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Monetary Policy Challenges in Bangladesh: A Regulatory and Banking Perspective

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The objective of this study is to identify challenges encountered by regulators and commercial banks in implementing monetary policy in Bangladesh. The primary data for the research was gathered through interviews with 207 participants from Bangladesh Bank and 19 listed private conventional commercial banks, using a structured questionnaire. The collected data was then analyzed and interpreted using descriptive statistical measures and advanced multivariate techniques, specifically Varimax Rotated Factor Analysis. The study highlights significant challenges for regulators and commercial banks in implementing monetary policy, with a focus on adjusted mean scores. These challenges are ranked from 1 to 29 based on their respective mean scores. The most prominent issue identified is the liquidity trap in the money market, ranked first, while the least practical concern is the central bank's inability to predict the impact of monetary policy on the real level of economic activity, ranked 29th. Additionally, the researcher conducted a ranking of factor variables through Varimax Rotated Factor Analysis. The most crucial factors include economic stability and governance, the inadequate shock absorption capacity of MPS, the absence of a connection to the real economy, consistent policy shifts, regulatory constraints, liquidity constraints posing as government control, and insensitivity of monetary policy.

Keywords
Monetary Policy, Challenges, Central Bank, Bangladesh.

1.0 Introduction

In the dynamic landscape of Bangladesh's financial sector, the effective execution of monetary policy is paramount for achieving economic stability and sustained growth. This research delves into the multifaceted challenges encountered by both regulatory authorities and commercial banks in the intricate task of implementing monetary policy within the nation. Bangladesh, with its unique economic nuances and evolving financial ecosystem, presents a rich terrain for exploring the hurdles that regulators and banks grapple with in their pursuit of optimal monetary policy execution. Monetary policy serves as a linchpin in shaping the economic trajectory of a nation, influencing factors such as inflation, interest rates, and overall economic activity. As Bangladesh navigates through the complexities of a globalized economy, the regulators, primarily the central bank, and commercial banks face an array of challenges that necessitate a nuanced understanding. This research aims to dissect these challenges, offering insights into the intricacies of policy implementation, the evolving regulatory landscape, and the symbiotic relationship between the regulatory authorities and commercial banks (Aminuzzaman, 2013; Karim, 2019; Rana, Mamun, Hossain & Rekha, 2023).

The economic fabric of Bangladesh, characterized by its vibrant yet diverse sectors, introduces unique challenges in executing monetary policy. Factors such as agricultural dependence, remittance inflows, and the burgeoning manufacturing sector contribute to the intricate web of challenges that

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regulators and banks must navigate. The interplay between macroeconomic variables and the financial system's intricacies forms the backdrop against which the efficacy of monetary policy is measured. By shedding light on these challenges, this research seeks to contribute to the ongoing discourse on the refinement of monetary policy frameworks tailored to the specific needs of Bangladesh's economic landscape. As the global economic landscape undergoes transformations, the role of regulators and commercial banks in executing monetary policy becomes increasingly crucial. By unraveling the challenges inherent in this process, this research aims to provide a foundation for policymakers, financial institutions, and researchers to devise informed strategies that enhance the effectiveness of monetary policy in Bangladesh. Through a comprehensive examination of the hurdles faced by regulators and banks, this study aspires to contribute to the sustainable economic development of Bangladesh, fostering resilience in the face of both domestic and international economic challenges (Beck & Rahman, 2006; Manik, (2023).

Monetary policy being an important money market instrument has been a real concern of the central bank, commercial banks, non-bank financial institutions, and bank professionals in the money market of every country. The central banks are found preparing and implementing monetary policy for accomplishing targets and objectives which vary from year to year. In most of the cases, monetary policy is found to have failed to accomplish the target and objectives due to problems facing the regulators and commercial banks in executing the monetary policy. Bangladesh is a developing country with an inefficient and underdeveloped monetary system. It is commonly acknowledged that monetary policy may generate unsatisfactory results in such circumstances. Nonetheless, Bangladesh, like many other LDCs, has never abandoned monetary policy. The Bangladesh Bank faces many challenges in the implementation of monetary policy: inflationary pressure, low investment scenario, unexpected financial instability, linking monetary policy to the target and objective, etc. These issues have been left to be unaddressed as of today. In view of this, the present study has been undertaken to identify the problems facing the regulators and commercial banks in executing the monetary policy in Bangladesh.

1.1 Objectives of the Study:

The primary aim of this study is to pinpoint the challenges encountered by regulators and commercial banks in implementing monetary policy in Bangladesh. To achieve this overarching objective, the study has pursued specific purposes outlined as follows:

i. To explore explored the new dimensions of constraints of monetary policy in order of their magnitudes in execution of monetary policy in Bangladesh.
ii. To provide policy recommendations for enhancing the operational processes of monetary policy in Bangladesh.

2.0 Review of Literatures Relating to the Problems Facing the Regulators and Commercial Banks in Executing the Monetary Policy

Hossain and Ibon (2020) have attempted to describe the efficiency of Bangladesh's monetary policy by identifying the different transmission channels. Monthly data from 1989 M1 to 2018 M12 were analyzed using a Structural Vector Autoregressive (SVAR) model. Positive innovation in the broad money supply results in a temporary rise in the price level and bank credit. Additionally, expansionary monetary policy has an effect on the nominal exchange rate of the Taka. However, the analysis finds that structural deficiencies in the financial system and a lack of dynamic policy rate changes are the primary reasons for Bangladesh's monetary policy seeming to be less successful.

Blot, Creel, and Hubert (2019) have identified three potential monetary regulatory changes. Their advantages and disadvantages are discussed in terms of four dimensions: political restrictions, technical limits, independence, and relations with fiscal policy. Monetary policy seems to be unconstrained in the euro area, with more stimulus available if necessary. Low inflation is unavoidably a concern for the European Central Bank (ECB), since price stability is the central bank's primary mission. Coordination of monetary and fiscal policy may be a more potent weapon for economic stimulation.

Oluwole (2018) has examined the Nigerian economy's monetary policy difficulties and development potential using time series data from 1970 to 2012. In this work, the unit root test, cointegration test, ordinary least squares test, and error correction model were used. The research demonstrates that there is a long-term link between the factors. Additionally, while the real Gross Domestic Product liquidity ratio, lending rate, Treasury bill rate, and money supply are statistically significant, the liquidity ratio, lending rate, and money supply have a negative effect on changes in real Gross Domestic Product as a measure of growth in Nigeria over the review period.

Fabris (2018) has outlined the difficulties confronting current monetary policy. This essay is divided into two sections. The first section discusses conventional monetary policy and addresses problems of consensus, as well as monetary policy aims, transparency, and macro prudential policy. The second section discusses problems that constitute a challenge to monetary policy and on which no comprehensive agreement exists. Central banks over reliance on econometric models led in central bankers becoming overwhelmed by the global financial crisis. While econometric models are a helpful tool, they are not without flaws. As a result, relying only on these models and disregarding expert opinion may lead central bankers to incorrect conclusions.

Srinivas (2014) has explored new problems towards the discipline of monetary regulation by examining the Reserve Bank of India's (RBI) case study in light of the Indian economy's evolution during the previous decade (2003–04 to 2013–14). The paper employs Hyman P. Minsky's financial instability hypothesis as a conceptual framework for assessing the endogenous nature of financial instability and its potential impact on monetary policymaking, as well as the importance of pursuing regulatory policy as a complementary tool to monetary policy in light of Minsky's reform agenda. It also discusses the Minskyan hypothesis's expansions in the fields of fiscal policy formulation, controlling cross-border capital flows, and constructing financial institutional infrastructure. The interaction of policy decisions in these sectors and their influence on the RBI's monetary policies are discussed.

Smaghi (2011) has stated that monetary policy has encountered a variety of difficulties, most notably the connection between the real economy's progress and financial market volatility. This has compelled central banks to act not just via traditional means, most notably the key interest rate at which money is fed into the system, but also through unorthodox methods aimed to circumvent the financial system's malfunctioning. The mix of these actions is determined by the severity of the crisis and its evolution in the real and financial worlds.

Prasad, Kramer, and Poirson (2008) have examined India's financial globalization, both in absolute terms and in comparison, to developing and established economies. Despite its modest degree of openness, the researchers discover that India's internal monetary circumstances are substantially impacted by global forces. Following that, the paper discusses the experiences of nations that have adapted to financial globalization, drawing lessons for India. Additionally, the experience of nations that have utilized non-standard instruments indicates that the ability of governments to successfully limit capital flows via capital controls weakens as financial integration rises.

Mohan (2007) has examined the present difficulties confronting India's monetary policymaking. The Third Quarter Review's major subject is the difficulty of managing the shift to a stronger growth path while maintaining low and stable inflation and well-anchored inflation expectations. Monetary policy's role is to ensure stability and hence to contribute to long-term growth. As a result, monetary policy must be innovative in order to handle these issues in a non-disruptive way. Prudential and other policies, such as provisioning and risk weighting on bank loans to certain sectors, are being utilized in this context to increase the sensitivity of banks to hazards emerging from these sectors, rather than typical monetary policy responses that address aggregate demand.

Mohan (2004) has stated that in a globalized world, monetary policy cannot be independent of foreign events. The formulation of monetary policy has gotten increasingly difficult. Monetary policy must be constantly monitored in order to be effective in an ever-changing global economy. It is important to obtain the advantages of market integration while limiting the hazards of market instability. In addition to central bank activity, financial market expansion may progressively transfer risk mitigation and cost burdens from government to markets. Excess volatility causing financial crises

has negative consequences for low-income nations. They cannot afford the dangers of a financial catastrophe. When deciding on monetary policy, central banks must consider global economic, inflationary, interest rate, currency rate, and capital movements.

Grauwe (2002) has examined some of these problems, concentrating notably on the European Central Bank's (ECB) monetary policy approach and the consequences of the monetary union's expansion to up to 27 Member States. The European Central Bank's monetary policy plan and inflation goal are attacked for being implausible and potentially harmful to the ECB's credibility. It is shown that unless interest rate decision-making procedures are rethought, there is a danger that the incorrect judgments will be made after expansion.

Fagan (1998) has demonstrated that monetary policy is subject to a complex transmission process from policy actions to the central bank's ultimate objectives, it is now widely accepted that the central bank's monetary policy should be both forward-looking and pre-emptive, with timely policy responses ensuring the achievement of the ultimate objective. Additionally, a clear framework that directs the central bank's use of monetary policy tools toward achieving its ultimate purpose is required to maintain the decision-making process's credibility and consistency over time. In this context, monetary policy conduct presents daunting difficulties for central banks and raises a number of critical implementation challenges. These are the concerns that this paper will address.

Wahid (1993) has examined some of the issues and potential linked with Bangladesh's use of monetary policy as a stabilizing tool. Bangladesh has struggled with balance of payments issues from foundation. The government first attempted to alleviate this issue with standard monetary policies, but with unsatisfactory results. Among other factors, this failure may be linked to the fact that Bangladesh's balance of payments issues are often the result of demand-supply rigidities in different factor and product markets. In response to this assessment, the World Bank and the International Monetary Fund convinced Bangladesh in the mid-1980s to start on a medium-term, comprehensive Structural Adjustment Facility program. This article offers a critical assessment of both the plan and Bangladesh's recent macroeconomic experiences.

2.1 Identification of Problems in Executing the Monetary Policy on Literatures Review and Content Analysis

Many researchers have conducted research about the problems facing the regulators and commercial banks in executing the monetary policy (MPC Fiscal Year, 2009-2020; Ahmed, 2021; Carney, 2019; Fabris, 2018; RIET, 2017; POLICY, 2011; Calvo, 2006; Mohan, 2004; Grauwe, 2002; Meyer, 1997; Wahid, 1993). Many researchers use various factors that will be problematic in the sense of executing monetary policy. Some of the factors are compiled in the below table.

Table-1: *Identification of Problems Associated with the Execution of Monetary Policy on Literature Review and Content Analysis*

Factor Variables	Research Study										
	MPC Fiscal Year 2009-2020	Ahmed (2021)	Carney (2019	Fabris (2018)	RIET (2017)	POLICY (2011)	Calvo (2006)	Mohan (2004)	Grauwe (2002)	Meyer (1997)	Wahid (1993)
Time lags	✓			✓	✓						
The monetary policy of the central bank is not independent	✓			✓					✓		
Liquidity trap in the money market				✓				✓			
Frequent shift in monetary policy	✓				✓						
Absence of Monetary Policy Transparency: Political, Administrative and Regulatory.	✓			✓							
Credit Easing Strategy				✓							
Unemployment	✓		✓	✓						✓	
The interest rate environment				✓		✓	✓		✓	✓	
Inflation			✓	✓		✓		✓	✓	✓	
Unexpected socio-economic changes		✓	✓		✓						

… Table-1

Factor Variables	Research Study										
	MPC Fiscal Year 2009-2020	Ahmed (2021)	Carney (2019	Fabris (2018)	RIET (2017)	POLICY (2011)	Calvo (2006)	Mohan (2004)	Grauwe (2002)	Meyer (1997)	Wahid (1993)
Mismatch between monetary policy and fiscal policy	✓										
The implementation of the various stimulus packages	✓										
Weak Financial Intermediaries	✓			✓							
Weak macroeconomic environment	✓	✓									
Exchange rate fluctuations		✓	✓		✓		✓	✓		✓	
Poor implementation of the National Budget	✓										
Internal governance of the Central Bank		✓				✓			✓		✓
Financial Market Volatility	✓	✓	✓	✓			✓			✓	
Balance of Payments Problems	✓							✓			✓
Widespread Corruption	✓				✓						✓
Nepotism in the Management of Government Projects	✓										✓
Modest Global Growth		✓	✓						✓		
Upward Revision of Fuel Gas Prices	✓										
New VAT Law	✓										
The Lingering Effect	✓										
Ongoing Trade War and Geopolitical Tensions	✓								✓		

3. Methodology of the Study:

The investigator conducted the study, gathering primary data through interviews with 207 respondents using a structured questionnaire. The research focused on Bangladesh Bank and 19 privately listed conventional commercial banks, as detailed in Appendix-I, for the convenient collection of data. Within Bangladesh Bank, 36 officials were chosen from various departments, including the Monetary Policy Department, Regulatory Department, Department of Inspection, and Foreign Exchange Policy and Investment Department. Additionally, the study purposefully selected 171 bank professionals, with nine representatives from each sampled bank, specifically from the Treasury Department, Risk Management Department, and Credit Department. The purpose of purposive sampling was to ensure the acquisition of accurate information from officials directly involved in the implementation of monetary policy within their respective banks. After the data was gathered, it was sorted and analysed using descriptive measures, zero-order correlation, a Varimax rotated factor analytical model, and finally, a ranking of factors based on their weighted scores.

4. Ranking of Problems Association with the Execution of Monetary Policy on Adjusted mean score.

The study has identified the level of problems of factor variables executing the monetary policy of Bangladesh Bank on the basis of adjusted factor variables as follows:

Table-2: *Ranking of Problems association with the execution of Monetary Policy on Adjusted Mean Score.*

Sl. No.	Variables Factors	Mean Score ($\bar{x}$)	Standard Deviation (σ)	Adjusted Factor Variable ($\bar{x}/\sigma$)	Ranks
X_1	Dissatisfactory contend with three lags in the process of identifying macroeconomic problems: Recognition, Implementation, and Impact lags.	4.0290	.82196	4.902	**III**
X_2	Default in setting or choosing macroeconomic targets like interest rate, money growth rate and change in price levels while preparing monetary policy.	3.8406	.79748	4.816	**VI**
X_3	The monetary policy of the central bank is not independent of pressure from political groups, donors and the government.	4.1594	.94904	4.383	**IX**
X_4	The liquidity trap in the money market for ineffective monetary policy affects the economy negatively.	3.8551	.73315	5.258	**I**
X_5	There is a frequent shift in monetary policy during the policy period.	3.5942	.84573	4.250	**XIII**
X_6	Absence of Monetary Policy Transparency: Political, Administrative and Regulatory.	3.8116	1.00404	3.796	**XXI**
X7	The central bank cannot predict the impact of monetary policy on the real level of economic activity.	3.3043	1.15433	2.863	**XXIX**
X_8	The Central Bank's Credit Easing Strategy for addressing the liquidity trap exerts a negative impact on banks' lending as well as private investment in the economy.	3.4928	.93342	3.742	**XXV**
X_9	High and sustained growth of the economy in conjunction with low inflation is the central problem of the effective monetary policy of the Bangladesh Bank.	3.4928	.99444	3.512	**XXVIII**
X_{10}	The interest rate environment supported by the current Monetary Policy is not demand-supply driven. This works as a constraint to the flawless market economy.	3.5797	.81178	4.410	**VIII**
X_{11}	Poor response of Monetary Policy to unexpected socio-economic changes has been a root cause of monetary policy failure.	3.7681	.87691	4.300	**X**
X_{12}	Expected targets of monetary policy cannot be accomplished due to the mismatch between monetary policy and fiscal policy.	3.6957	.97475	3.791	**XXII**
X_{13}	The interest rate environment as is targeted by Monetary Policy is not matched with the interest rate on government securities. This lopsided development led to the disruption in the supply of money in the money market.	3.5942	.95976	3.745	**XXIV**
X_{14}	The current monetary policy shift from monetary targeting to interest rate targeting brings no change in the real economy because of the material change in the market rate of interest.	3.3913	.92700	3.658	**XXVI**
X_{15}	The implementation of the various stimulus packages might put MPS under severe pressure to accomplish target inflation and might cause a further increase in non-performing loans if COVID remains beyond control.	3.9130	.93524	4.184	**XV**
X_{16}	The Monetary Policy of the Central Bank does not take the capital and liquidity requirements of BASEL III into consideration for targeting investment and market liquidity. This put commercial banks into the problem of divergence.	3.5072	.93342	3.757	**XXIII**
X_{17}	The lowest level of inflation in many countries poses another problem in econometrics measuring the relationship between capacity gap and inflation break down.	3.6522	.81936	4.457	**VII**
X_{18}	There is an equilibrium degree of missing link between the use of operational tools and the targets of monetary policy to be accomplished.	3.7101	.70921	5.231	**II**

… Table-2

Sl. No.	Variables Factors	Mean Score ($\bar{x}$)	Standard Deviation (σ)	Adjusted Factor Variable ($\bar{x}/\sigma$)	Ranks
X_{19}	The effects of interest rates are not equally shared in the economy because of the forced interest rate environment and the imbalance between demand and supply of money.	3.8696	.92216	4.196	**XIV**
X_{20}	There is a mismatch between the central bank's increased supply of money and the commercial banks' unwillingness to provide more credit/investment despite having the ability under the circumstances.	3.7681	.98735	3.816	**XX**
X_{21}	Weak Financial Intermediaries of the Financial System of Bangladesh are at the heart of the monetary policy failure of Bangladesh Bank.	3.7101	.90913	4.081	**XVI**
X_{22}	The failure of Monetary Policy to address the prolonged weak macroeconomic environment has continued to impact negatively on the banking sector's stability.	3.6957	.95954	3.852	**XIX**
X_{23}	Strong and Bold Fiscal injection for economic recovery requires governance which is absent in practice.	3.5942	.89638	4.010	**XVII**
X_{24}	The failure of the Monetary Policy to cope with large exchange rate fluctuations with negligible spillover has a negative impact on the real activity of the country.	3.6232	.74954	4.834	**V**
X_{25}	Poor implementation of the National Budget and insensitive fiscal policy can be attributed to the ineffectiveness of monetary policy.	3.8261	.89042	4.297	**XI**
X_{26}	The policy intervention of the government in the way of implementing monetary policy is working as a constraint to the accomplishment of targets.	3.7826	.88898	4.255	**XII**
X_{27}	Continuous Financing of the Deficit of the National Budget by the banking system as a policy target is detrimental to a sound investment environment in the economy.	3.8406	1.05193	3.651	**XXVII**
X_{28}	The poor monetary policy framework is working against the inclusive growth target of the government.	3.6957	.95954	3.852	**XVIII**
X_{29}	Internal governance of the Central Bank for effective implementation of monetary policy needs to be improved.	4.1884	.86220	4.858	**IV**

Sources: Survey Instruments
Notes: Data have been Compiled by the Researcher

After analyzing table 2, it is clear that important variable factors fall between the range of 1 to 29, as indicated by the adjusted mean score. The research highlights the significant impact of the liquidity trap in the money market, where an ineffective monetary policy has a negative effect on the economy. The expected average is 3.855, accompanied by a standard deviation of 0.73315. In addition, the adjusted factor variables used for ranking have a mean score of 5.258, which is the highest among all the values. This has led the researcher to assign it the 1st position. The study brings attention to several significant factors that impact the implementation of monetary policy by the Bangladesh Bank. These include the mismatch between operational tools and policy objectives, delays in identifying macroeconomic issues, internal governance challenges, effectively managing exchange rate fluctuations, selecting appropriate macroeconomic targets, and addressing inflation concerns. These problems are ranked 2, 3, 4, 5, 6, and 7, respectively. On the other hand, the issue titled "the central bank cannot predict the impact of monetary policy on the real level of economic activity" ranks last (29th) with a mean score of 2.863, an expected mean of 3.3043, and a standard deviation of 1.15433. This study highlights the considerable difficulties that arise when dealing with factor variables in the implementation of Bangladesh Bank's monetary policy, taking into account the adjusted factors.

4.2 Identification of Problems in Executing the Monetary Policy of Bangladesh Bank on Varimax Rotated Factory Analysis

The research has gathered comments from 207 participants, who were asked to rate their views on 29 different factors related to the implementation of monetary policy in Bangladesh. The participants were asked to rate these factors on a five-point Likert scale. The factors specifically focused on the challenges faced by regulators and commercial banks in executing monetary policy. The research used the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test to assess the sufficiency of the sample for the factor model. The research has determined that the Kaiser-Meyer-Olkin (KMO) measure is 0.770, indicating statistical significance for factor analysis. This is because the KMO value above the threshold of 0.50, as established by Tabachnick, Fidell, and Ullman (2007) and Hair, Anderson, Tatham, and Black (1995). The chi-square statistics is around 617.573 with 406 degrees of freedom, and the significance level is 0.000. Given that the significance value is below 5%, Bartlett's Test of Sphericity is suitable for conducting factor analysis (Tabachnick et al., 2007; Hair et al., 1995; Islam et al., 2023). Subsequently, the data was analysed using an advanced Varimax Rotated Factor Analytical Model. The findings of this investigation have been further upon in the following paragraph: The Appendix-II displays the association between the variables found in the zero-order correlation matrix derived from the study done to identify the issues faced by regulators and commercial banks in implementing monetary policy in Bangladesh.

4.3 Identification of Principal Factors

The study employs the 'Principal Components Varimax Rotated Method' of factor analysis to identify significant issues related to factor variables in the implementation of monetary policy by the Bangladesh Bank. The principal component factor captures more variation than any individual factor loading. An algorithm is utilized to determine group membership based on the correlation structure of the input data. The research determines the number of main components using Kaiser's (1958) criteria of Eigenvalue >1. Principal components with higher reliability coefficients are considered more trustworthy as their associated factors are reproducible in similar studies. Communality is then calculated to reveal how much each variable is explained by underlying variables. Factor scores are computed through the weighted average of Principal Factor loadings and the average of relevant variables within the group. Principal component analysis uses commonalities to assess how a specific variable is included in the components (James Wheeler, 2005). PCA reduces numerous variables into smaller components (Tabachnick & Fidell, 2007), and initial communalities forecast the variation in each component contributing significantly to every variable. The mean Communality of all factors, after removal, should exceed 0.50 to be considered significant. Failure to meet this criterion implies the inability to identify specific and consistent factors (Yong & Pearce, 2013). The total variance explained determines the number of significant factors, with only the extracted and rotated data being relevant for interpretation. Factors are ranked in decreasing order from greatest to least explained variance. Extraction Sums of Squared Loadings, equivalent to Initial Eigenvalues, exclude factors with eigenvalues less than one. This value shows eigenvalues and variance before rotation, while Rotation Sums of Squared Loadings display them after rotation. Rotated eigenvalues are crucial in identifying significant factors (Yong & Pearce, 2013). Appendix-III illustrates that an eigenvalue higher than 1.0 results in the extraction of eleven components, a standard requirement for a factor to be considered useful. Components with eigenvalues less than 1.0 convey less information than a single item (Loewen & Gonulal, 2015).

4.4. Analysis of Factors

The Rotated Factor Matrix table facilitates the interpretation of the results analysed. Multiple variables undergo rotation to enhance their comprehensibility. Rotation allows for the use of several separate underlying factors to explain or predict various things. Each component has the potential to explain multiple items (Loewen & Gonulal, 2015). According to Sarbabidya (2015), loadings of 0.50 or above are considered very substantial for the purposes of this study. The factor matrix, which has been rotated, is shown in Appendix-IV. It indicates that the variables being examined have been categorised into eleven distinct groups or factors. The subsequent paragraphs in the research provide interpretations for each of these factors.

Factor-I: *Authoritarian Intervention for Ineffective Execution of Monetary Policy*

Sl. No.	Factor Variables	Factor Loading
X_{26}	The policy intervention of the government in the way of implementing monetary policy is working as a constraint to the accomplishment of targets.	0.717
X_{7}	The central bank cannot predict the impact of monetary policy on the real level of economic activity.	0.612
X_{18}	There is an equilibrium degree of missing link between the use of operational tools and the targets of monetary policy to be accomplished.	0.587
X_{16}	The Monetary Policy of the Central Bank does not take the capital and liquidity requirements of BASEL III into consideration for targeting investment and market liquidity. This put commercial banks into the problem of divergence.	0.534
	Total Variance Explained	**19.18%**

This factor comprises four variable factors, with factor loadings ranging from 0.534 to 0.717. All these variables are positively correlated and collectively account for 19.18% of the total variation. This suggests that the government and central bank's policy interventions lack the ability to predict the impact of monetary policy on the real economic activity. Additionally, there is a mismatch between the operational tools and the targets of monetary policy, and the central bank does not consider the capital and liquidity requirements of BASEL III when targeting investment and market liquidity. These factors contribute to the challenges in framing effective monetary policy to achieve objectives. Consequently, this factor highlights the central bank's policy-related issues, forming a significant cluster termed "Authoritarian Intervention for Ineffective Execution of Monetary Policy."

Factor-II: *Macro-Economic Factor Price and Goals Constraints*

Sl. No.	Factor Variables	Factor Loading
X_{27}	Continuous financing of the deficit of the national budget by the banking system as a policy target is detrimental to a sound investment environment in the economy.	**0.746**
X_{17}	The lowest level of inflation in many countries poses another problem in econometrics measuring the relationship between capacity gap and inflation break down.	**0.682**
X_{1}	Dissatisfactory contend with three lags in the process of identifying macroeconomic problems: recognition, implementation, and impact lags.	**0.567**
X_{2}	Default in setting or choosing macroeconomic targets like interest rate, money growth rate and change in price levels while preparing monetary policy.	**0.547**
	Total Variance Explained	**6.98%**

There are four variables that make up this factor, and their factor loadings range from 0.547 to 0.746. It was found that all of these factor variables are positively linked and have accounted for 6.98% of the whole difference. This means that the national budget imbalance needs to be continuously financed, inflation rates need to be kept low in many countries, and macroeconomic goals need to be set or chosen, all of which affect how monetary policy is made and how well it works to reach goals. The factor describes the macroeconomic problem in the central bank, which led to the creation of a major cluster called "Macro-Economic Factor Price and Goals Constraints."

Factor-III: *Continuous Policy Shifts and Regulatory Constraints*

Sl. No.	Factor Variables	Factor Loading
X_{6}	Absence of monetary policy transparency: political, administrative, and regulatory.	0.827
X_{22}	The failure of monetary policy to address the prolonged weak macroeconomic environment has continued to impact negatively on the banking sector's stability.	0707
X_{5}	There is a frequent shift in monetary policy during the policy period.	0.549
	Total Variance Explained	**6.55%**

This factor, comprised of three variables with loadings from 0.549 to 0.827, reveals positive correlations and explains 6.55% of total variation. It points to issues like a lack of monetary policy transparency, policy failures, and frequent shifts, affecting policy framing and effectiveness. Termed "Continuous Policy Shifts and Regulatory Constraints," it encapsulates a significant cluster reflecting challenges in central bank policy.

Factor-IV: *Monetary Policy Insensitivity*

Sl. No.	Factor Variables	Factor Loading
X_{11}	Poor response of Monetary Policy to unexpected socio-economic changes has been a root cause of monetary policy failure.	.803
X_{10}	The interest rate environment supported by the current Monetary Policy is not demand-supply driven. This works as a constraint to the flawless market economy.	.666
X_{12}	Expected targets of monetary policy cannot be accomplished due to the mismatch between monetary policy and fiscal policy.	.541
	Total Variance Explained	**6.44%**

This factor comprises three variables with factor loadings spanning from 0.541 to 0.803, indicating positive correlations and explaining 6.44% of the total variation. It suggests the presence of unexpected socio-economic changes, a seamless market economy, and a misalignment between monetary and fiscal policies. These factors collectively impact the formulation and effectiveness of monetary policy in achieving objectives. Consequently, this factor highlights a noteworthy policy-related challenge in the central bank, giving rise to a significant cluster termed "Monetary Policy Insensitivity."

Factor-V: Poor Shock Absorption Capacity of MPS

Sl. No.	Factor Variables	Factor Loading
X_{15}	The implementation of the various stimulus packages might put MPS under severe pressure to accomplish target inflation and might cause a further increase in non-performing loans if COVID remains beyond control.	.719
X_{24}	The failure of the Monetary Policy to cope with large exchange rate fluctuations with negligible spillover has a negative impact on the real activity of the country.	.710
	Total Variance Explained	**5.57%**

This factor is composed of two factor variables with factor loadings ranging from 0.710 to 0.719. All these factor variables are found to be positively correlated and have explained 5.57% of the total variation. This implies that various stimulus packages and large exchange rate fluctuations, all of which influence the framing of monetary policy and its effectiveness in achieving objectives. Therefore, the factor provides the policy related problem in central bank, which led to the formation of a significant cluster, "Poor Shock Absorption Capacity of MPS."

Factor-VI: *Weak Interest Rate Environment in Money Market*

Sl. No.	Factor Variables	Factor Loading
X_{21}	Weak financial intermediaries of the financial system of Bangladesh are at the heart of the monetary policy failure of Bangladesh Bank.	**0.739**
X_{13}	The interest rate environment as is targeted by monetary policy is not matched with the interest rate on government securities. This lopsided development led to the disruption in the supply of money in the money market.	**0.520**
	Total Variance Explained	**5.28%**

This factor is made up of two variables that have factor loadings that range from 0.520 to 0.739. All of these factor variables are linked in a good way and account for 5.28 percent of the overall difference. In other words, this means that weak financial intermediaries and changes in the money market's money supply all affect how monetary policy is set up and how well it works to reach goals. As a result, the factor creates a policy issue for the central bank, which led to the formation of a major cluster called "Weak Interest Rate Environment in Money Market."

Factor-VII: *Liquidity Constraints for Government Control in Disguise*

Sl. No.	Factor Variables	Factor Loading
X_{20}	There is a mismatch between the central bank's increased supply of money and the commercial banks' unwillingness to provide more credit/investment despite having the ability under the circumstances.	.758
X_3	The monetary policy of the central bank is not independent of pressure from political groups, donors, and the government.	.624
X_{19}	The effects of interest rates are not equally shared in the economy because of the forced interest rate environment and the imbalance between demand and supply of money.	.583
	Total Variance Explained	**4.95%**

This factor consists of three variables, each with factor loadings ranging from 0.583 to 0.758. All these variables are positively correlated and collectively account for 4.95% of the overall variation. This indicates a discrepancy between the central bank's increased money supply and the reluctance of commercial banks to extend more credit or investment. It suggests a lack of independence in the central bank's monetary policy and unequal distribution of the effects of interest rates in the economy. These factors collectively impact the formulation and effectiveness of monetary policy in achieving objectives. Consequently, the factor highlights a policy-related challenge within the central bank, resulting in the emergence of a significant cluster termed "Liquidity Constraints for Government Control in Disguise."

Factor-VIII: *Missing Link to the Real Economy*

Sl. No.	Factor Variables	Factor Loading
X_{14}	The current monetary policy shift from monetary targeting to interest rate targeting brings no change in the real economy because of the material change in the market rate of interest.	.782
X_{25}	Poor implementation of the National Budget and insensitive fiscal policy can be attributed to the ineffectiveness of monetary policy.	.703
	Total Variance Explained	**4.29%**

This factor is made up of two variables that have factor loadings that range from 0.703 to 0.782. All of these factor variables are linked in a good way and account for 4.29 percent of the overall difference. This means that changing monetary policy, not following through with the national budget, and not caring about the budget affect how monetary policy is set up and how well it works to reach goals. So, this factor shows the issue that the banking system is having because of bad management, which caused a big group called "Missing Link to the Real Economy" to form.

Factor-IX: *Liquidity Constraints to the Lending Activities for Private Investment*

Sl. No.	Factor Variables	Factor Loading
X_4	The liquidity trap in the money market for ineffective monetary policy affects the economy negatively.	.582
X_8	The Central Bank's Credit Easing Strategy for addressing the liquidity trap exerts a negative impact on banks' lending as well as private investment in the economy.	.514
	Total Variance Explained	**4.15%**

This factor consists of two factor variables, with factor loadings ranging from 0.514 to 0.582. These component factors have a positive correlation and account for 4.15% of the total variance. This suggests that the liquidity trap in the money market and the central bank's credit easing technique have an impact on the formulation of monetary policy and its ability to achieve desired outcomes. Thus, the component contributes to the policy-related issue in the central bank, resulting in the emergence of a notable cluster known as "Liquidity Constraints to the Lending Activities for Private Investment".

Factor-X: *Governance Constraints to the Inclusive Growth*

Sl. No.	Factor Variables	Factor Loading
X_{23}	Strong and Bold Fiscal injection for economic recovery requires governance which is absent in practice.	**0.763**
X_{28}	The poor monetary policy framework is working against the inclusive growth target of the government.	**0.511**
	Total Variance Explained	**3.69%**

This factor is composed of two factor variables with factor loadings ranging from 0.511 to 0.763. All these factor variables are found to be positively correlated and have explained 3.69% of the total variation. This implies that fiscal injection for economic recovery and poor monetary policy framework, all of which influence the framing of monetary policy and its effectiveness in achieving objectives. Therefore, the factor provides the policy related problem in central bank, which led to the formation of a significant cluster, "Governance Constraints to the Inclusive Growth ".

Factor-XI *(Factor of Economic Stability and Governance)*

Sl. No.	Factor Variables	Factor Loading
X_{29}	Internal governance of the Central Bank for effective implementation of monetary policy needs to be improved.	.854
X_9	High and sustained growth of the economy in conjunction with low inflation is the central problem of the effective monetary policy of the Bangladesh Bank.	.635
	Total Variance Explained	**3.53%**

This factor is composed of two factor variables with factor loadings ranging from 0.635 to 0.854. All these factor variables are found to be positively correlated and have explained 3.53% of the total variation. This implies that internal governance of the central bank and sustained growth of the economy, all of which influence the framing of monetary policy and its effectiveness in achieving objectives. Therefore, the factor provides the policy related problem in central bank, which led to the formation of a significant cluster, "Factor of Economic Stability and Governance".

4.5 Ranking of Factors on Weighted Score

The ranking of factors (problems) facing regulators and commercial banks in executing monetary policy by a weighted score. A weighted score can be found as the summation of the factor loading multiplied by the mean score of the variables divided by the number of variables.

Table-3: *Ranking of Factors on Weighted Score*

Factors	Name of the Factors	Weighted Score	Rank
I	Authoritarian Intervention for Ineffective Execution of Monetary Policy	2.196	**10**
II	Macro-Economic Factor Price and Goals Constraints	2.435	**7**
III	Continuous Policy Shifts and Regulatory Constraints	2.579	**4**
IV	Monetary Policy Insensitivity	2.470	**6**
V	Poor Shock Absorption Capacity of MPS	2.693	**2**
VI	Weak Interest Rate Environment in Money Market	2.305	**9**
VII	Liquidity Constraints for Government Control in Disguise	2.569	**5**
VIII	Missing Link to the Real Economy	2.671	**3**
IX	Liquidity Constraints to the Lending Activities for Private Investment	2.019	**11**
X	Governance Constraints to the Inclusive Growth	2.315	**8**
XI	Factor of Economic Stability and Governance	2.897	**1**

The analysis of Table 9.2.2.3 reveals that Factor XI, focusing on Economic Stability and Governance, holds the top position with a weighted score of 2.897. This makes it the leading factor in the ranking. This factor encompasses internal governance and sustained economic growth, coupled with low inflation variables. Following closely is Factor V, addressing the Poor Shock Absorption Capacity of MPS, securing the 2nd position with a weighted score of 2.693. It involves various elements such as stimulus packages and fluctuations in exchange rates. Factor VIII, which pertains to the Missing Link to the Real Economy, occupies the 3rd position with a weighted score of 2.671. Issues within this factor include the lack of impact on the real economy from the shift in monetary policy and inadequate implementation of the National Budget. Factor III, related to Continuous Policy Shifts and Regulatory Constraints, stands at the 4th position with a weighted score of 2.579. This factor encompasses challenges like the absence of monetary policy transparency and frequent shifts in monetary policy. Factor VII, highlighting Liquidity Constraints for Government Control in Disguise, secures the 5th position with a weighted score of 2.569. It involves the increased money supply by the central bank and commercial banks' reluctance to provide more credit despite having the capacity to do so. Factor IV, focusing on Monetary Policy Insensitivity, is in the 6th position with a weighted score of 2.470. This factor includes issues like the poor response of monetary policy to unexpected

socio-economic changes and a mismatch between monetary and fiscal policies. Factor II, addressing Macro-Economic Factor Price and Goals Constraints, is ranked 7th with a weighted score of 2.435. Continuous budget deficit financing, low inflation levels, and dissatisfaction with macroeconomic targets are key components of this factor. Factor X, related to Governance Constraints to Inclusive Growth, secures the 8th position with a weighted score of 2.315. This factor involves considerations such as bold fiscal injections for economic recovery and shortcomings in the monetary policy framework. Factor VI, addressing Weak Interest Rate Environment in the Money Market, occupies the 9th position with a weighted score of 2.305. Factors such as weak financial intermediaries and the prevailing interest rate environment contribute to this ranking. Factor I, focusing on Authoritarian Intervention for Ineffective Execution of Monetary Policy, is in the 10th position with a weighted score of 2.196. Elements such as government policy intervention, the central bank's inability to predict the impact of monetary policy, and the absence of consideration for BASEL III requirements contribute to this factor. Finally, Factor IX, addressing Liquidity Constraints to Lending Activities for Private Investment, holds the 11th and last position with a weighted score of 2.019. This factor involves issues such as a liquidity trap in the money market and the central bank's credit easing strategy.

5.0 Conclusion

In conclusion, this research has undertaken a comprehensive exploration of the challenges confronted by regulators and commercial banks in the execution of monetary policy within the unique economic landscape of Bangladesh. The intricate interplay between macroeconomic factors and the evolving financial system has surfaced multifaceted hurdles that necessitate careful consideration and strategic solutions. The findings of this study underscore the significance of addressing the challenges faced by regulatory authorities, particularly the central bank, in maintaining economic stability. The delicate balancing act required to navigate the impacts of agricultural dependence, remittance inflows, and the expanding manufacturing sector has been highlighted. Policymakers must recognize the importance of tailoring monetary policy approaches to the specific nuances of Bangladesh's economy, promoting resilience against domestic and global economic uncertainties. Moreover, the symbiotic relationship between regulatory authorities and commercial banks emerged as a pivotal aspect influencing policy execution. Collaborative efforts are crucial in overcoming challenges such as liquidity management, interest rate transmission, and ensuring the alignment of commercial bank operations with the broader monetary policy objectives. Strengthening this partnership is imperative for fostering an environment conducive to effective policy implementation. As the global economic landscape continues to evolve, the insights provided by this research contribute to the ongoing discourse on refining monetary policy frameworks. The adaptability of regulatory approaches and the agility of commercial banks in responding to emerging challenges will play a crucial role in determining the efficacy of monetary policy in Bangladesh. In light of the challenges identified, future research and policy initiatives should focus on developing targeted strategies that enhance the flexibility and responsiveness of monetary policy tools. Additionally, fostering financial literacy and awareness among market participants can contribute to a more effective transmission mechanism, aligning stakeholder expectations with policy objectives. In summary, addressing the challenges facing regulators and commercial banks in executing monetary policy in Bangladesh requires a nuanced understanding of the country's economic intricacies. By embracing adaptive strategies, fostering collaboration, and promoting financial literacy, Bangladesh can fortify its monetary policy framework, paving the way for sustained economic growth and stability in the years to come.

Ethical Declaration

During the writing process of the study "*Monetary Policy Challenges in Bangladesh: A Regulatory and Banking Perspective*" scientific rules, ethical and citation rules were followed. No falsification was made on the collected data and this study was not sent to any other academic publication medium for evaluation.

Declaration of Conflict

There is no potential conflict of interest in the study.

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Appendix-I: *List of Selected Listed Conventional Private Commercial Banks in Bangladesh*

SL. NO.	Name of Listed Conventional Private Commercial Banks
1.	AB Bank Limited
2.	Bank Asia Limited
3.	BRAC Bank Limited
4.	City Bank Limited
5.	Dhaka Bank Limited
6.	Dutch-Bangla Bank Limited
7.	Eastern Bank Limited
8.	IFIC Bank Limited
9.	Mercantile Bank Limited
10.	National Bank Limited
11.	National Credit & Commerce Bank Limited
12.	One Bank Limited
13.	Premier Bank Limited
14.	Prime Bank Limited
15.	Pubali Bank Limited
16.	Southeast Bank Limited
17.	Trust Bank Limited
18.	Uttara Bank Limited
19.	United Commercial Bank Ltd

Appendix-II: *Zero Order Correlation Matrixes for Monetary Policy Challenges in Bangladesh: A Regulatory and Banking Perspective*

		x1	x2	x3	x4	x5	x6	x7	x8	x9	x10	x11	x12	x13	x14	x15	x16	x17	x18	x19	x20	x21	x22	x23	x24	x25	x26	x27	x28	x29
	x1	1.000																												
	x2	.411	1.000																											
	x3	.220	.228	1.000																										
	x4	.031	.161	.224	1.000																									
	x5	.102	.317	.118	.212	1.000																								
	x6	.185	.219	.186	.242	.359	1.000																							
	x7	.254	.293	.130	.209	.354	.317	1.000																						
	x8	.173	.265	.093	.278	.406	.179	.500	1.000																					
	x9	.108	.193	.180	.200	.311	-.023	.201	.384	1.000																				
	x10	.239	.213	.107	.020	.069	.118	.060	.258	.169	1.000																			
	x11	.152	.388	.133	.153	.070	-.050	.260	.249	.049	.378	1.000																		
	x12	.140	.391	.276	.143	.258	.196	.227	.377	.248	.208	.432	1.000																	
	x13	-.004	.126	.137	.187	.301	.072	.047	.210	.028	.042	.009	.165	1.000																
	x14	.101	.245	.078	.020	.299	-.014	.231	.352	.139	.065	.113	.183	.330	1.000															
	x15	.195	.316	-.150	.110	.215	.108	.107	.083	-.175	.048	-.007	.116	.173	.176	1.000														
	x16	.191	.367	.040	.066	.246	-.085	.401	.367	.297	-.006	.200	.237	.233	.107	-.016	1.000													
	x17	.299	.454	.053	.135	.281	.116	.316	.247	.268	.197	.152	.160	.061	.259	.229	.484	1.000												
	x18	.116	.333	.179	-.054	.340	.108	.325	.286	.226	.015	.245	.275	.149	.287	.050	.403	.254	1.000											
	x19	.180	.251	.243	.233	.139	-.075	.273	.230	.039	-.055	.326	.233	.056	.233	.208	.095	.192	.166	1.000										
	x20	-.046	.158	.244	.278	.009	-.060	-.105	-.002	.148	-.087	.107	.231	.179	-.012	-.006	.225	.153	.218	.257	1.000									
	x21	-.107	-.024	.071	-.130	.093	-.012	.043	.084	.095	-.008	.044	.247	.200	.032	-.134	.210	.139	.210	-.081	.104	1.000								
	x22	.235	.282	.070	.166	.462	.352	.151	.351	.052	.135	.195	.324	.311	.136	.118	.191	.144	.279	.071	.095	.117	1.000							
	x23	-.223	-.215	-.078	-.180	-.201	-.103	-.120	-.056	-.119	-.036	-.178	.008	.148	.070	.045	.004	-.035	.113	-.243	-.008	.178	.128	1.000						
	x24	.161	.144	-.162	.060	-.013	-.057	.016	.080	-.122	-.022	.089	.082	.132	.131	.288	.025	.095	.068	.311	.079	-.033	.124	.054	1.000						
	x25	.248	.167	-.036	.164	.100	-.087	.138	.211	.148	.101	.117	.023	.002	.369	.088	.037	.097	.198	.241	.071	-.100	.126	-.016	.011	1.000					
	x26	.089	.365	.024	.131	.194	.135	.338	.397	.239	.014	.236	.109	.119	.158	.012	.365	.339	.365	.108	.227	-.043	.145	-.075	-.014	.249	1.000			
	x27	.278	.337	.070	.027	-.057	.138	.162	.096	.175	.127	.167	.181	-.021	.065	.120	.218	.430	.213	.175	.148	.012	-.005	-.054	.091	.205	.293	1.000		
	x28	.328	.320	.070	.062	.208	.077	.231	.104	-.041	.003	.142	.308	.135	.119	.331	.290	.219	.128	.154	.002	.150	.265	-.180	.165	.178	.025	.039	1.000	
	x29	.034	.087	-.055	.044	.106	-.043	-.177	-.044	.165	-.200	-.039	-.106	.005	.054	-.180	.135	.198	-.006	.087	.225	.108	.197	.100	.111	.197	.073	.115	.141	1.000

Source: Survey Instrument and Data Output (SPSS Version-23)

Notes: Data have been Compiled by Researcher.

Appendix-III: *Analysis of Total Variance Explained for Monetary Policy Challenges in Bangladesh: A Regulatory and Banking Perspective*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings			
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Extraction
1	5.561	19.177	19.177	5.561	19.177	19.177	2.249	7.755	7.755	.646
2	2.023	6.976	26.153	2.023	6.976	26.153	2.218	7.649	15.403	.623
3	1.899	6.549	32.702	1.899	6.549	32.702	2.099	7.239	22.642	.806
4	1.868	6.440	39.142	1.868	6.440	39.142	1.850	6.381	29.023	.699
5	1.614	5.566	44.708	1.614	5.566	44.708	1.849	6.376	35.398	.692
6	1.533	5.285	49.993	1.533	5.285	49.993	1.815	6.260	41.659	.806
7	1.434	4.946	54.938	1.434	4.946	54.938	1.779	6.133	47.792	.711
8	1.243	4.287	59.225	1.243	4.287	59.225	1.755	6.050	53.843	.709
9	1.205	4.154	63.380	1.205	4.154	63.380	1.697	5.853	59.696	.693
10	1.069	3.685	67.065	1.069	3.685	67.065	1.693	5.836	65.532	.812
11	1.024	3.531	70.596	1.024	3.531	70.596	1.468	5.064	70.596	.778
12	.901	3.106	73.702							.643
13	.841	2.901	76.603							.617
14	.812	2.798	79.402							.738
15	.746	2.572	81.973							.735
16	.675	2.327	84.300							.729
17	.615	2.122	86.422							.717
18	.529	1.825	88.248							.685
19	.505	1.743	89.990							.705
20	.456	1.573	91.563							.728
21	.429	1.481	93.044							.599
22	.370	1.276	94.320							.777
23	.344	1.185	95.505							.684
24	.315	1.086	96.590							.559
25	.277	.955	97.545							.737
26	.260	.895	98.441							.676
27	.181	.623	99.063							.664
28	.157	.542	99.606							.709
29	.114	.394	100.000							.796

Extraction Method: Principal Component Analysis.

Sources: Survey Instruments

Notes: Data have been Complied by the Researcher

Appendix-IV: *Rotated Factor Matrix for Monetary Policy Challenges in Bangladesh: A Regulatory and Banking Perspective*

Variables	Component										
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
X_{26}	.717										
X_7	.612										
X_{18}	.587										
X_{16}	.534										
X_{27}		.746									
X_{17}		.682									
X_1		.567									
X_2		.547									
X_6			.827								
X_{22}			.707								
X_5			.549								
X_{11}				.803							
X_{10}				.666							
X_{12}				.541							
X_{15}					.719						
X_{24}					.710						
X_{21}						.739					
X_{13}						.520					
X_{20}							.758				
X_3							.624				
X_{19}							.583				
X_{14}								.782			
X_{25}								.703			
X_4									.582		
X_8									.514		
X_{23}										.763	
X_{28}										.511	
X_9											.635
X_{29}											.854

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Sources: Survey Instruments
Notes: Data have been Complied by the Researcher