



# Central bank financial strength and inflation: Is there a robust link?



Anil Perera<sup>a,b,\*</sup>, Deborah Ralston<sup>a,c</sup>, Jayasinghe Wickramanayake<sup>a</sup>

<sup>a</sup> Faculty of Business and Economics, Monash University, PO Box 197, Caulfield East, VIC 3145, Australia

<sup>b</sup> Central Bank of Sri Lanka, PO Box 590, Colombo 01, Sri Lanka

<sup>c</sup> Australian Centre for Financial Studies, 80 Collins Street, Melbourne, VIC 3000, Australia

## ARTICLE INFO

### Article history:

Received 30 August 2012

Received in revised form 5 January 2013

Accepted 28 June 2013

Available online 11 July 2013

### JEL classification:

E42

E52

E58

E63

### Keywords:

Central bank financial strength

Central bank capital

Inflation

Panel estimates

GMM method

## ABSTRACT

Central bank financial strength has not been a fundamental issue for a substantial period of time. However, recent theoretical and empirical studies argue that central banks need to maintain a sufficient level of financial strength to perform their functions effectively and to achieve monetary policy objectives. In this study, we examine the empirical relationship between central bank financial strength and inflation using an unbalanced panel data set for a sample of selected advanced and emerging countries. We observe a statistically significant and robust negative relationship between central bank financial strength and inflation. This relationship is robust in the presence of other determinants of inflation and for alternative estimation methods. Our results have important implications for policy makers and central bankers. Particularly, our results suggest that avoiding persistent losses and maintaining the health of the central bank balance sheet remain vital pre-conditions for desirable policy outcomes of a central bank.

© 2013 Elsevier B.V. All rights reserved.

## 1. Introduction

In this study, we focus on a long-neglected aspect of central banking, i.e. central bank financial strength (CBFS, hereafter) and its relevance to achieve low inflation, which is one of the main considerations of modern central banking.<sup>1</sup> Why the study of CBFS and its implications is important?

During the past few decades, central banking has experienced significant changes (Sweidan, 2011). On the one hand, while their independence has been enhanced substantially, central banks have become more powerful amongst the policy making authorities. Moreover, the role of central banks is further changing due to the current focus on additional macro-prudential policies, particularly

with regard to financial stability objectives (Goodhart, 2011). On the other hand, during the last few decades, many central banks have had experienced financial difficulties due to substantial operating and valuation losses. In particular, emerging country central banks have reported substantial deteriorations in their balance sheets.<sup>2</sup> These financial difficulties raise important issues with regard to central bank monetary policy conduct and the effectiveness of policy outcomes. In particular, studies show that although marginal changes or transient movements in central bank financial conditions are immaterial, severe financial problems tend to degrade the policy capacity and limit the policy options available to a central bank. More importantly, weak financial conditions affect central bank policy outcomes (Cukierman, 2008; Stella, 1997, 2008).<sup>3</sup>

\* Corresponding author at: Faculty of Business and Economics, Monash University, PO Box 197, Caulfield East, VIC 3145, Australia. Tel.: +61 3 9903 2765; fax: +61 3 9903 4116.

E-mail addresses: [anil.perera@monash.edu](mailto:anil.perera@monash.edu), [anilraa@yahoo.com](mailto:anilraa@yahoo.com) (A. Perera), [deborah.ralston@australiancentre.com.au](mailto:deborah.ralston@australiancentre.com.au) (D. Ralston), [j.wickramanayake@monash.edu](mailto:j.wickramanayake@monash.edu) (J. Wickramanayake).

<sup>1</sup> Precisely, low inflation refers to 'low – stable but positive' inflation (price stability), i.e. a key objective of the monetary authority (Taylor, 2000). However, low inflation does not mean deflation.

<sup>2</sup> In Latin America, Asia, Africa and Eastern and Central Europe, central banks have faced considerable financial distress (Stella and Lonnberg, 2008). Also, in general, emerging countries have suffered from large losses (Sweidan and Maghyereh, 2006).

<sup>3</sup> Financial strength is also important to maintain central bank independence and credibility (Cargill, 2006; Sweidan and Maghyereh, 2006) and to avoid potential technical insolvency (Stella and Lonnberg, 2008).

Nevertheless, for a long period of time, central bank finances have not been a fundamental issue.<sup>4</sup> This is because, financial strength of a central bank was considered irrelevant and insignificant due to several reasons and hence, it was largely neglected.<sup>5</sup> However, such negligence has led to several negative economic consequences and affected the effectiveness of central banking and monetary policy (Sweidan, 2011). Hence, central bank financial conditions have received much more attention in recent academic literature and central bank practice. Even with current developments in central banking, for example, extensive interventions to mitigate the impact of the crisis, central bank balance sheet health is considered vital and desirable (Dalla Pellegrina et al., 2013). However, although CBFS and its relation to policy outcomes have recently been recognised as an important policy issue, this area remains largely under-researched. On the one hand, as argued by Jeanne and Svensson (2007), while central bankers do seem to care about central bank finances, such concerns however have not been much examined in the academic literature. On the other hand, although some case study evidence, for example, Ize (2007) and Stella (2005, 2008) indicate that weak central bank finances adversely affect the effective policy implementation, the relationship between CBFS and policy outcomes is not clear and is subject to controversy. This is partly due to paucity of robust econometric evidence (Klüh and Stella, 2008). In this background, the existing lacuna in research into CBFS and policy outcomes mainly motivates our study.

We contribute to the limited existing literature in this area mainly in three ways. First, as advocated in similar research, which focuses on the determinants of inflation, for example, Aisen and Veiga (2006), we investigate the relationship between CBFS and inflation controlling for deeper determinants of inflation. Second, in contrast to the existing literature of CBFS, for example, Klüh and Stella (2008), we search for a link between CBFS and inflation using robust estimation methods. Third, unlike the existing literature, we account for heterogeneity between advanced and emerging countries and also consider the degree of central bank independence while focusing on different monetary and exchange rate regimes by performing sub-sample analyses. This is particularly important as financial conditions of emerging country central banks have shown more vulnerability (Sweidan and Maghyreh, 2006). It is also due to the fact that central bank financial conditions and its independence are largely associated (Cukierman, 2008). Moreover, it is evident that CBFS is largely influenced by applied monetary policy and the exchange rate regime of a particular country.<sup>6</sup>

Our empirical results reveal a robust negative relationship between CBFS and inflation. This connection between CBFS and inflation is not due to biases created by endogeneity or unobserved

country-specific effects as we use more robust estimation methods. Our results and the policy inferences of our study would be useful for relevant authorities, and specifically for policy makers in emerging countries in the process of better calibrating monetary policy conduct in pursuit of achieving the key mandate of price stability. In particular, our study mainly suggests that policy makers should be aware that it is essential to maintain the financial health of the central bank balance sheet conducive to long run price stability. To that end, our results imply that measures aimed at reducing persistent central bank losses and increasing the financial strength of the central bank would help to reduce inflation.

The remainder of the paper is structured as follows: In the next section, we provide a conceptual overview of CBFS and review relevant theoretical underpinnings and empirical evidence. In Section 3, we discuss the methodology and data. In Section 4, we present the empirical analysis and the results. Finally, in Section 5, we conclude the study with a brief discussion on policy implications and the directions for future research.

## 2. CBFS and inflation: theory and prior literature

### 2.1. Conceptualising and measuring CBFS

Financial institutions need an adequate level of financial strength, i.e. an adequate level of capital to absorb any losses while meeting their financial obligations. However, the importance of the financial strength for a central bank is not clear and is not well defined (Cargill, 2005). In fact, as mentioned above, central bank finances have been neglected for a long while due to several reasons. On the one hand, it was thought that central banks are fundamentally different from private enterprises and hence they do not require any financial strength (Stella, 1997). On the other hand, some perceptions such as that central banks have an unlimited, costless ability to create domestic fiat money (Goodhart, 1999; Greenspan, 1997), that government treasuries are always behind the central banks with their statutory power to tax (Stella and Lonnberg, 2008), the absence of the risk of insolvency, etc. also led to neglect the financial conditions of central banks. In fact, central banks have been traditionally profitable and there has been only one case of central bank insolvency.<sup>7</sup> It was also thought that central bank finances are macro-economically insignificant and therefore, although, a central bank is financially weak, it does not affect the attainment of its objectives. For example, despite experiencing sustainable losses, Czech National Bank has been attaining its inflation target successfully.

Nevertheless, a central bank would need to have a sufficient level of financial strength due to several reasons. First, like any other financial institution, a central bank could experience losses due to net operating losses and net valuation losses causing deteriorations in their balance sheet.<sup>8</sup> Second, although central banks are privileged to create monetary liabilities to meet their financial

<sup>4</sup> Stella (2005) defines financial strength as the central bank's ability to generate sufficient revenue to cover the costs of providing the monetary services it has committed to under a variety of macroeconomic events. Hence, a central bank can be regarded as financially strong if it can conduct operations without incurring operating losses (Cargill, 2006).

<sup>5</sup> We discuss these reasons and perceptions in Section 2.

<sup>6</sup> It is argued that emerging countries require separate modelling due to their unique and fundamental problems such as weak fiscal and financial institutions, low credibility of monetary institutions, poor record with regard to monetary policy conduct, vulnerability for shocks in capital flows, etc. (Frankel, 2010; Sweidan, 2010). It is also argued that all theories applied to advanced countries and empirical inferences may not be applicable to emerging countries due to their unique problems (Sweidan and Widner, 2008). These arguments suggest the need for estimating models separately for emerging countries. We especially thank the referee for the suggestion to condition on the applied monetary policy and exchange rate arrangement and also to consider the level of central bank independence for the sub-sample analysis.

<sup>7</sup> In some cases, central banks have been unable to meet their basic functions due to financial distress requiring them to change the policy in order to reduce losses (Stella and Lonnberg, 2008). As an extreme case, the Central Bank of Philippines was placed into liquidation and thereafter, in 1993, a new institution, i.e. Bangko Sentral ng Pilipinas (BSP) was established under the 'New Central Bank Act 1993'.

<sup>8</sup> Financial difficulties could arise due to several reasons: decline in inflation tax (seigniorage income), conducting monetary operations under extreme conditions, engaging in foreign exchange operations to manage exchange rates and to build up excess international reserves, conducting monetary operations using central bank securities, purchasing large amounts of low yielding assets particularly during episodes of prolonged deflation and asset slumps, undertaking massive quasi-fiscal operations, excessive profit transfers to the government, etc. (Ize, 2007; Klüh and Stella, 2008; Stella and Lonnberg, 2008; Sweidan, 2011; Sweidan and Maghyreh, 2006).

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات