Chapter XIV

The Roles of IT in the Conduct of Modern Monetary Policy

Waranya Atchariyachanvanich, Assumption University, Thailand
Kanokwan Atchariyachanvanich, The Graduate University for Advanced Studies, Japan

Abstract

This chapter reviews the roles of information technology (IT) from two perspectives. First, from the macroeconomic perspective, the IT revolution induced output growth and new financial innovations such as asset-backed securities and electronic money. However, these phenomena complicate the conduct of monetary policy, but they will not totally demise its effectiveness. Second, from the operational level, IT applications currently take roles in enhancing operational efficiency, decision-making process and innovative practice of monetary authorities in central banks throughout the world. The degree of implementing IT applications in the conduct of monetary policy, in turn, may become another determinant of monetary policy framework in the future.
Introduction

In an economy where money is required in the process of capital formation, any changes in its quantity and/or cost of borrowing (interest rate) can have an implication on macroeconomic variables, such as inflation, growth, and unemployment rates. Based on this fundamental understanding, the ultimate goal of monetary policy is to promote economic stability through manipulating monetary policy instruments that influence one or more macroeconomic variables. Effectiveness of monetary policy can be determined in terms of how precise the monetary impacts on the real economic variables compared with the target. However, each stage in the conduct of monetary policy generally deals with the problems of variable selection or priority ranking, time inconsistency between the monetary policy implementation and its feedbacks on real economy, the ability of the monetary authority, and uncertainties. The effectiveness of monetary policy, therefore, does not depend only on the type of monetary policy framework but also the environment affecting the institutional factors, the nature of the financial structure as well as degree of other uncertainties.

The revolution in information technology (IT) represents one of main engines behind rapid economic development of modern economies in this era of globalization. The near future implications of IT have already been extensively introduced to both real and financial sectors where most of transactions are now quoted in monetary units, and inevitably IT affects the conduct of monetary policy through several channels. On the one hand, IT-induced financial innovations such as electronic money (e-money) complicate the conduct of monetary policy. On the other hand, monetary authorities also have received benefits from IT, such as, in reducing time as well as resources and increasing the accuracy in compiling economic data for monetary policy design.

The objective of this chapter is to review the roles of IT on the conduct of monetary policy from the macroeconomic and operational perspectives for readers from different fields. The next section provides concise backgrounds of framework and uncertainties in the conduct of monetary policy. The third section analyzes the roles of IT on the conduct of monetary policy in macroeconomic and operational perspectives. The fourth section contains conclusions and remarks of this chapter.

Framework and Uncertainty in the Conduct of Monetary Policy

This section first provides a general overview of the conduct of monetary policy followed by a theoretical explanation of the uncertainty in monetary economics. Examples of real occurrences representing uncertainties are presented in the last subsection.
Differences in Perceptions and Attitudes of Singaporean Female Football Fans Towards Football Marketing
www.igi-global.com/article/differences-in-perceptions-and-attitudes-of-singaporean-female-football-fans-towards-football-marketing/193652?camid=4v1a