

**THE INTERRELATIONSHIP BETWEEN EXCHANGE
RATES AND STOCK PRICES: EVIDENCE FROM
CHINA**

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**A thesis submitted to the College of Business in partial fulfillment of the
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Abstract

For more than 30 years, the relationship between stock prices and foreign exchange rates has drawn attention of economists, because they both play crucial roles in influencing the development of a country's economy. Many studies have been conducted both theoretically and empirically. So far, the research thus far has extended the inquiry into the stock market and exchange rate relations across developed and emerging economies to bring a broadly-based insight into the issue and to fill the gap in the literature. However, the China's market is rarely included in the existing literature.

The main objective of this study is to examine the relationship between stock prices and RMB exchange rates in China. The sample period for this study is from Jan 1, 2002 to Jul 31, 2009, and the weekly data of Shanghai and Shenzhen A share stock index and RMB exchange rate against U.S. dollar, Euro and Japanese Yen were gathered from DataStream. During the data period, the range of Shanghai A share is from 1066 to 6396 points, and the range of Shenzhen A share is from 246 to 1660 points during the data period. And at the same time, the RMB exchange rates also changed dramatically, especially before and after the reform of RMB exchange rate formation mechanism on Jul 21, 2005. According to this, the data are divided and examined by two parts, that is before and after the China's exchange rate reform. The models applied in this study includes Augmented Dickey–Fuller Test, Engle and Granger Two-step Test and Granger Causality Test.

The results show that, first, in terms of the broad relationship the relationship between the exchange rate and stock price are either positive or negative, and the relationships are opposite before and after the reform. Second, there is no sign indicating that the Chinese exchanges rates and stock prices become more connected after the reform. What's more, before the reform, Shenzhen A share stock index is more connected with RMB exchange rates and their relationships are negative. While, after the reform, Shanghai A share stock index is comparatively more connected with RMB exchange rates and their relationships become positive. Finally, the Granger causal order is found between some pairs of variables, that is the RMB exchange rate with Japanese Yen is the Granger Cause of Shanghai stock price before the exchange rate reform and is Granger Cause of both Shanghai stock price and Shenzhen Stock price after the reform. While, for another direction, before the reform, Shenzhen A share stock index is the Granger cause for RMB exchange rate with U.S. dollar. However, after the reform, there is no causal relationship between these two variables.

Keywords: Stock prices, Exchange rates, Cointegration, Causality, China

Abstrak

Lebih 30 tahun yang lepas, hubungan di antara harga saham dan kadar petukaran luar telah mendapat perhatian oleh ahli ekonomi disebabkan kedua-duanya memainkan peranan yang amat penting dalam mempengaruhi pembangunan ekonomi negara. Banyak penyelidikan telah dijalankan secara teori dan empirical. Setakat ini, penyelidikan terhadap pasaran saham dan kadar pertukan telah berkembang merentasi negara-negara maju dan membangun, dan ia telah memberi kesan yang mendalam terhadap isu ini, dan untuk memenuhi jurang di dalam penyelidikan. Walaubagaimanapun, penyelidikan terhadap pasaran China amat jarang dijalankan.

Tujuan utama penyelidikan ini adalah untuk melihat hubungan di antara harga saham dan kadar pertukaran RMB di China. Tempoh kajian ini dijalankan adalah dari Jan 1, 2002 hingga Jul 31, 2009. Data mingguan tentang Shanghai dan indek pasaran Shenzhen A dan kadar pertukaran RMB dengan dolar U.S, Euro dan Yen Jepun telah diperoleh daripada DataStream. Dalam tempoh penyelidikan ini, saham Shanghai A adalah diantara 1066 hingga 6396 point, dan saham Shenzhen A adalah diantara 246 hingga 1660 point. Dalam tempoh yang sama, kadar pertukaran RMB juga berubah secara drastik khususnya sebelum dan selepas pembentukan semula kadar pertukaran RMB pada Jul 21, 2005. Oleh kerana itu, data dibahagikan kepada dua bahagian iaitu sebelum dan selepas pembentukan semula kadar pertukaran China. Model yang digunakan didalam penyelidikan ini adalah Augmented Dickey–Fuller Test, Engle dan Granger Two-step Test dan Granger Causality Test.

Keputusan kajian menunjukkan, satu, hubungan diantara kadar pertukaran dan harga saham adalah samada positif atau negatif, dan hubungan adalah bertentangan sebelum dan selepas pembentukan. Kedua, tiada hubungan ditunjukkan diantara kadar pertukaran China dan harga saham selepas pembentukan semula. Sebelum pembentukan semula, indeks saham Shenzhen A mempunyai hubungan negatif dengan kadar pertukaran RMB. Manakala, selepas pembentukan semula, indeks saham Shanghai A mempunyai hubungan positif dengan kadar pertukaran RMB. Akhirnya, hubungan Granger ditemui diantara beberapa pasang pemboleh ubah, yang mana kadar pertukaran RMB dengan Yen Jepun adalah harga saham Granger Cause of Shanghai sebelum pembentukan kadar pertukaran semula dan Granger Cause untuk kedua-dua harga saham Shanghai dan Shenzhen selepas pembentukan semula. Manakala, sebelum pembentukan, indeks saham Shenzhen A adalah Granger cause untuk kadar pertukaran dengan U.S. dolar. Walaubagaimanapun, selepas pembentukan semula, ia menunjukkan tiada hubungan diantara dua pemboleh ubah ini.

Katakunci: Harga saham, Kadar pertukaran, penggabungan, kesan, China

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List of Abbreviations

RMB: Ren Min Bi (Chinese currency)

RVUB: RMB exchange rate against U.S. dollar before the reform

RVEB: RMB exchange rate against Euro before the reform

RVYB: RMB exchange rate against Japanese Yen before the reform

SHAB: Shanghai A share stock index before the reform

ZDAB: Shenzhen A share stock index before the reform

RVUA: RMB exchange rate against U.S. dollar after the reform

RVEA: RMB exchange rate against Euro after the reform

RVYA: RMB exchange rate against Japanese Yen after the reform

SHAA: Shanghai A share stock index after the reform

SZAA: Shenzhen A share stock index after the reform

DRVUB: First difference series of RMB exchange rate against U.S. dollar before the reform

DRVEB: First difference series of RMB exchange rate against Euro before the reform

DRVYB: First difference series of RMB exchange rate against Japanese Yen before the reform

DSHAB: First difference series of Shanghai A share stock index before the reform

DZDAB: First difference series of Shenzhen A share stock index before the reform

DRVUA: First difference series of RMB exchange rate against U.S. dollar after the reform

DRVEA: First difference series of RMB exchange rate against Euro after the reform

DRVYA: First difference series of RMB exchange rate against Japanese Yen after the reform

DSHAA: First difference series of Shanghai A share stock index after the reform

DSZAA: First difference series of Shenzhen A share stock index after the reform

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Chapter One Introduction

This chapter provides a general introduction of the study. It includes five parts, which are background of the study, statement of the problem, objectives, significance and organizations.

1.1 Background of the Study

Theoretically, exchange rate is the value of a foreign country's currency in terms of the home country's currency, and the changes of exchange rate will affect the domestic economy greatly. Stock market can reflect a country's economic development, and the stock market prices (indices) can reflect the whole stock market, which can be regarded as the barometer of a country's economic situation. Along with the growing opening degree of the global economy and financial system, the integrating process of international financial markets is deepening. Especially, the continuing increases in the world trade and capital movements have made the exchange rate as one of the main determinants of business profitability and equity prices (Kim, 2003). It is realized that when studying the dynamic behavior of the domestic stock market, the effect of the international capital market and foreign exchange market can not be neglected. Also, when studying the fluctuation of the exchange rate, the connection among the financial markets from different countries should be considered.

From the history, no matter for developed or developing countries, the exchange rate changes and the stock price fluctuations have appeared a strong relationship.

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