北京师范大学系统科学学院
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The Inherent Hierarchy of Money

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Hierarchy of Financial Instrument

- Always and everywhere, monetary system are hierarchical.

- To distinguish money(the means of final settlement) from credit (a promise to pay money, or means of delaying final settlement).

- A monetary system under a gold standard.

A Simple Hierarchy

Money	Gold	------------→	Ultimate international means of payment
↑	Currency	------------→	A form of credit (promise to pay gold)
↑	Deposits	------------→	promise to pay currency on demand
Credit	Securities	------------→	promise to pay depositing

- Where is the dividing line between money and credit?
- For Banks（ 19 century ）:

A Simple Hierarchy

	Money	Gold	Ultimate international means of payment
Money	↑	Reserves	A form of credit (promise to pay gold)
Credit	↑	Deposits	promise to pay currency on demand
	Credit	Securities	promise to pay deposit

- Where is the dividing line between money and credit?
- For ordinary people:

A Simple Hierarchy

	Money	Gold	-------------→	Ultimate international means of payment
Money	↑	Currency	-------------→	A form of credit (promise to pay gold)
	↑	Deposits	-------------→	promise to pay currency on demand
Credit	Credit	Securities	-------------→	promise to pay deposits

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- The point to hold on to here is that what counts as money and what counts as credit depends on your point of view, which is to say that it depends on where in the hierarchy you are standing.

- Treating currency and high-powered money as synonyms, but they are not actually the same thing.

- High powered money includes not only currency but also deposits at the central bank(Reserves).

- Bank deposits and some deposit-like things are different.

- Securities encompassing promises of various maturities, credit quality, and so forth.

Hierarchy of Financial Institutions

- Focusing on the relationship between the various financial institutions that issue those instruments.

The Hierarchy in Balance Sheets

Central Bank		Banking System		Private Sectors	
Assets	**Liabilities**	**Assets**	**Liabilities**	**Assets**	**Liabilities**
Gold	Currency	Currency	Deposits	Deposits	Securities
				Securities	

- The difference between gold and other forms of money is the difference between “outside” money and “inside” money.
- Currency as outside money because they aggregated only over the private economy, not including the government sector.
- In this paper, all financial assets will be inside, including currency.

Gurley, J. G. and Shaw, E. S. (1960) Money in a Theory of Finance, Washington, D.C.: The Brookings Institution

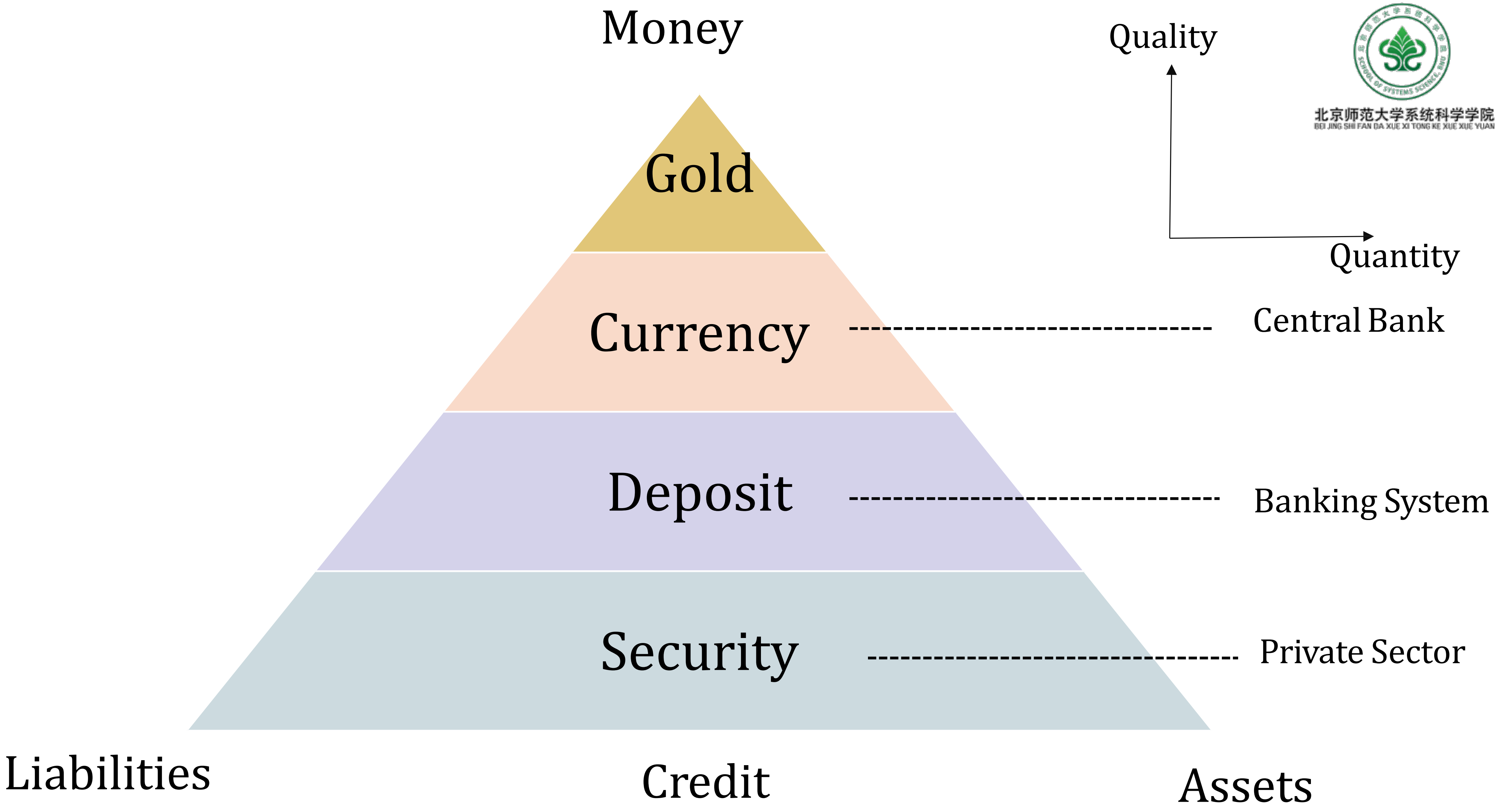

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Figure 1: The Hierarchy of Money and Credit

Dynamics of Monetary System

- The hierarchy is dynamic
  - Expansion and contraction of the quantity of credit-at each level of the hierarchy, there is fluctuation in both assets and liabilities.
  - The fluctuation of the quality or "moneyness" of any given type of credit.

Business Cycle

- Expansion-irrational exuberance
    - The qualitative difference between credit and money becomes attenuated.
    - Credit expands wile the hierarchy flattens.

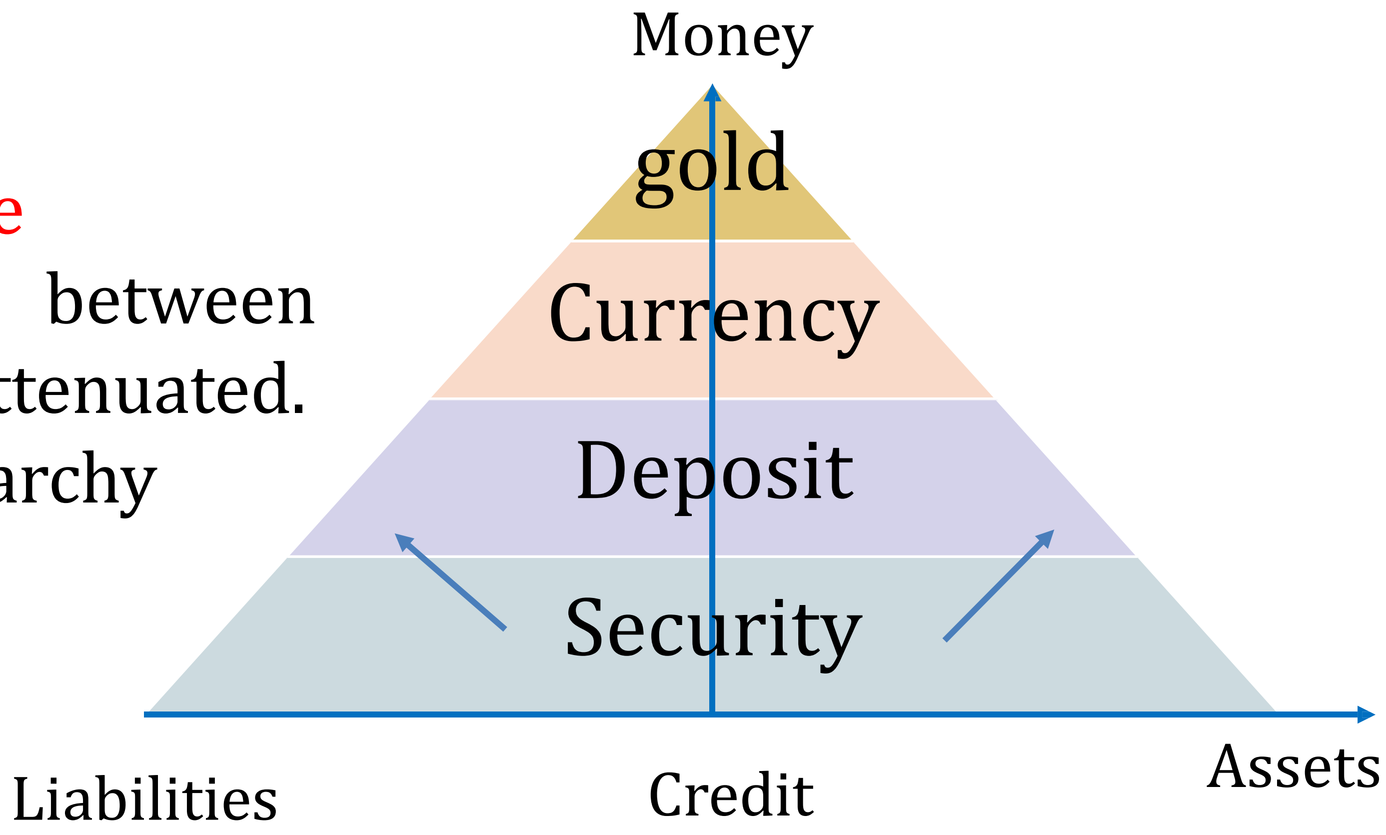


Figure 2. Expansion Mode

- Contraction-financial crisis
  - The distinction between more money-like and less money-like forms of credit is re-established.
  - Credit contracts while the hierarchy steepens.

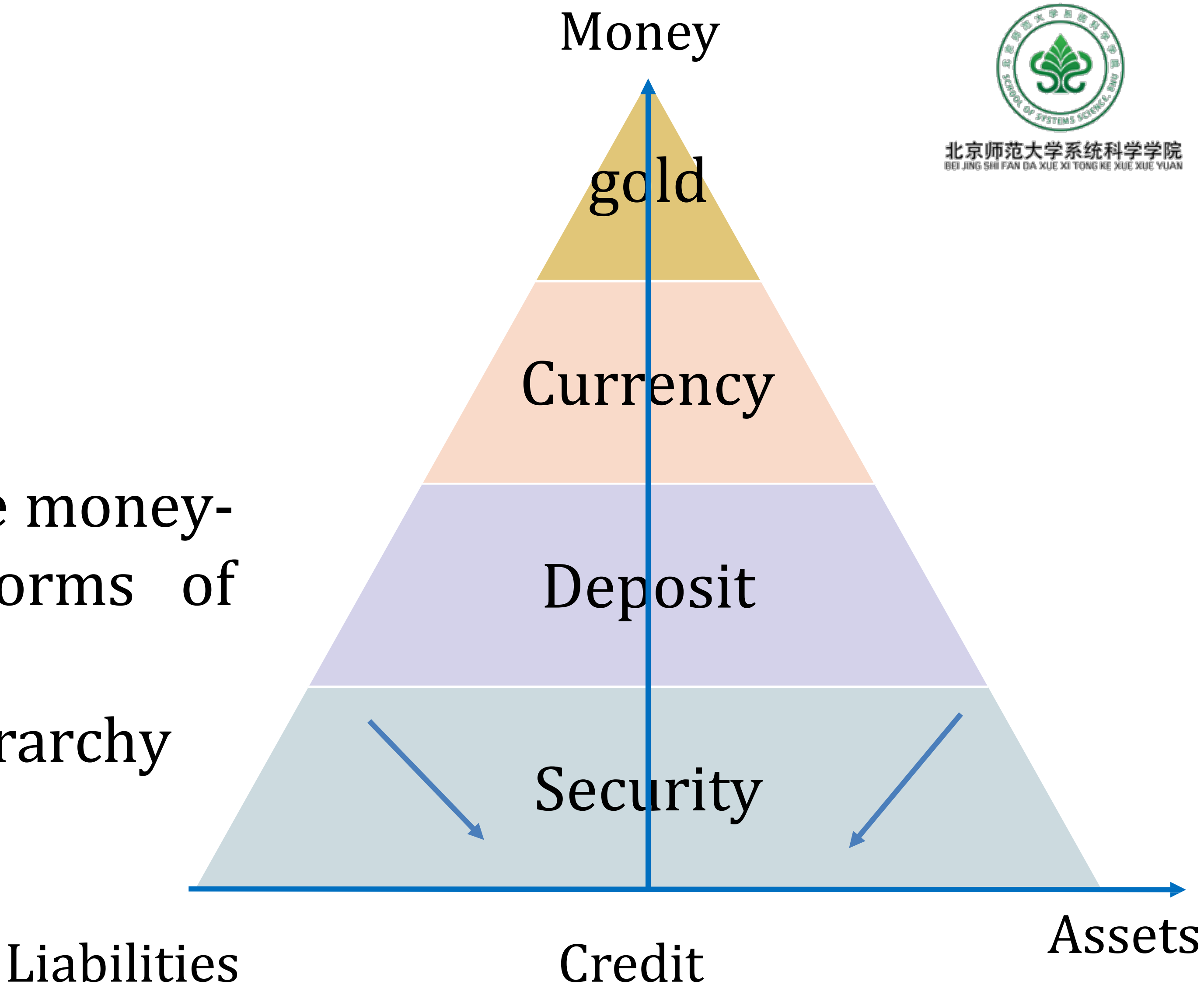
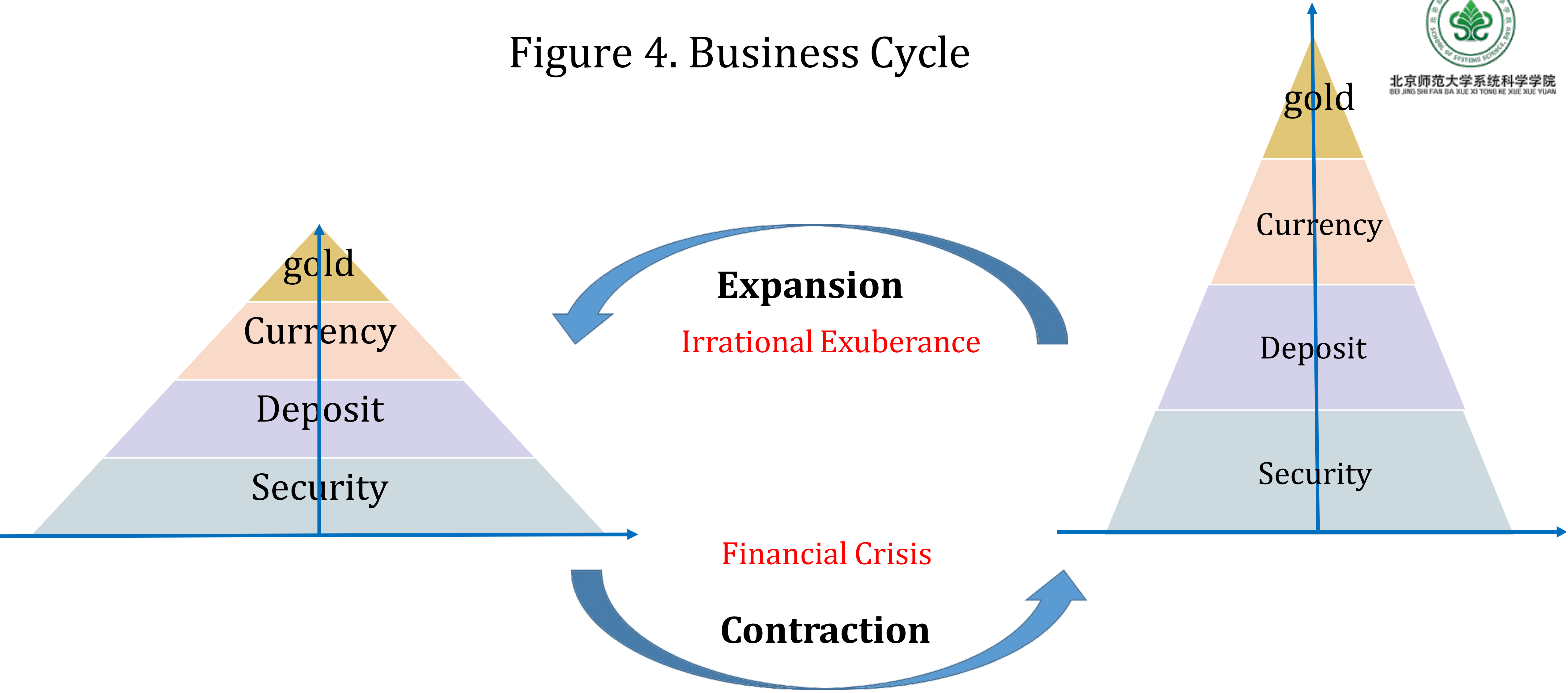


Figure 3. Contraction Mode

Figure 4. Business Cycle



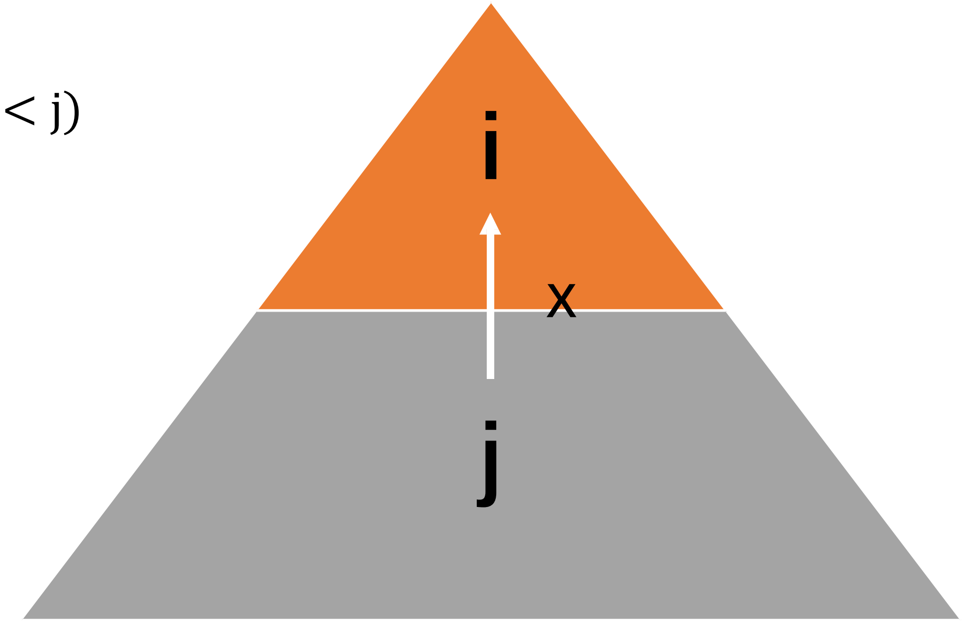
- The fluctuation as involving a swing from one extreme to another, from scarcity to elasticity and back again.
- The monetary system can be characterized as a shifting balance these two aspects of the system.

The scarcity of (ultimate) Money $\longleftrightarrow$ Currency Principle

The elasticity of (derivative)Credit $\longleftrightarrow$ Banking Principle

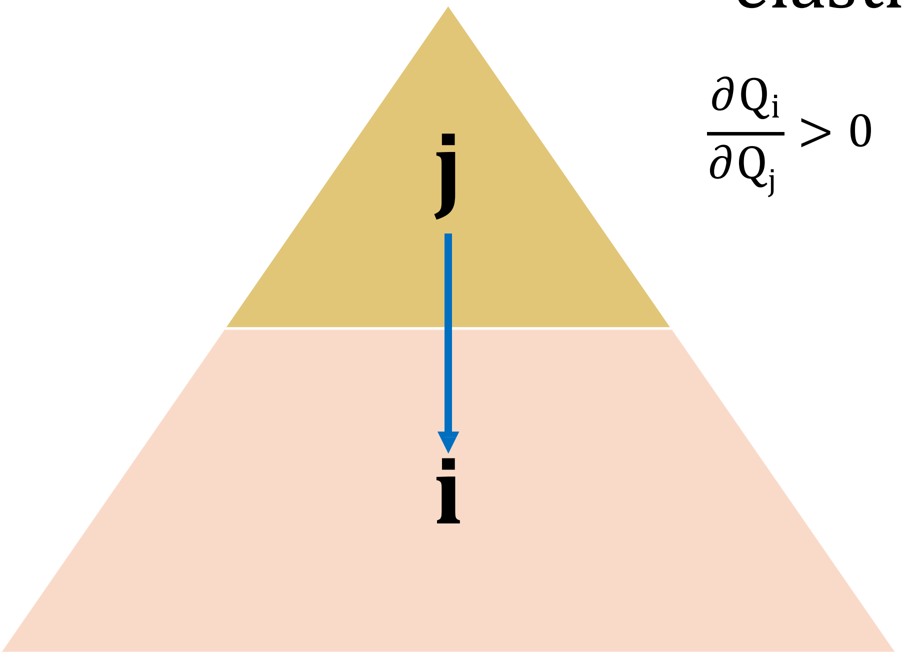
scarcity

$$\frac{\partial Q_i}{\partial Q_j} = 0 \quad (i < j)$$



elasticity

$$\frac{\partial Q_i}{\partial Q_j} > 0 \quad (i > j)$$

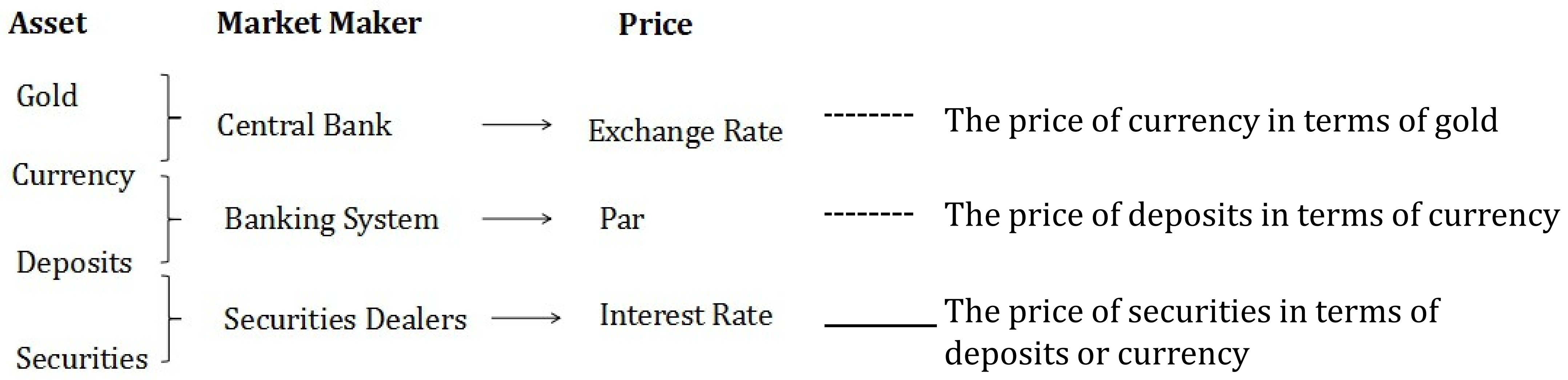


- This balance of discipline and elasticity applies to banks and other institutions.

Hierarchy of Market Makers

- For each market maker, there is an associated instrument and price of money.
- These prices are the quantitative link between layers of qualitatively differentiated assets.

Figure 5. Simple Hierarchy of Market Makers



Understanding “Inherent”

- A security dealer is a kind of market maker.
- A security dealer stands ready to buy or sell a security at a given price in terms of money.
- Banks as a special kind of security dealer that stands ready to buy or sell a deposit at a given price in terms of currency.
- Central bank stands ready to buy or sell currency in terms of gold.

Conclusion

- Solvency challenges and liquidity challenges can easily arise in the normal contraction fluctuations of the hierarchy.
- For the liquidity crisis, higher levels of the system can generally solve the crisis of levels below them.

Lender of last resort

- Monetary policy as an attempt by the central bank deliberately to manage the dynamic fluctuation of the system.

- The central bank deliberately intervenes, in any number of ways, in the dynamic process driving the fluctuation of the hierarchy between the extremes of scarcity and elasticity.

- Central banks using their position at the top of the hierarchy to manage the inherent instability of credit.

Case Analysis

- In the case of the Covid-19 epidemic, the US implement quantitative easing policy. According to the paper, such a policy could increase the amount of reserves and thus alleviate the severe economic situation.

- But the truth is that even if the amount of high-power money at the top increases, it does not increase the amount of credit at the bottom.→ the loss of elasticity.

- The source of liquidity is commercial bank deposits rather than central bank high-power money.

Mainly Citing Papers:

Pozsar, Z. (2014). Shadow banking: The money view.

- This paper presents an accounting framework for measuring the sources and uses of short-term funding in the global financial ecosystem.

- The hierarchy of money
- The hierarchy of Access
- The hierarchy of uses
- Thea dealer Eco-system
- The macro perspective

Pozsar, Z. (2014). Shadow banking: The money view. Available at SSRN 2476415.

Mainly Citing Papers:

Michell, J . . (2017) . Do shadow banks create money? ‘financialisation’ and the monetary circuit.

- There have been few serious attempts to analyse the shadow banking system from the point of view of monetary economics.
- Graziani’s theory of the monetary circuit (1990; 2003) provides an analytical framework which can be used as the basis for such a task.

Michell, J. (2017). Do shadow banks create money? ‘Financialisation’ and the monetary circuit. Metroeconomica, 68(2), 354-377.

Mainly Citing Papers:

Michell, J. . (2017). Do shadow banks create money? 'financialisation' and the monetary circuit. Metroeconomica.

- The statement that shadow liabilities are money is not immediately valid from a circuitist perspective the liabilities issued by the shadow banking system are near-monies.

- Shadow banks are reliant on traditional banks for the endogenous expansion of credit, while traditional banks rely on the shadow banks as a storage facility for credit claims which exceed the capacity of traditional bank balance sheets.

Michell, J. (2017). Do shadow banks create money? 'Financialisation' and the monetary circuit. Metroeconomica, 68(2), 354-377.

Mainly Citing Papers:

Pitrou, C. . (2018). Graph representation of balance sheets: from exogenous to endogenous money.

- The system based on commodity money are incompatible with credit.
- A visual explanation about how commercial banks are responsible for endogenous money creation whereas the Treasury and the central bank are in charge of the total money of net money.
- An analogy between systems based on gold convertibility and currency pegs to show that fixed exchange rates can never be maintained.

Pitrou, C. (2019). Graph representation of balance sheets: from exogenous to endogenous money. *Cambridge Journal of Economics*, *43*(2), 385-411.

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谢谢！