CHAPTER 1

INTRODUCTION

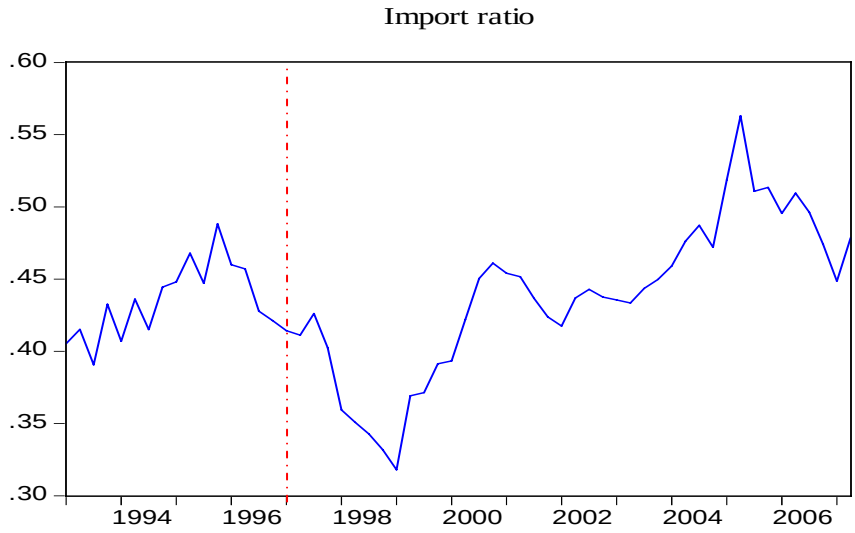
1.1 Statement of the Problem

To describe all significant relationship in an economy, it is not possible to concentrate only on the behavior within the economy. A connection with the foreign countries could be in some respects importantly. The smaller is the economy, the more open it is. According to Bhagwati et al. (1998), there can be higher welfare especially due to a possibility of international trade in open economy.

From the figure 1.1, supported Thailand as an open economy, it is shown that the import ratio trends to increase since 1998. In an open economy, macroeconomic variables are complexly involved in transmission mechanism between foreign and domestic countries, for example exchanger rate, term of trade etc. The more the openness is, the more the country relies also on world economy.

Figure 1.1

The ratio of imports to GDP



Source: Bank of Thailand

In recent years, New Open Economy Macroeconomics (NOEM) literatures have widened considerably and engendered a large literature on open economy dynamic stochastic general equilibrium (DSGE) models following the seminal contributions by Obstfeld and Rogoff (1995, 1996).[1]

Open economy DSGE models extend their closed economy counterparts to allow for international trade and financial linkages, implying that the monetary transmission mechanism features both interest rate and exchange rate channels. In open economies, the exchange rate is an important element of the transmission of monetary policy. As stressed by Svensson (2000), the exchange rate allows for several channels in addition to the standard aggregate demand and expectations channels in closed economies: i) the real exchange rate affects the relative price between domestic and foreign goods, and thus contributes to the aggregate demand channel; ii) the exchange rate affects consumer prices directly via the domestic currency price of imports; and iii) the exchange rate affects the price of imported intermediate goods, and thus the pricing decisions of domestic firms. Taking the exchange rate into account the conduct of monetary policy, thereby, open economies DSGE models have become standard tools in policy-making institutions such as central banks.

Compared to their closed-economy counter-parts, these open-economy models employ a greater degree of complexity in modelling households' preferences, imported inputs, international risk sharing and nominal rigidities (wages, producer prices and/or consumer prices).[2] In the Mundell-Fleming model, as well as many more recent contributions to the NOEM literature, perfect exchange rate pass-through is assumed such as Benigno and Benigno (2002), McCallum and Nelson (2000), Clarida, Galí and Gertler (2001, 2002). However, some empirical evidences shows that exchange rate pass-through onto prices is gradual. For example, Campa and Goldberg (2004) have found that short run exchange rate pass through is incomplete[3],

[1] For surveys of the literature see Lane (2001) Sarno (2001) and Welz (2005).

[2] See Welz (2005)

[3] Incomplete exchange rate pass-through is defined as in terms of both imported prices and exported prices. Exchange rate pass-through is the percentage change in local currency import prices resulting from a one percent change in the exchange rate between the exporting and importing countries Goldberg and Knetter (1997), p. 1248

while long run exchange rate pass through is complete. As a consequence, many papers have sought various ways to include partial pass through of exchange rate changes in open economy models such as Monacelli (2005) incorporates short run import price rigidities into an open economy DSGE model by allowing for monopolistic competition and staggered prices in the import market. These import price rigidities generate incomplete exchange rate pass through in the short run, while exchange rate pass through is complete in the long run. Therefore, it is undoubtedly to attend the implication of incomplete exchange rate pass-through.

That is the incomplete exchange rate pass-through has important implications on the terms of trade since the term of trade can affect both aggregate demand and supply channel in terms of output and inflation variability. For the demand side, as the relative prices between the domestic and foreign goods changes, consumers will substitute away from the relatively expensive goods into the cheaper ones. For the supply side, since consumer price inflation depends on both domestic inflation and imported goods inflation, the supply side can be affect by when domestic firms have to import inputs. Changes in the terms of trade will directly affect the firm's marginal costs. If prices are sticky, as assumed in New Keynesian models, such changes in marginal cost will affect inflation as well.

However, the theoretical literature on NOEM models has grown rapidly during recent years while the empirical literature has been late to develop somehow. Since many results in the theoretical literature are sensitive to the precise model specification, more empirical evidence and evaluation is needed. Therefore

1.2 Objective of the Study

1. To estimate a small open economy DSGE-based New Keynesian model with nominal rigidities and incomplete exchange rate pass-through using Bayesian techniques for data on Thailand.
2. To indicate some specific basic characteristics of the Thai economy from estimation**.**
3. To analyze the reactions behavior of the Thai economy to specific type of shocks.

1.3 Scope of the Study

The dynamic stochastic general equilibrium (DSGE) model for an open economy based New Keynesian models will be employed in this study. Concerning the period of adopting inflation targeting framework, the quarterly data are used from Q1:2000 - Q4:2007 taken from Bank of Thailand.

1.4 Organization of the Study

This paper is organized as follows; Chapter 2 provides the review of related literature. The theoretical and conceptual frameworks are shown in Chapter 3 while Chapter 4 displays the empirical evidences on price stickiness and exchange rate pass-through. Chapter 5 is the model specification and problem solving. Chapter 6 devotes the methodology of this study. The result from estimation will be presented in chapter 7. The last chapter is conclusion including the limitations and providing suggestions of further study.