

金融博士论丛·第十六辑


Research on
Commercial Banks'

Exchange Rate Risk in China

中国商业银行 汇率风险研究

[◎ 周浩 著]

■ 本书从我国商业银行面临的汇率风险入手，从理论上探讨了商业银行汇率风险的形成机制，结合我国上市商业银行的实际情况，研究我国商业银行对汇率风险的识别、测度与管理方法，并借鉴发达国家商业银行成熟的汇率风险管理经验与教训，针对我国商业银行汇率风险管理中存在的问题提出了若干政策建议。

 中国金融出版社

中国商业银行

汇率风险研究

Research on
Commercial Banks'
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上架类别○金融·理论

ISBN 978-7-5049-7442-6



9 787504 974426 >

网上书店: www.chinafph.com

定价: 25.00元

F832. 33
10097

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90445201

南京工业大学
图书馆藏书



中国金融出版社

责任编辑：丁 芊

责任校对：张志文

责任印制：陈晓川

图书在版编目 (CIP) 数据

中国商业银行汇率风险研究 (Zhongguo Shangye Yinhang Huilü Fengxian Yanjiu) / 周浩著. — 北京：中国金融出版社，2014. 1

(金融博士论丛. 第16辑)

ISBN 978 - 7 - 5049 - 7442 - 6

I. ①中… II. ①周… III. ①商业银行—汇率—风险—研究—中国
IV. ①F832. 33②F832. 6

中国版本图书馆 CIP 数据核字 (2014) 第 039978 号

出版
发行 **中国金融出版社**

社址 北京市丰台区益泽路 2 号

市场开发部 (010)63266347, 63805472, 63439533 (传真)

网上书店 <http://www.chinafph.com>

(010)63286832, 63365686 (传真)

读者服务部 (010)66070833, 62568380

邮编 100071

经销 新华书店

印刷 利兴印刷有限公司

尺寸 169 毫米 × 239 毫米

印张 10.75

字数 146 千

版次 2014 年 1 月第 1 版

印次 2014 年 1 月第 1 次印刷

定价 25.00 元

ISBN 978 - 7 - 5049 - 7442 - 6/F. 7002

如出现印装错误本社负责调换 联系电话(010)63263947

摘 要

自 20 世纪 70 年代以来,随着布雷顿森林体系的崩溃,国际货币体系进入了牙买加时代,世界上大多数国家实行了浮动汇率制度,汇率的波动使得市场风险和不确定性明显增加。在经济全球化与金融自由化下,汇率波动已经成为世界金融市场中的一种常态,经营外汇业务的商业银行面临的汇率风险日益加大,对汇率风险的管理也成为商业银行日常风险管理的重要内容。2005 年 7 月 21 日,我国实行有管理的浮动汇率制度,人民币汇率的波动性大大增强。从 2007 年开始,我国银行业按照加入世界贸易组织的承诺全面对外开放,从此必须按世界金融游戏规则与世界其他国家银行进行同等竞争,银行业的发展进入了一个全新的阶段,同时也面临着全方位的挑战。因此,随着人民币汇率制度改革步伐的加快,对我国商业银行面临的汇率风险进行深入研究变得十分必要,使我国商业银行能够对汇率风险进行识别、计量与管理,提高其抵御汇率风险的能力。本书从我国商业银行面临的汇率风险入手,从理论上对商业银行的汇率风险形成机制进行分析,借鉴国外商业银行成熟的汇率风险管理经验,结合我国上市商业银行的现实情况,研究我国商业银行对汇率风险的识别、测度与管理方法,并提出相应的问题和建议。希望本书能够为构建高效的商业银行汇率风险管理体系提供理论参考,为推动我国商业银行汇率风险管理实践的发展作出贡献。

本书共分为 7 章:

第 1 章:导论。本章阐述本书的研究背景及研究意义以及基于文献综述基础上的国内外研究现状分析,接着说明本书的研究方法、框架、创新点、局限性和下一步的研究方向,为全书的研究作必要铺垫。

第 2 章:商业银行汇率风险及其生成机制。本章首先论述汇率

风险与汇率决定理论、汇率制度，然后研究它们之间的关系，并分析我国商业银行汇率风险的生成机制。

第3章：我国商业银行汇率风险的识别。本章在对国外商业银行汇率风险识别技术进行简单评述的基础上，结合国内上市商业银行的现状，使用资本市场法和外汇敞口法对我国商业银行的汇率风险识别进行研究，结果表明现阶段外汇敞口法是识别我国商业银行汇率风险的有效方法，资本市场法不适用于商业银行汇率风险识别。本章对研究结果进行深入的分析，并指出国内商业银行与国外活跃商业银行汇率风险暴露的区别。

第4章：我国商业银行汇率风险的测度。运用改进的风险价值法（VaR），结合我国商业银行的现状进行风险测度，并与外资银行进行对比，结果表明我国商业银行外汇风险头寸日 VaR 值是多头，而外资银行是空头，在人民币升值的预期下，国内商业银行承担着巨大的汇率风险损失，而外资银行却享受着人民币汇率升值带来的巨大收益。

第5章：商业银行汇率风险管理的国际经验。本章从四个方面分析汇率风险管理的国际经验，首先分析商业银行风险管理发展的阶段、管理目标、原则和策略，其次研究商业银行汇率风险管理方法，最后研究巴塞尔委员会关于商业银行汇率风险管理的观点、美国 and 德国等国际活跃的商业银行汇率风险管理的经验和发展趋势。

第6章：我国商业银行汇率风险的管理。本章首先对我国商业银行汇率风险及其风险管理现状进行分析与评述，其次提出在新形势下我国商业银行汇率风险管理的设计原则、构架，并对近两年来我国商业银行的汇率风险暴露作进一步研究，指出我国商业银行的汇率风险管理应该借鉴国际活跃商业银行成功的经验和失败的教训，重新构建可靠的汇率风险管理体系。

第7章：结论与政策建议。本章对主要研究内容进行总结，在此基础上针对我国商业银行汇率风险管理中存在的问题提出若干建设性意见，以期对我国商业银行汇率风险管理的发展有所裨益。

本书通过对我国商业银行汇率风险问题的研究，得出以下几点

主要结论:

1. 我国商业银行汇率风险内生于世界货币体系。汇率风险是商业银行一种重要的市场风险,它内生于世界货币体系中的浮动汇率制度,对汇率风险的不当管理会使商业银行遭受意想不到的巨大损失。我国已于2005年下半年实行了浮动汇率制度,国内商业银行实行“走出去”的经营战略,因此汇率风险成为影响我国商业银行收益的重要因素。商业银行汇率风险管理必须置于世界范围内才能有效。汇率风险产生的根源是商业银行外汇资产与负债不匹配,实质上是外汇市场中参与者多重利益博弈的结果。

2. 与资本市场法相比,外汇敞口法更适合我国商业银行汇率风险的识别。本书采用资本市场法和外汇敞口法对我国商业银行的汇率风险进行研究、分析,发现使用资本市场法识别大多数上市银行的汇率风险统计上并不显著,外汇敞口法比较适合我国现阶段商业银行外汇风险的识别。原因是我国资本市场还没有完全开放,金融市场结构与环境、监管约束、制度等方面的成熟度都与国外有较大差异;另一方面,我国商业银行上市的时间还比较短,积累的数据满足不了资本市场法的实证研究的需要。

3. 改进的风险价值法适合度量我国商业银行的汇率风险。本书对广泛采用的风险价值法进行修正,并使用改进的模型测度我国商业银行的汇率风险,结果表明使用AR-EGARCH-VaR模型能显著地测度汇率风险,在此基础上测度我国商业银行与外资在华银行的外汇资产头寸的日VaR值并进行对比研究,表明我国商业银行与外资银行在汇率风险管理的意识和方法上存在较大差异。

4. 我国商业银行大量的外汇资产净敞口使其面临巨大的汇率风险。研究发现,我国商业银行每年都有大量的外汇资产正净敞口,汇率的不利波动会给银行带来较大的损失,但是运用先进的风险控制模型和管理技术不一定能避免汇率风险的发生。真正的汇率风险有效管理还是需要银行把汇率风险管理理念始终贯穿于外汇业务的经营过程中,商业银行要坚持外汇经营审慎原则,不能被短期的利益所迷惑。国际新形势迫使美欧金融机构加快收缩国外资产,改变

其风险偏好,再加上各国央行一致降息又给外汇投机造成了运作空间,加剧了外汇市场的不稳定。我国商业银行持有大量美元资产正净敞口,美元的预期持续性走弱以及汇率的大幅波动给我国商业银行持有的外币资产带来很大的汇率风险;商业银行要根据汇率的波动及时管理外汇风险敞口头寸,以规避汇率风险造成的损失。

5. 目前我国商业银行的汇率风险管理存在着体制性缺陷。比如我国金融市场没有完全开放,银行内部缺乏汇率风险管理的长期激励机制,汇率风险管理的指标体系不完善、技术手段落后,缺乏完善的组织制度体系和信息管理系统的支持,缺乏专门的汇率风险管理部门,独立性和专业化程度不够,金融市场的不成熟大大限制了汇率风险管理手段和工具的运用。

6. 有效的汇率风险管理框架包括组织架构、流程架构和支撑架构。商业银行良好的组织结构是汇率风险管理的重要基础,合理的流程构架是重要组成部分。汇率风险管理不仅包括风险识别、评估、控制、效果评价等一般环节,而且包括汇率风险管理的决策程序、预测和计划等广泛的内容。支撑架构不仅为汇率风险管理提供信息系统等软硬件的基础设施,而且提供汇率风险报告机制和应急计划等运行保障和制度支持。

本书的主要创新点如下:

1. 本书依据银行风险管理的一般理论,立足于我国商业银行的自身特点,在最新数据的基础上,系统深入地研究我国商业银行的汇率风险,得到有说服力的结论。

2. 本书在对我国商业银行汇率风险形成的内在机制进行理论分析的基础上,采用资本市场法和外汇敞口法对我国商业银行的汇率风险进行研究分析,发现使用资本市场法识别上市银行的汇率风险大多数统计上并不显著,外汇敞口法比较适合我国现阶段商业银行汇率风险的识别。

3. 本书对流行的汇率风险测度方法——风险价值法进行了修正,并使用修正的 AR-EGARCH-VaR 模型测度我国商业银行和外资银行的汇率风险,而且计算出两者的外汇资产头寸的日 VaR 值并

进行对比研究,表明我国商业银行与外资银行在汇率风险管理的意识和方法上存在较大差异。

4. 本书在汇率风险管理的一般原理和方法的基础上,结合我国商业银行的具体情况,从汇率风险管理的组织架构、流程等几个方面较为全面地构造了一个基于中国商业银行的汇率风险管理框架,并在分析银行全面风险管理体系的基础上,提出应把汇率风险纳入我国商业银行风险管理体系。

关键词: 商业银行 浮动汇率 汇率风险 风险管理

Abstract

Since the 1970s, with the collapse of Bretton woods system, the international monetary system has entered the era of Jamaica and most countries in the world have adopted the floating exchange rate system. Meanwhile, the fluctuations of exchange rate increase the market risk and the uncertainty. In the economic globalization and financial liberalization, the exchange rate fluctuations have already become the normal in the world financial markets. Thus, the commercial banks with foreign exchange businesses are confronted with increasing exchange rate risk, and the management of exchange rate risk becomes an important task in the routine risk management of commercial banks. As a result of China's implementation of the managed floating exchange rate system from July 21, 2005, the volatility of the RMB exchange rate greatly enhanced. In accordance with the WTO commitments, China has opened up its banking industry fully to the outside world since 2007. In this case, China's banking industry has entered a new stage while facing the full range of challenges. Therefore, with the acceleration of the reform of RMB exchange rate system, it is necessary to do deep research on the exchange rate risk of commercial banks in China, in order for the commercial banks to identify, measure, and manage the exchange rate risk and to increase their ability of resisting risks. Beginning with the exchange risk that the commercial banks face, this dissertation analyses the formation mechanism of exchange rate risk in commercial banks. By referring to the mature risk management experience of commercial banks in developed countries, and considering the present situation of China's commercial banks, this dissertation studies the related problems in China's commercial banks and

proposes the suggestions. The dissertation aims at providing the theoretical reference for constructing efficient exchange rate risk management system of commercial banks and contributing to the improvement of the exchange rate risk management of China's commercial banks.

This dissertation is divided into 7 chapters:

Chapter One is introduction. It states the background of the research and its significance, as well as the present researches home and abroad based on the literature review. Then it explains the research method, the frame, the innovation points, the limitation and the further research direction, so as to paves the way for the following researches.

Chapter Two is the research of commercial bank exchange rate risk and its formation mechanism. It first elaborates the exchange rate risk, the exchange rate decision theory, and the exchange rate system, then studies the relations between them and analyses the formation mechanism of exchange rate risk in China's commercial banks.

Chapter Three studies the identification of exchange rate risk in China's commercial banks. Based on a simple comment on the overseas risk identification skills and China's present situation, this chapter studies the exchange rate risk identification in China's commercial banks with both the capital market method and foreign exchange exposure method. The result indicates that foreign exchange exposure method is more suitable for the commercial bank exchange rate risk identification in present China. Finally it analyses the results of research in depth and points out differences of exchange rate risk exposure between domestic commerce banks and the active overseas commercial banks.

Chapter Four studies the measurement of commercial bank exchange rate risk. Using the world popular Value - at - Risk method in exchange rate risk measurement, it conducts the risk measurement of China's commercial banks. With the comparison to foreign banks, the results show that the day value of foreign exchange risk position of China's commercial

banks is long, while foreign banks' is short. With the expectation of RMB's appreciation, the domestic commercial banks bear huge loss of exchange rate risk, but foreign banks are enjoying the enormous gains from the appreciation of RMB.

Chapter Five analyses the international experience of commercial bank exchange rate risk management from four aspects. It begins with a discussion of the commercial banks' risk management in the development stage, management objectives, principles, and strategies, followed by the management methods of exchange rate risk, and finally studied the standpoints of Basel Committee on commercial banks exchange rate risk management, and the experiences and development trend of exchange rate risk management of internationally active commercial banks in the United States and Germany.

Chapter Six studies the commercial bank exchange rate risk management in China. First of all, this chapter analyses and comments on exchange rate risk of commercial banks in China and their current status, then puts forward the design principles and framework of commercial banks exchange rate risk management in the new situation of China, and further researches on exchange rate risk exposure of commercial banks of China over the past two years. Finally, it points out that commercial banks of China should learn from the international experiences and failure lessons of the active commercial banks so as to rebuild a reliable system of exchange rate risk management.

Chapter Seven is conclusion. This chapter summaries the main results of the research, and proposes some constructive suggestions on the problems of the commercial bank exchange rate risk management, with a view to contributing to the development of Chinese commercial bank exchange rate risk management.

Through the researches on the problems of exchange rate risk of China's commercial banks, this dissertation draws the following main

conclusions:

Firstly, the commercial bank exchange rate risk is endogenous in world currency system. The exchange rate risk is an important kind of market risk of the commercial bank, and it endogenously derives from the floating exchange rate system of the world currency system. Improper management of exchange rate can bring unexpected heavy loss to a commercial bank. Our country has practiced the floating exchange rate system since the second half of 2005, and the domestic commercial banks are implementing the going-out business strategy, therefore the exchange rate risk becomes an important factor affecting the income of commercial banks in China. The commercial bank exchange rate risk management is effective only when considered with an international view. The root of exchange rate risk is the unmatched foreign exchange assets and the liabilities of the commercial bank, and essentially is the result of multiple interest game of the participants in the foreign exchange market.

Secondly, Compared with the capital market method, the foreign exchange exposure method is more suitable for China's commercial bank in exchange rate risk identification. In this dissertation, it analyses and researches on exchange rate risks of China's commercial bank with capital market and foreign exchange exposure method, then it finds that the capital market method is not suitable for identifying the majority of listed banks in the exchange rate risk. At present, foreign exchange exposure method is more suitable for identifying foreign exchange risk of our commercial banks. The reason is that China's capital market has not fully opened up, financial market structure and the environment, regulatory constraints, system maturity, etc. are greatly different from those of foreign countries. Moreover, banks in China are listed for a relatively short time, so the accumulated data can not meet the requirements of empirical study of the capital market.

Thirdly, the amended Value-at-Risk method is suitable for

measuring China's commercial bank exchange rate risks. This dissertation amends the popular Value – at – Risk method and uses the amended model in measuring China's commercial banks exchange rate risk. The result shows that AR – EGARCH – VaR model can measure exchange rate risk significantly. It further measures and compares the daily VaR value of foreign currency assets position of China's commercial banks and foreign banks, and reveals that there are great differences in methods and awareness of the exchange rate risk management between China's commercial banks and foreign banks.

Fourthly, China's commercial banks face the enormous exposure to exchange rate risk. This study finds that China's commercial bank has a large number of net exposure of foreign currency assets every year, so the adverse fluctuations of exchange rate will bring great losses to the banks, but then advanced risk management models and management techniques are not necessarily able to avoid exchange rate risk. The effective exchange rate risk management requires constant application of management philosophy of banks' exchange rate risk to business, and commercial banks should adhere to prudent principle in foreign exchange business, not tempted by short – term interests. The new situation of international financial institutions forces the United States and Europe to contract their foreign assets and to change their risk preference, meanwhile the unanimous interest cut of central banks exacerbates the instability in the foreign exchange market.

China's commercial banks hold large amounts of U. S. dollar assets net exposure, so with the U. S. dollar's continual weakening and the great exchange rate fluctuations, China's commercial banks face increasing exchange rate risk. Commercial banks should manage foreign exchange exposure position in pace with the fluctuations, so as to avoid losses.

Fifthly, at present, China's commercial banks have system flaws of exchange rate risk management. At present, China's commercial banks

have some system flaws of exchange rate risk management. For example, China's financial market is not completely opened, the bank is lack of the long-term incentive mechanism of exchange rate risk management, the index system of the exchange rate risk management is imperfect, the banks are lack of proper organization and information management system, lack of a specific exchange rate risks management department, and the immature financial markets limit using of the exchange rate risk management instruments and tools.

Sixthly, effective exchange rate risk management framework includes the organizational structure, process structure and support structure. A good organizational structure of commercial banks is an important basis for exchange rate risk management, and a reasonable process structure is an important part. Exchange rate risk management not only includes risk identification, assessment, control, and evaluation of the effect, but also involves decision-making process, forecasting and planning. Support structure for the exchange rate risk management provides not only information systems infrastructure including hardware and software, but as well system security and support operation including reporting mechanisms, contingency plans.

The main innovations of this dissertation include:

Firstly, based on the general theory of risk management, in combination with the characteristics of the commercial banks in China, and using the latest data, the dissertation does a systematical research on the exchange rate risk and comes to persuasive conclusions.

Secondly, in this dissertation, base on inherent in the formation mechanism, capital market method and foreign exchange exposure method are used to analyze and research the exchange rate risks of China's commercial bank. It finds out that the capital market method is not suitable for identifying the majority of listed banks in the exchange rate risk. At present, foreign exchange exposure method is more suitable for

identifying foreign exchange risk of our commercial banks.

Thirdly, this dissertation amends the popular Value at Risk and uses the AR – EGARCH – VaR model measuring the exchange rate risk of China's commercial banks and foreign banks, meanwhile it measures and compares their daily VaR value of foreign currency assets position, and shows that there are great differences in methods and awareness of the exchange rate risk management between China's commercial banks and foreign banks.

Fourthly, based on the general principles and methods of the exchange rate risk management, the dissertation comprehensively constructs an exchange rate risk management framework for the commercial banks of China from the aspects such as the organizational structure and process. Then based on the analysis of comprehensive risk management system, the dissertation proposes that exchange rate risk should be included in China's commercial banks risk management systems.

Keywords: Commercial Bank, Floating Exchange Rate, Exchange Rate Risk, Risk Management