

Chapter 1

Introduction

1.1 Significant of the study

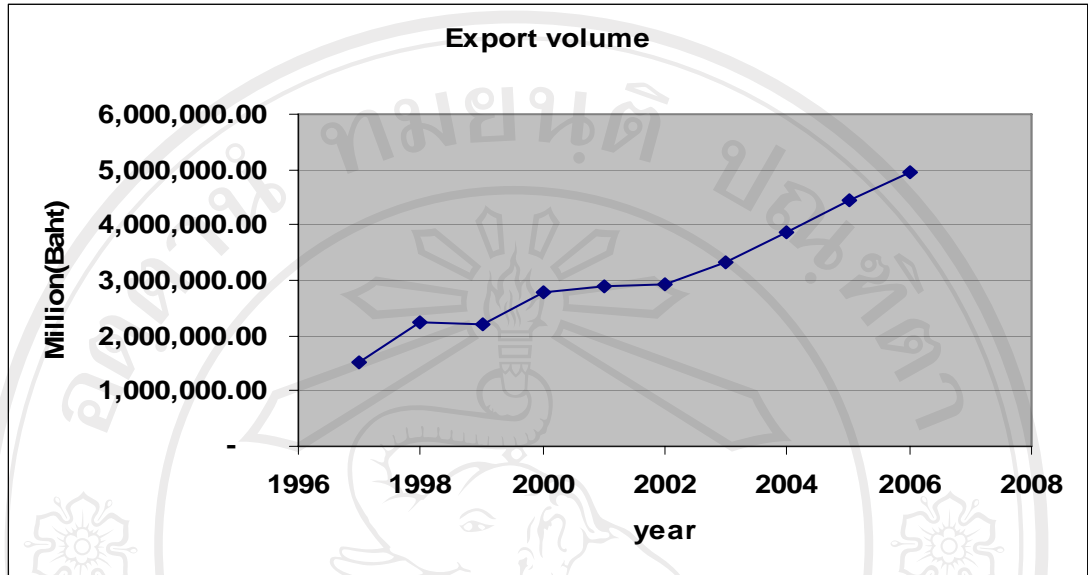
The financial crisis in 1997 has given Thai exporters essential lessons and necessary immunity against future currency crises. The export sector has consequently learned how to better manage exchange rate risks, enhance production capability to be able to compete in higher-end markets and increase exports to emerging markets. However, the continual strengthening of the baht will result in steeper price cuts in the agricultural sector to lower production costs, which will adversely affect the upstream industries, the real sector and the overall export sector. Should this happen, Thailand's overall export growth may eventually sluggish, both in terms of volume and price.

The recovery of internal and external demand played an important role in restoring the economy. Exports have been a key component of Thailand's post-1997 economic recovery. As a result of stronger exports, Thailand achieved a trade surplus about \$US 3.9 billion in 2002. And at the end of the 2003 it reached approx. \$US 5.0 billion.

Table 1.1 Trade value in Thailand

Item	Value : million(US dollar)				
	2000	2001	2002	2003	2004
Trade value	131,804.60	126,912.40	132,395.60	155,074.00	190,568.00
Export	69,624.20	65,183.20	68,156.30	80,040.00	96,531.00
Import	62,180.40	61,729.20	64,239.30	75,034.00	94,037.00
Trade balance	7,443.90	3,454.10	3,917.00	5,006.00	2,494.00

Source: Thailand trading report (Ministry of Commerce Thailand)

Figure1.1 Export volumes in Thailand 1997-2007

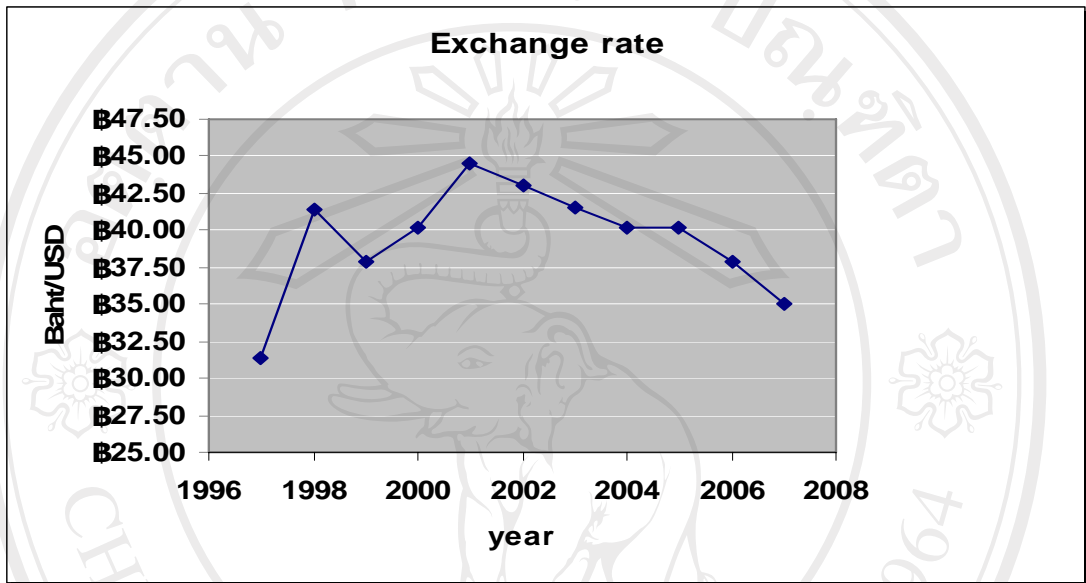
Source: Thailand trading report (Ministry of Commerce Thailand)

Thailand has relied heavily on exports for economic growth. Varieties of factors influence the supply and demand quantities of exports. Moreover, volatility in export volumes makes it difficult for econometric estimates to capture the effect of the exchange rate. In other words, the shocks that hit export volumes make it difficult to detect the systemic variation in export volumes that is due to the exchange rate volatility. In addition to exchange rate risk management through forward position and hedging, it is time for Thai exporters to seriously upgrade their production standard and quality while remaining competitive cost-wise. Pricing alone will no longer serve as the only leverage in the world export arena.

Since 2 July 1997, Thailand has adopted the managed-float exchange rate regime, of which market forces determine the value of the baht, to let the currency moves in line with economic fundamentals. The Bank of Thailand will intervene in the market only when necessary, in order to prevent excessive volatilities and achieve economic policy targets. Exchange rate volatility has acquired a special importance in this global framework of international trade due to two main reasons. One is that the national governments have increasingly felt the impact of this volatility on their own monetary policies and this has been more so for those countries where export growth

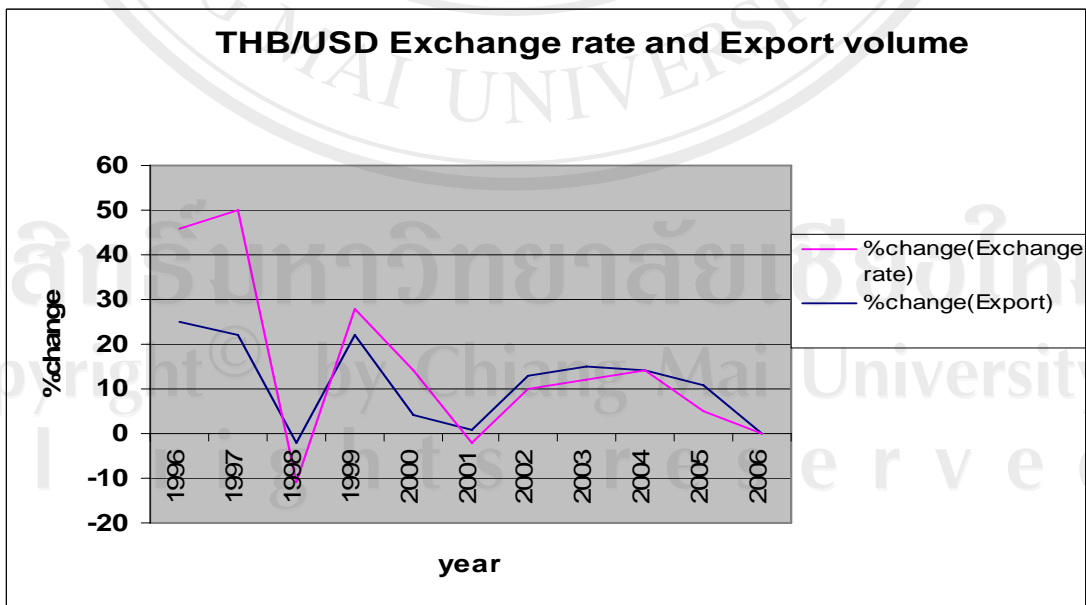
provides a large stimulus to their domestic economy's growth. Secondly, the investors today are increasingly participating in international portfolios and the asset market approach has become the dominant model for such investors.

Figure1.2 THB/USD Exchange rate



Source : Rates of Exchange of Commercial Banks in Bangkok Metropolis

Figure1.3 Percentage change between THB/USD Exchange rate and Export volume



Source : Thailand trading report (Ministry of Commerce Thailand) and

Rates of Exchange of Commercial Banks in Bangkok Metropolis

Figure 1.3 shows the correlation between how the Baht has moved against the US dollar after the float with percentage change in export volume. The Baht/US dollar exchange rate fluctuated widely. However, export volumes are influenced by the exchange rate. The positive correlation shown in the chart suggests that, a rise in the exchange rate tends to be followed by a rise in export volumes.

Volatility in export volumes makes it difficult for econometric estimates to capture the effect of the exchange rate. In other words, the shocks that hit export volumes make it difficult to detect the systemic variation in export volumes that is due to the exchange rate. It is possible that the errors relating to volume measures will be large enough to prevent us from accurately identifying any changes in volumes due to exchange rate movements.

A study of volatility of exports is important because current and past volatility can be used to predict future volatility. This fact is important to both financial market practitioners and regulators. A core component of the risk metrics system is a statistical model—a member of the large ARCH/GARCH family that forecasts volatility. Such ARCH/GARCH models are parametric.

Generalized autoregressive conditional heteroscedasticity (GARCH) models specify the relationships between means and variances (e.g., Engle et al. 1987 and Bollerslev et al. 1992). The problem of this paper will apply the Multivariate GARCH-M model with simultaneous estimation of time-varying risk including volatility as explanatory variables approach to Thailand to consider the effects of exchange rate volatility and its time varying variance on exports. The effects of the exchange rate and risk depend on how quickly exporters respond, and dynamic features of the present model distinguish it from contemporaneous multivariate GARCH-M models. Specifically, it shows that exchange rate volatility has a meaningful empirical impact on the volatility of export.

1.2 Purpose of the study

In fact, there have been numerous studies, theoretically and empirically, have attempted to find the nature of the relationship between exchange rate volatility and exports for the last few decades. Most of these studies have used cross-section data recently; some studies have used time series data to study the relationship. However,

extant papers have shown that both positive and negative relationships are theoretically possible and have reported the empirical findings of both positive and negative relationships. Some have reported no significant relationship. In addition, there have been no studies, which have used the multivariate GARCH and DCC (Dynamic conditional correlation) methodology to study export volatility in Thailand. Specifically, this present paper fills the gap and identified the relationship between exchange rate volatility and export volume uncertainty. It uses monthly data of export volume compares with the exchange rate volatility in Thailand from January 1997 to April 2007.

Objectives

1. To apply using multivariate GARCH model with analysis of relationship between exchange rate volatility and export volume volatility in Thailand.
2. To study the relationship between exchange rate volatility and uncertainty of export volumes in Thailand.

1.3 Advantages

1. The benefit from the relationship between exchange rate volatility and export volume uncertainty in Thailand is to guide the Thai government for development strategy plan of ministry of commerce Thailand.
2. The result from studying the impact of relationship between exchange rate volatility and volume export volatility in Thailand can reduce the risk from exchange rate volatility. Because of past volatility is significant in predicting future volatility.

1.4 Scope of the study

In this paper is carried out with monthly data of export volume in Thailand over the period from January 1997 to April 2007. The export data are expressed in current THB(Baht). The real exchange rate is computed from average changing monthly from January 1997 to April 2007. All data comes from Department of Export Thailand (Ministry of Commerce Thailand).