

当代经济学系列丛书

Contemporary Economics Series

主编 陈昕



# 国际金融理论与 数量分析方法

——汇率决定理论与  
国际收支理论研究



潘国陵 著



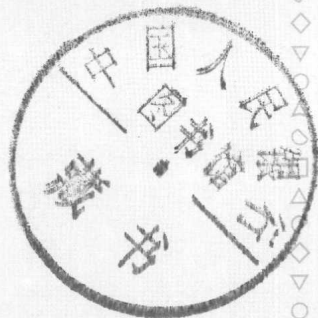
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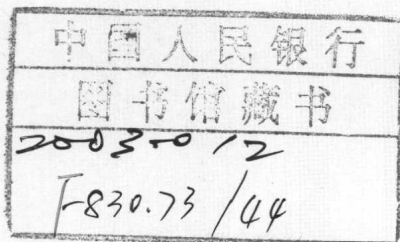
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潘国陵 著

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# 作者简介

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潘国陵,男,生于1959年10月,江苏省溧阳市人。1983年毕业于东南大学机械系,获工学学士学位;1987年在原中国纺织大学(现为东华大学)获管理学硕士学位;1996年在华东师范大学获经济学博士学位;1999年在复旦大学从事博士后研究工作。现任职于上海海运学院管理学院,副教授职称。

参与的主要研究有国家社会科学“七五”重点课题“人民币汇率研究”、国家自然科学基金会“九五”重大课题“金融数学、金融工程与金融管理”。公开发表学术论文10多篇,参与撰写的著作有《国际经济学概论》、《人民币汇率研究》等。

先后被评为上海市优秀青年教师、全国优秀教师;获得第四届霍英东教育基金会优秀教师奖、国家有突出贡献的中青年专家称号,并享受国务院特殊津贴。

# 前 言

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**本**书将国际金融中的汇率决定和国际收支作为研究对象,详细分析和评价了迄今为止,在国际金融领域中具有重大理论影响和现实应用意义的汇率决定理论和国际收支理论,以及它们的实际应用效果。其中汇率决定理论包括购买力平价理论、利率平价理论、货币主义的汇率理论、资产组合汇率理论、理性预期汇率理论和汇率的新闻模型等;国际收支理论包括贸易收支的弹性学说、国际收支的收入—吸收分析法、货币分析法以及政策配合理论等。在此基础上作者提出了以下理论创见。

(1) 作者运用严密的理论分析和大量的实证资料指出了现代汇率决定理论的基石——货币主义的汇率决定理论在数学上的不严密性,即货币主义者在他们的汇率模型中对利率变量作了不适当的处理,致使利率变量在汇率决定中的作用大大减弱,几乎可以完全忽略不计。这也许可以解释为什么货

币主义汇率决定理论的检验效果不好和预测结果不理想。另外,货币主义汇率决定理论的这种不足同时波及以此为基础的许多其他汇率决定理论,如粘性价格汇率模型、灵活价格汇率模型、实际利差汇率模型和资产组合汇率模型等。

(2) 作者运用微观经济学中的成本利润函数,推导出利润最大化条件下的价格决定方程,并由此建立了一种全新的汇率决定方法。该方法揭示了各经济要素与汇率决定之间的数量关系,这些要素包括本国和外国的相对工资率、劳动生产率、实际经济增长率、信贷规模、利率、折旧率、固定资产存量规模、间接税税率等。作者还将这种方法应用到开放经济体系中,进一步分析出口商品价格、进口商品价格等因素对汇率决定所起的作用和影响。

(3) 作者运用新的汇率决定方法对人民币长期平价汇率进行了实证研究,初步计算出各个时期的人民币长期平价汇率水平。由

# 出版前言

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**为**了全面地、系统地反映当代经济学的全貌及其进程,总结与挖掘当代经济学已有的和潜在的成果,展示当代经济学新的发展方向,我们决定出版“当代经济学系列丛书”。

“当代经济学系列丛书”是大型的、高层次的、综合性的经济学术理论丛书。它包括四个子系列:(1)当代经济学文库;(2)当代经济学译库;(3)当代经济学教学参考书系;(4)当代经济学新知文丛。该丛书在学科领域方面,不仅着眼于各传统经济学科的新成果,更注重经济前沿学科、边缘学科和综合学科的新成就;在选题的采择上,广泛联系海内外学者,努力开掘学术功力深厚、思想新颖独到、作品水平拔尖的“高、新、尖”著作。“文库”力求达到中国经济学界当前的最高水平;“译库”翻译当代经济学的名人名著;“教学参考书系”主要出版国外著名高等院校 90 年代的通用教材;“新知文丛”则运用通俗易懂的语言,介绍国际上当代经济学的最新发展。



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本丛书致力于推动中国经济学的现代化和国际标准化,力图在一个不太长的时期内,从研究范围、研究内容、研究方法、分析技术等方面逐步完成中国经济学从传统向现代的转轨。我们渴望经济学家们支持我们的追求,向这套丛书提供高质量的标准经济学著作,进而为提高中国经济学的水平,使之立足于世界经济学之林而共同努力。

我们和经济学家一起瞻望着中国经济学的未来。

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此作者分析了人民币市场汇率对平价汇率的偏离情况,以及汇率偏离对中国的贸易收支、国际储备等宏观经济指标所产生的影响;同时,在数量上确定了各经济因素对汇率决定所起的作用和程度。

(4) 通过价格决定方程,作者推导出一个重要的经济学命题,即“无通胀经济增长条件”,由此得出不同条件下一国既能控制通货膨胀,又能保持经济快速增长的临界条件以及相应的政策选择。这对治理通货膨胀、保持经济持续高速增长具有重要的理论和现实意义。

(5) 作者通过严密的数学推导得出了经常项目收支动态方程和国外净资产动态方程,由此建立了一种新的国际收支分析方法。这种方法通过经常项目收支动态方程,揭示了经常项目与经济增长率、国民储蓄率、净资产产出率、汇率等经济要素之间的相互关系和经常项目收支不平衡的内在原因,对调节国际收支提供了重要的理论依据;通过国外

净资产动态方程,揭示了发展中国家出现债务危机和发达工业国家出现财富陷阱的根本原因,为发展中国家避免债务危机和发达工业国家克服财富陷阱提供了可供选择的政策途径。

本书是作者在博士论文的基础上经过修改补充而写成的。如果书中有什么可取之处的话,主要应归功于我的博士生导师——华东师范大学国际金融系陈彪如教授,博士后导师——复旦大学国际金融系姜波克教授,国家自然科学基金会“九五”规划重大课题“金融数学、金融工程和金融管理”的子课题“中国的国际收支和人民币汇率研究”主持人——复旦大学管理学院唐国兴教授。书中的错误与缺点在所难免,其责任全由作者本人承担,并恳切希望读者和同仁批评指正。

潘国陵

1999年5月16日

# ABSTRACT

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## THE THEORIES OF INTERNATIONAL FINANCE AND THE TECHNIQUES OF QUANTITATIVE ANALYSIS

The writer of this book takes the exchange rate and the balance of payments in the international finance as the main object of study, analyzing and appraising various theories of the exchange rate determination and theories of balance of payments which have both theoretical influence and practical significance heretofore in the field of international finance. The writer puts the emphasis on the techniques of quantitative analysis, practical adaptability and the latest developments of these theories. Based on the analysis and appraisal, the writer points out a mathematical mistake in the monetary model of exchange rate determination, presents a completely new equation of exchange rate determination based on the principle of profit maximization, applies non-linear techniques to establish a dynamic equation of the balance of payments and a dynamic equation

of the balance of net assets overseas respectively, and hence indicates the stability conditions for a country to keep the balance of payments on current account and the balance of net assets overseas.

1. When analyzing modern monetarist exchange rate theory and its quantitative techniques, the writer finds that in order to make the basic monetary model suitable for short-term analysis of the exchange rate, the monetarist have made a mistake by replacing the natural logarithmic form of the interest rate (or the change rate of interest rate) with the interest rate itself in the course of combination with the interest rate parity, which has significantly weakened the role of interest rate in the determination of exchange rate. Thus, the interest rate has been made a completely neglectable variable in the exchange rate determination, rather than a real essential determination. The results of the writer's econometric evidence fully prove this viewpoint. Moreover, the change of active form of the interest rate in the monetary model has

seriously affected the roles of other variables in the determination of exchange rate, such as the money stock, the real output, etc. Maybe this is one of the reasons why most of the empirical evidences were unsupportive to the monetary model and other modern models based on it, and why the expectant results from those models were unsatisfactory.

Because of the above-mentioned mistake in the basic monetary model of exchange rate determination, all the modern models based on it have inevitably made the same mistake. This is just like a skyscraper built on an unstable base. The involved exchange rate theories include almost all modern theories of exchange rate determination, such as the sticky price monetary model, the flexible price monetary model, the real interest rate differential model, the monetary substitution model, various portfolio balance model, the rational expectations model, and the news model, etc.

2. From the cost-profit function in microeconomics, the writer deduces an equation of

price determination under the condition of profit maximization, and hence presents a completely new equation of exchange rate determination which includes such fundamental determinants of exchange rate as domestic and foreign wage rates, labor productivity, real output growth rate, increase rate of credit, interest rate, growth rate of fixed assets stock, depreciation rate and indirect tax rate. Therefore, the new equation of exchange rate determination includes not only such factors as money stock, real output and interest rate in the monetary model, but also such factors as wage rate and labor productivity in the wage-cost model, meanwhile it extends the financial assets to the physical assets-fixed assets stock, and takes into account the effect on the exchange rate of fiscal policy-indirect tax rate as well. All these provide basis for analyzing the trend of exchange rate change and for the government to practise target administration of the exchange rate.

Furthermore, from the equation of price determination, we can deduce an important

economic proposition—the stability condition for the noninflationary economic growth. The equation provides for the critical condition and the policy alteration that keeps an economy developing not only with a high rate but also without inflation.

3. Given the fact that the balance of payments on current account is equivalent to the increase of net assets overseas, the writer of this book applies the non-linear techniques to establish a dynamic equation of the net assets overseas and a dynamic equation of the balance of payments on current account, both of which reveal the quantitative relationship between net assets overseas, as well as the balance of payments on current account, and various basic economic elements, such as the growth rate of GDP, the rate of national savings, the output rate of net domestic assets, the output rate of net assets overseas, the exchange rate, etc. Hence, this book provides a mathematic critical condition that a country can keep both the balance of net assets overseas and the balance of payments on current



account under different original conditions. Utilizing the stability conditions for the balance of net assets overseas, we can analyse the basic reasons for the “debt crisis” occurred in the developing countries and the “fortune trap” occurred in the developed countries, and find out the critical conditions and policy alteration by which we can avoid the “debt crisis” and the “fortune trap”. Utilizing the stability conditions for the balance of payments on current account, we can analyse the basic reasons for balance-of-payments disequilibrium on current account in a country, and find out the critical conditions and policy alteration for the balance of payments on current account.