

# The Financial strength of Central Bank and its Impact on Price Stability; Study on Sri Lanka and India

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## **Introduction**

### **Background of the study**

Central bank plays a key role in an economy of a county being the sole monetary authority. But the importance of an adequate level of financial strength in the context of the central bank is subjected to controversy. The concept of central bank financial strength is disregarded for a longer period of time due to several reasons. It is believed that monetary autonomy 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 which could results conflicts in policy objectives especially in terms of price stability; which is the primary objective of the majority of central banks around the globe.

This prevailing controversy on this subject inspired this study to investigate the probable relationship between central bank financial strength and price stability in Sri Lankan and Indian context for the time period ranging from 1980 to 2015.

### **Rationalization of the study**

The findings of this study will conclude the impact of central bank financial strength on price stability in Sri Lanka and India. Hence, this study will be significant to the prevailing empirical literature providing an empirical investigation giving an insight on South Asian context with consideration of inherent features of central bank system within the region given focus to Sri Lanka

and India which are two leading economies of the region. In addition, the findings of the study will draw the attention on the importance of the central bank financial strength in maintaining macroeconomic stability in the terms of price stability and will provide a different insight to policymakers with the involvement of the independence of central banks.

## **Research Problem**

The importance of financial soundness of commercial banks is a generally accepted phenomenon. But financial soundness in the context of central banks is an area which is subjected to controversies with the inherent monetary autonomy of central bank. The theoretical and empirical studies provide contradictory findings and views in this regard. The key argument which is drawn by many scholars in this field is that unlimited costless ability of central banks in printing money does not necessarily require a financial strength for a central bank (Stella 2008). But, this argument was questioned later on pointing out the consequences of printing money on the economic stability in particularly to price stability (Sweidan 2011 cited in Perera et al. 2011). Therefore, the importance of financial strength for a central bank and its impact on macroeconomic variables came into the discussion.

Investigating the impact of the financial strength of central banks on price stability especially in Sri Lanka and India would give a different insight to the prevailing limited studies in this field which were only focused on advanced economies.

Accordingly, this can be specified into a specific research question as:  
“Does central bank financial strength impact on price stability in Sri Lanka and India during the time period ranging from 1980 to 2015?”

The objective of the research

- To identify the impact of Central Bank Financial Strength on price stability in Sri Lanka and India.

Accordingly, the following hypothesis is formed:

H1: Inflation is negatively associated with Central Bank Financial Strength

## **Literature review**

The concept of central bank finance

It can be observed different terms which have been used in the related literature to refer central bank finances. For instance, ‘central bank finance’, ‘central bank

financial position' are a few of the most used terms in the literature (Stella &Lonnberg, 2008; Ize, 2005). Some studies adopt the term 'financial strength' (Stella, 2005; Cargill, 2005; Klüh&Stella, 2008). In early literature, central bank finance has been discussed in the context of central bank independence (Perera, Ralston &Wickramanayake, 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&Hataiseree, 2000, as 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 allows them to make more independent decisions which will lead to a more stable economic environment in the respective country (Maxfield, 1997, as 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 the central bank (Haan&Eijffinger, 2016). Since CBI referred to authority in the central banking system, the Financial authority has drawn the attention as the financial dimension of CBI (Hayat &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& Stella, 2008; Perera et al., 2011).

This is a concept which has been neglected previously. According to Stella (2005), there are both historical and theoretical reasons for the negligence of CBFS. 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 the U.S. Federal Reserve System has been making profits since 1915 (Stella 2005). Hence, being profitable ever in the history made the CBFS is 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.

Measuring central bank financial strength

Empirical studies are provided with a vague range of measurement of CBFS and among them, it has been claimed that following mentioned measurement as the best representative measurement of CBFS (Stella, 2005; Stella, 2008; Benecka et

al., 2012). Also, it has been selected as the only measurement which indicates a significant relationship between 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.

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

In this study, it is used the ratio of capital plus OIN as a percentage of total assets to assess the financial strength of central banks in the selected countries following the empirical studies (Klüh& Stella, 2008; Perera et al., 2011; Mora et al.,2012).

#### Consequences of Central Bank Financial Strength

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 in 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, as cited in Perera et al., 2011, p. 16).

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 result in a monetary expansion in the economy (Stella, 2005). If central bank fails to withstand to potential shocks in their balance sheets due to the weak financial position, it would be difficult to fulfil its policy obligations which would weaken the credibility of central banks.

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 &Lonnberg, 2008).

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

Linking price stability with CBFS opens to both empirical and theoretical arguments. This is an area which is subject to debate. It is stated that the financial difficulties of the central bank would weaken the achievements of anti-inflationary policies resulting transfer of excess liquidity to the financial system. (Perera et al., 2011). 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 (Klüh& 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 the sterilization process is not conducted to absorb the excess liquidity back, then there could be a possibility of inflationary pressures (Perera et al., 2011).

In sum, all these arguments support the view of the existing relationship between CBFS and price stability. Accordingly, this study will attempt to model the relationship in between CBFS and price stability in Sri Lanka and India.

## **Methodology**

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

This study follows a framework of panel data as a quantitative research where data collection methods and techniques follow a quantitative research design. Sri Lanka and India have been selected as the sample since both are South Asian countries and according to Central Bank Independence and Governance (CBIG) index, both countries maintaining a standard level (Ahsan &Skully 2009).

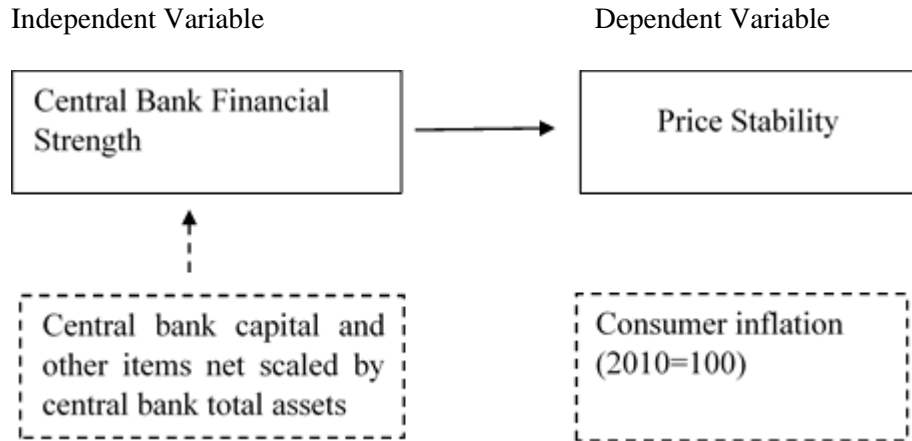
### **Conceptual Framework**

Variables used in the model and their measurement are indicated by the conceptual framework.

## **Measurement**

### **Data Sources and Data Collection**

Secondary data were used to conduct the study. The required data was retrieved from sources such as International Financial Statistics (IFS) of International Monetary Fund, World Development Indicators of World Bank and also from Central Bank of Sri Lanka (CBSL), Reserve Bank of India (RBI).



### 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 the 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

$$Y_{it} = \alpha + \beta_1 X_{it} + \varepsilon_{it}$$

Where,

$Y_{it}$  = Year on year change of consumer price index       $X_{it}$  = Central Bank Financial Strength

Accordingly, the model can be specified as follows:

$$CPI\_INF = \alpha - \beta_1 CBFS + \varepsilon_{it}$$

Prior to the estimation of model, the data set has the model as adjusted to the unit root problem following Levin, Lin and Chu (LLC) and I'm, Pesaran and Shin (IPS) test statistics. Accordingly, all the variables have been converted into first-order integration. In addition, the model validity was tested using Breusch- Godfrey serithe al correlation test and White test statistic to test Serial Correlation and Heteroscedasticity respectively.

## Results and Discussions

### Estimation Results

$$CPI\_INF = \alpha + \beta_1 CBFS + \varepsilon_{it}$$

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 variable and the dependent variable was assessed by the following criteria.

Significance of Parameter

H0: There is no significant relationship between the two variables

H1: There is a significant relationship between the two variables

Decision Rule: Reject H0 if P-value < 0.05

The results are summarized in the following table.

Table 1: Significance of parameters of the model

Variable	Coefficient	P value	Level of significance	Conclusion
Constant	0.255147	0.0000		
CBFS	-0.000903	0.0001	0.05	The relationship is significant

*Source: Compiled by author (2018)*

#### 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 2: Overall significance of the model

The probability of F statistic	Level of significance	Conclusion
0.000097	0.05	The model is significant as a whole

*Source: Compiled by author (2018)*

According to the empirical results, it can be observed a significant negative relationship between central bank financial strength and price stability in Sri Lanka and India which is compatible with most of the empirical studies. According to the model, a positive change of 1 per cent in central bank financial strength, ceteris paribus, will result in a 0.0903 per cent decrease of inflation level in both countries at the level of 5 per cent significance. In other words, when the financial strength of central bank increases, the inflation level tends to decline which will ultimately result in price stability as a macroeconomic outcome.

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

$$\text{CPI\_INF} = -0.255147 - 0.000903 \text{ CBFS} + \varepsilon_{it}$$

## **Conclusions and Recommendations**

This study attempts to provide evidence of a probable relationship between central bank financial strength and price stability in Sri Lanka and India. Inflation has been used as a proxy measurement to price stability and to measure the financial strength of central banks, a ratio has been used following the methodology of similar studies. The empirical result of this study proves that price stability, measured by inflation is broadly related to central bank financial strength. Accordingly, it was evidenced a significant negative relationship in between inflation and central bank financial strength which concludes that maintaining the adequate financial strength of a central bank will cause to lower the inflation which affects favourably the price stability of the economy.

The findings of this study are compatible with the previous similar studies in this field. Accordingly, the significant negative relationship between Inflation and central bank financial strength 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 favourable balance sheet position with adequate financial health as there is a significant impact from the financial strength of central banks on price stability.

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