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# THE LINKAGE BETWEEN BANKING SECTOR, ECONOMIC FUNDAMENTALS AND THE INDONESIAN CURRENCY CRISIS

A thesis presented in partial fulfillment of the requirements for the degree of Master of Applied Economics in the Department of Applied and International Economics, Massey University

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# Abstract

This study shows that a link exists between the weaknesses in the banking sector, economic fundamentals and the rapid depreciation of the rupiah exchange rate. The weakness in the banking sector was strongly associated with the number of insolvent banks and the rise in foreign liabilities of the banking sector in the pre-crisis period. The increase in the ratio of trade deficit to GDP and the rise in the domestic and foreign interest rate differential largely contributed to the deterioration in the Indonesian economic fundamentals during 1990-1998. Somewhat surprisingly, the interaction variable between the ratio of foreign reserves to imports and the foreign and domestic interest rate is statistically significant. This finding implies that the impact of the change in the ratio of foreign reserves to imports on the change in the rupiah exchange rate is moderated by the magnitude of the foreign and domestic interest rate differential. Similarly, the change in the rupiah exchange rate resulting from a change in the foreign and domestic interest rate differential is moderated by the value of the ratio of foreign reserves to imports. Finally, the dummy variable used to capture the effect of a change in the policy of exchange rate regime shows that the abandonment of the pegged exchange rate regime led to the rapid depreciation of the rupiah exchange rate.

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# Glossary

| | |
|---|---|
| ADB | Asian Development Bank |
| ASEAN | Association of Southeast Asian Nations |
| BPS | Biro Pusat Statistik (the central bureau of statistics of Indonesia) |
| BI | Bank Indonesia (the central bank of Indonesia) |
| BNI | Bank Negara Indonesia (one of the largest state banks) |
| BHS | Bank Harapan Sentosa (one of the Indonesian private bank, liquidated in November 1997) |
| BCA | Bank Central Asia (one of the largest private bank in Indonesia) |
| BDNI | Bank Dagang National Indonesia (one of the Indonesian private bank) |
| BPR | Bank Perkreditan Rakyat (people's credit banks, small urban and rural banks) |
| CAMEL | Capital Assets Capital Adequacy Ratio Management Earnings and Liquidity |
| CAR | Capital Adequacy Ratio |
| CPI | Consumer Price Index |
| ERM | European Exchange Rate Mechanism |
| EMS | European Monetary System |
| FDI | Foreign Direct Investment |
| GDP | Gross Domestic Product |
| IBRA | Indonesian Bank Restructuring Agency |
| IMF | International Monetary Fund |
| LDR | Loan-to-Deposit Ratio |
| MPR | Majelis Permusyawaratan Rakyat (the Indonesian High Representative Assembly) |
| NBFI | Non-bank Financial Institution |
| NOP | Net Open Position |

| | |
|---|---|
| PAKDES | Paket Desember 1987 (a banking deregulation issued 20 December 1988) |
| PAKFEB | Paket Februari 1991 (a banking deregulation issued 29 February 1991) |
| PAKJAN | Paket Januari 1990 (a banking deregulation issued 29 January 1990) |
| PAKMAR | Paket Maret 1989 (a banking deregulation issued 25 March 1989) |
| PAKTO | Paket Oktober 1988 (a banking deregulation issued 27 October 1988) |
| PEP-LIPI | Puslitbang Ekonomi dan Pembangunan, Lembaga Ilmu Pengetahuan Indonesia (Centre for Economic and Development Studies, the Indonesian Institute of Sciences) |
| PPP | Purchasing Power Parity |
| PRI | Institutional Revolutionary Party |
| Rp | Rupiah (the Indonesian currency) |
| SBI | Sertifikat Bank Indonesia (Bank Indonesia certificate, a security issued by Bank Indonesia) |
| SBPU | Surat Berharga Pasar Uang (money market security that can be sold to Bank Indonesia) |
| USA | United States of America |

# CHAPTER 1
# INTRODUCTION

The occurrence of currency crises can not be avoided in the world economy today. For instance, the inability of Mexico to roll over its short-term debts caused the first currency crisis of Latin America in the 1980s (Kaminsky and Pereira, 1996). In the context of global financial market, a currency crisis also attacked and caused the collapse of Europe's financial market collapsing the Europe's Exchange Rate Mechanism (ERM) in 1992-1993. One year later, another crisis came to Mexico in 1994-1995 causing yet another currency crisis in Latin America (Dornbusch and Werner, 1994, Sachs, Tornell and Velasco, 1996, and Carstens and Schwartz, 1998). Recently, the meltdown of the Thai baht in May 1997 had brought about the Asian currency crisis, sweeping away the 1990's economic miracle of Thailand, Indonesia, Malaysia, the Philippine, and South Korea.

Following the Asian currency crisis in 1997, there have been a number of publications, from short papers to books, dealing with this issue. Most agree that the main cause of the crisis is the sudden loss of confidence by both domestic and foreign investors in the domestic currency. As investment portfolios change, that is, the sudden withdrawal of domestic assets that placed into foreign assets, which in turn, depreciates the domestic currency (Radelet and Sachs, 1998, Goldstein, 1998, and Montes, 1999). Similarly, in the case of Indonesia, the main cause of the crisis was the sudden loss of confidence in the Indonesian rupiah, producing the huge conversion of the rupiah into the US dollar, and therefore, the rapid depreciation of the rupiah. According to these studies, however, there were various factors as to why the Indonesian economy was vulnerable toward the lost confidence. These factors include the pegged exchange rate system, the weak banking sector resulting from a weak banking supervision and regulations, and also the weak economic fundamentals leading to the rise in external debts and the sustainability of current account deficit (McLeod, 1998, Sadli, 1998, Johnson, 1998, and Soesastro and Basri, 1998).

There are at least two points that can be made in regard to the above studies. Firstly, most studies on the Indonesia currency crisis tended to put Indonesia together with the other Asian crisis countries. Consequently, they paid less attention to specific characteristics of the Indonesian economy, particularly its banking sector. Secondly, most studies use a descriptive approach in analysing the onset of the Indonesian crisis. For this reason, a study on the origin of the crisis needs a formal statistical approach.

This thesis consists of six chapters. Chapter 1 provides an introduction capturing definition of the currency crisis, objectives of the study, and research methodology. Chapter 2 reviews literature of currency crises, emphasising the classical and modern approaches on the currency crisis. Chapter 3 examines the major banking reforms in Indonesia and its implication on the development of the banking sector, 1983-1994, the scope of the Indonesian banking supervision and regulations, and the linkage between the banking sector and the currency crisis of 1997-1998. Chapter 4 provides data analysis, reviewing descriptively the chronology of the currency crisis and the proximate causes of the Indonesian financial vulnerability, which focus on two symptoms: the deterioration of the Indonesian economic fundamentals and the banking sector. Chapter 5 presents an econometric approach of this study. Finally, Chapter 6 provides conclusions of this study and recommendations for further studies.

### 1.1 Definition of Currency Crisis

According to literature, there have been various definitions of currency crises. Kaminsky and Reinhart (1996) state that, generally, currency crises lead to unwanted events in the economy, such as a sharp devaluation of domestic currency, sudden international reserve losses, changes in exchange rate system, a capital control, and a temporary shutdown of foreign exchange market. However, a currency crisis is mostly defined as a rapid-continuous depreciation of domestic currency. For instance, Frankel and Rose (1996) state

that a currency crisis is at least 25% nominal depreciation of the currency or 10% increase in the rate of depreciation. Similarly, Kaminsky and Reinhart (1998) define a currency crisis as a large and rapid depreciation of the currency, which is mostly affected by speculative attacks.

In regard to the above definitions, this study defines the Indonesian currency crisis as a rapid depreciation of the nominal exchange rate of the Indonesian rupiah, in which the rupiah exchange rate is measured by the number of the rupiah (Rp) per unit of the US dollar (i.e. Rp/USD). The US dollar is used as the benchmark currency simply because most of foreign transactions of Indonesia use the US dollar. The United States is also the main destination of the Indonesian exports. Note, however, that in the econometric analysis (Chapter 5) this study measures the rupiah exchange rate by the number of US dollars per unit rupiah (i.e. USD/Rp). This calculation is to indicate that a negative sign means the depreciation of the rupiah exchange rate and a positive sign is the appreciation of the rupiah.

## 1.2 Objectives of the Study

This study has two objectives:

- To examine the relationship between the weakness in the banking sector and the rapid depreciation of the Indonesian currency in 1997-1998. This study assumes three factors indicating the weakness in the banking sector: the large number of insolvent banks and the massive increase in the amount of foreign liabilities and nonperforming loans of banks.

- To examine the relationship between the deterioration in the Indonesian economic fundamentals and the rapid depreciation of the Indonesian currency in 1997-1998. In this stage, four factors are argued being an indicator of the deterioration in the economic fundamentals: the rise in the ratio of trade deficit to GDP and domestic and

foreign interest rate differential, and the down fall of exports. The impact of the change in the exchange rate regime on the rapid depreciation of the rupiah exchange rate in 1997-1998 is also taken into account in this study.

### 1.3 Research Methodology

The research methodologies of the study are both descriptive and quantitative methods. The descriptive method will be utilised through examining the trend of main factors that theoretically affect the rapid depreciation of the Indonesian currency. For this purpose, descriptive statistics methods, such as percentage distribution and annual trend or growth will be used. The period of observation is from 1988 to 1998. The focus started from 1988 because it was the year that the Indonesian government intensively promoted financial deregulation. The quantitative analysis is employed through the application of regression method. Concerning that the available data in the period of 1988-1990 is yearly data, the regression analysis employs quarterly data from 1990 to 1998. The detailed explanation of the regression method is presented in Chapter 5.