

# THE STRENGTH OF CENTRAL BANK AND ITS IMPACT ON PRICE STABILITY IN SOUTH ASIA

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## Abstract

Central bank plays a key role in an economy of a country in terms of conducting monetary policy. But the importance of maintaining an adequate level of financial strength for a central bank is subjected to controversy believing that being the monetary authority in the economy, central banks do not require financial strength. But recently, the importance of financial strength even for central banks came to the consideration in the event of financial failures of central banks in larger economies. Hence, the requisite of central bank financial strength in terms of achieving policy objectives particularly the price stability which is the key policy objective of majority of central banks around the world came to discussion. The purpose of this study is to examine the impact of central bank financial strength on price stability in South Asian context. Prevailing limited studies on this field have been focused on the analysis of central bank financial strength and price stability mostly in the context of western countries or as a whole for the world. Investigation on South Asian context would give different insight to the prevailing debate on the topic since it is considered that there is a lower central bank independence within the South Asian region which motivated this study. The study has been conducted for the time period of 1980 to 2015 and an unbalanced panel regression was conducted using central bank financial strength as the main independent variable where the consumer inflation as a proxy to price stability was the dependent variable. Empirical result of this study provides a significant negative relationship between central bank financial strength and inflation suggesting a probable impact from central bank financial strength on price stability for the selected countries within the region.

*Keywords:* Central Bank Financial Strength, Price Stability, South Asia

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## **1. Introduction**

The issue of whether central banks require financial strength is neither easy nor uncontroversial. The prevailing limited empirical evidence is also conflicting which opens up a researchable area on this subject. Accordingly, does central bank financial strength matter in maintaining price stability and if so, which type of relationship should exist between price stability and central bank financial strength is the main consideration which motivates this study with special reference to South Asia.

The concept of central bank financial strength is disregarded for a long period of time due to several reasons. It is believed that monetary authority in the economy inherent only to central bank provides no more requirement of a financial strength (Stella, 2005). Stella claims that unlimited costless ability of central bank in creating domestic fiat money trivializes the need of a financial strength for a central bank as they can print any quantity of money to repay their obligations as well as to absorb the losses. But it is argued that there can be an adverse economic impact from printing money unlimitedly which could result conflicts in policy objectives especially in terms of price stability. Hence, the argument of even central banks requires an adequate level of financial strength to pursue their policy objectives freely, comes to the debate.

In nature, central banks hardly become illiquid (Benecka et al 2012). Being the monopoly issuer, central bank can continue its service even with a negative equity which is one of the reasons for the negligence of this concept. Further, the formal procedures of standard bankruptcy are not subjected to central banks providing no legal binding constraint even with the zero level of equity (Benecka et al, 2012). Also, the right to collect seigniorage which is the monetary income of central banks make them able to go well beyond the accounting equity which undermines the importance of financial soundness in the context of central banks. But central bank losses may have long term fiscal implications and they would try to control losses with improvements of finances by allowing higher inflation. This implies a probable conflicting situation between their primary goal of price stability and weak financial strength arising through inflationary means of solving financial weaknesses of the central banks.

It is reviewed that even though central banks can always create money to pay its bills and cannot be declared bankrupt by a court, their financial results can be an impact in terms of achieving the policy objectives. Therefore, losses or negative capital may raise doubts in its ability to deliver policy targets and expose it to political pressure (Archer and Boehm, 2013). Therefore, this study is mainly motivated by the prevailing research gap in this area by providing a comprehensive investigation on the impact of central bank financial strength on price stability in South Asian context.

## **2. Research Problem**

Generally, it is accepted that commercial banks require a substantial financial strength to survive and to conduct their primary responsibilities. But in the context of central banks, the need of financial strength is a controversial area which requires further investigation. Both supportive and challenging views and findings can be observed in empirical literature giving an insight of prevailing debate on this topic.

Prevailing limited studies on this field have focused on the analysis of central bank financial strength and price stability mostly in the context of western countries or as a whole for the world. Developing economies; specifically, South Asia has not been included in many of the empirical analysis suggesting that investigation on South Asian context would give different insight to the prevailing debate on the topic as a region with lower central bank independence comparatively (Ahsan and Skully, 2009). Hence, investigating whether there could be an impact from the financial strength of central bank on price stability comes as a researchable area which has been disregarded for a longer period of time especially in the South Asian context.

Accordingly, this can be specified into a specific research question as: “Has central bank financial strength impacted price stability in South Asia during the time period of 1980 to 2015?”

## **3. Significance and Justification of the Study**

This study will contribute to the prevailing controversy in this field on significance of central bank financial strength for an economy. Accordingly, findings of this study will conclude the impact of central bank financial strength on price stability in the South Asian context. Hence, this study will be significant to the prevailing empirical literature providing an empirical investigation in the South Asian context with consideration of inherent features of central bank system within the region. The available empirical findings on the topic in the South Asian context remain scant compared to the studies in the advanced economic context. Hence, the study will fill the lacuna of research in the field.

In addition, the findings of the study will draw attention on the importance of the central bank financial strength in maintaining macroeconomic stability in terms of price stability and will provide a different insight to policy makers with the involvement of the independence of central banks. This study will cover the time period ranging from 1980 to 2015 which will provide the most recent analysis on the data compared to the previous studies.

## **4. Research Objectives**

1. To identify the impact of CBFS on price stability in South Asia; and
2. To identify the impact of other variables on price stability in South Asia.

## **5. Review of Literature**

### **5.1 Concept of Central Bank Financial Strength**

It can be observed there are different terms which have been used in the related literature to refer to central bank finances. For instance, ‘central bank finance,’ ‘central bank financial position’ are few of the mostly used terms in literature (Stella and Lonnberg, 2008; Ize, 2005). Some studies adopt the term ‘financial strength’ (Stella, 2005; Cargill, 2005; Klüh and Stella, 2008). In early literature, central bank finance has been discussed in the context of central bank independence (Perera et al, 2011).

Accordingly, Central Bank Independence (CBI) has been considered as the degree of freedom of the central bank to pursue monetary policy without interference from political considerations (Sirivedhin and Hataiseree, 2000; cited in Griffin, 2011). The independence consumed by the central banks in pursuing monetary policy granted more authority to central banks apart from the government authorities which ultimately allow them to make more independent decisions which will lead to a more stable economic environment in the respective country (Maxfield, 1997; cited in Griffin, 2011).

Later, the concept of Central Bank Independence (CBI) was broadly discussed in many aspects. Among the wide scope of CBI, the financial dimension of CBI came to the discussion focusing on the financial strength of central bank (Haan and Eijffinger, 2016). Since CBI referred to authority in central banking system, Financial authority has drawn the attention as the financial dimension of CBI (Hayat and Farvaque, 2011). The financial strength of the central bank has been defined in the scope of the ability of central banks to attain its policy goals without external financial support (Stella, 2005).

This study uses the term ‘Central Bank Financial Strength’ (CBFS) following the prevailing empirical studies (Klüh and Stella, 2008; Perera et al., 2011).

This is a concept which has been neglected previously. There are both historical and theoretical reasons for the negligence of CBFS which have been pointed out in empirical studies (Stella, 2005). Focusing on historical reasons first, it can be observed that many fiat money central banks including Group of Seven (G-7) countries had been highly profitable over a long period of time. Therefore ‘financial difficulties’ is much more a remote concept to them. It is stated that U.S. Federal Reserve System has been making profits since 1915 (Stella, 2005). Hence, being profitable ever in the history made the CBFS rather a remote concept. Then, the theoretical reasons provide that due to the unlimited costless ability in creating money, central banks do not require financial strength as commercial banks.

In addition, some of empirical studies claim that the ability of central banks to print money allows them to recapitalize themselves through seigniorage or institutional arrangements with treasury to recapitalize and the consolidated fiscal position cause for the negligence of the concept of CBFS. But it is argued that weak financial strength of central banks causes the deterioration of the independence

considerably which will ultimately affect the effective conduct of monetary policy (Mora et al, 2012).

It is stated that conventional measures of assessing financial strength of private enterprises cannot be employed in the context of central bank since profitability and capital are not the primary consideration of central bank (Stella, 2008). It has been as used capital, equity or net worth as traditional accounting measurements of corporation's financial standings which cannot be used in the aspect of central banks (Hall and Reis, 2015). Reasons for the unacceptance of traditional financial measurements have been listed as; central banks cannot be liquidated, central banks do not have a market value since the primary consideration is not profit and governments own the central bank with more deposit funds and most of the assets of the central bank as government liabilities which make confusing distinction between equity-holders and credit-holders in the context of central banks (Hall and Reis, 2015).

Therefore, it is suggested that performance of central banks can be assessed through policy performance in particularly success of achieving the monetary policy targets. Accordingly, two specific benchmarks have been demonstrated to assess central bank performance; firstly, how well it creates conducive conditions to ensure favorable macroeconomic outcomes such as output growth, price stability, etc. and secondly, how efficiently the central bank achieves such outcomes referring to the internal efficiency which minimizes the costs of attaining objectives (Stella, 2008).

A study has highlighted that major shifts in the composition and the size of central banks' balance sheets resulting through large capital inflows in an emerging market and increased sensitivity of capital to domestic interest rate movements have brought the forefront of policy debate of CBFS and monetary policy conduct (Mora et al., 2012).

In literature it is provided that CBFS distinguishes from the concept of central bank capital. Focusing on the concept of central bank capital, technical definition can be drawn from the studies as the amount of direct investment of shareholders plus accumulated retained earnings minus losses (Stella, 1997; cited in Perera et al., 2011). But it is stated that the capital is not a representative measurement of CBFS as it can be a misleading summery statistic mainly due to three reasons such as dependency on accounting and profit distribution methods, existence of off balance sheet items and improperly stated profits (Stella, 2008). Therefore, it can be concluded that financial strength matters more compared to the capital for central banks. Hence, it should be noted that capital and financial strength are clearly distinguished in the context of central banks.

Literature consider 'Net worth' as a much more useful indicator of potential profitability and financial independence of central banks. 'Broadly, net worth is defined as the price of a fully informed risk neutral investor would pay to purchase the bank under normal conditions' (Stella, 1997; cited in Perera et al, 2011:9). In other words, net worth reflects the franchise value of central bank which is the value

after consideration of ability of printing money and imposing reserve requirements on commercial banks (Bindseil et al, 2004; cited in Perera et al, 2011).

Even though central bank profit and losses are considered as less important measurements of CBFS, it can erode the central bank net worth negatively (Dalton and Dziobek, 2005; cited in Perera et al., 2011). It is suggested that if central bank is able to conduct its operations without incurring operational losses, it can be said that it is a financially strong central bank (Cargill, 2006; cited in Perera et al, 2011). Therefore, profit and losses of central banks also come to the consideration as they determine the central bank net worth level. Hence, profit and losses of central banks help to conceptualize the CBFS. Accordingly, central bank net worth provides a useful benchmark to examine the central bank balance sheet as it is considered a superior indicator of central bank profitability than capital.

In accordance with empirical views related to CBFS, it can be clarified that CBFS as an extension to CBI which is essentially required to carry out smooth functioning of monetary policy conduct by central banks. Accordingly, it can be concluded that CBFS is an important phenomenon in the context of central banks based on the related empirical literature.

## ***5.2 Measuring Central Bank Financial Strength***

Literature provides some useful measurements in assessing CBFS. Accordingly, some of the widely employed measurements of CBFS can be identified in several studies in terms of ratios (Klüh and Stella, 2008; Benecka et al, 2012). Several ratios have been employed to assess CBFS with respect to balance sheets of central banks such as the ratio of Equity to total assets (ETA), the ratio of 'broadly defined' capital to total assets (CBFS) and the ratio of Net non-interest bearing liabilities (NNIBL) etc. Especially NNIBL has shown a significant negative coefficient with inflation providing that there is an impact of CBFS to inflation while other measures turned out to be insignificant (Benecka et al, 2012).

In terms of profitability measures, return on average assets (ROAA) and Return on average equity (ROAE) have been used as indicators reflecting net returns generated on central bank assets and the profitability of central bank's own funds (Benecka et al, 2012). The ratio of 'broadly defined' capital to total assets (CBFS) has been widely used in the empirical studies (Stella, 2008; Perera et al, 2011; Benecka et al, 2012). It has been constructed by taking into account the central bank capital or equity plus the balance of 'Other Item Net' (OIN) account scaled by total assets of central bank. It is stated that the measurement comparatively reflects more of central bank balance sheet. It is mentioned that OIN includes the revaluation account, net worth, original capital, reserves and physical assets. Further, it is stated that it contains accumulated losses or hidden reserves providing a reflection of financial strength in the context of central banks (Perera et al, 2011).

Empirical studies claimed the above mentioned measurement as the best representative measurement of CBFS based on several few key features of the measurement such as it is a more transparent proxy of measurement, it adopts the stock concept to measure CBFS and it is a more reliable indicator which is calculated based on the data provided by International Financial Statistics (IFS) (Stella, 2005; Stella, 2008; Benecka et al, 2012). Also it has been selected as the only measurement which indicates a significant relationship with economic outcomes after a comprehensive analysis by employing several measurements in a study (Perera et al, 2011).

Relying on a standardized and widely available data set that ensures comparability across countries and using Total Assets as the scaling factor which helps to capture the degree of currency mismatches in the central bank's balance sheet have been pointed out as the prominent advantages of this measurement. Moreover, it is stated that this is a broad measure of capital to assets which is widely available on relatively high standardized and high frequency basis which has been employed in previous studies (Mora et al, 2012).

Accordingly, this measurement can be depicted as follows.

$$\text{CBFS} = \frac{\text{Equity} + \text{Other Item Net}}{\text{Total Assets}}$$

Despite the advantages of this measure, some of the drawbacks also have been discussed as failing to capture market value of some assets and liabilities, overlooking certain financial components such as contingent liabilities that only materialize with a lag and inclusion of idiosyncratic features in Other Item Net which might not be fully comparable across countries (Mora et al, 2012). In this study, it is used as the ratio of capital plus OIN as a percentage of total assets to assess the financial strength of central banks in the selected sample of countries following related empirical studies (Klüh and Stella, 2008; Perera et al, 2011; Mora et al, 2012).

### ***5.3 Consequences of Central Bank Financial Strength***

Empirical studies present different viewpoints related to CBFS and its impact on economic outcomes. Accordingly, majority of scholars highlight the CBFS and its relation with attainment of monetary policy objectives to discuss the consequences of CBFS.

It is stated that weak CBFS can hamper policy capacity and its outcomes (Stella, 2008). Further, it is mentioned that weak CBFS can constrain the smooth conduct of monetary policy thereby resulting a dependency on the support from treasuries. Then, it would affect the primary concern on price stability and 'to compromise its operational independence and also to impose inefficient restrictions on the financial system to suppress inflation' (Stella, 1997; cited in Perera et al, 2011: 16). It is argued that central bank losses may influence the central bank to change the operations of central banking to guarantee its survival (Sweidan, 2011;

cited in Perera et al, 2011). Therefore, it is appeared to be that CBFS is positively associated with good policy performance which implies that financially weak central banks would undermine the macroeconomic stability (Stella, 2008).

Moreover, it is described that financial weakness of central bank would lead to financial losses which have to be settled through financial repression, reserve money creation or debt issuance which will results a monetary expansion in the economy (Stella, 2005). If central bank fails to withstand potential shocks in their balance sheets due to the weak financial position, it would be difficult to fulfill its policy obligations which would weaken the credibility of central banks.

Another idea developed regarding the CBFS is that it is required to maintain adequate level of financial strength to absorb losses and to credibly achieve policy objectives. It is argued that treasury support for central bank is not an appropriate and reliable option and also it cannot be expected such support on timely basis considering historical occasions. Moreover, it is emphasized that central bank distress and fiscal distress are associated (Stella 2008). Also, stabilizing the financial strength with treasury support requires transferring real resources to central bank. Such options could cause monetary expansion which would erode central bank capital, thereby generating higher inflation rates (Stella, 1997; cited in Perera et a., 2011).

All these findings conclude that to achieve policy objectives as well as to maintain efficiency in central banking, it is a necessity to have an adequate level of financial strength for central banks. It would be unable to meet the basic functions of central banks causing financial distress in the economy due to inadequate CBFS (Stella and Lonnberg, 2008).

Other key aspect of CBFS is that it provides central banks to act more credibly. Having an adequate level of financial strength provides central banks to survive in adverse situations without hampering policy objectives. It is stated that if central banks are financially weak one of the options available to central banks is relieving some policy goals such as price stability or maintaining a fixed exchange rate which constrain macroeconomic stability (Stella, 2005).

Finally, it can be concluded that determining financial strength of a central bank requires a careful analysis both in balance sheet and economic environment to ensure that the central bank will be able to meet its policy objectives successfully without hampering macroeconomic stability (Stella, 2005).

#### ***5.4 Linking Central Bank Financial Strength and Price Stability***

It is commonly believed that high and volatile inflation affect consumption and investment decisions which ultimately result in an impact to the economy as a whole. Persistent inflation in goods and services creates higher social costs. Accurate predictions of inflation could also enable the Central Bank to conduct its monetary policy effectively and efficiently and thereby achieving the objective of price stability (Rathnasiri, 2011).



Majority of central banks set price stability as the primary objective of monetary policy believing it to be a crucial pre condition of the smooth functioning of the economy. Hence, it can be observed in the monetary system making the central bank an agent with the mandate and reputation for maintaining price stability. Governments often pass laws and follow customs granting their central banks authority and authority to pursue price stability making the central bank an agency with the mandate and reputation for maintaining price stability (Cukierman et al, 1992).

Linking price stability with CBFS opens both empirical and theoretical arguments. This is an area which is subject to debate. According to literature, many scholars argue that the linkage between CBFS and macroeconomic outcomes including price stability as a prominent macroeconomic variable are unlikely to exist providing that this is an irrelevant idea to investigate. But it has been presented as two approaches such as pragmatic approach and theoretical consideration to link these two concepts (Klüh and Stella, 2008).

According to pragmatic approach, the discussion on CBFS and inflation are carried out. It is stated that financial difficulties of central bank would weaken the achievements of anti-inflationary policies resulting transfer of excess liquidity to financial system. It is stated that ‘motives such as self-interested behavior of central bank representatives in terms of reputation, personal prestigious and future employment opportunities and also, intentions to generate stable flow of seignorage revenues can lead to a tendency to factor CBFS in monetary policy decisions’ (Perera et al, 2011: 13). In theoretical considerations, it is provided that in circumstances where treasury support is not available for a loss making central bank, it would tend to lower the cost of monetary operations as the first option adjusting minimum reserve requirements. It is discussed that such procedures would involve some economic costs such as financial repression affecting the financial development (Klüh and Stella, 2008).

Moreover, it is argued that if the central bank goes for a reprinting of money based on interest free liabilities to repay its obligation as the second option, excess liquidity would flow to the economy. If sterilization process is not conducted to absorb the excess liquidity back, then there could be a possibility of inflationary pressures (Perera et al, 2011). On the other hand, if central bank sterilizes the excess liquidity by issuing debt securities, it would have to be incurred as an additional interest cost (Klüh and Stella, 2008).

In sum, all these arguments support the view of existing relationship between CBFS and price stability. Accordingly, this study will attempt to model the relationship in between CBFS and price stability in the South Asian context to fill the prevailing research gap.

### ***5.5 Selection of Variables***

By following the previous empirical literature on CBFS, a set of explanatory variables is included in the model. Prior to selecting these additional explanatory variables, a plethora of previous studies has been referred. For example, in prior

literature, inflation has been regressed using a broad range of explanatory variables including broad money growth, per capita income, budget deficit, output gap, nominal interest rates, nominal exchange rates, economic openness, import prices, foreign inflation, oil and/or commodity prices, expected inflation, etc (Moser 1995; Cuckierman, Webb and Neyapti 1992; Perera et al, 2011; Perera et al, 2013).

## **6. Methodology**

### **6.1 *Research Design and Sample Selection***

The main purpose of this research is to empirically analyze the relationship between central bank financial strength and price stability within a framework of panel data with special reference to South Asia. Therefore, this research is conducted as a quantitative research where data collection methods and techniques follow a quantitative research design.

South Asia is the targeted population for this study. Out of the total population of eight countries: Afghanistan, Bangladesh, Bhutan, India, Nepal, Maldives, Pakistan and Sri Lanka, only four countries were selected as the sample mainly based on the availability and accessibility of data. Accordingly, Sri Lanka, India, Pakistan and Nepal were the selected countries within the region. Hence, a purposive sampling method was employed to select the countries out of the total population.

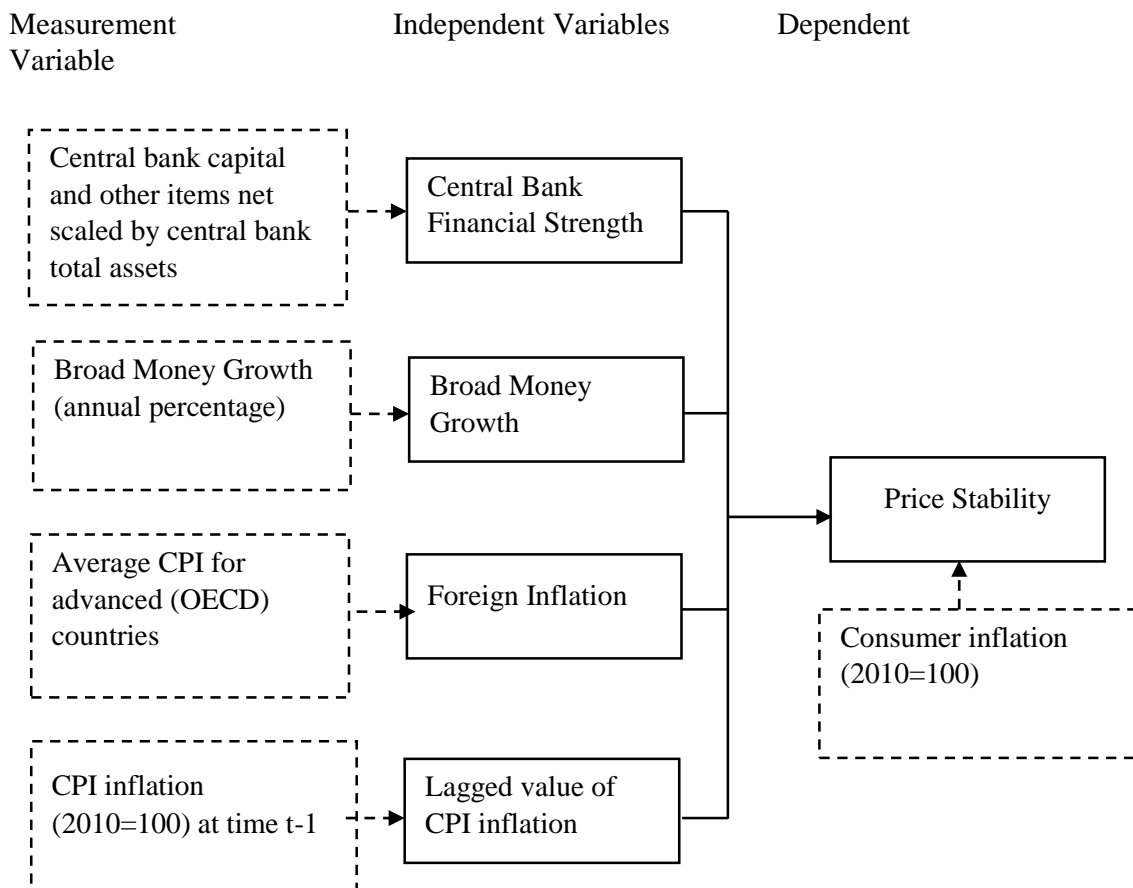
### **6.2 *Selection of Other Variables***

In the presence of wide range of explanatory variables to inflation, the step-wise regression method was used to justify the selection of most appropriate variables that can be included in the regression model to keep the model less complex and to provide better focus on inflation and CBFS. Accordingly, only Broad Money Growth, Foreign Inflation and first lag of dependent variable have been utilized to the model following similar studies and after comparing the results of other explanatory variables (Perera et al, 2011; Perera et al, 2013).

### **6.3 *Conceptual Framework***

Variables used in the model and their measurement are indicated by the conceptual framework. Other than to the main independent variable; central bank financial strength several other explanatory variables have been included to the model to enhance the model validity. The dependent variable; price stability has been measured by using consumer inflation as a proxy to price stability.

Figure 1: **Conceptual Framework of the Study**



Source: Compiled by authors, 2017

#### 6.4 Data Sources and Data Collection

Since this study is analyzing the macro economic variables, secondary data were used to conduct the study. All the variables are expressed as annual percentages except the main independent variable which is in the form of ratio. The required data was retrieved from various sources such as International Financial Statistics (IFS) of International Monetary Fund, World Development Indicators of World Bank and also from respective central banks, Central Bank of Sri Lanka (CBSL), Reserve Bank of India (RBI), State Bank of Pakistan (SBP) and Nepal Rastra Bank (NRB).

These data consist four South Asian countries; Sri Lanka, India, Pakistan and Nepal. Unbalanced panel data regression was carried down due to the unavailability of data for two countries namely Pakistan and Nepal where central bank capital and other item net account balance in IFS database were not published

after 2007 and 2008 respectively. Accordingly, unbalanced panel data with one hundred and twenty-nine observations altogether were used to conduct the analysis and the detailed breakdown of the date set was depicted by the following table.

**Table 1: Characteristics of the Panel Data Series**

<b>Country</b>	<b>Time period</b>	<b>Number of observations</b>
Sri Lanka	1980-2015	36
India	1980-2015	36
Nepal	1980-2008	29
Pakistan	1980-2007	28
	Total	129

*Source: Compiled by authors, 2017*

### **6.5 Model Specification for the Study**

Since there is no particular theoretical model to adopt in this study, the model was specified to best fit to the data set where researcher was given the freedom to alter the model where needed. Accordingly, the model was constructed following the empirical model by Perera et al. (2011, 2013).

Model:

$$Y_{it} = \alpha + \beta_1 X_{it} + \beta_2 X_{it} + \beta_3 X_{it} + \beta_4 Y_{i,t-1} + \varepsilon_{it}$$

Where  $Y_{it}$  is Consumer inflation over given period t.  $X_{it}$  corresponding to variables, which can have an effect on Consumer inflation: independent variables. Therefore, the equation can be expressed as follows:

$$CPI\_INF = \alpha + \beta_1 CBFS + \beta_2 BM\_GROWTH + \beta_3 CPI\_OECD + \beta_4 CPI\_INF_{t-1} + \varepsilon_{it}$$

Where,

CPI\_INF = Year on year change of consumer price index

CBFS = Central Bank Financial Strength

BM\_GROWTH = Broad money growth

CPI\_OECD = Foreign inflation

CPI\_INF<sub>t-1</sub> = Lagged value of CPI\_INF (dependent variable)

### **7. Data Presentation and Analysis**

Prior to the estimation of the model, the data set was adjusted to the unit root problem following Levin, Lin and Chu (LLC) and Im, Pesaran and Shin (IPS) test statistics. Accordingly, all the variables have been converted into first order integration.

### 7.1 Estimation Results

$$CPI\_INF = \alpha + \beta_1 CBFS + \beta_2 BM\_GROWTH + \beta_3 CPI\_OECD + \beta_4 CPI\_INF_{t-1} + \varepsilon_{it}$$

Accordingly, pooled regression model was constructed using period weights and white period coefficient covariance to improve the model. The significance of the relationship between the independent variables and the dependent variable was assessed by the following criteria:

### 7.2 Significance of Parameter

H<sub>0</sub>: There is no significant relationship in between the two variables

H<sub>1</sub>: There is a significant relationship in between the two variables

Decision Rule: Reject H<sub>0</sub> if P value < 0.05

The results are summarized by the following table.

Table 2: Significance of Parameters of the Model

Variable	Coefficient	P value	Level of significance	Conclusion
Constant	-0.001388	0.2878		
CBFS	-0.009622	0.0001	0.05	The relationship is significant
BM_GROWTH	-0.043010	0.0000	0.05	The relationship is significant
CPI_OECD	0.436569	0.0806	0.05	The relationship is not significant
CPI_INF <sub>t-1</sub>	-0.234612	0.0000	0.05	The relationship is significant

Source: Compiled by authors, 2017

### 7.3 Overall Significance of the Model

To assess the overall significance of the model, following decision criteria was used.

H<sub>0</sub>: The model is not significant as a whole

H<sub>1</sub>: The model is significant as a whole

Decision Rule: Reject H<sub>0</sub> if P value < 0.05

In accordance with the test statistics, the model was significant as a whole.

Table 3: Overall Significance of the Model

Probability of F Level of Conclusion	statistic	significance	of
0.0000	0.05		The model is significant as a whole

Source: Compiled by authors, 2017

Other test statistics of the model are summarized as follows:

**Table 4: Other Test Statistics of the Model**

R <sup>2</sup>	Adjusted R <sup>2</sup>	S.E. of Regression	Durbin Stat	Watson
0.4769	0.4589	0.0417	2.31	

*Source: Compiled by authors, 2017*

According to the empirical results, it can be observed a significant negative relationship in between central bank financial strength and price stability in South Asia which is compatible with most of the empirical studies. According to the model, a positive change of 1 percent in central bank financial strength, ceteris paribus, will result a 0.96 percent decrease of inflation level in selected South Asian countries at the presence of other explanatory variables. In other words, when the financial strength of central bank increases, the inflation level tends to decline which will ultimately result price stability as a macroeconomic outcome.

In assessing the overall significance of the model, F value is considered which appeared to be significant. R<sup>2</sup> and Adjusted R<sup>2</sup> values are significant with 46 percent of explanatory power of the variance in the model.

The model for the study can be specified based on the empirical results as follows:

$$\text{CPI\_INF} = -0.0014 - 0.0096 \text{ CBFS} - 0.043 \text{ BM\_GROWTH} + 0.4366 \text{ CPI\_OECD} - 0.2346 \text{ CPI\_INF}_{t-1}$$

## **8. Conclusion and Recommendation**

This study attempts to provide evidence of probable relationship between central bank financial strength and price stability in the South Asian context. The empirical result of the study proves that price stability, measured by inflation is broadly related to central bank financial strength in particularly a significant negative relationship. Therefore, it is concluded that higher financial strength of central banks will tend to lower the inflation providing stability in the prices of an economy.

The findings of this study is compatible with the previous similar studies in this field. Accordingly, significant negative relationship between Inflation and CBFS has been proven by several other studies (Stella 2005; Klüh and Stella 2008; Perera et al, 2011; Perera et al, 2013).

These empirical observations offer several policy implications stressing the need of the financial soundness regardless of the monetary authority inherent to central banks. Accordingly, central banks should attempt to avoid losses by implementing appropriate policies in order to maintain favorable balance sheet position with

adequate financial health as there is a significant impact from the financial strength of central banks on price stability which generates a downward bias in inflation.

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