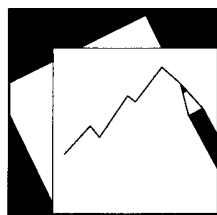


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# IMF Working Paper

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## SURVEY OF RESERVE MANAGERS: LESSONS FROM THE CRISIS

*Aideen Morahan and Christian Mulder*

## **IMF Working Paper**

Monetary and Capital Markets Department

### **SURVEY OF RESERVE MANAGERS: LESSONS FROM THE CRISIS**

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Authorized for distribution by Ghiath Shabsigh

May 2013

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#### **Abstract**

This paper reports in detail on a survey that was circulated to reserve managing central banks of IMF member countries in April 2012. The survey aims to gain further insight into how reserve managers have reacted to the crisis to date. The survey also aims to understand how reserve managers arrive at their strategic asset allocation and how they operate their risk management frameworks in practice. Some of the key themes that emerge from the survey include potential procyclical and counter cyclical behavior by reserve managers, increased focus placed on returns and wide variability across countries in how the currency composition of reserves is derived.

JEL Classification Numbers: F31, G15, G24

Keywords: International Reserves, Foreign Currency Reserves, Official Reserves

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<sup>1</sup> The authors would like to acknowledge the important role of Jukka Pihlman, Samar Maziad, and Robert Sheehy in preparing and issuing the underlying survey, Alexander Attie, Han van der Hoorn, Kelly Eckhold, and Pascal Farahmand for their comments on the draft paper, and all survey participants for their valuable time to share information with the IMF; and in this way with the wider audience of reserve managers.

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**GLOSSARY**

AC	Advanced country (WEO classification)
ALM	Asset and Liability Management
BRIC	Brazil, Russia, China and India
COFER	Currency Composition of Official Foreign Exchange Reserves
EM	Emerging Market
EMC	Emerging Market Country
FX	Foreign currency
GFSR	Global Financial Stability Report
HTM	Hold to Maturity
IFRS	International Financial Reporting Standards
ISDA	International Swaps and Derivatives Association
LIC	Low Income Country (World Bank classification of countries with per capita income of less than \$ 3975)
MIC	Middle and other (i.e. not advanced) high income countries (over \$3975 per capita income)
MTM	Mark to Market
REITs	Real Estate Investment Trusts
SDR	Special Drawing Right
SWF	Sovereign Wealth Fund
TIPS	Treasury Inflation Protected Securities
WEO	World Economic Outlook

**CURRENCIES**

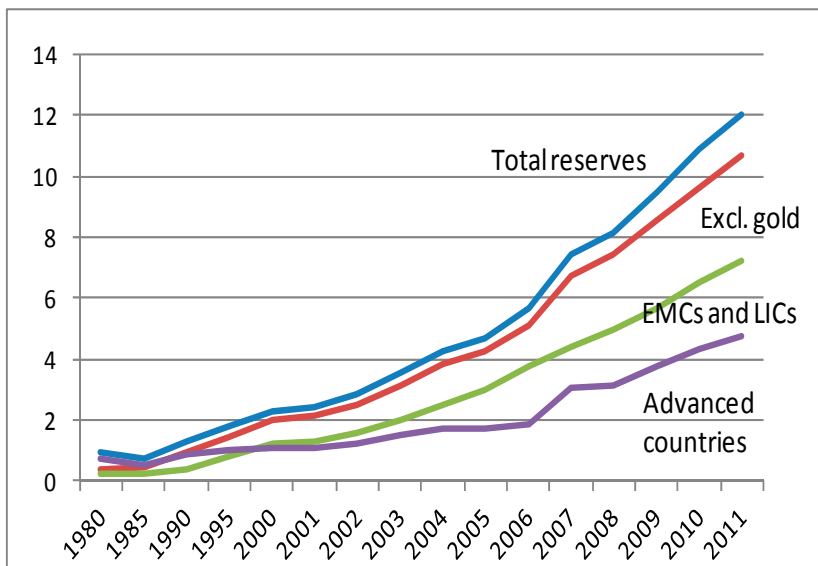
AUD	Australian dollar
CHF	Swiss franc
DKK	Danish krone
EUR	Euro
GBP	British pound
JPY	Japanese yen
NK	Norwegian krone
NZD	New Zealand dollar
SEK	Swedish krona
USD/US\$	U.S. Dollar

## I. INTRODUCTION

**Reserve holdings have risen fivefold over the past ten years with increases larger than that expected under traditional metrics.** This trend of increased reserve levels was particularly noticeable in Emerging Market Countries (EMCs), especially in the BRICs (IMF, 2011) but also, for example, in Switzerland. Reserves are projected to increase further as they broadly keep pace with trade and trade outgrows GDP.

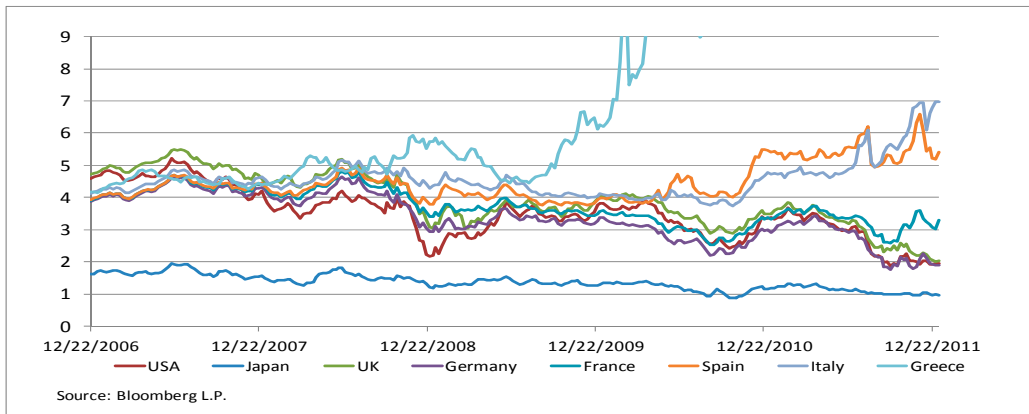
**The magnitude and management of these vast resources can have a profound effect on markets and central bank balance sheets.** Reserve managers face important decisions on their asset allocations, including currency composition and asset classes, to ensure that the reserves meet the key goals of safety, liquidity and return. Reserves by now amount to the equivalent of one third of the OECD bond markets. The bulk of the reserves are invested in dollars, and their composition has not kept pace with the large shifts in the world economy. The size of the preferred habitat of reserves, high quality short-term government debt, also has not kept pace with the increase in reserves.<sup>2</sup> This can have profound effects on the one hand on interest rates, and on the other hand on decisions of reserve managers who have to move outside the preferred habitat, with all the attendant potential consequences on the balance sheets of central banks.

**Figure 1. The Trend in Global Reserves  
(in trillions of US\$)**



Source: IMF, IFS. The reserves data include gold at market prices.

<sup>2</sup> Official reserves are projected to increase from the equivalent of 29 percent of OECD debt (issued by countries with CDS spreads under 200 bp) in 2011 to 38 percent by 2016.

**Figure 2. Ten-year Government Bond Yields for Selected Advanced Countries**

**This paper reports in detail on a survey conducted by the IMF staff<sup>3</sup> that seeks to understand in greater detail the lessons from the crisis and how reserve managers deal with a number of fundamental issues that can affect the global financial markets and central bank balance sheets.**

- The survey therefore commences with a section that seeks to understand the problems reserve managers were facing and their core reactions in terms of asset reallocations and risk management systems. It also seeks to understand if and whether reserve managers can and do consider the implications for global markets.
- The next section of the survey seeks to shed more light on asset allocation decisions of central banks. The so-called strategic asset allocation; which determines currency composition, maturity structures and asset classes (credit risk), has long-term effects on markets and on central bank balance sheets. It also forms the background against which central banks respond to the crisis environment.
- The following section of the survey seeks to understand the short-term asset reallocation or rebalancing processes that central banks use. The choice of process may have short-term cyclical implications for markets and the central bank balance sheets.
- Finally the survey concludes with some forward-looking questions.

**The main results of the survey are used in the above-mentioned report for the IMF Board.** However, to improve understanding of this important topic, there is a benefit to put out the full results and to do so more widely. Surveys among reserve managers are frequently conducted, but usually by private or quasi-private institutions. These surveys are then either

<sup>3</sup> Crisis and Asset Allocation: Some Lessons for Managing International Reserves, IMF WP forthcoming.



not generally available or available only at very steep prices. Moreover annual surveys tend to focus more on short-term changes and topical issues.<sup>4</sup>

**The remainder of the paper is organized as follows. It commences with a summary of the findings, with the important issue of procyclicality discussed in a separate box, followed by a characterization of respondents.** The main part of the paper consists of a discussion of the responses to each of the survey questions.

## II. SUMMARY OF KEY FINDINGS

**Key findings of the survey are summarized below.**

### **Crisis Response**

- The deep crises of the last five years have brought out credit and liquidity problems in reserve portfolios. Illustrating the unusual nature of the crises, every advanced country (AC) in the sample reported experiencing at least some difficulties with managing their reserves over the crisis.
- As a result of these problems, seven out of ten reserve managers changed their asset allocation. More specifically, about half of all central banks pulled back on their level of commercial bank deposits in very high numbers and 35 percent of all respondents reduced their exposure to unguaranteed bonds.
- Surprisingly, reserve managers also reduced their holdings of longer-term high-quality (AAA) bonds. With interest rates falling throughout the crisis, early reductions in interest rate exposures have, with hindsight, been relatively costly.
- From a global perspective it is encouraging that half of the respondents (including many of the larger reserve holders) who engaged in asset reallocation considered the potential inconsistent signaling effects of their actions on the markets in which they invest.
- Moreover, going forward, well over half of the reserve managers would consider altering reserve management practices to account for procyclicality issues. Especially

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<sup>4</sup> Central banks are generally hesitant to fully disclose their reserve management policies and decisions; as too much disclosure can potentially impact on the effectiveness of its reserve management activities. Detailed public information on the composition of reserve portfolios and how these portfolios are managed by reserve managers is relatively scarce. The data for the SDDS reserve template provide a good insight in the broad categories.



























































