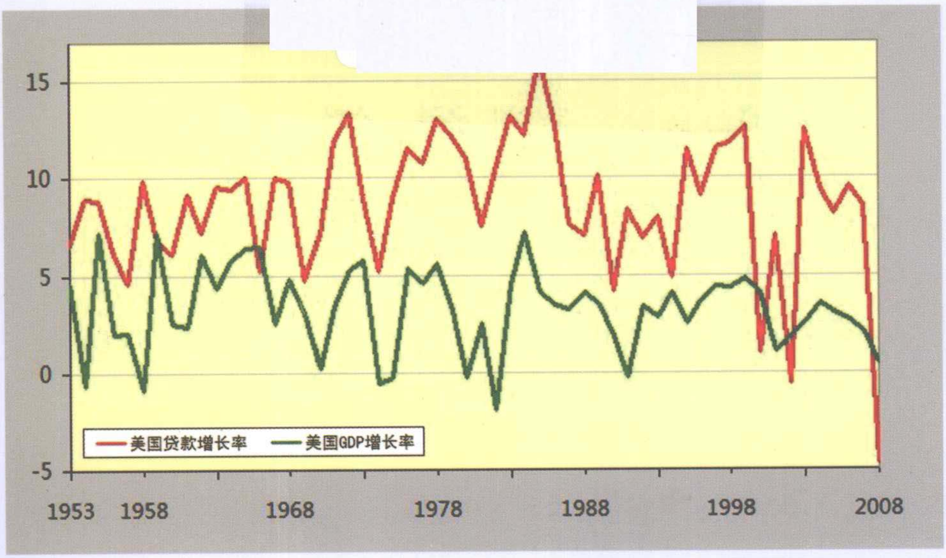
金融体系的顺周期行为研究

Studying on Procyclicality of the Financial System

中国人民银行西安分行课题组 著



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内容摘要

全球金融危机的爆发，给全球经济带来了前所未有的冲击。顺周期是导致金融危机、至少是导致金融脆弱性的主要原因之一。

本研究共分为八章：

第一章：有关金融顺周期问题的研究综述。本章从以下几个方面对国内外有关金融顺周期问题的研究进行了梳理：（1）银行资本自身的顺周期变化；（2）资本监管与经济周期波动；（3）银行资本监管对货币政策的影响；（4）巴塞尔新资本协议、经济周期与货币政策传导；（5）银行贷款损失与经济周期；（6）经济周期中的资产价格与汇率风险。现有文献对削弱顺周期性影响的措施包括：加强以风险为基础的监管；通过收取以风险为基础的存款保险费；利用"时点"评级方法配置资本，利用"周期"评级方法计提资本；加强监管部门和中央银行的信息交流和政策协调等。

第二章：银行业的顺周期性和逆周期监管政策的选择。银行业信贷行为具有明显的顺周期特征。银行信贷活动顺周期的内生性原因主要有：借贷双方之间的信息不对称促进了顺周期行为、市场竞争助长银行业信贷的顺周期性、信贷市场"羊群行为"导致顺周期行为、企业违约率的顺周期性、抵押品价值具有顺周期性。同时，外部监管政策导致银行信贷行为的顺周期性（如资本要求、贷款损失准备计提政策、公允价值会计准则（FVA）和盯市原则）及新资本协议潜在的顺周期性（如PD、LGD、EAD、风险权重的顺周期性）。顺周期问题的缓释方法主要有：（1）建立逆周期的资本缓冲；（2）实行动态拨备；（3）改变公允价值计量；（4）修订新资本协议：降低PD/LGD/EAD的周期性波动、把压力测试作

为风险管理的重要手段、设置超额资本及降低风险权重函数输出值的周期性波动。此外，应进一步增强金融机构的风险管理能力，综合运用其他审慎监管工具如按揭贷款最高贷款额与价值比率，提高监管者对经济变化和风险变化的敏感度，促进金融业健康稳健运行。

第三章：银行贷款损失准备与经济周期——以我国五家上市银行为例分析。本章对我国商业银行贷款损失准备制度发展的四个阶段进行了全面梳理，分析了我国五家上市银行计提贷款损失准备情况及存在的问题，提出了进一步规范我国商业银行贷款损失准备计提制度的政策建议：（1）银行监管、财政、税务等部门应加强协调，进一步规范贷款损失准备计提制度；（2）进一步完善贷款五级分类制度，夯实损失准备计提的基础；（3）结合我国目前信用环境，需要研究五级分类、贷款损失准备计提这两个环节抵押品、有效担保的处理原则，避免重复考虑、高估价值；（4）抵押资产估值、五级分类、特种准备、一般准备、专项准备以及分红政策等方面要充分考虑经济周期或者行业周期波动的影响；（5）商业银行要加强经济景气分析和有关抵押资产价格走势分析，准确把握运行周期，根据抵押资产价格走势调整抵押率、准确定价、充足计提损失准备，避免经营的剧烈起伏。

第四章：内部评级法的顺周期效应及其验证。内部评级法的资本要求存在着明显的顺周期效应，即内部评级法的实施将加大银行最低资本要求的波动，并放大信贷周期及宏观经济周期波动，从而对一国的经济体系带来负面影响。本章从内部评级法的顺周期模式及产生的原因出发，提出了缓解内部评级顺周期效应的重要方法——压力测试；采用历史数据分析了我国银行内部评级的顺周期表现，探讨了我国银行的压力测试实践，提出了合理运用压力测试工具、准确度量资本要求的建议。同时，利用 CAP 模型对我国银行内部评级体系进行了验证，结果表明：风险判别力高，较好地克服了顺周期问题。

第五章：我国资产价格（股票、房地产）波动与经济周期。

本章利用 SVAR 模型对我国资产价格波动对宏观经济的影响进行了实证研究，结果表明，资产价格波动在一定程度上影响了宏观经济。其中，房地产市场波动存在顺周期效应，给房地产市场一个正向冲击，房地产市场会对宏观经济产生很长时期的正向影响。而股票市场对我国宏观经济的影响非常微弱。房地产市场波动则对消费和投资产生了非常明显的影响，我国资产价格波动影响宏观经济主要是从房地产市场进行的。我国股票市场存在明显的滞后效应，股票价格指数滞后一期对宏观经济的影响要明显大于股票当期指数对宏观经济的影响，而我国股票市场对宏观经济的影响相比于发达经济体要微弱得多，这与我国股票市场发展的不健全及行政干预过多有很大的关系。因此我国货币政策的制定应该关注资产价格波动，房地产市场波动更应该受到关注。我国股票市场影响宏观经济的机制阻塞，因此疏导资产价格波动到宏观经济的股票市场传导渠道也应成为相关部门重点关注的方面。研究资本利得税等政策措施以削弱资产价格波动。

第六章：我国财政政策是否具有顺周期性。本章梳理了国外关于发达国家和发展中国家财政政策顺周期特征的研究文献，利用计量方法，设计相机财政统计量，检验财政政策的行为特征，得出：我国财政收入受经济周期影响显著，具有较强的顺周期性。财政支出总量波动顺周期行为显著，但结构变量波动周期特征不一：从类别上分析，购买性支出变量比转移支付变量顺周期特征明显；从时间上分析，财政支出在 1998 年之前具有一定的顺周期特征，之后逐渐呈现出经济繁荣期的顺周期与经济萧条期的逆周期并存的非对称性特征。与其他国相比，中国相机执行了更多积极的财政刺激措施，在经济下滑时期表现出更高的逆周期性，在经济上升时期具有更高的顺周期性。相机抉择效应大于自动稳定器效应，具有显著的非对称性顺周期特征。因此，要进一步增强财政政策“内在稳定器”的敏感性，提升相机抉择财政政策的及时度、透明度、可信度，财政政策与货币政策密切配合，完善税制，改进反周期财政政策机制，建立财政“以丰补歉”类似银行拨备的长

效机制。

第七章：国际资本流动的顺周期特征：影响因素、负面效应及反向调节。本章利用15个代表性国家的相关数据，对国际资本流动与经济增长间的关系进行了实证研究，发现国际资本流动存在顺周期、逆周期及无周期三种变动趋势。1982～2008年间，我国国际资本流动存在着较为显著的顺周期变动，而GDP增长率、人民币实际汇率指数、美国联邦基准利率和国内股票价格指数是引发这一现象的主要影响因素。在后金融危机时期，这种顺周期资本流动能引起人民币出现新一轮内外价值偏离；积累和放大国内资产泡沫，延缓经济结构调整；加剧国际收支失衡与储备货币贬值；增加国内宏观经济出现结构性通货膨胀的风险。因此，宏观上需要进行必要的逆周期反向调节：（1）适度鼓励资本流出，实现国际资本流出和流入基本均衡；（2）加大结构性改革力度，以“疏”代“堵”，从根源上缓解国际资本流动冲击；（3）重视发展和利用国内投资，不断提高金融体系的整体效率，为储蓄顺利转化投资、消费创造条件；（4）完善人民币汇率形成机制改革，改变人民币汇率单边持续升值预期；（5）积极推进人民币区域化、周边化和国际化，拓宽人民币使用范围；（6）加强对国内资产市场外资流入的监管力度，尽量避免国际资本集中流动带来的破坏性影响。

第八章：本报告所提对策建议的一个总结。

（1）随着经济周期的变化，提高对特定高风险资产或行业的信贷风险权重，调整超额资本要求。监管当局研究定量指标对杠杆率（总资产/净资产，或者总负债/净资产）加以限制，降低利用复杂资本充足率计量中的监管套利。

（2）改变贷款损失拨备的计提方式，鼓励有条件的机构建立基于预期的动态拨备体系。

（3）实行逆周期信贷政策。根据宏观环境和行业景气，调整贷款对价值比率（抵押率，LTV）和贷款收入比（LTI），以防止按揭贷款增减变化进一步放大经济周期。

（4）在银行外币贷款比重较高时，必须充分考虑汇率变化对银行资本的影响，对外币贷款的资本要求应以同种的外币持有。

（5）更好地利用货币政策来消除银行贷款的周期性波动。

（6）要求银行进行严格的压力测试，评定缓冲资本的充足性。

（7）鼓励使用“跨周期”评级方法计提资本。鼓励建立逆周期的资本缓冲。建立信贷增长或信贷/GDP与资产价格的挂钩变量，确定逆周期资本乘数。

（8）积极参与修订新资本协议。包括降低PD/LGD/EAD的周期性波动、设置超额资本、降低风险权重函数输出值的周期性波动。

（9）进一步完善会计准则，削弱公允价值计量的顺周期性。

（10）目前实施的五级分类、特种准备、一般准备、专项准备以及分红政策等方面要充分考虑经济周期或者行业周期波动的影响。

（11）鼓励商业银行在风险管理中开发能够克服顺周期的信用风险计量模型，使用更能反映长时期内的、更为前瞻的信用风险计量方法，更加充分地考虑经济周期波动对贷款质量的长期影响，使得贷款分类更加审慎。

（12）我国宏观调控政策的制定应该关注资产价格波动，房地产市场波动更应该受到关注。需要研究资本利得税等政策措施以削弱资产价格投机性波动。

（13）改进反周期财政政策机制。包括增强财政收入系统“内在稳定器”的敏感性，进一步提升相机抉择财政政策的及时度、透明度、可信度以及财政政策与货币政策密切配合。合理安排财政改革节奏，增加财政支出、减少财政收入类改革，选择在低谷期推进，比如提高个人所得税起征点。增加财政收入、减少财政支出类改革，选择在通胀期推进，比如资本利得税。当然前提是要建立财政“以丰补歉”类似银行拨备的长效机制。

（14）实行逆周期反向调控，削弱国际资本流动的顺周期效应。包括适度鼓励资本流出，实现国际资本流出和流入基本均衡；

完善人民币汇率形成机制改革，改变人民币单边持续升值预期；积极推进人民币区域化、周边化和国际化，拓宽人民币使用范围；加强对外资流入国内资产市场的监管，尽量避免国际资本集中流动带来的破坏性影响。

(15) 加强以风险为本的监管，尤其是加强对金融衍生品及其相关机构的监管。重视对担保公司、典当行、贷款公司、投资公司等准金融类机构的监管，防止长期中形成风险。

Abstract

The outbreak of global financial crisis brought an unprecedented impact on the global economy. Procyclicity is one of the main reasons contributing to financial crisis, or at least to financial vulnerability.

This book is composed of eight chapters.

Chapter 1 Literature Review on Financial Procyclicity. This chapter summarizes studies at home and abroad on financial procyclicity. (1) Procyclicity of banking capital; (2) Capital regulation vs. business cycles fluctuations; (3) Impact of banking capital regulation on monetary policy; (4) Basel II Capital Accord, business cycles vs. monetary policy transmission; (5) loan loss provisions vs. business cycles; (6) Asset prices and exchange rate risk in business cycles. Available literatures propose the following measures to mitigate impact of procyclicity in banking capital. Risk-based regulation should be strengthened. Risk-based deposit insurance should be applied. Point-In-Time rating system should be used to allocate capital, and Through-the-Cycle system need to be used to set aside capital. Information sharing and policy coordination between regulatory authorities and central governments needs improving.

Chapter 2 Procyclicity in Banking Sector and Policy Options for Counter-cyclical Regulation. Banking's lending behavior is of significant procyclicity. The endogenous contributors of banking lending behaviors are as follows. Asymmetry information between borrowers and lenders may bring about procyclical behaviors. Market competition may give rise to procyclical banking lending. Herd effect of lending market may lead to procyclical behaviors. And both corporate default rate and collateral value may represent procyclical natures. In addition, external regulatory policies may produce procyclical banking lending. Capital requirement, policies on loan loss provisions, fair value accounting (FVA) and mark-to-market princi-

ple, and potential procyclicity in Basel II, including procyclicity in PD, LGD, EAD, and risk weights. Options to moderate procyclicity may cover the followings. (1) Counter-procycle capital buffer should be set aside. (2) Dynamic provisions should be applied. (3) Changes should be made to fair value accounting. (4) Basel II capital accord needs the following modifications. Procyclical fluctuation of PD, LGD AND EAD should be narrowed. Stress test should be supplemented as a vital tool to manage risk. Excess reserve should be set up. Cyclical fluctuations of risk-weighted function output value should be reduced. Also, capability of financial institutions to manage risks should be enhanced by applying prudential regulatory tools, such as mortgage loan-to-value ratio, to increase the sensitivity of regulators to economic changes and risks profiles so as to boost the healthy and sound performance of financial sector.

Chapter 3 Bank Loan Loss Provision and Economic Cycles -Taking Five Listed Banks As An Example. This part identifies loan loss provisioning of five listed banks and existing problems and proposes policy suggestions to further standardize loan loss provisions of commercial banks. (1) Banking regulators, fiscal and taxation authorities should develop closer cooperation to further improve loan loss provisioning system. (2) Five-category loan classification system should be improved to lay a solid foundation for loan loss provisioning. (3) Based on present credit environment, collateral and effective guarantee treatment should be considered in five-category loan classification and loan loss provisioning to avoid duplicated accounting and over valuation. (4) Full consideration should be given to the influence of economic cycles and business cycles fluctuations in stipulation policies on collateral asset valuation, five-category loan classification, special provisions, general provisions, earmarked provisions, and dividend options. (5) Commercial banks should make in-depth analysis on economic climate and collateral asset prices so as to follow economic cycles, adjust collateral ratio, well pricing, set aside adequate loan loss provision, and avoid swings of business performance.

Chapter 4 Procyclicity in Commercial Bank's Internal Ratings-Based Approach and Its Verification. Capital requirement in internal rating-based approach displays clear procyclical effect, which means that the implementation of internal ratings-based approach will widen the fluctuation of minimum capital requirement on commercial banks, amplify credit cycles and fluctuation of economic cycles,

bringing forth negative effect on economic performance. Beginning with an introduction to the origin of procyclicity model on internal rating-based approach, this chapter proposes stress testing, an effective way to alleviate procyclicity in internal rating-based approach. Based on historical data, it studies the procyclical behavior of internal rating-based approach in Chinese banks, goes through the practices of Chinese banks in applying stress testing, proposes the suggestion of wider application of stress testing tools to measure capital requirements. Additionally, it uses CAP model to verify the internal rating system in Chinese banks and arrives to the conclusion that the internal rating systems in Chinese banks have relatively higher capability to identify risks, and mitigate procyclicity.

Chapter 5 Volatility of China's asset price (stock, real estate) vs. economic cycle. With SVAR model, this chapter has an empirical study on the impact of asset price changes on macroeconomic performance and concludes that changes of asset prices contributes to macro economy to some extent. In particular, real estate market changes have procyclical effect. A positive impact on real estate market will produce a long term positive influence on macro economy. But stock market has weak impact on macro economy. Real estate market fluctuation leads to significant impact on consumption and investment. It is the real estate market that transmits the impact of asset price changes to macro economy. Stock market in China displays clear lagging effect, i. e. stock priceindex in time t + 1 has much greater impact on macro economy than price index in t, largely due to under-developed stock market in China and excess government intervention. Therefore, monetary policy should keep close watch on asset prices changes, especially real estate market. There is no smooth channel for stock market to influence macro economy, so related authorities should smooth the channel of asset price changes to macro economy. Policy options such as capital gain tax should be applied to lessen the impact of asset prices change.

Chapter 6 Is China's fiscal policy of procyclicity? Starting with a summary of foreign literature on procyclicity of fiscal policy in developed and developing countries, this chapter uses econometric models and discretionary fiscal variables to verify behavior characteristics of fiscal policy. It concludes that fiscal policy in China is significantly influenced by economic cycles, thus of clear procyclicity. Changes in fiscal expenditure aggregate are of clear procyclicity, while changes in structural variables have different cycles. In terms of category, purchase expenditure variables

have greater procyclicity feature than transfer payment variables. In terms of time, fiscal expenditure was to some degree procyclical before 1998, and followed by asymmetry feature of being procyclical in economic boom and being counter-procyclical in economic downturn. Compared with other countries, China adopted more active fiscal stimulus packages on a discretionary basis, which were more counter-procyclical in economic downturn and more procyclical in upturn. Therefore, sensitivity of fiscal policy built-in stabilizer should be further enhanced for more timely, transparent, and credible discretionary fiscal policy. Fiscal policy and monetary policy should keep close coordination. And taxation system needs improving.

Chapter 7　Procyclicity in International Capital Flows: Influencing Factors, Side Effect, and Counter Adjustment. Based on data of 15 representative countries, this chapter conducts an empirical study on the relationship between international capital flows and economic growth. It concludes that international capital flows show three trends, i. e. procyclicity, counter-cyclicity, and no cyclicity. Over 1982 to 2008, international capital flows in China represented apparent procyclicity changes, while GDP growth, US federal funds rate, and stock price index were the main contributors. During post-crisis period, this kind of procyclical capital inflow may give rise to a series of consequences, namely a new round of deviation between internal and external value of RMB, accumulation and amplification of domestic asset bubble, delay of economic structural adjustment, exacerbation of balance of payment disequilibrium and devaluation of reserve currency, greater risk of structural inflation. As a result, counter-cycle adverse adjustment should be considered. (1) More capital may invest abroad to reach basic equilibrium of international capital outflow and inflow. (2) Greater efforts should be made on structural reform by replacing prohibitive measures with encouraging measures. (3) Improvement should be made on domestic investment. Overall efficiency of financial system should be enhanced to create favorable conditions for smooth transit of saving into investment and consumption. (4) Strides should be made on the reform of exchange rate regime to bring down expectation on RMB appreciation. (5) Progress need to make on advancing the usage of RMB in regional, neighboring, and international field, so as to expand the acceptance of RMB. (6) Stricter monitoring should be made on foreign investment on domestic asset markets so as to avoid devastating impact due to concentration of international capital flows.

Chapter 8 Policy Suggestions proposed in this report.

(1) Credit risk weights of high-risk assets or industries should be increased following the changes in economic cycle, and the excess capital requirements should be adjust accordingly. The regulatory authorities should apply quantitative indicators to limit leverage ratio (total assets/net assets or total liabilities/net assets) so as to reduce the possibility of regulatory arbitrage from complex capital adequacy ratio rules.

(2) The method of putting aside loan loss provisions should be improved by encouraging qualified institutions to establish dynamic provision systems based on expectation.

(3) Counter-cyclical credit policy should be implemented. Based on the macroeconomic condition and business climate, the loan-to-value ratio (the mortgage interest rate, LTV) and loan income ratio (LTI) should be adjusted to avoid the widening of business cycle due to changes in mortgage lending.

(4) In case of high proportion of foreign currency loans, the bank must take full account of the impact of changes in exchange rate on bank capital. The capital requirements on foreign currency loans must be held in the same foreign currency.

(5) Monetary policy should play a bigger role in eliminating the cyclical fluctuations in bank loans.

(6) Banks should be required to launch rigorous stress testing to assess the adequacy of capital buffers.

(7) "Cross-cycle" rating methodology should be applied to put aside the provisions. Counter-cyclical capital buffer should be set up. The pair variables of credit growth or credit/GDP to asset prices should be set up to determine the counter-cyclical capital multiplier.

(8) Greater engagement should be made in the revision of Capital Accord II. Proposals may cover narrowing PD/LGD/EAD cyclical fluctuations, putting up excess capital, reducing cyclical fluctuations of risk-weighted function output value.

(9) Greater progress should be made in improving accounting standards to weaken the pro-cyclicality of fair value measurement.

(10) Full consideration should be given to the economic cycle or industry cycle fluctuations in the current classification of loans in five categories, special provisions, general provisions, earmarked provisions, and dividend policy, etc.

(11) Greater impetus should be given to commercial banks to develop credit risk econometric model to overcome the pro-cyclicality, and apply forward-looking econometric method to identify longer-term credit risk. The longer impact of economic cycle on loans quality need be taken into full account in order to realize more prudent loan classification.

(12) China's policy decision on macro economic management should keep close watch on changes in asset price, especially the real estate prices. More attentions should be given to policies on capital gains tax to reduce speculative asset price volatility.

(13) Advancement should be made to counter-cyclical fiscal policy. Measures should include enhancing the sensitivity of revenue system "built-in stabilizers," discretionary fiscal policy to further enhance the timeliness, upgrading the timings, transparency, and credibility of fiscal policy. Fiscal policy should coordinate closely with monetary policy. Reform on fiscal expenditure should be stepped up, and the right time of this reform should be economic downturn. Reform of fiscal revenue should follow up in the period of inflation.

(14) Efforts should be made in counter-cyclical reverse macroeconomic management to weaken the pro-cyclical effects of international capital flows. Measures may include a modest encouragement of capital outflows, basic equilibrium of international capital outflow and inflow; the RMB exchange rate regime reform to bring down expectation on RMB appreciation; advancing the usage of RMB in regional, neighboring, and international field so as to broaden the RMB acceptance; enhancing monitoring of foreign investment on the domestic asset markets so as to avoid devastating impact due to concentration of international capital flows.

(15) Risk-based supervision should be strengthened, in particular on financial derivatives and its related entities. Stricter regulation should be on guarantee companies, pawn shops, lending companies, investment companies and other quasi-financial institutions so as to prevent long-term risks.

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