Obbl s*RI-squaredpi	0.347215	Prob. Chi-Square(p1)	0.0557

Source: Secondary data

Heteroskedasticity test illustrated the ARCH model exist between Reverse Repo rate and the Bank nifty. The result indicates that the f-statistical calculated value is observed to be higher than the critical value (4.344541>3.9201), and the chi-square probability value appears to be statistically significant (i.e., < 0.05) which signifies rejection H0 and accepts H1. Hence it is concluded that ARCH model can be applied to know the volatility effect.

Residual Graph of Reverse Repo Rate vs. Bank Nifty

FIGURE 1.2



Source: Secondary data

The above graph depicts the influence of Reverse Repo Rate and the volatility of Bank Nifty. As the graph movement in the above figure cross the fitted lines at different level which means the existence of volatility, as the one cluster volatility is followed with respect to the other cluster volatility. Hence it is concluded that ARCH model can be applied for the identification of Reverse repo rate on Bank Nifty volatility.

Impact of M3 – Reverse Repo Rate on the Volatility of Bank Nifty

TABLE 1.12

Dependent Variable: BANK_NIFTY				
Method: MLARCHj -Normal distribution (BFGS / Mjarquajrdjt steps)				
LOG (GARCH) j = C (3) + C(4)*ABS(RESID(-1)/@ SQRT(GARCH(-1j))) +j C(j5)				
Variable	Coefficient	Std. Error	z-Statistic	Prob. I
C	3.350527	2.891540	1.158735	0.0466
Reverse Repo Rate	-0.366778	0.492939	-0.744063	0.0568
Variance Equation				
C	31.61419	2.126672	14.86557	0.0000
RESID(-1)^2	0.374983	0.097636	3.840619	0.0001
IR-squaredp	0.310331	Mean dependent varp		1.426902
Adjusted Rpsquaredp	0.005707	S. D.dependentp varp		6.778500
Sl.Ep.ofpregressionp	6.759131	Akaike inpfolcriterionp		6.623837
Sumlpsquaredlresidl	9776.772	Schwarzcritperionpl		6.686342
Log likelihood	-711.3744	Hanlnanl-Quilnnp criteri. P		6.649089
Durlbiln-pWatsonst at	1.466312			

Source: Secondary data

The table depicts the Volatility impact of Reverse Repo rate on Bank Nifty. The coefficient value from variance equation is 0.3749, which is observed to be negatively influenced on Bank Nifty. Where, p-value is seems to be significant and R-square is slightly fit (0.3103). Hence, concluded that volatility impact of Reverse Repo rate on Bank Nifty.

H0: ARCH model does not exist between Cash Reserve Ratio with Bank Nifty.

H0: ARCH model do exist between Cash Reserve Ratio with Bank Nifty.

Heteroskedasticity Test of CRR vs. Bank Nifty

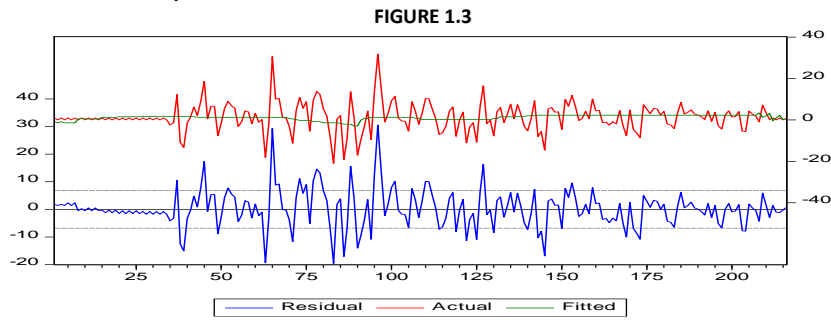
TABLE 1.13

Heteroskedasticityj Test: ARCHj			
pF-statistic	5.666685	Prob. F(1,213)	0.0151
Ob s*RI-squaredpi	0.670845	Prob. Chi-Square(1)	0.0128

Source: Secondary data

Heteroskedasticity test illustrated the ARCH model exist between Cash Reserve Ratio and the Bank nifty. The result indicates that the f-statistical calculated value is observed to be higher than the critical value (5.666685>3.9201), and the chi-square probability value appears to be statistically significant (i.e., < 0.05) which signifies rejection H0 and accepts H1. Hence it is concluded that ARCH model can be applied to know the volatility effect.

Residual Graph of Cash Reserve Ratio vs. Bank Nifty



Source: Secondary data

The above graph depicts the influence of CRR and the volatility of Bank Nifty. As the graph movement in the above figure cross the fitted lines at different level which means the existence of volatility, as the one cluster volatility is followed with respect to the other cluster volatility. Hence it is concluded that ARCH model can be applied for the identification of Cash Reserve Ratio on Bank Nifty volatility.

Impact of CRR on the Volatility of Bank Nifty

TABLE 1.14

Dependent Variable: BANK_NIFTY				
Method: ML ARCHj – Normal distribution (BFGS / Mjarquajrdjt steps) j				
LOG (GARCH) j = C (3) + C(4)*ABS(RESID(-1)/@ SQRT(GARCH(-1j))) + j C(j5)				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	6.528138	1.337438	4.881078	0.0000
CRR	-0.055097	0.226602	-4.656166	0.0000
Variance Equation				
C	24.28775	2.232564	10.87886	0.0000
RESID(-1)^2	0.685282	0.163029	4.203446	0.0000
R-squared	0.601881	Mean dependent varp		1.426902
Adjusted R-squared	-0.002783	S. D.dependentp varp		6.778500
Sl. Ep. Of regression	6.787924	Akaike in folp criterion		6.589471
Suml squaredlresid	9860.246	Schwarz criterion		6.651976
Log likelihood	-707.6629	Hanlnanl-Quilnnpcriiter.		6.614723
Durbin-Watsonstatl	1.460049			

Source: Secondary data

The table depicts the Volatility impact of Cash Reserve ratio on Bank Nifty. The coefficient value of CRR is found to be -0.055097, which is observed to be positively influenced on Bank Nifty. Where, p-value is seems to be significant and R-square is strongly fit (0.6018). Hence, concluded that volatility impact of Cash Reserve ratio on Bank Nifty.

H0: ARCH model does not exist between Statutory Liquidity Ratio with Bank Nifty.

H0: ARCH model do exist between Statutory Liquidity Ratio with Bank Nifty.

Heteroskedasticity Test of p SLR vs. Bank Nifty

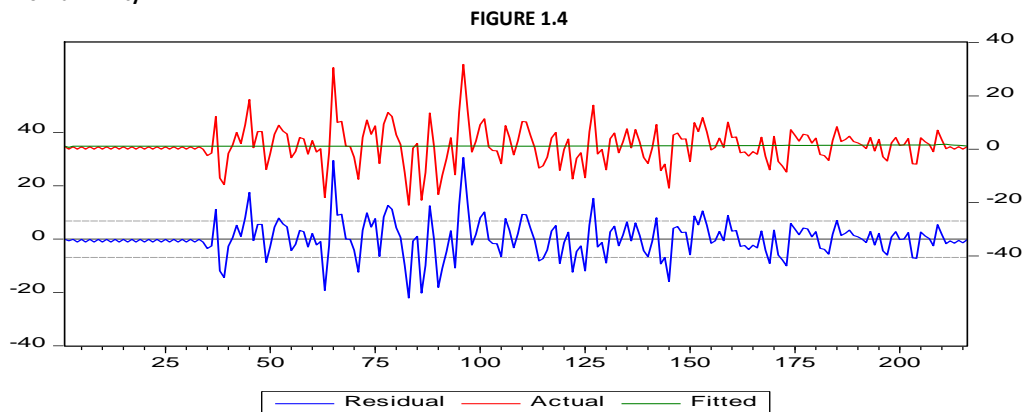
TABLE 1.15

Heteroskedasticityj Test: jARCHj			
pF-statistic	4.314358	Prob. F(1, 21 6)	0.0056
Ob s*RI-squaredpi	0.316842	Probl. Chi-Square(p1)	0.0035

Source: Secondary data

Heteroskedasticity test illustrated the ARCH model exist between Statutory Liquidity Ratio and the Bank nifty. The result indicates that the f-statistical calculated value is observed to be higher than the critical value (4.314358>3.9201), and the chi-square probability value appears to be statistically significant (i.e., < 0.05) which signifies rejection H0 and accepts H1. Hence it is concluded that ARCH model can be applied to know the volatility effect.

Residual Graph of SLR vs. Bank Nifty



Source: Secondary data

The above graph depicts the influence of SLR and the volatility of Bank Nifty. As the graph movement in the above figure cross the fitted lines at different level which means the existence of volatility, as the one cluster volatility is followed with respect to the other cluster volatility. Hence it is concluded that ARCH model can be applied for the identification of Statutory Liquidity Ratio on Bank Nifty volatility.

Impact of SLR on the Volatility of Bank Nifty

TABLE 1.16

Dependent Variable: BANK_NIFTY				
Method: ML ARCHj – Normal distribution (BFGS /Marquardt steps) j				
LOG (GARCH) j = C (3) + C(4)*ABS(RESID(-1)/@SQRT(GARCH(-1j))) +j C(j5)				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	3.378673	7.295511	0.463117	0.0433
SLR	-0.090344	0.299297	-0.301854	0.0028
Variance Equation				
C	31.14792	2.083828	14.94745	0.0000
RESID(-1)^2	0.399055	0.101273	3.940402	0.0001
IR- psquaredp	-0.201153	pMeanpldependentp varp		1.426902
Adjusted Rp-squaredp	-0.005831	S.D.dependent varp		6.778500
Sl.Ep.oflp regression	6.798234	Akailke info lcrriterionpl		6.626069
Sum squared resid	9890.222	Schwarz criterion		6.688574
Log likelihood	-711.6154	Hanlnanl-Quilnncriterl. P		6.651321
Durbiln-Watsonstatl	1.448614			

Source: Secondary data

The table depicts the Volatility impact of SLR on Bank Nifty. The coefficient value of SLR -0.090344, which is observed to be negatively influenced on Bank Nifty, Where, p-value is seems to be significant and R-square is slightly fit (-0.2011). Hence, concluded that volatility impact of SLR on Bank Nifty.

H0: ARCH model does not exist between M3 - Liquidity with Bank Nifty.

H0: ARCH model do exist between M3 - Liquidity with Bank Nifty.

Heteroskedasticity Test of xM3 Liquidity vs. Bank Nifty

TABLE 1.17

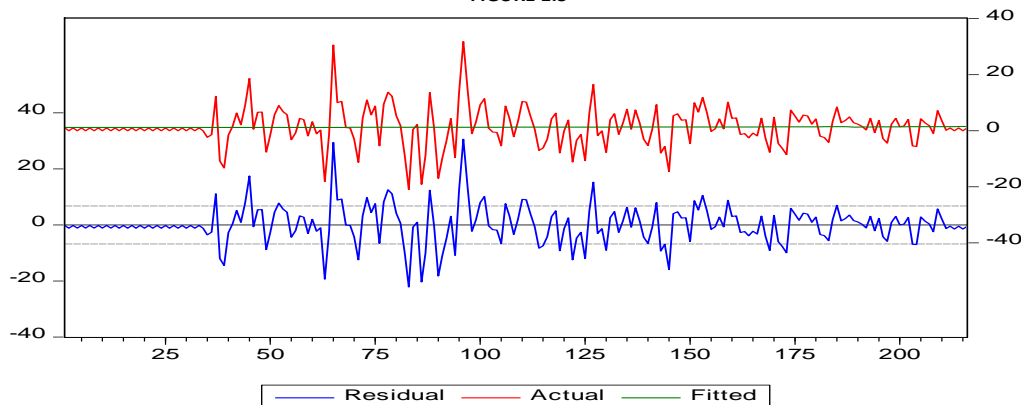
Heteroskedasticityj Test: jARCjHj			
pF-statistic	6.313270	Probl. Fl (1, l21l6) l	0.0063
Obs*RI-squaredpi	0.315747	Probl. Chi-l Square(p1)	0.0042

Source: Secondary data

Heteroskedasticity test illustrated the ARCH model exist between M3 - Liquidity and the Bank Nifty. The result indicates that the f-statistical calculated value is observed to be higher than the critical value (6.313270>3.9201), and the chi-square probability value appears to be statistically significant (i.e., < 0.05) which signifies rejection H0 and accepts H1. Hence it is concluded that ARCH model can be applied to know the volatility effect.

Residual Graph of xM3 - Liquidity vs. Bank Nifty

FIGURE 1.5



Source: Secondary data

The above graph depicts the influence of M3 - Liquidity and the volatility of Bank Nifty. As the graph movement in the above figure cross the fitted lines at different level which means the existence of volatility, as the one cluster volatility is followed with respect to the other cluster volatility. Hence it is concluded that ARCH mode can be applied for the identification of M3 - Liquidity on Bank Nifty volatility.

Impact of wM3 – Liquidity on the Volatility of Bank Nifty

TABLE 1.18

Dependent Variable: BANK_NIFTY				
Method j:ML ARCHj - Normal distribution (BFGS / Marquardt steps) j				
LOG (GARCH) j = C (3) + C(4)*ABS(RESID(-1)/@ SQRT(GARCH(-1j))) +j C(j5)				
Variable	pCoefficientp	Std. Error	z-Statistic	Prob.
C	0.110545	0.841568	1.319614	0.0070
M3	0.395605	0.000105	0.171144	0.0041
Variance Equation				
C	31.26820	2.150595	14.53933	0.0000
RESID(-1)^2	0.394522	0.100162	3.938834	0.0001
IR-pmsquaredp	0.200951	Meanpdependentp varp		1.426902
Adjusted Rp-psquaredp	0.005628	S.D. dependent varp		6.778500
Sl. Ep. Of regression	6.797549	Akailke linpfolpcriterionpl		6.626725
Sumlsquaredl resid	9888.229	pSchwarzp criterion		6.689230
Log likelihood	711.6863	Hanlnanl-Quilnnp criterl. P		6.651977
Durbiln-Watsonstatl	1.449742			

Source: Secondary data

The table depicts the Volatility impact of M3 - Liquidity on Bank Nifty. The coefficient value of M3 – Liquidity found to be 0.395605, which is observed to be positively influenced on Bank Nifty, Where, p-value is seems to be significant and R-square is slightly fit (0.200951). Hence, concluded that volatility impact of M3 - Liquidity on Bank Nifty.

FINDINGS

1. The Wald test result showed that M3 is primarily a short-term relationship with selected stocks and equity-bank indices, while repo and reverse repo have a long-term relationship with market indices.
2. The study find that the monetary policy key rates have the Grange cause with Bank Nifty, here monetary policy key rates includes Repo, Reverse Repo rate, Cash Reserve Ratio, Statutory Liquid Ratio.
3. The study estimated that monetary policy key rates had significant ARCH effect with Bank nifty and found that change in Money supply (M3) had shown significant positive influence on the volatility of bank nifty.
4. Repo and Reserve repo rate changes had shown adverse volatility effect on bank nifty which indicates that change in these key rates will have negative effect on the return performance of bank nifty.

SUGGESTIONS

1. The monetary policy key rates having the significant impact on the bank Index. The study recommends to the investors to be cautious for the short term with the changes of all the four key rates through the monetary policy.
2. The study suggests that for the Credit worthiness of the banking sector, a rule-based monetary policy is needed for the uniform interest rates and smooth functioning of the banking sector.
3. Reserve bank of India will announce the monetary policy bi-monthly but sometimes un-time monetary policy will be announced. Investors are advised to be cautious with untimed monetary policy changes.
4. The study observed that the CRR, SLR and M3 are having the mostly positive impact on the market volatility. Hence the study suggests the investor to consider the changes of key rates (CRR, SLR and M3) to take the advantage of higher positive volatility among the banking sector.

CONCLUSION

The study examined the impact of monetary policy on stock market with reference to banking sector. The study has considered the historical time series data from the period of 2000-01 to 2018-19. The study has considered the Bank Nifty as the benchmark for the equity market, from NSE India. The in this study based on the research gap with the help of secondary data by applying the various statistical methods three objectives have been examined.

The study has been focused on the relationship of monetary policy with the equity market bank nifty. The study has considered the historical time series data of monetary policy key rates and bank nifty and framed the monetary policy index. The study applied the statistical method of vector error correction model. The study had designed the monetary policy index with the help of RBI key rates of Repo, Reverse Repo, SLR, M3 and CRR. The wald test result stated that the M3 is having mostly shaving the short term relationship with the equity banking indices, The repo and reverse repo are having the long run relationship with the banking indices and SLR, CRR are having mostly short term relationship with the stocks. Hence the study proved that the monetary policy key rates are having the significant relationship with the equity market bench mark especially banking indices.

The equity market investors' investment decision making depends on many factors. The present study analyzing the impact of monetary policy on the equity markets including the banking index. The statistical result stated that the monetary policy is having the significant positive impact on the growth of the bank nifty index. The study result stated that the monetary policy key rates are having the positive impact on the banking indices. The study has been emphasized on the impact of monetary policy on the select banking sector stocks volatility. The study has considered the time series data and applied the statistical method of ARCH family model. The study result stated that the RBI monetary policy key rates are having the impact on the volatility of Bank nifty. The study observed that on the announcement day of RBI bi-monthly policy bank nifty volatility will be higher than any other index volatility. Therefore, it is evident that the short term equity investors and intraday traders are taking the advantage of the markets fluctuations.

LIMITATIONS

1. The present study has not considered the economic factors impact on the banking sector equity market indices.
2. The study has considered the various statistical tools on the average values of the selected key rates. The study result may be differing with the actual.

FURTHER RESEARCH

1. Present study is confined to banking sector of the equity markets. Hence the study suggests expanding the impact of monetary policy on the various other sectors of NSE India.
2. The study recommends examining the effect of US fed rate change impact on the Indian Equity markets.

REFERENCES

1. **Angela J. Black (2002)**, The U.S and Non U.S Monetary Policy Changes On the Value and Growth Returns, International Journal of Management, Volume 4 Issue 7
2. **Benson Durham.J (2004)**, Does Monetary Policy Affect Stock Prices and Treasury Yields? An Error Correction and Simultaneous Equation Approach, <https://pdfs.semanticscholar.org/7559/36e0798aad013e5a7a7e5e70ddefb6206f02.pdf>
3. **Don Bredin Stuart Hyde General O Reilly (2005)**,UK Stock Returns & the Impact of Domestic Monetary Policy Shocks, www.ucd.ie/t4cms/wp0604.pdf
4. **Christos Ioannidis & Alexandros Kontonikas, (2006)** "Monetary Policy and the Stock Market: Some International evidence," Working Papers 2006_12, Business School - Economics, University of Glasgow.
5. **Akash Joshi (2008)**, Effects of Monetary Policies On Asset Prices in India, IOSR Journal of Economics and Finance (IOSR-JEF) e-ISSN: 2321-5933, p-ISSN: 2321-5925. PP 01-06 www.iosrjournals.org
6. **Ghosh, Saibal (2009)**: Industry Effects of Monetary Policy: Evidence from India. Published in: Indian Economic Rev, Vol. 44, No. 1 (January 2009): pp. 89-105.
7. **Francis Oghenerukev we Aziza (2010)**, Article in SSRN Electronic Journal • December 2010.
8. **Ioannis Chatziantoniou David Duffy George Filis (2011)**, Stock Market Response to Monetary and Fiscal Policy Shocks: Multi Country Evidence, eprints.bournemouth.ac.uk/20575/1/Economic%20Modelling_GF.pdf
9. **Vivek Sharma (2012)**, Three critical economic factors that influence the Indian stock market, <https://www.moneylife.in/article/three-critical-economic-factors-that-influence-the-indian-stock-market/28695.html>
10. **Khan Md Saidjaba,Md Sakhawat Hossain Md Habibou Rahman (2013)**, Effects of monetary policy on capital market in Bangladesh, Monthly Review, December 2012, Vol. 27, No.12, Dhaka Stock Exchange, Monetary Policy Review, October 2005, Vol. 1, No. 1, Bangladesh Bank.
11. **Ime T. Akpan, Queensley Chukwudum (2014)**, Impact of Interest Rates on Stock Prices: An Analysis of the All Share Index, International Journal of Finance and Accounting, Vol. 3 No. 2, 2014, pp. 96-101. doi: 10.5923/j.ijfa.20140302.06.
12. **Rudra sensarma,Indranil bhatta charyya (2015)**, The impact of monetary policy on corporate bonds in India, Journal of Policy Modeling 38(3) • March 2016 with 166 Reads,DOI: 10.1016/j.jpolmod.2016.03.004
13. **Clem Nwakoby, Alajekwu Udoka Bernard, PhD.** Student, Effect of Monetary Policy on Nigerian Stock Market Performance Article Date Published: 19 September 2016.
14. **Alina Kviet kauskiene and modestas plakys (2017)** impact indicators for stock markets return, poslovna izvrsnost zagreb, god. Xi (2017) br. 2
15. **Taral Salil Pathak (2018)** thesis titled "Asset Price Bubbles and their Implications on Monetary Policy" Amrut Mody School of Management, Ahmedabad University, Ahmedabad.

PRODUCER'S GAIN IN CONSUMER RUPEE: A CASE STUDY OF TRIBAL CASH CROP

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ABSTRACT

Turmeric (Curcuma Longa), the wonder herb is cultivated by the tribals of Kandhamal District of Odisha, India since ages. It is viewed as a way of life than a mode of Business. But the tribal farmers are gradually losing interest due to decreasing level of income. They are exploited by the middle men to the extent that "seeds are sold before they are sown", as there is no extension service that is provided by the state government. The present study is undertaken to find out the impact of different independent variables in explaining the DV i.e price received by the ultimate cultivators. The survey was carried out in Kandhamal District. Information were collected from 200 turmeric growers by questionnaire method and the sampling technique used for the study was multistage area sampling. Information collected were analysed by Multiple Regression. It is found that 76 % of variability in the Dependent variable is accounted for by all of the Independent variables taken together.

KEYWORDS

turmeric, tribals, kandhamal, multiple Regression.

JEL CODES

M19, Q11, Q13, R41, R51.

INTRODUCTION

Indian turmeric (*Curcuma Longa*), the golden wonder herb, "the queen of spices." has been known to the world since ancient time among the spices. Major turmeric growing states in India are Andhra Pradesh, Tamil Nadu, Karnataka and Odisha. In Odisha, Kandhamal contributes a significant amount as it supplies more than 50% of the turmeric produced in Odisha (Naresh Babu, P.C.Tripathy, Manoranjan Prusty, 2015).

Turmeric produced by farmers is now called "Kandhamal Haldi" after the product acquired Geographical Indication (GI) tag on 1st April 2019. At a time when the State Government has got (GI) tag for Kandhamal turmeric, the decreasing number of farmers have reduced its production. Even as Kandhamal turmeric is still in high demand in market not only in the State but also Internationally, the tribal-dominated Kandhamal district is slowly losing its tag, owing to several problems of the farmers including lack of market linkage and compensation, shortage of manpower, exploitation by the middlemen and natural disasters. A study conducted in Kandhamal District with a special emphasis on three blocks Daringbadi, Raikia and K. Nuagaon revealed that gain of producer is maximum if they sell it through Big Traders- Processors- Retailers and they also optimise sells if they have access to International market (Prangya Paramita sahu, K.K Sarangi, 2018). But matter of fact is Local Wholesaler & KASAM agency are contributing 54.28 percent sales in Daringbadi block and major marketing problems in the district are non-availability of varieties that earn higher market value, high commission charges, lack of nearest market, unawareness among turmeric growers about its high price in the International Market and lack of proper storage facility (Prangya Paramita sahu, Upasana Mohaptra, M. Sangeetha, 2018). So farmers in the district are showing less interest to take up the cultivation. The crop is gradually losing its charm as the farmers are switching over to other cultivation like seasonal vegetables and making quick money rather working hard in turmeric fields throughout the year. The remaining handful of cultivators are becoming prey to the middleman and unscrupulous traders. Adding to their woes, the low-quality seeds provided to the farmers are also affecting the cultivation.

According to report (The New Indian express, December 2017), turmeric was sold for Rs. 150 per kg in 2008-09 and slowly the market price began to decline and now it is being sold at Rs. 70 per kg. Sources said many farmers have been forced to sell the produce for Rs. 40-50 per kg. In 2014-15, turmeric was cultivated around 13,756 hectares (ha) of land which yield 1.31 lakh tonnes. Similarly, turmeric cultivation was undertaken in 13,300 ha which produced 1.19 lakh tonnes in 2015-16. In 2016-17, it was cultivated in 12,710 ha of land which produced 1.18 lakh tonnes. Turmeric had been cultivated traditionally by the tribal in Kandhamal since ages. However turmeric cultivation is a way of life for tribal in Kandhamal rather than a cash crop. But the support system does not stand in conformity with economic objectives of tribal. The present study makes a humble attempt to find out the impact of different independent variables in explaining the DV i.e price received by the ultimate cultivators.

OBJECTIVES OF THE STUDY

To evaluate the impact of different factors such as length of channel, storage capacity, cost of production per acre, time of sales, quantity of sales in quintal, production in quantity per acre, market information on price formation of turmeric in Kandhamal district.

HYPOTHESES OF THE STUDY

HYPOTHESIS-1

H₀₁ The model on price formation of turmeric has no predictive value.

H₁₁ The model on price formation of turmeric has predictive value.

HYPOTHESIS-2

H₀₂ Independent Variables f_1, f_2, \dots, f_7 are not associated with the Dependent variable price received by the farmer.

H₁₂ Independent Variables f_1, f_2, \dots, f_7 are associated with the Dependent variable price received by the farmer.

*[Independent variables: (f₁) Length of channel, (f₂) storage capacity, (f₃) cost of production per acre, (f₄) time of sales, (f₅) quantity of sales in quintal, (f₆) production in quantity per acre, (f₇) market information]

RESEARCH METHODOLOGY

The survey was conducted in Kandhamal, a central district of Odisha. Information were collected from 200 turmeric growers by questionnaire method and the sampling technique used for the study is multistage area sampling. In the first stage state of Odisha is divided into districts from which Kandhamal district is chosen by purposive sampling. In the second stage Quota sampling is used in which District of Kandhamal is divided into blocks which is further divided into two groups developed and underdeveloped (on the basis Human Development Index report of Kandhamal district generated by Government of Odisha); one block from developed blocks (Daringbadi) and one from underdeveloped blocks (Tumudibandh) is selected on the basis of concentration of turmeric growers. In the third stage the selected blocks is divided into gram panchayats and one panchayat is selected from each block by simple random sampling. In the fourth stage both the selected grampanhayats are divided into villages and 4 villages are selected by purposive sampling. Finally in the fifth stage stratified random sampling is followed in which all the turmeric producers were classified into five stratas on the basis of their land holding such as share croppers, marginal farmers, small farmers, medium and large farmers. Farmers were selected from each group to constitute the sample or respondents to be surveyed. The data obtained on eight variables

such as Price received by the farmers(DV) and length of channel, storage capacity, cost of production per acre, time of sales, quantity of sales in quintal, production in quantity per acre, market information(IV) were analysed by Descriptive statistics, ANOVA, and multiple regression. Since there was some missing observation, so multiple regression has taken 183 respondents for analysis. The study is designed with two set of hypotheses to be tested such as:

RESULTS AND DISCUSSION

TABLE 1: CASE PROCESSING SUMMARY

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
price received per quintal	200	100.0%	0	0.0%	200	100.0%

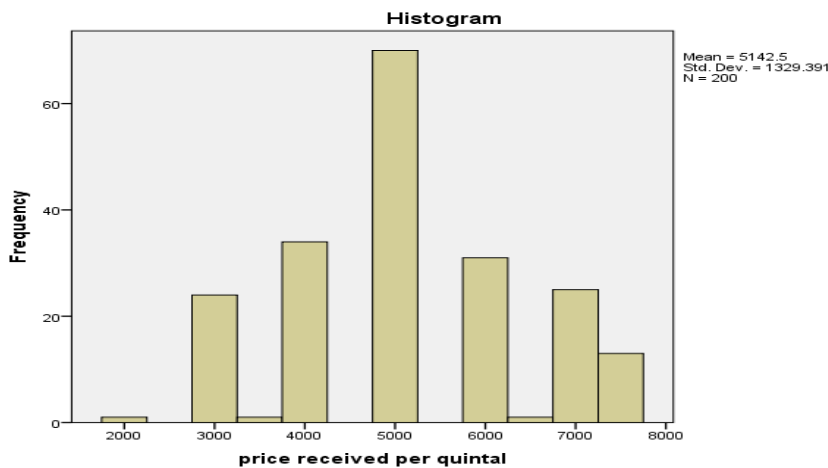
For the variable, price received per quintal all the 200 observations were taken into consideration. There are no missing values.

TABLE 2: DESCRIPTIVE

			Statistic	Std. Error
price received per quintal	Mean		5142.50	94.002
	95% Confidence Interval for Mean	Lower Bound	4957.13	
		Upper Bound	5327.87	
	5% Trimmed Mean		5136.11	
	Median		5000.00	
	Variance		1767280.151	
	Std. Deviation		1329.391	
	Minimum		2000	
	Maximum		7500	
	Range		5500	
	Interquartile Range		2000	
	Skewness		.065	.172
	Kurtosis		-.745	.342

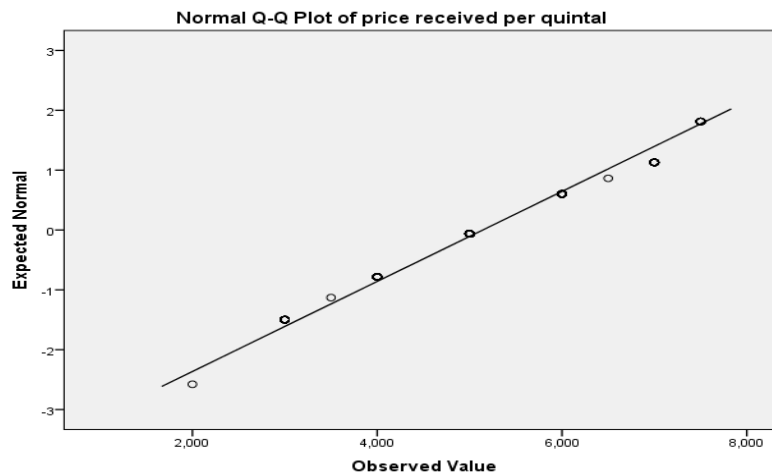
The average price received by the farmer is found to be Rs. 5,142.50 with a standard error of 94.002. The mean lies between two confidence limits with lower bound of Rs 4,957.13 and upper bound of Rs. 5,327.87 with a 95 percent confidence coefficient. Median has been calculated to be Rs. 5,000.00. Minimum price received by the farmer is Rs. 2000/- and Maximum price received is rs. 7,500/-. Skewness has been calculated to be 0.065 with a standard error of 0.172. As a rule of thumb if skewness divided by S.E of remains within the range of ± 1.96 then the distribution is considered normal. In this case it is calculated to be 0.377 which is within the limit ± 1.96 . Hence the distribution is considered to be normal.

FIGURE 1: PRICE RECEIVED PER QUINTAL



From the histogram for the variable price received by the farmer, it is clearly visible that it is representing a normal distribution.

FIGURE 2



There are very few points from the observed value which is not falling on the line which represents that the distribution is expected normal.

REGRESSION

TABLE 3: DESCRIPTIVE STATISTICS

	Mean	Std. Deviation	N
price received per quintal	5131.15	1334.974	183
quantity of sales in quintal	5.12	3.699	183
cost of production per acre	15699.45	6952.930	183
production in quantity per acre	5.22	2.796	183
time of sales	.23	.622	183
storage capacity	.08	.267	183
market information	.05	.228	183
length of channel	1.94	.813	183

Descriptive statistics is calculated for all the variables including dependent and independent variable. Since the analysis has to take into consideration all the variables at the same time, so there are in total 17 missing values and 183 valid information (information on the variables could be collected from 183 respondents). Mean of price received per quintal is 5131.15 with a standard deviation of 1334.97. Mean of the quantity of sales in quintal is 5.12 with a standard deviation of 3.69. Average cost of production per acre is 15699.45 with a standard deviation of 6952.93. Mean production in quantity per acre is 5.22 with a standard deviation of 2.79.

TABLE 3.1: VARIABLES ENTERED/REMOVED^a

odel	Variables Entered	Variables Removed	Method
1	length of channel, storage capacity, cost of production per acre, time of sales, quantity of sales in quintal, production in quantity per acre, market information ^b	.	Enter
a. Dependent Variable: price received per quintal			
b. All requested variables entered.			

TABLE 4: MODEL SUMMARY

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.872 ^a	.760	.751	666.317	1.679
a. Predictors: (Constant), length of channel, storage capacity, cost of production per acre, time of sales, quantity of sales in quintal, production in quantity per acre, market information					
b. Dependent Variable: price received per quintal					
R is the value of the multiple correlation coefficient between the predictors and the Dependent variable which is .872. R-square tells us the "goodness of fit" of the model. It explains the amount of variability in the dependent variable accounted for by all of the independent variables taken together.					

76 % of variability in the Dependent variable i.e price received per quintal is accounted for by all of the Independent variables taken together i.e, length of channel, storage capacity, cost of production per acre, time of sales, quantity of sales in quintal, production in quantity per acre, market information.

In statistics, the **Durbin-Watson** statistic is a **test** statistic used to detect the presence of autocorrelation (a relationship between values separated from each other by a given time lag) in the residuals (prediction errors) from a regression analysis. The Durbin Watson statistics inform us about whether the assumption of independent errors is tenable. A **rule of thumb** is that test statistic values in the range of 1.5 to 2.5 are relatively normal. Values outside of this range could be cause for concern. Field (2009) suggests that values under 1 or more than 3 are a definite cause for concern.

For these data the value is 1.679, so the assumption is almost certainly being met.

TABLE 5: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	246656296.894	7	35236613.842	79.366	.000 ^b
	Residual	77696162.122	175	443978.069		
	Total	324352459.016	182			
a. Dependent Variable: price received per quintal						
b. Predictors: (Constant), length of channel, storage capacity, cost of production per acre, time of sales, quantity of sales in quintal, production in quantity per acre, market information						

F test helps to determine whether the model is a good fit for the data. ANOVA, just tells us that the model can predict Y using X. According to this p- value which is less than .05, it shows that the model is good fit for the data. The significance is .000, so we can reject the null hypothesis that "The model has no predictive value."

TABLE 6: REGRESSION COEFFICIENTS

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	5925.580	226.809		26.126	.000		
	quantity of sales in quintal	20.154	18.254	.056	1.104	.271	.535	1.869
	cost of production per acre	.019	.008	.101	2.425	.016	.790	1.266
	production in quantity per acre	148.609	25.669	.311	5.789	.000	.474	2.111
	time of sales	198.240	87.917	.092	2.255	.025	.816	1.225
	storage capacity	-779.645	385.124	-.156	-2.024	.044	.232	4.319
	market information	992.944	429.663	.170	2.311	.022	.254	3.931
	length of channel	-1040.495	70.440	-.634	-14.771	.000	.744	1.345
a. Dependent Variable: price received per quintal								

Based on the unstandardised coefficient, the equation for the regression line is:

$$Y = 5925.580 + 20.154(\text{quantity of sales in quintal}) + .019(\text{cost of production per acre}) + 148.609(\text{production in quantity per acre}) + 198.240(\text{time of sales}) - 779.645(\text{storage capacity}) + 992.944(\text{market information}) - 1040.495(\text{length of channel})$$

Notice that all of the significance levels are < .05, so they are all significant. (Reject null hypothesis that they are not associated with the dependent variable) except quantity of sales in quintal. The variance inflation factor (VIF) measures the impact of collinearity among the variables in a regression model. The variance inflation factor is 1/tolerance; it is always greater than or equal to 1. Values of VIF that exceeds 10 are often regarded as indicating multicollinearity. In this model all the VIF lies between 1 and 10. So there is no multicollinearity in the model. So each independent variable can predict the dependent variable.

TABLE 7: RESIDUALS STATISTICS

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3069.80	7659.24	5131.15	1164.154	183
Residual	-1916.748	2741.219	.000	653.377	183
Std. Predicted Value	-1.771	2.172	.000	1.000	183
Std. Residual	-2.877	4.114	.000	.981	183
The difference between the observed values of the dependent variable and the predicted values is called the residual. Each data point has one residual. Both the sum and mean of the residuals are equal to zero.					

CONCLUSION

Agricultural marketing in India is deplorable. The illiterate and ignorant tribals are exploited by discerning and affluent traders. Farmers usually sell their produce to the village money lenders cum traders and private trades continue to play a dominant role in the marketing of turmeric. In Odisha where government does not participate in marketing directly, the predominance of private traders is much larger and District of kandhamal is no exception. Traditional organic cultivation of turmeric continues in Kandhamal District for generations. Till now these cultivators are abstained from using chemical fertilizers and pesticides. Their organic produce has much demand outside Kandhamal including foreign countries. But the tribal farmers who grow them do not get proper price for their produce and are harassed in many aspects.

SUGGESTIONS

- Government should assure proper procurement price for the produce of turmeric growers to end distress sale. It should come up with a procurement mechanism through which the farmers could be ensured to sell their produce at Rs. 200 per kg. (traditional organic cultivators are compelled to sell their produce at Rs. 40 to Rs.70 per kg).
- These traditional organic cultivators should get agricultural loans at lower interest rates from nationalized banks and co-operative institutions in order to minimize the exploitation of Mahajans and middle men.
- Establishment of cold storage and renovation of existing go-downs for storage of organic turmeric should be there to improve bargaining power of sellers and in turn increase their income generated from growing turmeric.
- Organized marketing channels should be established to procure their produce and sell it in appropriate markets and awareness has to be created among the turmeric growers regarding the existence of different institutions to facilitate sell of turmeric.
- Regulated markets be established in order to facilitate the trade of turmeric and assure a fair price to the farmers.
- It is found that farmers are debarred of remunerative price due to inadequate storage capacity. Hence it is felt that construction and extension of additional storage and warehousing facilities for agricultural produce be provided to the farmers.
- There should be timely supply of marketing information's to the farmers.

REFERENCES

1. Amarnath. J. S, Sridhar V. (2015), "A comparative analysis of marketing of organic and inorganic turmeric in Tamilnadu", Journal of international academic research for multidisciplinary, vol-3, issue-1, pp.1-9
2. Directory of wholesale agricultural produce Assembling markets in India, Government of India Ministry Of Agriculture (Department Of Agriculture & Cooperation) Directorate Of Marketing & Inspection Branch Head Office New Secretariat Building Nagpur,2004, <https://agmarknet.gov.in/Others/dwapdir.pdf>
3. <https://www.newindianexpress.com/states/odisha/2017/dec/15/turmeric-cultivation-diminishing-1727824.html>
4. Lashgarara F, Mohammadi R and Omid Najafabadi M (21 September, 2011), "Identifying appropriate information and communication technology (ICT) in improving marketing of agricultural products in Garmsar City, Iran", African Journal of Biotechnology, Vol. 10(55), pp. 11537-11540
5. Ovhar N.D and Dheng. S.A(2014), "Constraints Faced by Turmeric Growers About Improved Cultivation Practices", Trends in Biosciences 7(19): 2999-3000
6. Planning and Coordination Department Government of Odisha Planning Commission Government of India chapter 3, <http://phdmaodisha.nic.in/Reports/HDRS/Mayurbhang-DHDR.pdf>
7. Sahoo PP, Mohapatra Upasana. Sangeetha M. Sarangi KK(2018), "Role of KASAM in Marketing of Organic Turmeric in Kandhamal District of Odisha", *Asian Journal of Agricultural Extension, economics and Sociology*, Page: 1-7
8. Sahoo PP, Sarangi KK (2018), "Value chain analysis of organic turmeric in Kandhamal district of Odisha", *Journal of Pharmacognosy and Phytochemistry*, Vol-7, Issue-4, pp.1130-1137
9. Sakshi1, Sonia Khajuria2 (2017), "Agricultural Productivity in India: Trends, Challenges and Suggestions", *International Journal of Science and Research*, vol-6, issue-3 pp.516-520
10. Sharma Ravinder (2011), "Behaviour of market arrivals and prices of tomato in selected markets of north India", *Journal of Farm Sciences* "vol-1, issue-1, pp: 69-74
11. Steven M. Helfand, Edward S. Levine (2004) "Farm size and determinants of productive efficiency in the Brazilian center –West", *Agricultural Economics*, vol-31, issue-2-3, pp.241-249

PRE & POST-MERGER EFFECT ON BANK OF BARODA: A COMPARATIVE INSIGHT

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ABSTRACT

Banking sector is one of the crucial part of nation's economy and also a powerful weapon for the national development as the economic upliftment is rely on the sound financial system. Since Merger & Acquisition use to be a general process of business re-structuring, and use to be development strategy among the strategy, so this paper tries to examine the financial performance of Bank of Baroda before (2015 – 2018) and after (2019) the merger with Dena Bank & Vijaya Bank with the help of two sample independent t-test for unequal means. Further, regression analysis has also been used to forecast the post-merger net profit of Bank of Baroda for the period of 2020 to 2025.

KEYWORDS

banking sector, economic upliftment, merger & acquisition.

JEL CODES

G31, G32, G33, G34.

INTRODUCTION

The Banking system in India started in 1770 and the first bank was the Indian Bank known as the Bank of Hindustan. However, liberalization, economic reforms and others government policies bring an astounding changes in banking industry leading to incredible competitiveness and technological sophistication. In this new era of banking industry every bank wants to be financially strong and operationally efficient and more specifically they want to achieve this growth in a fastest way which can only be possible either through the merger or acquisition. Through this merger banks can scale up its business and gain a large number of customers quickly. It also helps the bank to bridge the business and the technological gap. As a result of this merger efficiency ratios of banks increase and the potentiality of the risk decrease.

MERGER & ACQUISITION IN INDIAN BANKING INDUSTRY

The first merger in the history of Indian Banking Industry was happened in 1921 when Bank of Bombay (1840), Bank of Madras (1843) & Bank of Calcutta (1840) were merged and formed the Imperial Bank of India which was later nationalized in 1955 and acquainted as State Bank of India. During the pre-nationalized era i.e. 1961-1968 total 46 mergers were happened. In the nationalization period i.e. from 1969 to 1992 the total numbers of mergers were 13 and during the post economic reform period i.e. 1993 to 2006, total 21 merger were took place, out of which 13 were forced mergers, 5 were voluntary mergers, 2 were convergence of financial institutions into bank and 1 was due to other regulatory compulsion. In the recent period i.e. from 2007 to 2017 total 7 mergers were happened. The government of India (GoI) has announced for merging of banks in 2019, in-order to revive them from the 6 year low economy due to sudden slowed economic growth. Therefore, recently 10 public sector banks were merged into 4. The anchor banks for these mergers are the Punjab National Bank, Canara Bank, Union Bank of India and the Indian Bank. Prior to this announcement, in April 2019, Vijaya Bank and Dena Bank (amalgamating banks) were merged into Bank of Baroda. The government of India announced the merger of Bank of Baroda, Vijaya Bank and Dena Bank on September 17, 2018, to create the country's third largest lender. This amalgamation is the first-ever three-way consolidation of banks in India, with a combined business of Rs 14.82 trillion, making it the third largest bank after State Bank of India (SBI) and ICICI Bank. The new merged Bank of Baroda has advances and deposits market share of 6.9% and 7.4%, respectively, according to a Motilal Oswal report. The retail book of the merged entity will increase to about 20% of total loans due to a higher retail book of Vijaya Bank. The combined entity will have a CASA mix of 33.6%, with a CD ratio of 70.7%, according to the report. After the first anniversary of this merger this present study has been conducted to measure the changes of financial performance between pre-merger period and post-merger period of Bank of Baroda and also to predict the growth of the India's third largest bank in the next 6 years.

BRIEF REVIEW OF LITERATURES

V Radha Naga Sai et al. (2013) evaluated the performance of two selected banks based on the financial ratios from the pre & post merger perspective. As per this study, the banking industry is one of the fast growing industries in India. Through the Mergers and acquisitions in the banking sector, the banks can achieve significant growth in their operations, by minimizing their expenses to a considerable extent and also competition is reduced because mergers can eliminate competitors from the banking industry. Based on the analysis of 4 years pre and post merger financial ratios merger data of Indian overseas bank, they had concluded that Net profit margin, Operating profit margin, Return on capital employed, Return on equity and Debt-Equity ratio there is significant difference but no significant difference with respect to Gross profit margin and through the analysis of 3 years financial ratios pre and merger data of HDFC bank data, they had concluded that Net profit margin, Operating profit margin, Return on capital employed, Return on equity and Debt-Equity ratio there is no significant difference in these ratios before after merger.

Vanitha et al. (2011) evaluated the financial performance, ratio analysis, mean, standard deviation & 't' test have been used as tools of analysis. Their study found that in India merging companies were taken over by companies with reputed and good management.

Their conclusion emerged from the point of view of financial evaluation is that the merging companies were taken over by companies with reputed and good management. Therefore, it was possible for the merged firms to turn around successfully in the due course. However, it is suggested in the study, the analysis should be done with a bigger sample size before coming to the final conclusion.

Jayaraman et al. (2014) examined the impact by comparing the efficiency of merged banks three years before and after the merger. To validate whether change in efficiency of banks is due to the merger, this study compares the efficiency of merged banks with non-merged banks. Through interval estimation, this paper provided how close or far away the banks are from the efficient frontier. In this particular study, it is concluded that the efficiency of merged banks & the similarity

between performance of both merged and non-merged banks during post-merger period shows that the under- or over-performance of merged banks cannot be purely attributed to effect of merger in the post-merger scenario can be improved by optimally utilising the inputs. Though, it is said in the study that it cannot rule out the influence of extraneous factors including global financial crisis in the performance of banks during the post-merger period.

Sinha et al. (2011) examined the Mergers & Acquisitions scenario of the Indian Financial Services Sector. This study pointed out the fact that though companies may have been able to leverage the synergies arising out of the merger or acquisition, but they have not been able to manage their capital structure to improve their liquidity. In this study, the comparison of the pre and post-merger performance of these companies indicates that though Interest Cover (EBIT/Interest) has remained a significant factor contributing to the return on shareholder's funds both before and after the merger, the Profit Margin has also a significant positive effect on the return only after the merger. Thus the ability of a company to service its debt obligations is an important factor affecting the companies return irrespective of whether it is involved in a merger or not but it becomes important to generate higher profits after the merger in order to justify the decision of merger undertaken by the management to the shareholders.

Patel et al. (2016) examined the comparative position of pre & post-merger stock risk-return performance of selected banks. This study covers the comparison of Systematic and unsystematic risk during the pre & post-merger period. According to the study, banks are going for merger due to various objectives such as market share gain, increase geographical coverage, value maximization; create financial synergy and so on. But few times to fulfil this objectives, acquirer banks do not consider few important parameters in target banks which leads to poor financial and stock performance. It is suggested in the study that researchers can undertake further studies in area of merger and acquisition with respect to evaluation of stock performance. Moreover, it can also be studied that the valuation of target bank done by acquire bank has impact on profit and return for acquire bank or not. It is also suggested in the study that, through stock risk analysis, managers can decide the merger deal in such way that it can reduce risk, especially, unsystematic risk, because as unsystematic risk decreases it motivates investors to invest more in bank & vice versa.

OBJECTIVES OF THE STUDY

1. To analyze the pre & post merger financial performances of Dena Bank, Vijaya Bank and Bank of Baroda.
2. To analyze the impact of merger of Dena Bank and Vijaya Bank on the financial performance of Bank of Baroda.
3. To forecast the post merger net profit of the acquirer bank (Bank of Baroda) for the period of 2020 to 2025.

RESEARCH METHODOLOGY

- The researchers have selected the merger of Dena Bank & Vijaya Bank with Bank of Baroda, which took place in 2018 as a convenient sample of this study.
- The performance of the banks has been evaluated on the basis of 10 financial measures:
 - a) Credit Deposit Ratio
 - b) Cash Deposit Ratio
 - c) Return on Net worth
 - d) Net Profit Margin Ratio
 - e) Capital Adequacy Ratio
 - f) Net NPA Ratio
 - g) CASA
 - h) Basic EPS
 - i) Payout Ratio
 - j) Return on Capital Employed Ratio
- To analyze the impact of the merger on the financial performance of the acquirer bank (Bank of Baroda), pre-post merger data of the above mentioned ratios have been considered, where the premerger period is 2015 to 2018 and the year just preceding the year of merger i.e. 2019 is considered as a post merger period in this study.
- The concerned data are collected from the secondary sources i.e. moneycontrol.com and Capitaline Database.
- A comparative ratio analysis has been employed to analyze the pre and post merger financial performance of the selected banks.
- Independent t-test at 5% level of significance is carried out to obtain whether there is any significant difference in the financial measures before and after the merger of the selected banks.
- Regression analysis has also been employed to forecast the post merger net profit of Bank of Baroda for the period of 2020 to 2025.

DATA ANALYSIS

TABLE 1: FINANCIAL PERFORMANCES OF DENA BANK, VIJAYA BANK & BANK OF BARODA DURING PRE & POST MERGER PERIOD

Ratios	Pre-merger Period (Average)			Post-merger Period (Average)
	Dena Bank (Acquired Bank)	Vijaya Bank (Acquired Bank)	Bank of Baroda (Acquirer Bank)	Bank of Baroda
Credit-Deposit Ratio	67.02	70.12	67.71	72.87
Cash- Deposit Ratio	5.8225	4.5075	3.6925	4.01
RONW	0.96	8.19	-1.70	0.92
Net Profit Margin	-9.0825	4.64	-0.665	2.05
Capital Adequacy Ratio	11	12.75	12.75	13
Net NPA Ratio	8.25	3.25	4.25	3
CASA	0	0	30.135	34.6
Basic EPS	-10.1275	5.9875	-1	4.16
Payout Ratio	0.027761	0.166847	0.081979	0
ROCE	0	0	1.535	1.78

Observation: In the pre merger period the average Credit-Deposit Ratio of three banks were more or less same but after this merger it can be observed that the Credit-Deposit Ratio of the acquirer bank i.e. Bank of Baroda has been increased slightly i.e.5.61%, which signifies that in the post-merger period the efficiency of the acquirer bank to utilize its resources optimally has been increased. Cash-deposit ratio is the minimum amount of cash balance each branches has to maintain to meet their liabilities and it is usually 0.75% of total deposit. As per the above table it can be observed that in the pre-merger period the Cash-deposit Ratio position of this trio was very high, especially in case of Dena Bank. After the merger it can be noticed that this ratio of Bank of Baroda has been increased in a very low proportion i.e. only 0.32% but on the basis of the ideal norm the in the post-merger era the cash-deposit ratio position of Bank of Baroda is still good. Though in the pre-merger period the RONW of Vijaya Bank was quiet impressive but in case of Bank of Baroda the same was negative but after the merger this negative RONW turns into positive and increased by 2.62%. In case of Capital Adequacy Ratio it can be observed that there is not a significant change between pre and post merger era. Relating to the Net NPA Ratio a positive change can be noticed as this ratio of the acquirer bank is decreased by 1.25% after the merger which signifies that in post-merger era the risk of raising bad quality loan has decreased than the pre-merger period. CASA Ratio explains the proportion of deposits of the bank comes from current and savings deposits, which is generally a cheaper source of fund. Higher the CASA Ratio better will be the operating efficiency of bank. In this case it can be observed that this ratio of acquirer bank has been increased by 4.47% after the merger. Relating to EPS of Bank of Baroda a huge positive change

can be observed in the post-merger era though during the post-merger period the payout ratio of the acquirer bank is 0. Lastly, regarding this ROCE, a slight positive change can be observed after the merger.

Hypothesis Testing on the basis of Financial Measures

H₀: There is no significant difference between pre and post merger financial performance.

H₁: There is a significant difference between pre and post merger financial performance.

Table 2.a: CREDIT-DEPOSIT RATIO OF BANK OF BARODA

Calculation of two sample independent t-test for unequal mean, where, df=3 & level of significance= 0.05

Period	N	Mean	S.D	df	C.V	t-statistic	Tabulated value	Result	Standard error
Pre-merger	4	67.71	3.23	3	0.047	3.20	3.18	H ₀ Rejected	1.61
Post-merger	1	72.87	0.00		0.00				0.00

Observation: As the t-statistic $(t_{(3, 0.05)} = 3.20)$ is greater than the tabulated value 3.18 so the null hypothesis is rejected here in favor of alternative hypothesis. Hence on the basis of independent t-test at 5% level of significance it can be conclude that there is a significant difference between the pre and post merger Credit-Deposit Ratio of Bank of Baroda. Even on the basis of the mean it can also be seen that after the merger of Dena Bank & Vijaya Bank with Bank of Baroda the Credit –deposit Ratio of the acquirer bank (Bank of Baroda) has been increased by 5.16% which reflects that the ability of this bank to make optimal use of available resources i.e. creation of loan assets from the deposits received has been increased slightly after the merger.

TABLE 2.b: CASH-DEPOSIT RATIO OF BANK OF BARODA

Calculation of two sample independent t-test for unequal mean, where, df=3 & level of significance= 0.05

Period	N	Mean	S.D	df	C.V	t-statistic	Tabulated value	Result	Standard error
Pre-merger	4	3.69	0.024	3	0.0065	26.67	3.18	H ₀ Rejected	0.012
Post-merger	1	4.01	0.00		0.00				0.00

Observation: As the t-statistic $(t_{(3, 0.05)} = 26.67)$ is greater than the tabulated value 3.18 so the null hypothesis is again rejected here in favor of alternative hypothesis. Hence on the basis of independent t-test at 5% level of significance it can be conclude that there is a significant difference between the pre and post merger Cash-Deposit Ratio of Bank of Baroda. On the basis of the mean it can also be noticed that there is a slight positive change i.e. 0.32%, in the Cash –deposit Ratio of the acquirer bank (Bank of Baroda) after this merger. But comparing to the ideal norm both in case of pre & post merger period the cash-deposit ratio of BOB is quiet impressive.

TABLE 2.c: RONW OF BANK OF BARODA

Calculation of two sample independent t-test for unequal mean, where, df=3 & level of significance= 0.05

Period	N	Mean	S.D	df	C.V	t-statistic	Tabulated value	Result	Standard error
Pre-merger	4	-1.70	117.15	3	-68.91	0.04	3.18	H ₀ Accepted	58.57
Post-merger	1	0.92	0.00		0.00				0.00

Observation: As the t-statistic $(t_{(3, 0.05)} = 0.04)$ is less than the tabulated value 3.18 so the null hypothesis is accepted here against the alternative hypothesis. Hence on the basis of independent t-test at 5% level of significance it can be conclude that there is not a significant difference between the pre and post merger RONW of Bank of Baroda. Even on the basis of the mean it can also be seen that in the pre-merger era it was negative but after the merger it is increased to 0.92 which is not a good return at all though its turns into a so called positive figure. Therefore, it can be infer that the efficiency of the acquirer bank to generate profit from shareholders’ capital is not developed much.

TABLE 2.d: NET PROFIT MARGIN RATIO OF BANK OF BARODA

Calculation of two sample independent t-test for unequal mean, where, df=3 & level of significance= 0.05

Period	N	Mean	S.D	df	C.V	t-statistic	Tabulated value	Result	Standard error
Pre-merger	4	-0.66	77.61	3	-117.59	0.07	3.18	H ₀ Accepted	38.80
Post-merger	1	2.05	0.00		0.00				0.00

Observation: As the t-statistic $(t_{(3, 0.05)} = 0.07)$ is lesser than the tabulated value 3.18 so the null hypothesis is accepted here against the alternative hypothesis. Hence on the basis of independent t-test at 5% level of significance it can be conclude that there is no significant difference between the pre and post merger Net Profit Margin Ratio of Bank of Baroda. Even in imitation of the mean value of both pre & post merger period it can be observed that though after this merger the net profit margin of the acquirer bank turns into a positive figure than a negative one, still this profit margin is quiet low.

TABLE 2.e: CAPITAL ADEQUACY RATIO OF BANK OF BARODA

Calculation of two sample independent t-test for unequal mean, where, df=3 & level of significance= 0.05

Period	N	Mean	S.D	df	C.V	t-statistic	Tabulated value	Result	Standard error
Pre-merger	4	12.75	0.25	3	0.0196	2	3.18	H ₀ Accepted	0.125
Post-merger	1	13	0.00		0.00				0.00

Observation: As the t-statistic $(t_{(3, 0.05)} = 2)$ is lesser than the tabulated value 3.18 so the null hypothesis is accepted here. Hence on the basis of independent t-test at 5% level of significance it can be conclude that there is no significant difference between the pre and post merger Capital Adequacy Ratio of Bank of Baroda. Even on the basis of the mean it can also be seen that after the merger of Dena Bank & Vijaya Bank with Bank of Baroda, there is a slight increase of 0.25% in the Capital Adequacy Ratio of the acquirer bank (Bank of Baroda) which reflects that there is a very slight difference in the ability of this bank to meet its financial obligations after the merger.

TABLE 2.f: NET NPA RATIO OF BANK OF BARODA

Calculation of two sample independent t-test for unequal mean, where, df=3 & level of significance= 0.05

Period	N	Mean	S.D	df	C.V	t-statistic	Tabulated value	Result	Standard error
Pre-merger	4	4.25	2.25	3	0.53	-1.11	3.18	H ₀ Accepted	1.125
Post-merger	1	3	0.00		0.00				0.00

Observation: As the t-statistic $(t_{(3, 0.05)} = -1.11)$ is lesser than the tabulated value 3.18 so the null hypothesis is accepted here. Hence on the basis of independent t-test at 5% level of significance it can be conclude that there is no significant difference between the pre and post merger Net NPA Ratio of Bank of Baroda. As per the mean of both pre & post merger era it can be noticed that the Net NPA Ratio is just decreased by 1.25%, but in both of this period this ratio is pretty much higher than the zero which signifies that though after the merger this ratio is slightly decreased but there is a high risk of the raising the bad quality loan is still present like in the pre-merger era.

TABLE 2.g: CASA RATIO OF BANK OF BARODA

Calculation of two sample independent t-test for unequal mean, where, df=3 & level of significance= 0.05

Period	N	Mean	S.D	df	C.V	t-statistic	Tabulated value	Result	Standard error
Pre-merger	4	30.135	20.49	3	0.68	0.44	3.18	H ₀ Accepted	10.25
Post-merger	1	34.6	0.00		0.00				0.00

Observation: As the t-statistic $(t_{(3, 0.05)} = 0.44)$ is smaller than the tabulated value 3.18 so the null hypothesis is accepted here. Hence on the basis of independent t-test at 5% level of significance it can be conclude that there is no significant difference between the pre and post merger CASA Ratio of Bank of Baroda. But, in

general, after merger also, 34.6% is much higher than ideal CASA Ratio & higher CASA ratio after the merger indicates a lower cost of funds, which signifies the better net interest margin and better operating efficiency of the bank.

TABLE 2.h: BASIS EPS RATIO OF BANK OF BARODA

Calculation of two sample independent t-test for unequal mean, where, df=3 & level of significance= 0.05

Period	N	Mean	S.D	df	C.V	t-statistic	Tabulated value	Result	Standard error
Pre-merger	4	-1	312.58	3	-312.6	0.033	3.18	H ₀ Accepted	156.29
Post-merger	1	4.16	0.00		0.00				0.00

Observation: As the t-statistic $(_{3, 0.05}) = 0.033$ is smaller than the tabulated value 3.18 so the null hypothesis is accepted here. Hence on the basis of independent t-test at 5% level of significance it can be conclude that there is no significant difference between the pre and post merger Basic EPS Ratio of Bank of Baroda. In contrast, on the basis of mean after the merger it can be observed that the Basic EPS ratio has improved a lot to 4.16% from -1%.

TABLE 2.i: PAY-OUT RATIO OF BANK OF BARODA

Calculation of two sample independent t-test for unequal mean, where, df=3 & level of significance= 0.05

Period	N	Mean	S.D	df	C.V	t-statistic	Tabulated value	Result	Standard error
Pre-merger	4	0.082	0.009	3	9.11	-18.22	3.18	H ₀ Accepted	0.005
Post-merger	1	0	0.00		0.00				0.00

Observation: As the t-statistic $(_{3, 0.05}) = -18.22$ is very smaller than the tabulated value 3.18 so the null hypothesis is accepted here. Hence on the basis of independent t-test at 5% level of significance it can be conclude that there is no significant difference between the pre and post merger Pay-out Ratio of Bank of Baroda. Even on the basis of the mean it can also be seen that after the merger of Dena Bank & Vijaya Bank with Bank of Baroda, there is no such change in the Pay-out Ratio of the acquirer bank (Bank of Baroda) further it become 0 after this merger.

TABLE 2.j: ROCE RATIO OF BANK OF BARODA

Calculation of two sample independent t-test for unequal mean, where, df=3 & level of significance= 0.05

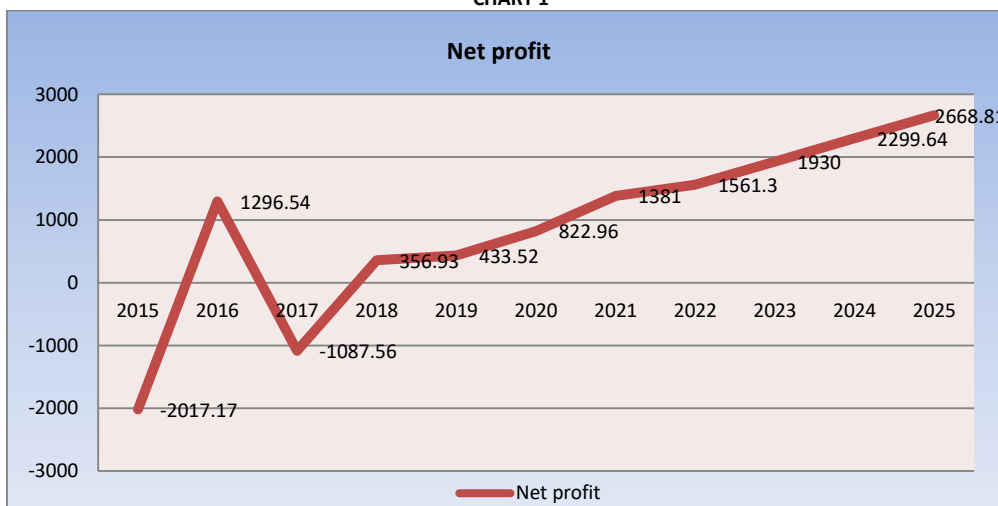
Period	N	Mean	S.D	df	C.V	t-statistic	Tabulated value	Result	Standard error
Pre-merger	4	1.535	0.028	3	0.0182	17.5	3.18	H ₀ Rejected	0.014
Post-merger	1	1.78	0.00		0.00				0.00

Observation: As the t-statistic $(_{3, 0.05}) = 17.5$ is much greater than the tabulated value 3.18 so the null hypothesis is rejected here in favor of alternative hypothesis. Hence on the basis of independent t-test at 5% level of significance it can be conclude that there is a significant difference between the pre and post merger ROCE Ratio of Bank of Baroda. Even on the basis of the mean it can also be seen that after the merger of Dena Bank & Vijaya Bank with Bank of Baroda the ROCE Ratio of the acquirer bank (Bank of Baroda) has been increased only by 0.25% which is very little. Therefore, on the basis of the result it can be concluded that the bank has more or less same efficient level to use its available capital optimally after the merger.

TABLE 3: FORECASTING NET PROFIT OF BANK OF BARODA ON THE BASIS OF REGRESSION ANALYSIS

Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Net Profit	-2017.17	1296.54	-1087.56	356.93	433.52	822.96	1381	1561.3	1930	2299.64	2668.81

CHART 1



Observation: On the basis of the past 5 years (2015-2019) the net profit of the acquirer bank (Bank of Baroda) has been forecasted in accordance with the regression trend analysis. The result of the regression trend analysis forecast that though there is an upward trend in the net profit during the next 6 years of the acquirer bank though a fluctuating trend can be observed in the last 5 years. After the merger of the Dena Bank and Vijaya Bank with Bank of Baroda the net profit of that acquirer bank will gradually increase with the passage of the time.

CONCLUSION

The merger of Dena bank & Vijaya Bank with Bank of Baroda create a huge change in the position of Bank of Baroda and its became the 3rd largest bank in India. The comparative ratio analysis of the pre & post merger era is expressing financial performance of the trio during these two situations. After the 1st anniversary of this merger it can be observed that except the positional change there is no huge significant changes in the performance of the acquirer bank according to this study, as most of the performance indicators are changed very slightly which is not so considerable. Only in case of Credit-Deposit Ratio, Cash-Deposit Ratio & Basic EPS Ratio a significant change can be observed. The regression trend analysis of the acquirer bank forecast that despite of the fluctuating trend in the net profit of Bank of Baroda during the pre merger era, after the merger the net profit of the acquirer bank will follow an upward trend and will increase gradually.

REFERENCES

1. Antony Akhil, K. (2011), "Post-Merger Profitability of Selected Banks in India", International Journal of Research in Commerce, Economics and Management, Vol. 1, No. 8, (December), pp. 133-5.

2. Azhagaiah, R., and Sathish Kumar, T. (2011), "A study on the Short-Run Profitability of Acquirer Firms in India," *Indian Journal of Commerce and Management Studies*, (Special Issue), (November), pp. 59-66.
3. Azhagaiah, R., and Sathish Kumar, T. (2011), "Corporate Restructuring and Firms' Performance: An Empirical Analysis of Selected Firms of Across Corporate Sectors in India," *Interdisciplinary Journal of Research in Business*, Vol. 1, No. 4, (April), pp. 58-82.
4. Azhagaiah, R., and Sathish Kumar, T. (2011), "Mergers and Acquisitions: An Empirical Study on the Short-Term Post- Merger Performance of Corporate Firms in India," *International Journal of Research in Commerce, Economics and Management*, Vol. 1, No. 3, (July), pp. 80-103.
5. David, Cheng C, Benton Gup, E and D Larry Wall. (1989) "Financial Determinants of Bank Takeovers", *Journal of Money, Credit and Banking*, Vol 21 No 4, pp. 524- 536.
6. Finnegan, P. T. (1991), "Maximizing Shareholder Value at the Private Company," *Journal of Applied Corporate Finance*, Vol. 23, No.2, pp. 51-69.
7. Hailegiorgis Bigramo Allaro, Belay Kassa, and Bekele Hundie. (2011), "A time Series Analysis of Structural Break Time in the Macroeconomic Variables in Ethiopia," *African Journal of Agricultural Research*, Vol. 6, No.2, (18 January), pp. 392-400.
8. Howard B. Lee. (2008), "Using the Chow Test to Analyze Regression Discontinuities," *Tutorials in Quantitative Methods for Psychology*, Vol. 4, No.2, pp. 46-50.
9. Huzaifa, Husain. (2000) "M & A: Unlocking Value", *Chartered Financial Analyst*, Vol 4 No 6, December, pp. 65-66.
10. John B Kusewitt (1985), "An Exploratory Study of Strategic Acquisition Factors Relating to Performance", *Strategic Management Journal*, Vol 6, pp 151-69.
11. John, Kitching (1967), "Why Do Mergers Miscarry", *Harvard Business Review*, Vol 45, pp 84-101.
12. Julia, Liebeskind, Margarethe Wiersema and Gary Hansen. (1992) "LBOs, Corporate Restructuring, and The Incentive- Intensity Hypothesis", *Journal of Financial Management Association*, Vol 21 No 1, pp. 73-86.
13. Katsuhiko Ikeda and Noriyuki Doi (1983), "The Performances of Merging Firms in Japanese Manufacturing Industry: 1964-75", *The Journal of Industrial Economics*, Vol.31, No. 3, March, pp 257-266.
14. Loderer, C. and Martin K, (1992), "Post-Acquisition Performance of Acquiring Firms", *Financial Management*, Vol 21, No 3, pp 69-79.
15. Lubatkin, M., (1983), "Mergers and Performance of the Acquiring Firm", *Academy of Management Review*, Vol. 8, No. 2, April, pp 218-225
16. Madan Mohan Dutta and Suman Kumar Dawn. (2012), "Merger and Acquisitions in Indian Banks after Liberalization: An Analysis," *Indian Journal of Commerce and Management Studies*, Vol. 3, No.1, (January), pp. 108-14.
17. Malabika Deo and Mohammad Aasif Shah. (2011), "Shareholder Wealth Effects to Merger Announcements in Indian IT Industry," *International Journal of Research in Commerce, Economics and Management*, Vol. 1, No.7, (November), pp. 61-6.
18. Mueller, Dennis (1987), "The Corporation: Growth, Diversification and Mergers", *Statistics*, Vol. 67, May, University of Maryland, USA. pp 259-267.
19. Pandey, Ajay. (2001) "Takeover Announcements, Open Offers, and Shareholders' Returns in Targets Firm", *Vikalpa*, Vol 26 No 3, July –September, pp. 19-30.
20. R. S. Ruback, (1992), "Does Corporate Performance Improve After Mergers?", *Journal of Financial Economics*, Vol 31, pp 135- 175
21. Ravi, Sankar and K V Rao. (1998) "Takeovers as a Strategy of Turnaround- An Empirical Study", *The Indian Journal of Commerce*, Vol 51, pp. 47- 56.
22. Rohit, Rao. (2001) "UTI Global Bank: The Newest Biggest", *Treasury Management Journal*, Vol 1 No 8, pp. 46- 49.
23. Ruhani, Ali and G S Gupta. (1999) "Motivation and Outcome of Malaysian Takeovers: An International Perspective", *Vikalpa*, Vol 24, pp. 41- 49.
24. V. Pawaskar (2001), "Effect of Mergers on Corporate Performance in India", *Vikalpa*, Vol.26, No.1, January – March, pp 19-32

THE IMPLICATION OF THE NEW EDUCATION ROADMAP TOWARDS ENTREPRENEURIAL ORIENTATED TRANSFORMATION OF ETHIOPIAN HIGHER EDUCATIONAL INSTITUTIONS

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ABSTRACT

Building the future of younger generations is the unalterable role of higher education everywhere. For this purpose, countries develop a plan or strategy in order to harmonize their education system with their development endeavours and comply with the dynamism of the time. Cognizant to this, Ethiopia has also launched a new 'educational roadmap' to transform its educational system to accord with the requirements of 21st century education systems that play roles of transforming the socio-economic development of the nation. This article is therefore, dedicated to explore the basic research question that; to what extent the new Ethiopian Education Roadmap will pave a way for entrepreneurial orientation of Higher Educational Institutions (HEIs) in the country, by employing a method of qualitative document analysis on the draft roadmap document and focus group discussion held in two of the country's public higher educational institutions together with a literature review of various sources. The enquiry is made from the point of view of Clark's (1998) seven tenets of entrepreneurial higher educational institutions and after a thorough discussion on these tenets, the article concluded that beyond addressing the problems of former education system, Ethiopia needs to set up an entrepreneurial ecosystem in the HEIs which demands internally driven transformation in the universities in line with the nation's development aspirations in order to entrepreneurially inspire the graduates and hence control unemployment in particular and alleviate problems of current economic, social and political catastrophes in general.

KEYWORDS

Ethiopia, HEIs, entrepreneurial orientation.

JEL CODES

I23, I25, L26, P46, H75.

INTRODUCTION

Higher educations in 21st century is anticipated to play very vital role for sociocultural and economic development, and for building the future, for which the younger generations need to be equipped with new skills, knowledge and ideals (World Declaration of Higher Education (WDHE), 1998). Consequently, higher educational institutions are facing the challenges and difficulties related to financing, relevance of programs, employability of graduates, and establishment of efficient co-operation among stakeholders. As a result, developing entrepreneurial skills and initiatives becomes a major concern of higher education today.

On the other hand, a country's educational policies, strategies and action plans have the most profound effect in developing the cutting-edge ideas for tailoring the whole system that fosters the desired overall development of its people. Cognizant to this fact, Ethiopia has also launched a new 'educational roadmap' to transform the educational system to accord with the requirements of 21st century educational systems that play roles of transforming the socio-economic development, particularly the industrialization process and hence to transform Ethiopian society and place the country on a trajectory to become a lower middle-income economy by the year, 2030 (Ethiopian Ministry of Education; Education Strategy Centre (ESC), 2018).

The main purpose of the 'new educational roadmap' as stated by the draft document is "to reform the education sector in accordance with the national vision and development goals targeting at achieving peace, unity- with-diversity, broad and rapid socio-economic growth, establishment of democratic systems and good governance.

This article is thus, neither a full-fledged scrutiny of the draft roadmap nor it addresses all aspects of the draft document with regard to HEIs. Rather it only identifies if there are missing components that may contribute to the flourishing of entrepreneurial orientation in Ethiopian HEIs with reference to the entrepreneurial university tenets (governance and leadership, diversity of funding, internationalization, entrepreneurship development in teaching-learning, institutional capacity, people & incentives, pathways for entrepreneurs, and measuring the impact of entrepreneurial university); framed by Clark (1998) which is used as a conceptual framework in this article. So this paper tried to address the gaps pointed-out by the document from the preceding education system, the resolutions brought forward and what important aspects are missed regarding the issue under study in order to indicate an alternative courses of action necessary to make sure that the country's higher education will be in the right track in the next decades making substantial contribution towards the nation's development agendas.

REVIEW OF LITERATURE

The theoretical embedment of this research article is dynamic capabilities view (Helfat et al., 2007) which constitutes an extension to the resource - based perspective (Collis & Montgomery, 1995). Dynamic capabilities are an organization's ability to integrate, build and reconfigure internal and external competences to address the rapidly changing environment (Teece et al., 1997). Its central focus is on the degree of 'fit' over time between an organization's changing external environment and its changing portfolio of activities and capabilities (Porter, 1996). It is widely accepted that an organization's capability to innovate is closely tied to its intellectual capital, or its ability to utilize its knowledge resources (Stewart, 1997).

In light of this, Universities need to be reoriented in to entrepreneurial organizations and environments held together by common values/missions and not detailed control systems. To develop as an entrepreneurial organization with an entrepreneurial culture the entrepreneurial activities should be established in the strategy guided by a working mission with an entrepreneurial vision for the future of the institution. Accordingly, their strategies could have specific objectives for entrepreneurship with associated performance indicators such as generating entrepreneurial motivation, cognition, and attitudes; generating entrepreneurial competences and skills; support business start-ups; commercialize research results through technology transfers and business start-ups; generate revenues for the institution from spin-off activities; strengthen co-operation between the institution and local firms. (EU-OECD, 2012)

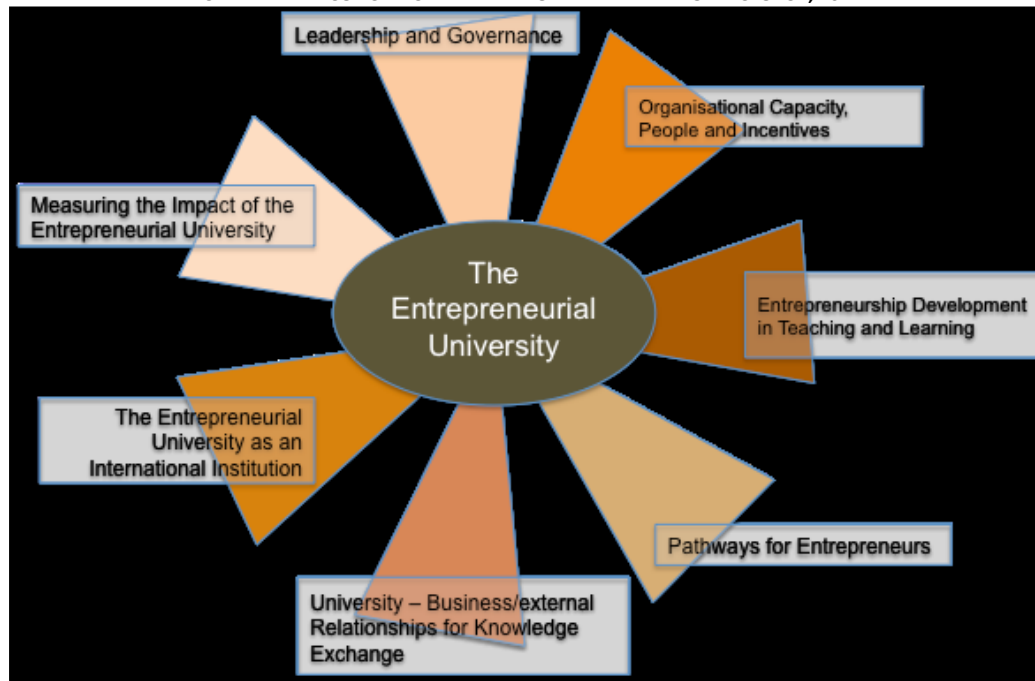
There are many different models for coordinating and integrating entrepreneurial activities across a university (Gibb, 2013). Whichever model is employed however, it should enable the institution to capitalize its existing relationships, coordinate across departments, faculties and other centres, and avoid the duplication of work within a university and its local entrepreneurship ecosystem. To score highly, universities should have an entrepreneurship structure in place which coordinates activities within the institution and with other stakeholders within the local entrepreneurship ecosystem. In this regard, overcoming bureaucratic barriers and creating an enabling governance and leadership structure is key to entrepreneurship. Universities with fewer barriers or hierarchies find it easier to undertake entrepreneurial activities and speed up idea creation and decision making. New centres and structures for the development of new activities can be formed easily. Higher educational institutions are ought to maximize autonomy and individual ownership of initiatives (EU-OECD, 2012).

It is a dried fact that Universities play quite a lot of roles in their communities and one of their key functions is to catalyse and drive individual, social and community development. To be front liner, universities should be active players, linked to their external environment by having a strong presence in the community. This might include for example, providing facilities to others from outside the institution, participating in regional clusters, supporting local cultural and artistic activities, providing opportunities for regional start-ups or established companies and taking an active role in determining the strategic direction of local development (UNU-IAS, 2018).

Meanwhile, Universities are constrained by their own organizational structures and approaches, making it more difficult to carry out the types of entrepreneurial activities which support their strategic objectives. Some of the key areas a university may look at, if it wishes to minimize the organizational constraints in fulfilling its entrepreneurial agenda, includes the financial strategy, attracting and retaining the right people and incentivizing entrepreneurial behaviour in individuals (John, et al, 2004).

Based on theoretical underpins above, the conceptual framework for this study is portrayed diagrammatically below by array of seven constructs: leadership & governance, institutional capability, people and incentives, entrepreneurship development in teaching & learning, internationalization, university-industry networking, entrepreneurial intensity as pathway for entrepreneurs, and measuring the impact of entrepreneurial university.

CHART 1: THE CONCEPTUAL FRAMEWORK ADAPTED FROM EU-OECD, 2012



OBJECTIVE OF THE STUDY

To Investigate the extent to which the new Ethiopian Education Roadmap will pave a way for entrepreneurial orientation of Higher Educational Institutions (HEIs) in the country.

RESEARCH METHODOLOGY

This article is dedicated to explore to what extent the new 'Ethiopian Education Roadmap' will pave a way for entrepreneurial orientation of HEIs in the country. For achieving this purpose, a method of document analysis is employed on the draft roadmap document, released by Ministry of Education Educational Strategy Centre. A review of related literature such as the World Declaration of Higher Education (WDHE), analysis of outputs from workshops by Wolkite university faculty on the draft roadmap dated September 19-21, 2019 and focus group discussion in two case study universities; namely Jimma University and Wolkite University are used to substantiate the enquiry. The focus group discussions are held with lecturers, university officials and business people on 26/03/2019 and 11/04/2019 in Jimma University and Wolkite University respectively. The two universities are selected purposively based on convenience and year of establishment. Accordingly, Jimma University represents the 'first generation' universities and Wolkite University represents the 'third generation' universities.

RESULT AND DISCUSSION

LEADERSHIP AND GOVERNANCE

As per the draft roadmap the two basic elements lacking in the existing education system leadership and governance of higher education are accountability and autonomy. The draft roadmap states that though official documents talk about accountability across all levels of governance, there is a perceived gap that accountability is missed at all levels of the education governance. Accountability along the lines of decentralized units of decision makers; who is accountable to whom, how they are held accountable and for what is not clear or not practiced.

On the other hand, there should be a good balance between autonomy and accountability in higher education institutions. Currently universities are not given sufficient autonomy to manage their universities, raise funds and introduce new innovations in teaching and research. Autonomy should not so much be an issue of control, but of contracting and measuring performance based on mutually agreed outputs and outcomes (OECD, 2001).

However, the document admits that the existing higher education leadership and management is highly overwhelmed by routine tasks rather than focusing on strategizing universities core mission, and the selection and appointment process is not transparent, competitive and merit based. Inefficiency and corruption are imminent in the administration and finance sections of the HEIs¹. Teshome (2004) argues that the major challenge of Ethiopian HEIs relates to the inadequate capacity, lack of transparency and participatory approach of the leadership and management at sector level and in the higher education institutions. Article 13(A) of WDHE (1998) states that the management and financing of higher education require the development of appropriate planning and policy-analysis capacities and strategies to secure appropriately streamlined management and the cost-effective use of resources. Allied with this, the draft roadmap document also proposes the necessity of professionalizing leadership and management for efficiency and effectiveness. The leadership and management recruitment, selection and appointment have to be based on transparent and objective criteria/key performance indicators (KPI), followed by continuous training and leadership development.

¹ : Ethiopian Education Development Roadmap page 61

However, the draft roadmap overlooked the urgency of redefining the governance structure and roles of Ministry of Science and Higher Education (MoSHE), Higher Education Relevance and Quality Assurance (HERQA), University board and management (senate) etc. and more importantly revisiting the legislations to ensure the effectiveness of procedures and administrative rules. Moreover, there is nothing mentioned in the document about the extent of involvement as well as the role distinction and cooperation between administrative and academic staffs in the governance and leadership of the universities. Therefore, since governance and leadership are the necessary conditions for entrepreneurial oriented transformation of HEIs, matching autonomous and vibrant leadership with motivated steering core needs to be given due consideration.

FINANCING OF HIGHER EDUCATION

One of highly emphasized areas in the draft roadmap is financing or funding of HEIs whereby numerous financing related pitfalls in the former system are identified. Funding sources are very limited for the Ethiopian HEIs to the extent that, for many universities, government funding is the only source. Higher education users (students) pay (share) only subsidized direct cost of food, dormitory and 15% of education services. The budget allocation is hardly related to performance related to learning achievements and problem-solving research outputs. Budget allocation is mainly for teaching and learning, little for research and technology transfer/community services. The direct research budget is below 1% of the total budget allocated to universities.² Flexible budget allocation based on block grant is not yet exercised while Proclamation 650/2009 of the country allows to do so. The current line of budget is so tight and is not encouraging research activities. Universities do not have the autonomy to transfer from one budget line to another as need arises and to get permission to transfer budget from one line to another takes substantial amount of time. Moreover, it takes at least five months to release budget after it is approved. There are problems in the utilization of the finance as it is restricted only in one fiscal year. The procurement system is also bottle neck for research, community service and technology transfer projects. Universities are not able to use their internal revenue generated autonomously and flexibly. The university leadership cannot decide on financial outlays freely, as it has wait for permission from other bodies [mainly Ministry of Finance and Economic Development (MoFED)]. The current financial system is highly tight and does not allow universities to use the budget they generated.

After detecting all these and other financing related problems of HEIs, the roadmap brought forward the following reforms into effect.

- A. Implementation of block grant allocation formula as it is flexible mode based on the Higher Education Proclamation 650/2009 as a solution for the current problem higher education faced in financing (performance-based allocation than back history of expenditure-based funding). In this case, the new Education Proclamation issued following the roadmap, states that “public institutions shall be funded by the Federal Government or States through block grant systems based on strategic plan agreements” (Higher Education Proclamation 1152/2019). However, the implementation of this statement is set aside for a regulation to be issued by the council of ministers.
- B. To increase gradually the cost sharing of students from the current 15% to 30% over the next 15 years.
- C. Promote use of diversified financing modalities of higher education funding sources other than the government financing i.e. pushing higher education institutions to generate income and partially cover their expenses [through research, consultancy and tuition fee and other income generation activities].
- D. Developing guidelines for the generation and execution of internal revenue of universities that provides greater autonomy for HEIs [with suited accountability in place].
- E. Revise the rigid rule of purchasing and using budget on time with quality education inputs.
- F. There should be a national HEI input procurement framework to have a continuous/smooth and sustainable flow of HEI inputs (teaching, research, Technology Transfer, and Community Service inputs) to use their budget effectively and efficiently. (Inconsistent with autonomy and differentiation of the universities)
- G. Universities should strengthen their University-Industry Linkages, local and international partnerships and use this collaborative work as a means of their institutional funding sources.
- H. Based on the differentiation of universities proposed, there should be a competitive research and technology transfer budget award for the execution of mega projects which can solve clearly stated/prioritized national problems.

The brain staking question here is that, truly improving the education finance and the structure of financing requires strong commitment and investment on decentralization of the financing system through standardized and transparent financial structure with an appropriate check and balance. This is because the rigid central control system couldn't minimize if not worsen the financial mismanagement and corruption scandals in the institutions. Putting the above propositions in a nutshell calls for ensuring autonomy and accountability system so that educational institutions will fully be authorized to plan, allocate and utilize finance as per their demands and plans (WB Sectoral study, 2003).

THE ENTREPRENEURIAL UNIVERSITY AS AN INTERNATIONALIZED INSTITUTION

Connecting Ethiopian HEIs to world class universities and research Institutions is key to increase the quality of education. Though the document says nothing about problems in the existing system on the issue of internationalization, it forwards some emphasis areas in the roadmap period. But the adversity of plagiarism abandoned in the HEIs could be strongly condemned by the roadmap before envisioning internationalization.

The major strategies proposed by the roadmap for internationalization includes (1) building capacity of HEIs in attracting students and staff from overseas, and research grants; (2) internationalization of teaching and research activities without compromising the country's developmental need, and (3) encourage staff and student mobility programs (Africa wide and/or worldwide)³.

Moreover, it suggests to assure quality standards in universities by introducing university's ranking system based on key performance outcome indicators such as publication in reputable journals, patented technologies, number of students enrolled and graduates passed exit exam, employability of graduates, and number of international students attracted.

However, the document fails to address the very difficult task of converting the brain drain into brain gain and overlook the issue of higher education teaching personnel in meeting the UNESCO recommendations about the status of HEIs teaching personnel (World Conference on Higher Education (1998))

ENTREPRENEURSHIP DEVELOPMENT IN TEACHING AND LEARNING

Many have been arguing that harmonization of undergraduate curricula, introduction of modular teaching, continuous assessment, and peer learning, and the establishment and operation of quality assurance mechanisms to be the major achievements of the previous higher education system (Teshome, 2004). Amazingly, after decades of strong denial by the advocators and cadres, the new roadmap document came to admit that the aforementioned elements had little positive impact on the quality HEIs' core processes, i.e. teaching and learning⁴. The Nagoya Declaration on Higher Education for Sustainable Development (2014) recognized that HEIs are responsible “to develop students and all types of learners into critical and creative thinkers and professionals to acquire relevant competences and capabilities for future-oriented innovation in order to find solutions to complex, transdisciplinary and transboundary issues, and to foster understanding and practice of collective values and principles that guide attitudes and transformations, respecting the environmental limits of our planet, through education, training, research and outreach activities” (UNU-IAS, 2018).

The curricula of HEIs are not geared toward the development of employability and other lifelong learning skills among graduates. Filling this gap demands changing the old structure of curriculum (knowledge-based) to give way to a new one, *competency-based* type of curriculum—which stresses identification of professional/vocational skills, job-specific skills and transferable skills a graduate may have after completing a program. Relatively the HEIs have been proving good cognitive knowledge, but not on non-cognitive knowledge or employability skills such as computer skills, research skills, communication skills, life skills and entrepreneur skills. The general education curriculum did not adequately include the life skills and practical skills, and similarly university education is inadequate in skill and practical orientation. The former programs at the Ethiopian universities have not been providing entrepreneurial skills, while developing entrepreneurial

²: Ethiopian Education Development Roadmap page 62

³: Ethiopian Education Development Roadmap page 53

⁴: Ethiopian Education Development Roadmap page 53

skills and initiatives should become major concerns of higher education in Ethiopia today due to the fact that the country is devastatingly suffering from unemployment of youth graduates.

In this case, the new roadmap and the new entrepreneurship syllabus and module that followed brought about some changes (entrepreneurship become common course at freshman level, supporting courses such as critical thinking and emerging trends and technologies are added to the curriculum). To address the issue of who will teach entrepreneurship in universities, the roadmap intended to develop a guideline that allows universities to appoint industry leaders as part time professors so that they can periodically provide lectures for students; though it seems not an easy task in its practicality. Sufficient job also needs to be done in setting up different incubation centres, demonstration parks, and exposure visits to be part of the teaching and learning environment. The curriculum design and organization by itself needs to be competency based and various ways of "differentiation" of universities must be explored. Because differentiation promotes institutional quality and system competitiveness, accountability, and sustainability.

It is stated in the roadmap that the new education system aspires to create citizens that are holistic, balanced (between cognitive and non-cognitive skills includes value) and entrepreneurial⁵. If this is the case, universities must be allowed to choose their areas of specialization and excellent based on their strength and opportunities with local, national and international context.

Quality of university education is also linked with quality of secondary schools. The students must come prepared for university education. Most students join higher education without having sufficient knowledge of the subject to join university and without having readiness for university education (Habtamu, 2016).

UNIVERSITY – BUSINESS/EXTERNAL RELATIONSHIPS FOR KNOWLEDGE EXCHANGE

The existing university-industry linkage was found inadequate hence students did not have ample exposure to real-world of work as well as the teaching of practitioners from industry.⁶

The roadmap identified poor research infrastructure, poor integration of teaching and research, poor linkage of research findings to the community, and low potential of universities to solve problems of industries, and poor university-industry linkage as the main discrepancies in this regard. Research topics are driven by interests of researchers and donors, with little or no serious relationships with prevailing policy concerns. Universities have weak or no ties whatsoever, with technology users. Consequently, research results tend to be refuted by policy makers, dismissing them as being too academic or not suited to solve the country's socio-economic problems.⁷

The universities are further criticized for the limitation in active engagement of faculty in research because of limited research time and incentives, and inefficient and corrupt financial and procurement services at university level. More severely, the absence of plagiarism control mechanisms made the achievement in research to be far below the level of the country's aspiration. There is poor oversight of research applicability, scarcity of knowledge frontiers, and limited number of personnel available to conduct high quality and relevant research in the country's HEIs. As a result, most research conducted by higher education are short of addressing community problems and are found less relevant for the country's development.⁸

As a solution, the roadmap insists the promotion of local journals that meets international standards so as researchers can gain experience of publishing their research finding in peer review national and international journals in addition to improving research infrastructure (laboratory, publishing, transport etc.). It is also proposed to introduce university student internship service program mentioned under Unity with Diversity section, which required students to spend additional one year after the end of their 3rd year undergraduate study.⁹

ORGANIZATIONAL CAPACITY, PEOPLE AND INCENTIVES

One of the very critical role players in higher education in general and in entrepreneurial oriented institutions in particular, which unfortunately given a very little emphasis in the roadmap draft document, is the human capital and institutional capacity. The only two issues in this regard mentioned as problematic areas by the roadmap are Information Communication Technology (ICT) infrastructure and institutional inefficiency.¹⁰ Regarding the former the roadmap says; "universities (more severe in the recently established universities-3rd generation universities) are encountered with poor connectivity and a lack of technical expertise to properly develop and use ICT for academic and research purposes."

On the other hand, the [Ethiopian public universities overall] ratio of administrative staff vis-à-vis academics is close 3:1, which is highly inefficient. Most academic staff of HEI in Ethiopia are not engaged in research and community services, while they are supposed to allocate 75% of their time on teaching and 25% on research and community services (Ethiopian Higher Education Program (EHEP), 2009).

Given this, the roadmap urges measures to be taken to improve the university support system to increase the efficiency of finance, purchasing and other services provided to research and community services which requires more attention than those of other sections.

However, the issues of faculty's academic freedom, lack of adequate resources and facilities, teachers' working condition, salary and incentives, etc. remained unnoticed and the problems seem to persist, though.¹¹ The expatriate staff attraction trend in the HEIs in Ethiopia is narrowly framed in that the wide majority of the Indian professors hired by the universities do not pass through a proper scrutiny which becomes another means of Corruption allegation for the higher officials of the institutions and many complaints are heard from the students about their competence.

On the other hand, the dominance of ethnic politics in the university's atmosphere make it very difficult to attract and maintain qualified and diversified staff which is significantly compromising quality and creativity in universities. This is another unresolved issue to continue being bottleneck of Ethiopian HEIs.

Therefore, it is really vital to ensure appropriate professional and financial status of academic staff and have appropriately trained administrative and technical personnel for HEIs to score high in any of their endeavours.

Out of the seven parameters used as a foretaste in this paper, two of them; 'Pathways for entrepreneurs' and 'Measuring the impact of the Entrepreneurial University' are totally unaddressed by the draft roadmap document. For the remaining also not expressed in strongest terms assuring the government's commitment.

PATHWAYS FOR ENTREPRENEURS

Supporting entrepreneurial initiative of their faculties and students becomes one of the major concerns of higher education today, in order to facilitate employability of graduates who will increasingly be called upon to be not only job seekers but above all to become job creators. Higher education institutions should give the opportunity to students and staff to fully develop their own abilities with a sense of social responsibility, educating them to become full participants in democratic society and promoters of changes that will foster equity and justice (WDHE, 1998).

The links between higher education, the world of work and other parts of society should be strengthened and renewed through the participation of its representatives in the governance of institutions, the increased use of domestic and international apprenticeship/work-study opportunities for students and teachers, the exchange of personnel between the world of work and higher education institutions and revised curricula more closely aligned with working practices through different mechanisms such as community based education. Ill-advisedly, this important factor seems to be missed in the new roadmap. Henceforth, partnership, based on common interest, mutual respect and credibility should be a prime matrix for renewal in higher education (ibid).

MEASURING THE IMPACT OF THE ENTREPRENEURIAL UNIVERSITY

The monitoring unit of government called Higher Education Relevance and Quality Agency (HERQA) is deemed to be toothless in the eyes of public HEIs in that nothing to do except making a regular visit around them (Woldegiorgis, 2015). Therefore, instead of such government dependent unit, impact monitoring requires

⁵ : Ethiopian Education Development Roadmap page 54

⁶: Ethiopian Education Development Roadmap page 54

⁷ : Focus Group Discussion at Jimma University, 26/03/2019

⁸ Ethiopian Education Development Roadmap: page 61

⁹ Ethiopian Education Development Roadmap page 60

¹⁰: Ethiopian Education Development Roadmap page 51

¹¹: Focus Group Discussions at Jimma University and Wolkite University on 26/03/2019 and 11/04/2019 respectively

the involvement of all relevant stakeholders in all aspects of higher education. The evaluation process and the criteria also need reconsideration to include curriculum and pedagogical undertakings, extra-curricular activities such as guidance and counselling services, the framework of institutional arrangements, policy-making, and institutional governance; (WDHE, 1998). More importantly, there should be mechanisms in place for checking of the progress and effectiveness of the roadmap periodically. It should not take decades to understand the success and failure of the system. One among such kind of mechanisms is the Labour Market Information System (LMIS), an active labour market policy instrument that collects, evaluates and provides labour market information to both the labour supply side and the labour demand side (ILO, 2018).

CONCLUSION

With regard to entrepreneurial oriented transformation of Ethiopian HEIs, the new education road-map remained to be half-shed in that it worked hard in the curriculum and program aspect but failed to bring about resolutions in setting an entrepreneurial ecosystem in Ethiopian HEIs.

The roadmap seems to be more dedicated to intensely work out in identifying the problems and pitfalls in the old education system and made little effort to foresee the upcoming endeavours in the global as well as national developments, and strategically synchronize them into policies, curriculums and programs.

To sum-up, the new education roadmap can only be just an initial step while entrepreneurially inspiring the universities require the overall reform of the universities in the seven fundamental tenets addressed in the discussion part and it is indeed timely and demanding to make internally driven transformation in the universities in line with the nation's development aspirations. To this end, reforming higher education and research in Ethiopia will significantly contribute to alleviating problems of current social and political crisis, and becoming increasingly marginalized in the world economy.

REFERENCES

- Allan Gibb (2013). *Leading the Entrepreneurial University: Meeting the Entrepreneurial Development Needs of Higher Education Institutions*, Springer Science+Business Media New York
- Clark, Burton R. (1998). *Creating Entrepreneurial Universities. Organizational Pathways of Ethiopian Higher Education Proclamation NO. 351/2003*, Ethiopian Ministry of Education Federal Negarit Gazeta, 2003-08-03, No. 72.
- Ethiopian Higher Education Proclamation No. 1152/2019, Ethiopian Ministry of Education. Federal Negarit Gazeta, 2019-08-12, No. 72.
- Ethiopian Higher Education Proclamation No. 650/2009, Ethiopian Ministry of Education. Federal Negarit Gazeta, 2009-09-17, No. 64.
- EU-OECD (2012). *A Guiding Framework for Entrepreneurial Universities*, final version December 2012.
- Habtamu D. Garomssa (2016). *The state of entrepreneurialism in a public university in Ethiopia: Status, challenges and opportunities*, A Master's Thesis, University of Tampere School of Management Higher Education Group
- Higher Education Systems Overhaul (HE-SO) (2004). *Report of the Committee of Inquiry into Governance, Leadership and Management in Ethiopia's Higher Education System*
- Huub L.M. Mudde, Meine Pieter van Dijk, Dugassa Tessema Gerba, Alemfrie Derese Chekole, (2019). "Entrepreneurial change in government-led development: Ethiopian universities", *Higher Education, Skills and Work-Based Learning*, <https://doi.org/10.1108/HESWBL-07-2018-0073>
- ILO (2018). *Public Employment Services Provision and Labour Market Information Collection and Utilization in Ethiopia*, ILO Addis Ababa, Ethiopia
- John Brennan, Roger King and Yann Lebeau, (2004). *The Role of Universities in the Transformation of Societies: An International Research Project Synthesis Report*, Centre for Higher Education Research and Information, London, UK
- Madhavan, R., & Grover, R. 1998. From embedded knowledge to embodied knowledge: *Management Journal* 15 (Winter special issue): 143-152.
- Ministry of Education-Education Strategy Centre (ESC) (2018). *Ethiopian Education Development Roadmap draft document*, Addis Ababa
- OECD (2001). *Higher Education Management*, *Journal of The Program on Institutional Management in Higher Education*, Vol. 13 - No. 2
- Stewart, T. (1997). *Intellectual Capital: The New Wealth of Organizations*, *Nicholas Strategic Management Journal* 18: 509-533.
- Teshome Yizengaw (2004). *The Status and Challenges of Ethiopian Higher Education System and its Contribution to Development*, *The Ethiopian Journal of Higher Education* Vol. 1 No. 1 June 2004
- Transformation 1998* ss. 3-8, 127-148, Pergamon Press
- UNESCO (1998). *World Declaration on Higher Education for Higher Education in the Twenty- First Century: Vision and Action: adopted by the World Conference on Higher Education*, UNESCO, Paris
- UNU-IAS (2018). *Innovation in Local and Global Learning Systems for Sustainability Learning Contributions of the Regional Centres of Expertise on Education for Sustainable Development*, Tokyo, Japan
- WB (2003). *Higher Education Development for Ethiopia: Pursuing the Vision*, A World Bank Sector Study
- Woldegiyorgis, A. A. (2015). *Higher education in early-stage developmental states: lessons for beginners*. *Working Papers in Higher Education Studies*, 1(1), 1-22.

STUDY ON RISK FACTORS INFLUENCING PROJECTS IMPLEMENTATION IN ETHIOPIA: EVIDENCE FROM CONSTRUCTION PROJECT

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ABSTRACT

The issues of project and its implementation had received great consideration throughout the country. Thus, the study was executed concerning the construction industry in Ethiopia. The main goal of this study was to discover the influence of construction, commercial, legal, management, logistic, environmental, design, physical location and financial risks on implementation of the construction projects in Ethiopia. The study used quantitative research approach with primary and secondary data. The primary data was gathered by means of questionnaire from purposely selected 100 Engineers and professionals in the construction ecosystem. The secondary data was collected from published materials. The study used multiple regression performed by using SPSS-24 statistical tools. The study discovered that the extent of implementation of the construction projects was considerably affected by the commercial risk, construction risk, financial risk, management risk, design risk, legal risk, logistics risk, physical location risk and environmental risk in Ethiopia. Thus, the study supposed that parties in construction environment shall give due attention to construction, commercial, management, legal, design, physical location, logistics, financial and environmental uncertainties as they were caused postponement and failure of the project in the country. As a result, to deal with the construction project risks the responsible bodies shall design risk management database scheme since it boosts the efficiency and effectiveness of construction management at every stage of project life cycle.

KEYWORDS

Ethiopia, construction industry, project, risk.

JEL CODES

G31, G32.

I. INTRODUCTION

History tells us that the growth and development of all country in the world is the product of developmental projects such as irrigation, road, bridge, dam, electricity and schools as well as agriculture. It indicates that the role of the project in the development of a given country like Ethiopia. Due to its importance, size, long term economic-social, political and environmental effects, the project demands a tremendous amount of capital and other sources. For that reason, in the last two decades, intensive developmental projects, mainly construction project, have been done in Ethiopia. The country executing several development projects targeted to poverty reduction and mitigation. For this, the government encouraging the existing domestic contractors and organized and licensed graduated engineers the same as contractors and sub-contractors. Also, the government provides an incentive for foreign and local contractors as well as investors, engages on the developmental projects. The fund of the project was obtained both from equity and domestic as well as international debts. Hence, Ethiopia received millions of dollar from the local and internal monetary institutions and developed countries. However, scholars, creditors, donors, community and agencies have criticized the way the resources, mainly project funds utilized in the country. Further, the general public and creditors and stakeholders have disbelief the quality and delay of various construction projects. Moreover, the government itself criticizes the variety of the project and miss-utilization of the resources by State Television and Radio. More subtly, people, scholars, auditors, donors and creditors have identified the existence of several incomplete and failed projects in the country. The prior works stated that the failure of the project was the fruit of construction, political, commercial, economic and financial risks. For instance, Kolhatkar and Bijon (2013) assured that the construction companies exposed to risks, mainly macroeconomic, financial, commercial and political risks due to the nature of the industry, extreme competition, entry barrier, high uncertainty or risk involved, and capricious fluctuations in the construction volume. Sara (2008) stated that the failure of the project was a fruit of three risks, namely political, commercial, and economic or financial. Macroeconomic factors are economic statistical information that indicates the current position of the economy of the nation on industry, labor market, trade, investment, interest rate and inflation. They are systematic risk such as investment, exchange rate, inflation, foreign debt, unemployment rate and price steadiness (Asaolu and Ogunmakinwa, 2011). These types of risks can be affected the entire enterprises in the economy in general and the construction industry in particular. The Ethiopian macro economy is widespread with towering extent of inflation, foreign exchange and decline in investment linger an alarm to the entire participants of the economy. According to Plecher, (2019) in 2020, the inflation rate is 12.68, being grossly influenced by variation in the birr value, demand pull and limited supply of goods in Ethiopia. Similarly, the change in foreign exchange relative to dollar in 2019 challenges the economy in general and the construction enterprises as most of the construction materials are imported from other countries. Although, this is the reality, to the researcher best experience and understanding no study investigated the challenges and uncertainties of completion of construction projects in Ethiopia. So, this article was explored the risk that influence the proper implementation of construction projects in Ethiopia.

STATEMENT OF THE PROBLEM

In Ethiopia, the use of project money has been increasing in the past 20 years. The country is strivings to enhance the level of economic growth and development through short and long-term projects. Consequently, numerous numbers of road, dam, irrigation, railway, power, university and hospital projects which are financed by debt and equity. Though the country is received foreign debt reported at 56 billion dollars in 2019 for poverty alleviation the professionals and community are questioned the extent of quality of the developmental projects. The stakeholders claimed that the certain domestic and global projects are completed with an inferior quality. Moreover, they were disputed rescheduling of the project works in general and the construction project in particular. Preceding studies provided that the level of project completion were impaired political, commercial and macroeconomic factors. However, to the best knowledge of the researcher, no study was executed on investigating whether commercial risk, construction risk, financial risk, logistic risk and legal risks were the causes for the delay or incompleteness of construction projects in Ethiopia. Hence, the study was investigated the impact of these risks on the construction project execution in Ethiopia.

RESEARCH QUESTION

What are risks of the construction projects implementation in Ethiopia?

OBJECTIVES OF THE STUDY

The overall aim of this portion was to survey the risks of implementation of the construction projects in Ethiopia. Specifically, the researcher designed:

1. To study the influence of commercial risks on the implementation of construction projects in Ethiopia.
2. To explore the impact of management risks on the implementation of construction projects in Ethiopia.

3. To identify the influence of design and physical location risks on the implementation of construction projects in Ethiopia.
4. To investigate the effect of logistic risks on the implementation of construction projects in Ethiopia.
5. To study the impact of environmental uncertainty on implementation of construction projects in Ethiopia.
6. To study the influence of construction risks on the implementation of construction projects in Ethiopia.
7. To identify the influence of financial risks on the implementation of construction projects in Ethiopia.
8. To identify the influence of legal matters on the implementation of construction projects in Ethiopia.

DELIMITATION OF THE STUDY

The study applied both qualitative and quantitative methods. The study further selected 100 engineers, accountants, purchasers, auditors and administrators in the construction milieu in a country. It has limited to look at the influence of commercial, financial, construction, design, location, management, logistics, environmental and legal risks on the construction projects implementation in Ethiopia.

LITERATURE REVIEW

In recent years, intensive research and development have been done in the area of project uncertainty. Consequently, the risk of project failure can be classified as commercial, economic and political risks. Yescombe (2002) explained commercial risk as those inherent in the project itself. According to Sara (2008) the commercial risk is associated with project itself and can happen at the stage of construction and operation of the project works. Finnerty (2007) provided nine kinds of risks affected project, particularly supply, technological, completion, economic, financial, currency, political, environmental and force majeure.

Nevitt (2000) expressed that the risk of the project at the construction stage as the uncertainty of the financial failure of the contractor. In other words, it is the risk occurred due to bankrupt and insolvency. Also, it had occurred when the contractor/s bankrupted, in repose, the project work is at risk of not being complete or being delayed, and the project expenditure and costs as well as put off the income or revenue sources are augmented. According to Sara (2008), the other risks at this stage are the risk of not obtaining adequate permits and sites, which is granted by the host regime and the risk of costs overrun, which increase the overall expenditure and price of the project, in repose the decreases viability of the project. The operation stage risk includes management of the operation, technological failure or obsolescence, input risks and revenue risks. The input risks relate in particular to the price and supply of the raw materials which could be hampered either by market forces or actions taken by the host government or governments of countries in which the raw material is extracted/produces or processed. These actions may cause the production to either slow down or become more expensive, which in both cases changes the expected cash flows and thus affect the debt repayment. Revenues can be divided into quantities and price, and both factors can be affected by several other risk factors and participants (Sara, 2008). The decline of revenue is on demand decline, lack of raw materials, new competition, drop in the quality of the product, delay of the production site, force majeure and legal disputes (Tinsley, 2000). In the same way, price can be affected by many different risks and parties. Competitors may lower prices, or the government may impose price controls, tariffs or royalties. Input and revenue risks are tried secured through contracts with suppliers and buyers, but again, such contracts require sound regulatory scheme and no government interference.

Artto and Kähkönen (2000) classified risks as pure risks (hazards and weather conditions), financial risks (cash flow or credit risk), business risks (almost anything that can occur in a project) and political risks- certain political environment and project risks caused mainly by extreme conditions ethical tension and conflict or war. Project actors can cause hazards to one and other because of inexperience, the lateness of their products, delivery failure or unmade payments (bankruptcy) or new government laws either in favor or disfavor of the project. Turner (1999) was stated that the risk is segregated based on their effect or control lies. The author further classified the risk as business risks, insurable risks, internal risk and external risks. External project risk is risk that out of the control of the project manager such as unfavorable weather condition, and business risks are those risks that in general have to be accepted to have an opportunity to take advantage of positive outcomes of a risk.

Miller and Lessard (2001) was classified the risk of the project as market risk, completion risk as well as institutional risk on the base of sources in the viewpoint of big engineering projects. Subsequently, the researcher expressed the market risk as to the risks caused by the demand uncertainty related to the demand, supply and financial. They explained completion risks of the project as technical, construction and operational risks occurred during and after the completion of a project (such as will the capacity of a factory is as designed and planned). Moreover, they explained institutional risks (regulatory, social acceptability and sovereign) as political uncertainties in a specific situation. Finally, the researcher recommended a layering process for systemic transfer, diversify and sell risks with financial instruments, real options and contract incentives.

Ward and Chapman (2003) was depicted different kinds of uncertainties, namely variability associated with estimates, the uncertainty of the basis of forecasts, design and logistics, objectives and priorities and fundamental relationships between project parties. Baloi and price (2003) in their study they classified the risk of the project as broad risk list and an impact type list. The former category included technical, construction, legal, natural, and logistics, social, economic, financial, commercial and political. The second classification included dynamic vs. static, corporate vs. individual, internal vs. external, positive vs. negative, acceptable vs. unacceptable and insurable vs. non-insurable. Mills (2001) identified as weather risk, productivity risk (labor and plant) and quality of material as the critically risks impaired the construction projects.

Klemetti (2006) found that lack of risk management motivation, competition based on the lowest bid, adverse relationships, extensive subcontracting, subcontractors' subcontractors, information flow breaks, foreign workers, lack of experience and professional pride, incomplete designs, lack of risk management knowledge, and force majeure as the major risks or uncertainties affected construction project network. The researcher further divided these risks as a business practice that includes risk management motivation, competition based on the lowest bid, adverse relationships. Secondly, project risks are from lack of know-how that comprises of extensive subcontracting, subcontractors' subcontractors, information flow breaks, foreign workers, lack of experience and professional pride, incomplete designs and lack of risk management knowledge. Thirdly, real risk indicated force majeure risks. Increasingly, the researcher identified change in project scope and requirements, design errors and omissions, improperly define role and responsibilities, subcontractors, insufficient staff's skills, inadequate experiences of the contractors, uncertainty of primary association among project participants, new technology, unfamiliarity with local conditions and force majeure as the fundamental causes for the construction project.

Eldash (2012) stated that a Hazop study is a common identification technique used to examine proposed systems, equipment and procedures systematically and in detail. Further, the author expressed that the goal of this method is to recognize potential hazards to people, the environment, the plant or operations and the proposed arrangements for their control. Moreover, the paper explained that a Hazop study is usually conducted when the design for a proposed system, plant or production unit is at or nearing completion. But the research must facilitate by an experienced independent person and includes appropriate management, design, operations and maintenance personnel with direct involvement in the project. The components of the study are frequently specific flow lines; process flows and process steps. The companies risk management maintained scheme depends on a database of firm risk management because the database allows the companies to apply knowledge concerning risks efficiency and could be used at the several points of business and project activity (Eldash, 2012).

Also, the author suggested the fault tree analysis model for assessing risk on the project. The method is fundamental for risk evaluation, with essential extensions into quantitative aspects of risk examination. It is a process, derived from systems engineering, for identifying and representing the logical combinations of causes, system states and risks that could lead to or contribute to a specified failure event, often termed the top event. Fault tree analysis provides a structure for estimating the likelihood of the top event by tracing back the causes until it has identified simple events or component states for which the probability can be estimated. Fault trees constructed using two types of logical connection, 'AND' gates and 'OR' gates.

Taiwo and Adeniyi (2017) investigated that inflation, exchange rate and interest rate were macroeconomic indicators that affect building material prices. Furthermore, the researcher indicated that interest rate, inflation and exchange rate had a positive significant effect on building material prices. Evermore, the study provided that external reserve, lowered internal productivity, raised the cost of construction and killed the desire to be self-reliant. Increase in the prices of building materials has multipliers effect on the industry in the sense that, it will lead to fluctuation, which could invariably lead to abandonment of projects. The introduction of the foreign exchange market had further impacted negatively the prices of building materials (Jagboro and Atigogo, 2000).

Kolhatkar and Bijon (2013) Project finance debt is often sourced from foreign lenders and in foreign currencies, yet project revenues are generally denominated in local currency. The cost of debt can increase and often very dramatically, where the exchange rate between the currency of revenue and the currency of debt diverge. Though under the theory of purchasing power parity, inflation pressures on the currency devalue will eventually bring the foreign exchange rate back to parity. The project finance lenders are generally not prepared to wait quite so long (with average periods of about 10 years). Where revenues are to be earned in some currency other than that in which the debt is denominated, the lenders expect to see the revenue stream is adjusted to compensate for any relevant change in exchange rate or devaluation. If this is not available, the lenders will want to see appropriately robust hedging arrangements or some other mechanism to manage currency exchange risk. Generally, the researchers divided the financial risks as bankruptcy of project partner, fluctuation of inflation rate, fluctuation of interest rate, fluctuation of exchange rate, rise in fuel prices, insurance risk, currency exchange risk and liquidity risk.

Aleshin (2001) in Eldash (2012) was suggested that the country shall give attention to political instability, volatility of tax and customs systems and significant change in level of currency. The study stated that these risks have strong negative impact on the project works. Artto and Kähkönen (31) classified risks as pure risks (hazards and weather conditions), financial risks (cash flow or credit risk), business risks (almost anything that can occur in a project) and political risks- certain political environment and project risks caused mainly by extreme conditions ethical tension and conflict or war. Risks in the project network can relate to any one of this list's categories.

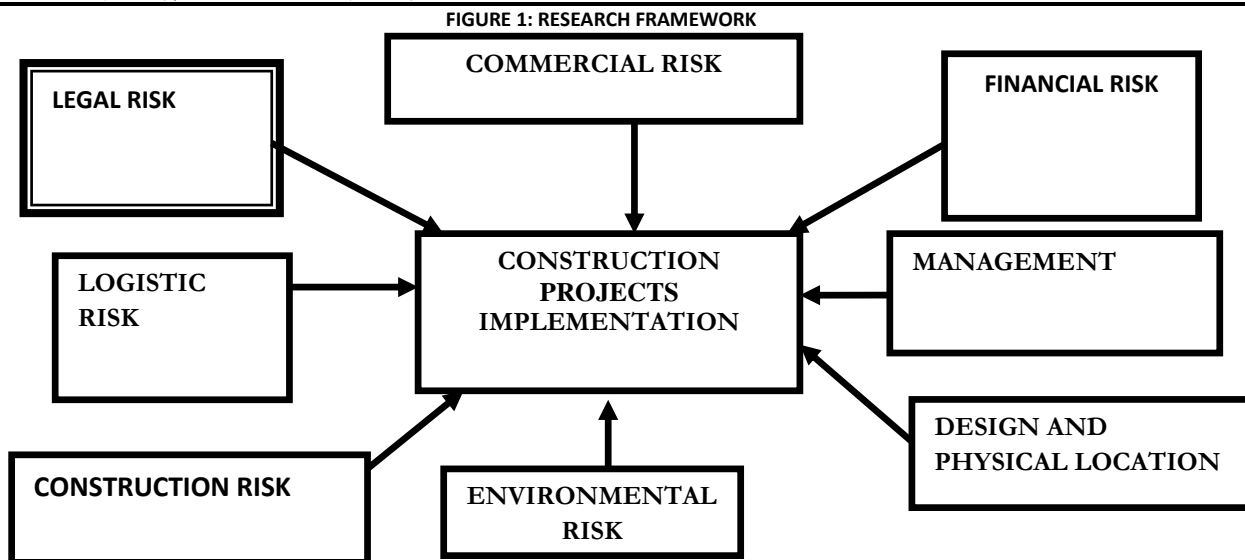
According to Kishan and Bhatt (2014), the risk of construction project includes design, physical, logistics, legal, environmental, management, cultural, financial construction, and political. They were stated that construction projects are initiated in complex and dynamic environments resulting in circumstances of high uncertainty and risk, which are compounded by demanding time constraints. As the most common and typical project types, construction projects have several characteristics such as time limit, specific objects, financial constraints, economic requirements, special organizational and legal conditions, complexity and systematic characteristics. For that each construction project itself is a complex system. Risks always exist in construction projects and often cause schedule delay or cost overrun. Consequently, the study identified 47 risk factors vis-à-vis construction project risk and outcome under the category of design, physical, logistics, legal, environmental, management, cultural, financial, construction and political.

TABLE 1: CONSTRUCTION RISKS AFFECTING BUILDING PROJECTS

A. DESIGN	A1. Defective design (incorrect) A2. Inaccurate quantities A3. Not coordinated design (structural, mechanical, electrical, etc.) A4. Rush design A5. Awarding the design to unqualified Designers A6. Lack of consistency between bill of quantities, drawings and specifications
B. PHYSICAL	B1. Occurrence of accidents because of poor safety procedures B2. Supplies of defective materials B3. Security of material and equipment B4. Public security B5. Varied labor and equipment productivity
C. LOGISTICS	C1. Improper site investigation C2. Inaccurate project program C3. Unavailable labor, materials and equipment C4. High competition in bids C5. Undefined scope of working C6. Poor communications between the home and field offices (contractor side)
D. LEGAL	D1. Ambiguity of work legislations D2. Difficulty to get permits D3. Delayed disputes resolutions D4. Legal disputes during the construction Phase among the parties of the contract D5. No specialized arbitrators to help settle fast
E. ENVIRONMENTAL	E1. Adverse weather conditions E2. Difficulty to access the site (very far) E3. Environmental factors (floods, earthquakes, etc.)
F. MANAGEMENT	F1. Poor communication between involved Parties F2. Ambiguous planning due to project Complexity F3. Changes in management ways F4. Information unavailability (include uncertainty) F5. Resource management
G. CULTURAL	G1. Religion G2. Cultural custom
H. FINANCIAL	H1. Delayed payments on contract H2. Unmanaged cash flow H3. Inflation H4. Financial failure of the contractor H5. Exchange rate fluctuation H6. Monopolizing of materials due to closure and other unexpected political conditions
I. CONSTRUCTION	I1. Gaps between the Implementation and the specifications due to misunderstanding of drawings and specifications I2. Actual quantities differ from the contract Quantities I3. Design changes I4. Lower work quality in presence of time Constraints I5. Rush bidding I6. Undocumented change orders
J. POLITICAL	J1. New governmental acts or legislations J2. Inflation J3. Unstable security circumstances (Invasions)

Source: Kishan and Bhatt (2014)

Though the previous studies indicated the role of commercial, knowledge, design and physical location, financial, legal, construction, logistic and environmental risk factors in harming the construction projects as per my experience and understanding in the past no similar research was executed on investigating the influence of these project-related risks factors on construction projects. Based on the empirical evidence, the researcher designed the following research framework that shown the relationship between predictors and dependent variable.



Source: By researcher

IMPORTANCE OF THE STUDY

The importance of this study was to survey the significant factors affected small and megaproject in Ethiopia. The paper investigated the uncertainties of the project activities, mainly construction projects implementation in Ethiopia. The findings help the policymakers and other stakeholders in avoiding the significant causes of project failure and unsuccessful in the country. More importantly, the findings will be assisted the government and contractors to efficiently and effectively utilize the funds and resources obtained from equity and debt. The findings aid a government and contractors to efficiently and effectively complete construction with specified schedule. It assists the government in combating social, economic, political and environmental matters. The output helps the regime in offering high quality of the public goods and services akin to road, dam, irrigation, railway, power, university and hospital. It aids the contractors in completing the public goods and services such as road, dam, irrigation, railway, power, university and hospital in plan at profit. It helps the government in reducing poverty, tension, conflict and public resentment in the country. It may enhance the connection between parties in the construction environments. It assists the contractors and owners in vacating unhealthy and high risky construction contracts and reducing non-value added activities. It assists the regime in enriching certain, convenient, productive, efficient, effective and economy conditions for the construction industry. The findings enhance the profitability of the contractors through diminishing rescheduling of projects period. The output will have aided the government and enterprises towards creating collaborative project risk management scheme. The finding is essential to attain objectives of the investor, owners, constructors, consultants and supply chain because the interest in the construction industry is growing rapidly in the country. Finally, it overcomes the need of literatures on the construction projects in the world in general and Ethiopia in particular. It encourages the future researcher to deeply examine other factors affects the project works.

RESEARCH METHODOLOGY

The researcher used the quantitative research method because, in a quantitative approach, the investigator utilized and tested the assumptions, questions and theories to create information on the factors. The study used primary and secondary data such as the respondent's opinion and previous works on the projects. More subtly, the primary data collected by means of questionnaire from engineers and professionals under the construction ecosystem in country. For sample size, the study deliberately selected 100 Engineers and related professionals across the country. The study used both descriptive and inferential analyses to analyzed and interpreted data. So, it has employed the following multiple regression analysis executed by SPSS-24.

$$\text{Model: } \text{CPI} = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + e_i$$

Where,

CPI= Construction project; β_i =Coefficient for X_i

X_1 = Commercial risk X_4 = Logistic

X_2 =Management risk X_5 = Environmental risk

X_3 = Design and physical location X_6 = Construction Risk

X_7 = Financial risk X_8 = Legal Risk

e_i = Residual errors

RESULTS AND DISCUSSION

FINDINGS

In this part, the paper discussed the findings on the risk that affected an implementation of the construction project in Ethiopia.

TABLE 2: MODEL SUMMARY

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Change Statistics					Durbin-Watson
						R Square Change	F Change	df1	df2	Sig. F Change	
1	.756 ^a	0.572	0.567		0.54186	0.572	26.38	5	95	0.000	1.853

a. Predictors: (Constant), Commercial Risk Management Risk, Design and Physical Location Risk, Logistics Risk Environmental Risk, Construction Risk, Financial Risk and Legal Risk.

b. Dependent Variable: Construction Project Implementation

TABLE 3: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.73	5	32.456	26.38	.000 ^b
	Residual	29.0095	95	0.070		
	Total	67.74	100			

a. Dependent Variable: CP

b. Predictors: (Constant), Commercial Risk, Management Risk, Design and Physical Location Risk, Logistics Risk, Environmental Risk, Construction Risk, Financial Risk and Legal Risk.

In Table 2, the R^2 and adjusted R^2 as depicts that about 57.2 per cent and 0.67 per cent of the variability of project finance and implementation is recognized by the model, respectively. From Table 3, it can be seen that the model is statistically significant with a p-value of 0.000 and F-value of 26.38.

TABLE 4: REGRESSION OUTPUTS ON RISKS AFFECTED CONSTRUCTION PROJECTS COMPLETION IN ETHIOPIA

Construction Projects Implementation	Standardized Coefficients		t	p	Collinearity Statistics
Predictors	Beta	Std. Error			VIF
(Constant)	1.373	0.158	8.680	0.000	
Commercial Risk	-0.499	0.045	13.763	0.000	1.271
Management Risk	-0.199	0.027	6.156	0.002	1.011
Design and Physical location Risk	-0.273	0.028	7.944	0.000	1.146
Logistics Risk	-0.196	0.028	5.778	0.000	1.111
Environmental Risk	-0.063	0.080	1.971	0.049	1.003
Construction Risk	-0.106	0.091	1.899	0.058	1.000
Financial Risk	-0.206	0.091	3.692	0.050	1.000
Legal Risk	-0.142	0.091	2.544	0.011	1.000

Significant at 0.01, 0.05 and 0.10

Table 4 indicates the significant sources of the construction projects risk in the viewpoint of Ethiopia. Thus, we would expect a decline of 49.90 per cent in the magnitude of the project implementation for every one unit augment in commercial risk, keeping all other variables in the model constant. In other words, as the market risk from the demand uncertainty, revenue risks, completion risks, commercial viability risk, operating risks and financial risk increased by 1 per cent the extent of construction project failure is increased by 49.90 per cent in Ethiopia. Furthermore, we would expect a decrease in the level of project implementation for every one unit increase in operating risks keeping all other variables in the model constant. The operation stage risk includes management of the operation, technological failure or obsolescence, input risks and revenue risks. Therefore, as inefficient and ineffective project management and quality of product, delay of production site, force majeure, legal disputes, technological failure, employee's errors, obsolescence, new competition, shortage of raw material, labor, project delays and revenue risks increased by one unit, the extent of construction project failure is increased by 49.90 per cent in the country.

Also, a one-unit increase in management risk leads to a 19.90 per cent unit reduce in the extent of the construction projects implementation, holding all other independent variables in the model steady. In other words, one unit increased in poor communication between involved parties, ambiguous planning due to project complexity, changes in management ways, information unavailability (include uncertainty) and feeble in resource management augment the construction project risk or failure by 19.90 units holding other predictors constant in the model.

We would anticipate a decline of 27.30 per cent in the degree of the construction projects implementation for every one unit increase in design and physical risks, keeping all other variables in the model stable. In the same ways, as the number of defective design, inaccurate quantities, not coordinated design (structural, mechanical, electrical), rush design, awarding the design to unqualified designers, lack of consistency between bill of quantities, drawing and specification, the occurrence of accidents because of inadequate safety procedure, supplies of defective material, the security of material and equipment, public security, varied labor and equipment productivity were increased by 1 per cent, the degree of construction project failure is increase by 27.30 per cent in Ethiopia.

If logistics risk towards construction project is increased by one unit, the degree of construction project failure is increase by 19.60 per cent in Ethiopia, keeping other predictors steady in the model. Similarly, if improper site investigation, inaccurate project program, unavailable labor, materials and equipment, high competition in bids, the undefined scope of working and contractor poor communication between the home and field offices are increased by one unit, the level of construction projects failure is amplified by 19.60 per cent in Ethiopia.

We would suppose a diminish of about 6.30 per cent in the extent of the project implementation for every one unit augment in environmental risk, assuming that all other variables in the model remain silent. As the environment risk such as hazards and weather conditions and difficulty to access the site due floods are increased by one unit, the construction project failure is increase by 6.30 per cent in the country. If the riskiness of project in terms of environment is increased by one unit, the level of construction project failure is possibly amplified by stated per cent in Ethiopia.

On the subject of the construction risk, we would expect a diminish of 10.60 percent in the degree of the construction projects implementation for every one unit augment in construction risk, assuming that all other predictors remain silent in the model. In the same way, the extent of construction projects implementation in Ethiopia dropped by 10.60 percent as the construction risk such as the gap between functioning and the specification because of misunderstand of drawings and specifications, mismatch between actual quantities and contract quantities, design changes, lower work quality in presence of time constraints, rush biddings and undocumented change orders are lift by 1 unit.

With regard to financial risk we would expect a decrease of 20.60units in the amount of the construction projects implementation for every one unit increase in financial risk, keeping all other predictors in the model constant. Similarly, as the number financial risk similar to postponement in payments on contracts, unmanaged cash flows, inflation, financial failure of the contractors, exchange rate fluctuation, monopolizing construction material due to closure and other unexpected political conditions and higher fuel prices are increased by 1 percent, the extent construction projects execution decline by 20.60 units in Ethiopia.

Concerning the legal risk, we would expect a decline of 14.20 percent in the magnitude of the construction projects implementation for every one unit augment in legal risk, keeping all other variables in the model stable. In other words, as the legal risk from ambiguity work of legislations, difficulty to get permits, delayed disputes resolutions, legal disputes during the contracts phase among the parties of the contract and non specialized arbitrators to help settle fast increased by 1 per cent, the extent of construction project failure is increase by 14.20 per cent in Ethiopia. Furthermore, we would expect a decrease of 14.20 unit in the level of the project implementation for every one unit increase in legal uncertainty keeping all other variables in the model constant.

The findings showed that the construction project implementation and activities in Ethiopia were significantly affected by the extent of commercial risk, management risk, design and physical location risk, logistics risk, environmental risk, construction risk, financial risk and legal risk at 0.01, 0.05 and 0.10 critical levels. In the same way, the commercial risk, management risk, design and physical location risk, logistics risk, environmental risk, construction risk, financial risk and legal risks were caused failure and postponement in both mega and other construction projects implementation in Ethiopia.

The findings acknowledged by the current status of project works all over the country. For instance, the media as well as a concerned member of the parliament, including Prime Minister Dr Abiy confirmed the existence of several delayed or postponed and vacated otherwise poor quality projects in the country. More evidently, Prime Minister Dr Abiy on Parliament said: "We are in a better position in starting the project works but not finishing within the stated period." Evermore, the Prime Minister stated that the construction companies are incapable of beginning and executing the project where the shortage of financial was recognized as a critical impediment. Finally, he claimed that just we demand about \$7.50 billion to implement the incomplete projects (Sisay, July 6, 2018). So, the study provided that input supply, revenue, commercial viability, completion, environmental and operating risks were the significant factors critically causing the incompleteness of projects in Ethiopia.

Based on the empirical evidence and outputs, the researcher generalized that lack of management motivation, competition based on the lowest bid, adverse relationships, extensive subcontracting, subcontractors' subcontractors, information flow breaks, foreign workers, lack of experience, professional pride, incomplete designs, lack of knowledge, delay in payments on contracts, unmanaged cash flows, inflation, financial failure of contractors, exchange rate variation, monopolizing construction materials due to closure and other unexpected political conditions, higher fuel prices, misunderstand of drawings and specifications, mismatch between actual and contract quantities, design changes, lower work quality in existence of time constraints, rush biddings, undocumented change orders, ambiguity work of legislations, difficulty to get permits, delayed disputes resolutions, legal disputes during the contracts phase among the parties of the contract and non specialized arbitrators were the major uncertainties affected the construction projects implementation in Ethiopia. Likewise, the study was summarized that commercial, design, physical location, logistics, legal, financial, construction, legal, environmental and management risks were the critical factors influenced the degree of execution of the construction projects in Ethiopia.

RECOMMENDATIONS

- The researcher recommended that the government and contractors should give due attention to the input supply, revenue, commercial feasibility, completion and operating risks that were caused postponement and failure of the construction project at the stage of both construction and operation of the project in the country. To lessen project risks, the responsible body shall increase frequency or period of project inspection; mainly subprojects inspection during the project implementation stage is awesome.
- It is advisable to the government, owner, client and contractors to identify the existence or accessibility of the raw material, funds and others input prior and /or at initial stages of the project works.
- To reduce revenue risks, the researcher recommended that administration and enterprises required to work together to complete the projects within specified schedule by reduce or avoid delay of the income and revenue recognition and waiting time of construction funds and expenditure or cost of the enterprises.
- In addition to maximizing economic and financial gains to stakeholders and economy, advisable if the government, owners, client and enterprises are measure whether a project has the capability to address the desired goals of the project and riskiness in terms of technical, social and institutional risks and green issues. The paper further supposed that the project planners should be recognized financial, economic, social viability and environmental issues of the project.
- It is better if the contractors and owners properly apply 4A's namely Anticipation of funds (WC and cash budget), Acquisition of resource (why, why, how and what), Allocation of resources (how) and Administration and attitude resources (a person how decided and assess the risks) throughout the project life cycle.
- For the government and stakeholders, the best method of lessening the commercial risk of the construction projects is to applied co-operative risk management approach whereby the whole participants are motivated and understanding of the tangible reimbursements from undertaking as well as practicing in the best curiosity of the entire project work.
- The study suggested that the construction enterprises, owners and administration must build straightforward communication platforms, toning project planning and programme, management style, strength the construction resources management system and reduce uncertainty to increase the level of efficient and effective project management. Moreover, the paper recommended that contracts based on trust, fine-grained information transfer system as well as joint problem-solving arrangements are logic of promotes economies of time, integrative agreements, communication and improvements in allocation efficiency and complex adaptation in the project environment
- The study suggested that the contractors ought to gives attention to the practice risks such as incorrect design, inaccurate quantities, lock of coordinated plan towards structural, mechanical and electrical, rush design, awarding the design to unqualified designers, lack of consistency between the bill of quantities, drawing and specification, accidents, inadequate safety procedures, supplies of defective materials, security of material and equipment, public security, varied labor and equipment productivities in the project atmosphere of the country.
- The paper suggested that the responsible bodies must give attention to scope and requirements adjustment, design errors and omissions, proper define role and responsibilities, subcontractor's contracts, staff's skills, experiences of contractors, the certainty of association among project participants, new technology and familiarity with local conditions and force majeure.
- The better method for contractors is to conduct proper site investigation, make accurate project program, identify availability of labor, materials and equipment, refrain from abnormal competition in bids, clearly defined the scope of work and boost contractor's communications between home and site or field offices. The paper further supposed that construction enterprises and stakeholders shall vigilantly recognize construction work site and resources, prepare truthful project arrangement, abstain from unhealthy bid, evidently indicate the scope of project work and encourage effective communication and coordination between home and site offices.
- The researcher recommended that the construction enterprises, consultants and stakeholders shall focus on those environmental risks that maybe damage the construction works in the country. Moreover, it is advisable if they incorporate and deeply examine the issues of the environment in the project plan and program as well as project feasibility studies.
- The appropriate mechanism for the construction industry, consultants and owner are sturdily managing construction risk through reduce the gap of implementation and specification from misinterpretation of drawing and specification, difference among actual and contract quantities, design change, time constraint, rush bidding and undocumented change orders.
- The responsibly bodies shall deal with the financial risks by shrink the postponement of contract payment, unmanaged cash flow, inflation, financial failure of contractor, change of exchange rate and monopolizing of materials because of closure and unforeseen political situations. Regarding foreign exchange risk, it is better if the parties use both borrowing and foreign exchange hedging.
- The parties in the construction ecosystem should be handle legal risk of construction project by diminishing ambiguity of work legislation, intricacy to getting work permits, postponement of the disputes resolutions, legal disputes during the construction phase among the parties of the contract and using specialized arbitrators to help settle fast.
- It is better if the government broadly apply the concept of P3(Public-Private-Partnership) because, in P3 agreement, the government remains actively involved all through the life cycle of the project works from the stage of construction to operation. At the same time, the private sector is accountable for the more commercial functions like project design, development, finance and operations.
- The favorable approach for the government and contractors as well as other stakeholders in the project is to encourage the culture of partnership and collaboration because project is where several the parties have commonly done for extensive period. In other words, valuable for the parties in project contract plan is to create formalized cooperation and partnership based on trust at the level of organization instead of personal to establish permanent relations that enlarge the possibilities for identical participants meet in the future project and share tacit knowledge as well as reduce financial risks of project.
- For the government and stakeholders, the best method of lessen financial risk of project is to applied co-operative risk management approach whereby the whole participants are motivated and understanding of the tangible repayment from undertaking and practicing in the best curiosity of the entire project work.
- The risk management technique, mainly risk management database should be applied into the construction project at the initial stage of the project to get maximum benefit of the technique as it increases risks efficiency using knowledge and could be used at different stages of projects. It is healthier that risk management training for all concerned parties to increase the level of knowledge of formal risk management processes and understanding.
- Advisable if the parties in the construction atmosphere are applying the concept of competition both cooperative and competition such as synergy and teamwork benefit all parties in the construction environment.
- To identify the risk of construction projects recommendable if the concerned shall use Hazop study because it is used to inspect the proposed system, equipment and procedures systematically and in detail. Further, the study recommended this technique as it is crucial to identify the potential hazards to people, the environment, the plant or operations and the proposed methods for their control in the construction environment.
- The study recommended fault tree analysis to assess the risk of a construction project because it is a process, derived from systems engineering, for identifying and representing the logical combinations of causes, system states and risks that could lead to or contribute to a specified failure event, often termed the top event.
- The future researcher shall extend that result by adding other risks using diverse research methods and tools such as time series regression on the financial or macroeconomic risk.

CONCLUSIONS

- The study has given concentration to mounting demand for investigating the influence of commercial, financial, construction, management, logistics design, legal, environmental and location risks on the implementation of the construction projects in Ethiopia. The paper concluded that commercial, financial, construction, management, logistics design, legal, environmental and physical location risks were significantly affected the degree of completion of the construction projects in Ethiopia at 0.01 and 0.05 considerable levels.
- Risk measured in terms of commercial risk has a significant influence on the extent of completion of construction projects in Ethiopia. The paper further concluded that commercial risk was one of critical risks harming the magnitude of implementation of the construction projects in Ethiopia because it related to project itself and happened at the stage of the construction and operation of the project works. The study concluded that Input supply and revenue risks (risk of price and supply of the raw materials, risk of the financial failure of the contractor or bankruptcy, incomplete, augment in project expenditure and costs as well as delay of the income or revenue source and debt repayment) were considerably caused failure and delays of the project in the country.
- Commercial risk in terms of commercial variability risk was significantly affected the extent of completion of the construction project in Ethiopia.
- Regarding management risk, the researcher finalized that poor communication between involved parties, project complexity, vague planning, changes in management system, information unavailability and uncertainty as well as weak in resource management were considerably affected the implementation of the construction project in Ethiopia.
- Construction project risk considered in perspective of design and physical location has a significant effect on the extent of implementation of the construction projects in Ethiopia. Construction project risk measured in viewpoint of logistics risk has considerable impact on the completion of the construction project in Ethiopia.
- Regarding environmental risks, the researcher concluded that hazards, adverse weather conditions and difficulty to access site and environmental factors (floods, etc.) were significantly affected the construction project implementation in the country.
- On the subject of construction risk, the study concluded that the construction project implementation was critically affected by the construction related risk in the country.
- Pertaining to financial risk, the researcher concluded that the financial risk has significant influence on the construction project implementation in Ethiopia.
- Construction project risk measured in terms of legal risk has a considerable influence on the degree of implementation of the construction project in Ethiopia.

LIMITATIONS OF THE STUDY

1. The researcher only considered 100 individuals in the construction environments in Ethiopia,
2. The study just used questionnaires to collect the primary data,
3. There may be numerous risks affecting the construction project implementation risks in the country and
4. Absence of utilization of monetary information towards the financial risks of the project,
5. The study merely focused on the construction project implementation risks.

SCOPE FOR FURTHER RESEARCH

1. The influence of debt finance on the construction project implementation in Ethiopia.
2. Investigating the project risks affecting the construction project implementation via mixed research methods in the country.
3. Investigating the macroeconomic risks affecting project implementation in Ethiopia.
4. Examining the impacts of political risks on the construction project implementation in Ethiopia.

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REFERENCES

1. Adegbembo Taiwo Fadeke and Onaopepo Adeniyi (2017). Evaluating the Effect of Macroeconomic Indicators on Building Materials Prices, pp1 14. Downloaded from March, 2019, <https://www.researchgate.net/publication/316277099>.
2. Anna Klemetti (2006). Risk Management in Construction Project Networks, Helsinki University of Technology, pp 1-123.
3. Artto, K., Kähkönen and K., Pitkänen P.J. (2000). Unknown Soldier Revisited: A Story of risk Management, Project Management Association Finland, Helsinki, pp. 114.
4. Baloi, D. and Price, A.D.F. (2003). Modelling Global Risk Factors Affecting Construction Cost Performance, *International Journal of Project Management*, Vol. 21, pp. 261- 269.
5. Finnerty, John D. (2007). Project Finance: Asset-Based Financial Engineering, 2nd edition, John Wiley and Sons.
6. Gambo, M. J. and Ashen, M. J. (2012). Application of Economic Indicators in Predicting Construction Cost Escalation for Residential Buildings in Nigeria. *International Journal of Economic Development Research and Investment*, 3(1).
7. Jagboro, G.O. and Atigogo, M.E. (2000). Linkage between Share Prices of Construction Firms and Foreign Exchange. The Nigerian Experience African Journal of Business and Research,1(2).
8. Karim Eldash (2012). Project Risk Management, Course Note, pp 1 -175. Retrieved from February, 2020, from <https://www.researchgate.net/publication/27190963>.
9. M. J. Kolhatkar and Er. Amit Bijon Dutta (2013). Financial Risks and Construction Projects, *International Journal of Application or Innovation in Engineering and Management*, (IAIEM) V 2, Issue 11. Retrieved January,2020, from www.ijaiem.org.
10. Miller, R. and Lessard, D. (2001). "Understanding and Managing Risks in Large Engineering Projects", *International Journal of Project Management*, Vol. 19, pp. 437-443.
11. Mills, A., A (2001). Systematic Approach to Risk Management for Construction, *Structural Survey*, Vol. 19, No. 5, pp. 245-252.
12. Mogbo, T.C. (2001). The Construction Sector and the Economic Growth of Nigeria, 1981–95. *The Quantity Surveyor*,35, pp 8-11.
13. Nevitt Peter K. (2000). Project Financing, 7th edition, Euromoney Books.
14. Oladipo, F.O. and Oni, O. J. (2012). A Review of Selected Macroeconomic Factors Impacting Building Material Prices in Developing Countries-A Case of Nigeria. *Ethiopian Journal of Environmental Studies and Management*, 5(2).
15. Patel Kishan and Rajiv Bhatt (2014). A Study of Risk Factors Affecting Building Construction Projects, pp1-5, Vol. 3 Issue 12, *International Journal of Engineering Research and Technology (IJERT)*. Downloaded December, 2019, from www.ijert.org.
16. Ryan J. Orr and Jeremy Tchou (2009). Project Viability Screening: A Method for Early-Stage Merit-Based Project Selection, Sanford University, Pp2-37
17. Sara Moller Toft (2008). Project Finance and Political Risk. An empirical study of the relationship between project finance and political risk, MSc. Finance and International Business, Aarhus University, pp 2-97.
18. Tinsley Richard (2000). Advanced Project Finance - Structuring risk, 1st edition, Euromoney Books.

19. Turner, J.R., (1999). The Handbook of Project-Based Management: Improving the processes for achieving strategic objectives, 2nd edition, McGraw-Hill, London, pp.529.
20. Ward, S., Chapman, C. (2003). Transforming Project Risk Management into Project Uncertainty Management, *International Journal of Project Management*, Vol. 21, pp. 97-105.
21. Yescombe, E.R (2002). Principles of project finance, Academic Press.

APPENDIX

QUESTIONNAIRE
DEPARTMENT OF COMMERCE, PUNJABI UNIVERSITY, PATIALA, PUNJAB, INDIA
Survey instrument

Dear Participant,

This research is entitled as “**STUDY ON RISK FACTORS INFLUENCING PROJECTS IMPLEMENTATION IN ETHIOPIA: EVIDENCE FROM CONSTRUCTION PROJECT**” The researcher is Mr. Keno Telila Mijena who is currently a PhD (in Commerce) Scholar at the Punjabi University, Patiala, India.

The primary objective of this research is to comprehend the views of Engineers and Professional in Ethiopia towards the influence of commercial, management, environmental, construction, financial, design, physical location, logistic and legal risks on the Construction Projects Implementation in Ethiopia. The researcher seeks to gather pertinent information from purposely selected Engineers and other participants by questionnaire. Participation in this project is completely based on your willingness. The self-administered questionnaire results will be recorded anonymously and strict confidentiality will be maintained. Individual responses will not be identified in the investigator’s research work.

For additional information, please contact **KENO TELILA MIJENA** by the subsequent address: E-mail: qanotelila@yahoo.com

Kind regards!

Keno Telila Mijena

Researcher and lecturer at Wollega University, Ethiopia

PART I: GENERAL INFORMATION

1. Your age?
 - A. Less than 20 years old
 - B. Between 20-40 years of old
 - C. Between 40-60 years of old
 - D. Above 60 years of old
2. Gender:
 - A. Male
 - B. Female
3. Relationship:
 - A. Marriage
 - B. Un marriage
 - C. Divorce
4. Level of Education:
 - A. TVET
 - B. First degree
 - C. MSc
 - D. Others
5. Types of your business organization:
 - A. Private Enterprise
 - B. Public Enterprise
 - C. Other
6. Form of your organization:
 - A. Sole proprietorship
 - B. Partnership
 - C. Share Company
 - D. Private limited company
7. Your responsibility in the business?
 - A. Owner
 - B. Project Manager
 - C. Other professionals
8. **Your experience**
 - A. Less than 5 years
 - B. Between 5-20 years
 - C. Over 20 years

PART II: QUESTIONNAIRE ON BASIC VARIABLES OF THE STUDY

Please state your agreement or disagreement to the statements listed in the subsequent table and please tick (✓).

Factors	Strongly agree	Agree	Moderately agree	Disagree	Strongly disagree
I believe that commercial risk such as input supply, revenue, commercial viability, completion and operating risks affected the construction project implementation in Ethiopia.	05	04	03	02	01
I think that management risk for example poor communication among parties, ambiguous planning project complexity, changes in management ways, information unavailability, uncertainty) and poor resource management influenced construction project implementation in Ethiopia.	05	04	03	02	01
I believe that design and physical location like the number of defective design (incorrect), inaccurate quantities, not coordinated plan among structural, mechanical and electrical, rush design, awarding design to unqualified designers, lack of consistency among bill of quantities, drawing and specification, the occurrence of accidents because of inadequate safety procedures, supplies of defective materials, security of material and equipment, public security, varied labor and equipment productivity affected construction project implementation in Ethiopia.	05	04	03	02	01
I believe that logistics risk for example improper site investigation, inaccurate project program, unavailable labor, materials and equipment, high competition in bids, undefined scope of working and poor communication affected construction project implementation in Ethiopia.	05	04	03	02	01
I believe that environmental risk such as hazards, adverse weather conditions, difficulty to access the site and environmental factors (floods, etc) are affected the construction project implementation in Ethiopia.	05	04	03	02	01
I believe that construction risk affect construction such as gaps between implementation and the specifications due to misunderstanding of drawing and specification, actual quantities differ from the contract quantities, design changes, lower work quality in presence of time constraints, rush bidding and undocumented change orders influenced project implementation in Ethiopia.	05	04	03	02	01
I believe that financial risk such as delayed payments on contract, unmanaged cash flow, inflation, financial failure of contractor, exchange rate fluctuation, monopolizing of materials due to closure and other unforeseen political conditions are affected construction project implementation in Ethiopia.	05	04	03	02	01
I believe that legal risk akin to ambiguity of work legislations, difficulty to get permits, delayed disputes resolutions, legal disputes during the construction phase among the parties of the contract and no specialized arbitrators to help settle fast are affected the construction project implementation in Ethiopia.	05	04	03	02	01

Thank You Very Much for Your Commitment!!

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With sincere regards

Thanking you profoundly

Academically yours

Sd/-

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