

Final Revision Notes

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1. CHAPTER 1: CHINA'S FINANCIAL SYSTEM - AN OVERVIEW

It gives an introduction to China's financial system history, the concept and symptoms of financial repression and some macro facts or ideas to recap.

• What is Financial Repression?

Dr. Mi Lin's answer in assignment 1: Financial repression describes a situation in which governments use any measure to channel funds to themselves that, in a free market (a deregulated market environment), would go elsewhere.

My answer in assignment 1: Financial repression means that governments employ regulations, laws and other non-market restrictions to prevent the financial intermediaries from operating normally in accordance with market laws, so as to concentrate more funds for state sector (Riedel et al., 2020).

• How does financial repression operate in China? (Extra question)(See assignment 1 Q1)

By maintaining the monopoly of state-owned banks, the government ensured that the bulk of the country's financial resources flowed to state-owned enterprises.

The dominance of state-owned banks is protected by: 1. limited entry of domestic and foreign private banks, 2. PBoC controlled interest rates, 3. relative high reserve requirements, 4. strict control of capital flows. **Why interest rate control? US also has Fed to control interest rate**

What happened is that credit allocation is heavily influenced by political factors rather than by commercial motives. The private sector has limited access to external finance through the financial system, meanwhile SOEs can get easy loan from SOBs.

In view of households, it shows the low and now negative real return on deposits (nominal interest rate minus inflation rate), expanding differential between the nominal interest rate households receive on savings deposits and the rate of consumer price inflation and implicit tax imposed on households by the decline in the real return on savings deposits (and also lending rates) (Lardy, 2008).

Corporates especially SOEs benefit from financial repression through low real interest rate on loans. Most loans go to firms not households.

Banks also enjoy implicit tax on households. Although PBoC raised benchmark interest rates in 2007, the benchmark rate on demand deposits was unchanged, and many households saved in form of demand deposits, so banks can still take advantage of low real saving rate.

Here SOBs get cheap deposits and make easy loans to SOEs. When top executives are confronted with political mission and financial mission, they mainly prefer the former; For SOEs, there is a soft budget that leads to NPL; For SOBs, the agent problem and moral hazard problem which allow them to not be accountable for losses result from loans extension and low level credit evaluation. Private sector rely on internal and informal financing such as retained earnings, trade credit and private loans. Such credit discrimination lowers the efficiency of financial system.

Interest rate controls: Artificially low benchmark interest rates with inflation gives less return to household but lowers the cost of capital and threshold of investment for corporation.

Like Hukou, the misallocation of labour, repressed financial system is to be blamed for misallocation of capital, lower the total factor productivity (TFP), GDP growth, capital formation

and accumulation. It damages economic efficiency when some higher return projects in private sector cannot be external financed, but waste in some low value projects in SOEs.

However, in another side, the corporate sector especially SOEs is subsidized by low interest rate environment and exchange rate undervaluation which stimulates export. Be fueled by low cost of labour provided by liberalization of Hukou system and development of large-scale higher education system, they contribute a lot to economy growth (or productivity growth? That's why China becomes world factory but has low level of domestic consumption, the savings of household subsidize corporate investment and real estate market). So the banking sector acts as a giant redistributive mechanism to transfer savings from the private sector to finance the investment and social obligations of the state sector.

• **What are the symptoms of Financial Repression?** (Example in China in assignment 1 Q1)

Xu (2018) argues that a repressed financial sector discourages both saving and investment because the rates of return are lower than what could be obtained in a competitive market, financial intermediaries do not function at their full capacity and fail to efficiently channel savings into investment, thereby impeding the sustainable development of the overall economy.

What's the meaning of those indicators here in p15?

In slide, Prof. Siukee Wong shows inefficiency of the financial system as a result of financial repression:

- SOEs get easy loans despite some of them are not credit-worthy and end up with a large stock of non-performing loans.
- Stock markets are not efficient in that prices and investors' behavior are not necessarily driven by fundamental values of listed firms but political factors. (Plus poor minority investor protection, imperfect regulation and insider trading and manipulation)

• **Why financial repression might lead to inefficiency of the financial system in China?**

Ten macro factors: 4, 6 and 8, why? why full employment?

- Misallocation of capital;

2. CHAPTER 2: NATIONAL INCOME AND GROWTH ACCOUNTING

• **Growth accounting: formulas and interpretations.**

- From Soviet system of National Material Product (NMP) to United Nation's System of National Accounts (SNA) in 1995, it shows the transition process from planned economy to market economy and pay more attention to intangible products
- All four approaches to measuring GDP: Expenditure (use), Income, Value of final goods and sales, Value-added approach.
- Some key indicators: Nominal GDP, real GDP, purchasing power parity PPP GDP, GDP Deflator.

• **Using growth accounting to understand China's growth over time.**

In macro, $Y = C + I + G + NX$ (where $X - M$)

In Solow Growth Model (Solow, 1956), sources of growth are physical-capital input, labour input, human-capital input, total-factor productivity TFP including structural reform, labor migration from primary sector and exogenous trend.

$$Y_t = A_t K_t^\alpha L_t^{1-\alpha} \quad A_t = A(0)e^{at} \quad K_T = \sum_{t=0}^T (I_t - \delta K_{t-1})$$

$$\log(Y) = \log(A(0)) + \alpha \log(K) + (1 - \alpha) \log(L) + at$$

$$dY/Y = \alpha(dK/K) + (1 - \alpha)(dL/L) + dA/A$$

Labor productivity, in particular, measures production efficiency.

3. CHAPTER 3: INVESTMENT

•Identify investment and its components



FIGURE 1. Investment: new plant or property (including residential housing for residential fixed investment) and equipment (but excludes land for business fixed investment) as well as software development and inventory accumulation in flow investment

Comparing to US, China has larger share of investment in GDP, disproportionately larger residential, government, and inventory investment categories investment. non-residential investment makes up the lion's share in both countries.

•What is the ICOR ratio? How to use it to understand investment in China?

What's the meaning of p3 point3? Tobin's Q in p7, what's the difference btw two variables?

ICOR (incremental capital output ratio) indicates the additional unit of capital or investment needed to produce an additional unit of output, shows diminishing returns to investment.

Suppose investment or capital input K is a function of output Y , we have $K = f(Y)$ and take first derivative, $dK = \Delta f(Y)/\Delta Y = \text{investment flow in year } t / \text{change in GDP or increase of output during year } t$. It avoids the difficulties of measuring the capital stock. It is negatively related to GDP growth, positively related to capital-output rate, how?(Walters, 1966)

$$\frac{dK}{dY} = \frac{dK}{K} \frac{Y}{dY} \frac{K}{Y}$$

$$\log\left(\frac{dK}{dY}\right) = \log\left(\frac{dK}{K}\right) - \log\left(\frac{dY}{Y}\right) + \log\left(\frac{K}{Y}\right)$$

$$\log(ICOR) = \log \begin{bmatrix} \text{Growth} \\ \text{rate of} \\ \text{capital} \end{bmatrix} - \log \begin{bmatrix} \text{Growth} \\ \text{rate of} \\ \text{output} \end{bmatrix} + \log \begin{bmatrix} \text{Capital-} \\ \text{output} \\ \text{ratio} \end{bmatrix}$$

Here China has a increasing ICOR, it means more units of investment are needed to generate one additional unit of output, presents diminishing return to capital.

Investment counts for a large portion of GDP in China, a significant share of investment in China is determined by the government since gov controls virtually all financial intermediation especially the four major SOBs, policy banks, and SOEs, so Chinese gov is the biggest lending and investment decisions maker in the market. And Chinese gov trends to over-invest to implement counter-cyclical policy to restore the economy in bad years when higher default risk and lower NPV discourage market-oriented investment, by loosening the credit constraints and encouraging local governments and SOEs to borrow to invest.

But due to a higher ICOR, investment has less power as a tool to stimulate and sustain economic growth.

•How is investment fund allocated in a financially repressed economy?

At the financing (lending) end, through its control of virtually all financial intermediation, especially its control of lending decisions by the four major banks, the government has been the ultimate decision maker in the level, patterns, and types of investments. Profitability is not the main objective of financial institutions. There is an absence of competition among financial institutions. Lending and borrowing rates are not determined by market conditions, but rather by other criteria, e.g., a social objective.

At the industry (decision- making) end, control over the real economy and investment at the firm and industry level. China's central government has, at times, felt the need to directly control investment spending in the aggregate and, at other times, in specific industries in which a perceived overinvestment (bubble) is occurring. The government accomplishes this by restricting specific industries to specific levels of investment.

Under a financially repressed system, one does not see the usual supply curve of loanable funds. Rather we see, for example, interest rate ceilings below the equilibrium level and rationing of credit (investable funds) to select borrowers.

●What are interest rate ceiling and credit rationing?

In a neoclassical framework, the supply of loanable funds and the demand for capital (based on capital's marginal product) will determine an equilibrium level of capital and its price (i.e., opportunity cost of capital). A binded interest rate ceiling set the interest rate under the equilibrium level to fund investment at low cost. Since a low level of interest rate will attract more demand for capital than supply, rationing of credit will limit the accessibility of fund and channel capital to select borrower, usually the SOEs.

●What happen if the government usually asks the banks to remove credit rationing and loosen their credit policies?

Investment behavior will be more market-oriented, more profitable companies and projects that were previously excluded from government policies can get loans. The financial capital market can serve economic growth and capital circulation more comprehensively and effectively, and facilitate the development of previous underinvested non-state sector. But the easy access to credit may lead to higher degree of overinvestment and credit (default) risk.

4. CHAPTER 4: CONSUMPTION AND SAVING IN CHINA

●Theory and stylized facts of consumption and saving in China

see slide.

●Determinants of personal consumption and saving behaviour in China

In China, high household saving rate 30-40 percent, US around 10 percent, increasing disposable income and saving.

Permanent Income Hypothesis: More modern theories emphasize savings in its role as smoothing consumption. In other words, savings act as a buffer to either unanticipated shocks to income or anticipated long-run changes in income. according to Friedman's permanent income hypothesis (PCH) Temporary changes in income have a smaller impact on consumption than do permanent changes, the worse the foreseeable future, the higher the interest rate, people are more inclined to save.

Life Cycle Theory of Saving: In Modigliani's life cycle hypothesis (LCH), an individual recognizes three ages of man — youth, working age, and retirement. Before retirement, we save money; during retirement, we dissave. Age distribution and the dependency ratio can determine saving rate.

Liquidity & Borrowing Constraints: Liquidity constraints represent the inability to convert wealth into purchasing power with ease, for example, from penalties for early withdrawal from time deposit. Borrowing constraints represent the inability to borrow in the capital market.

Under these constraints, individuals consume up to their current income in contrast to consuming up to their wealth. These constraints are more likely to occur in developing economies

where capital markets are undeveloped. o Liquidity or borrowing constraints tend to raise the saving rate. In particular, individuals must save for the down payment or purchase price of these items in the absence of a financing option. Purchases may not occur which reduces consumption and increases the savings rate.

So if people less likely to borrow, they are more likely to save.

●**Why aggregate saving rate is high in China?**

1. High Household Saving in China.
2. High Corporate Saving in China.
3. High Government Saving in China.

5. CHAPTER 5-6: PUBLIC FINANCE, FISCAL POLICY AND MACROECONOMIC CYCLES

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