
Bond Market Seminar in Algeria

Introduction to Bond Finance

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Institute for International Monetary Affairs
Japan

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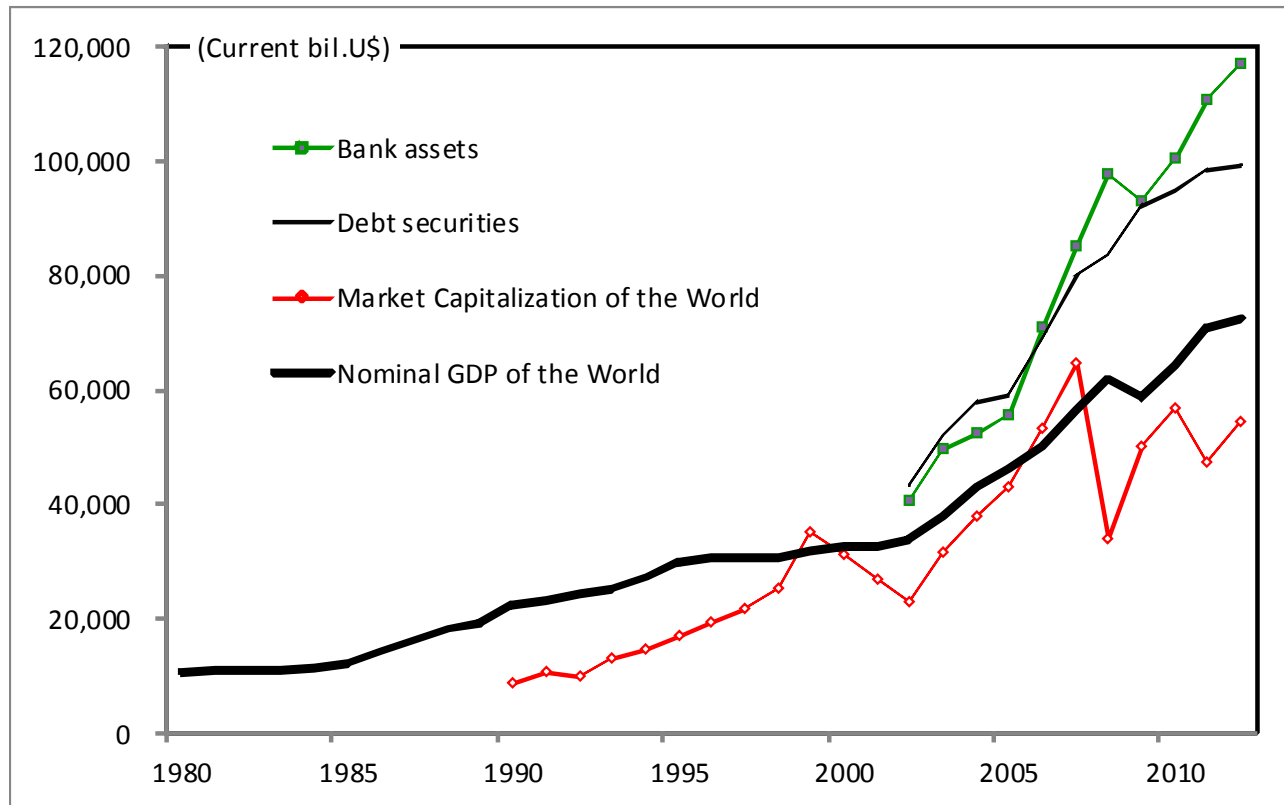
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1. World of Finance

(1) Whole Figure of World Finance

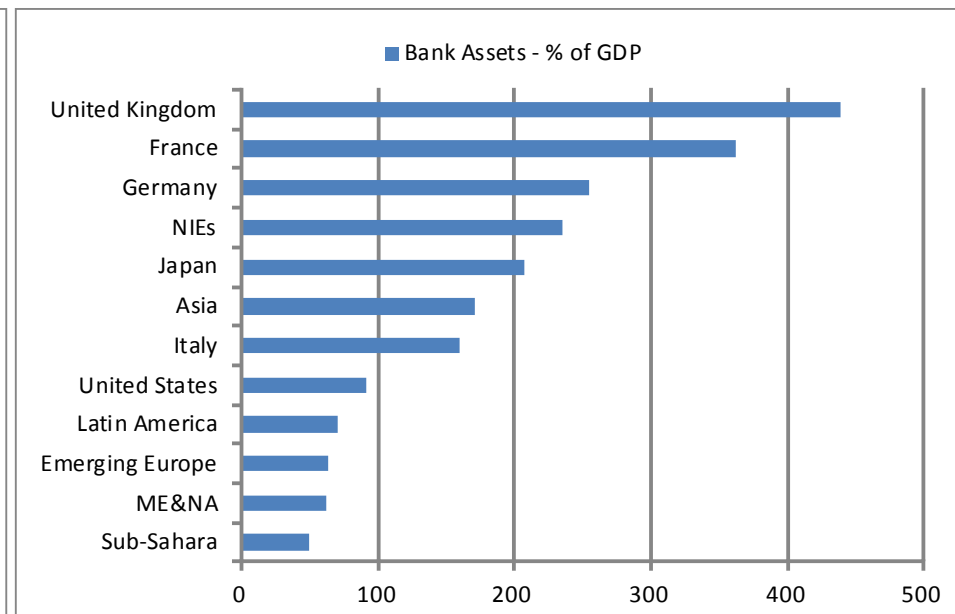
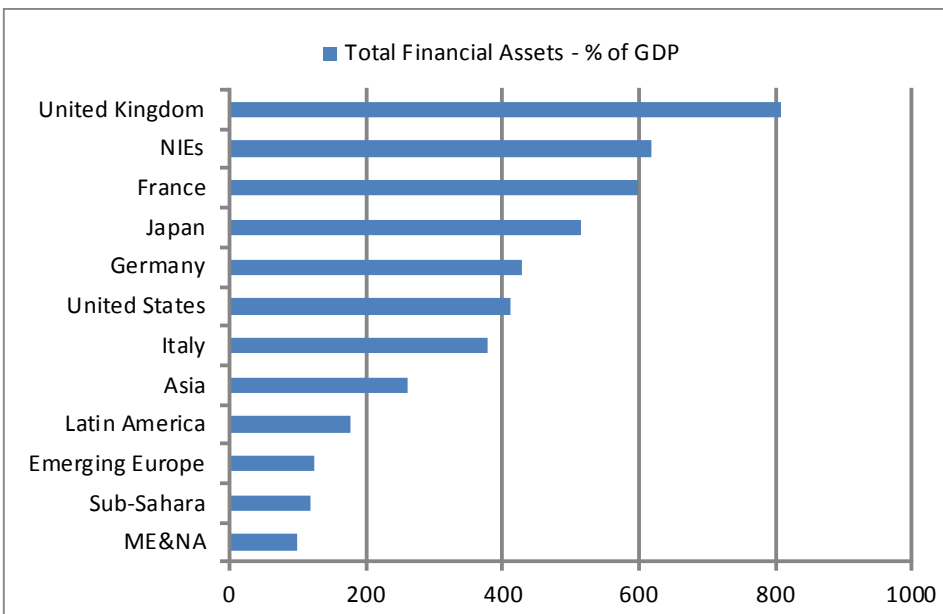
Although there are sometimes a shrinkage of equity assets due to price collapses, **financial assets in general tend to grow faster than real economy.**

Financial assets and Real economies
金融資産と実体経済



(Source) IMF, WFE

- **Advanced countries tend to have larger financial assets than emerging countries:**
as economy develops, wealth accumulates, economic governance develops, and confidence in financial system enhances, etc.
- **Among emerging countries, Asia has relatively large financial assets:**
work ethic, high savings rate, confidence in systems, etc.
- **In particular, bank assets in Asia is large compared to other emerging regions:**
Asia has a bank dominant financial system.



(Source) IMF, Global Financial Stability Report, April 2014

(2) Financial Structure Differs by Country

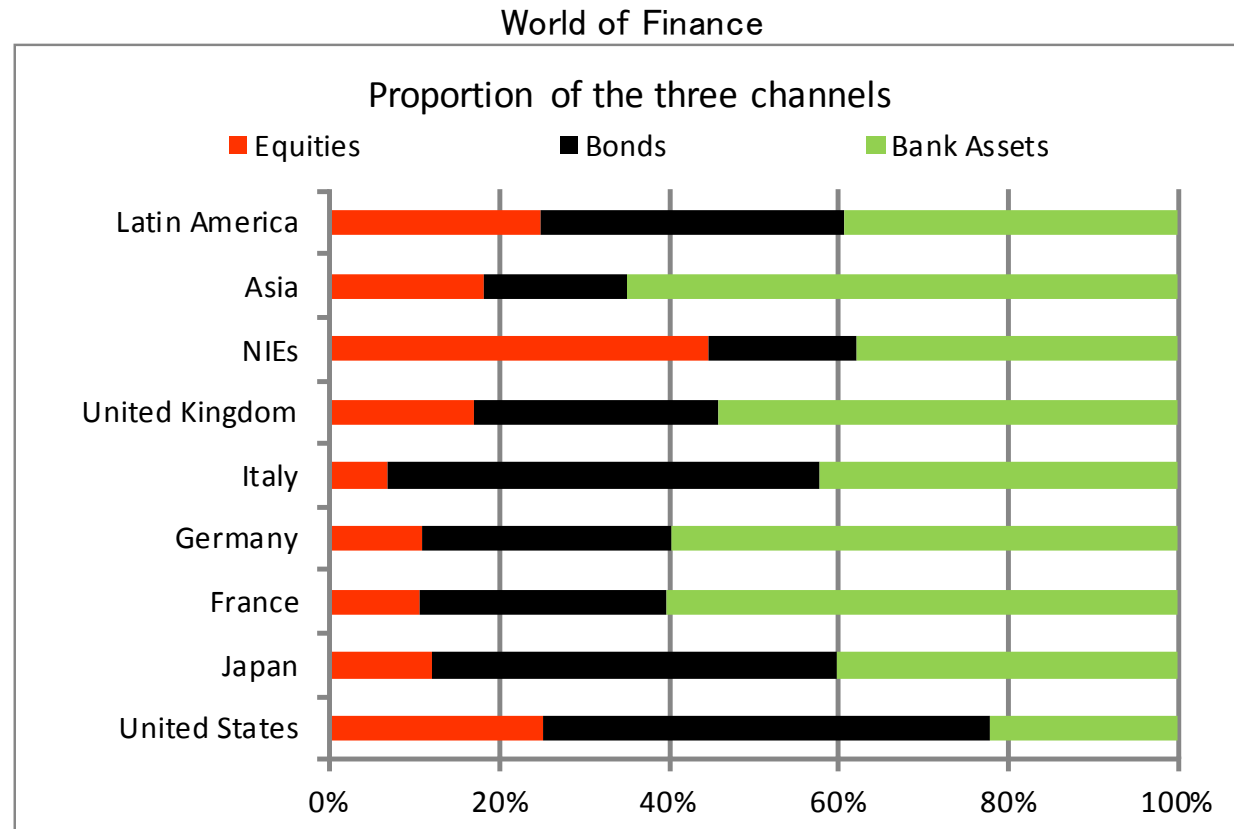
- Finance has typically three channels: (a) **Bank loans**, (b) **Bonds** and (c) **Equities**

Proportion of the three channels varies by country.

- **US** has comparatively small bank assets reflecting they have both the biggest government bond market and biggest corporate bond market in the world.
- **Japan** and **Italy** has a large bond markets, too. But it is mainly due to their large public debt finance.

- **NIEs** has large equity market mainly due to highly developed equities markets in **Hong Kong** and **Singapore**.

- Some think that bond and equity finance, **direct finance**, is a more progressive form of finance than bank loans, **indirect finance**. But it is not exactly a matter of progress but a matter how credit information is disclosed by debtors and collected and processed by creditors.



(Source) IMF, Global Financial Stability Report, April 2014

Flow of Funds

One of the most important statistics for analyzing financial status of a country is **Flow of Funds** that shows:

- (a) which sector of the real economy has financial assets
- (b) through which financial intermediary assets are transferred.
- (c) which sector of the real economy receives the money.

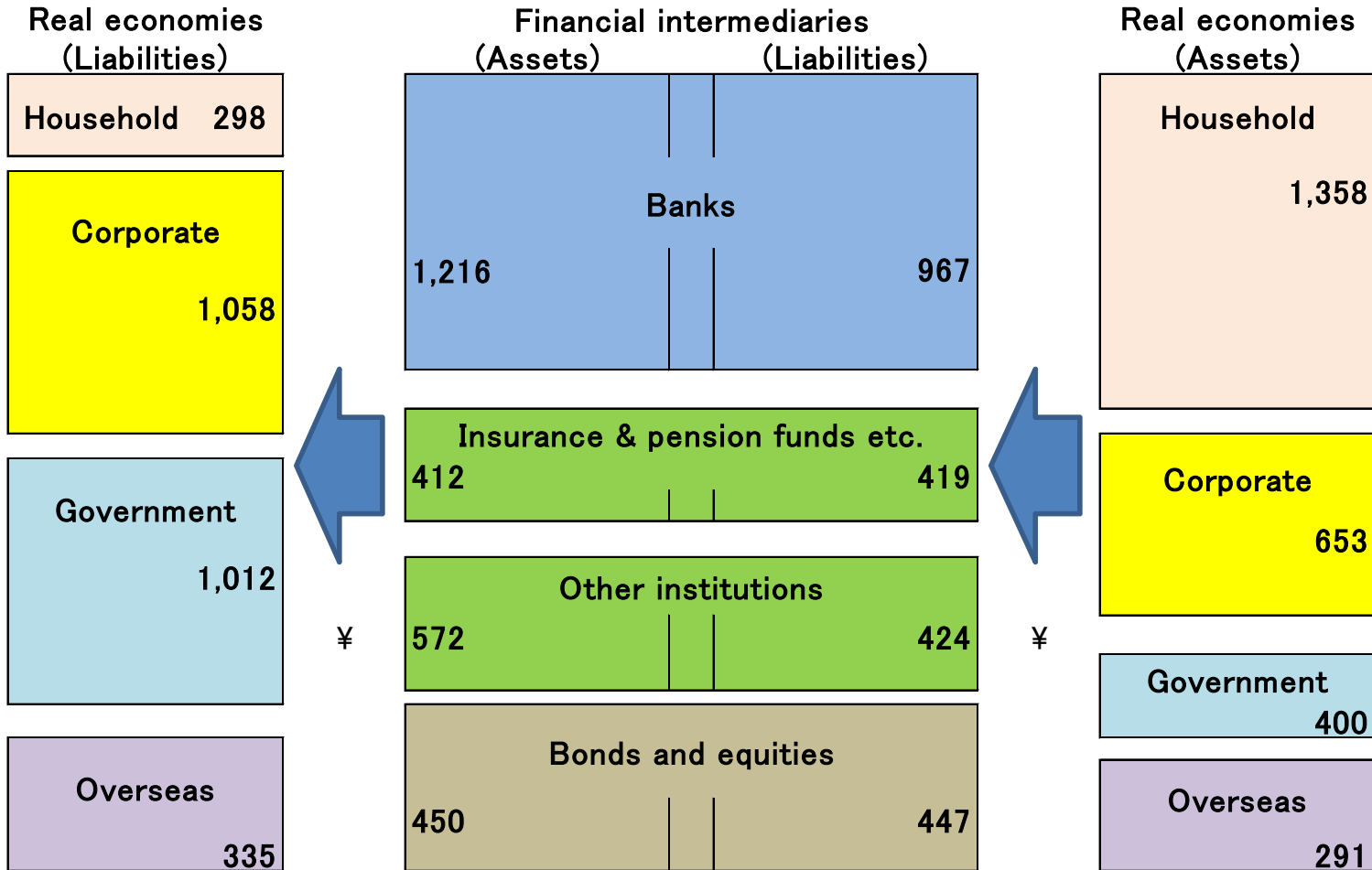
In general, **household is the largest financial asset holder.**

Especially in the early stage of financial system building, and economic development, it is crucial to attract financial assets of household into domestic formal financial system.

In general, **the largest borrower is corporate**, major driver of economic activity.

Flows of Funds of Japan (outstanding base)

Flow of Funds, Japan (tril.yen, end of 2010)

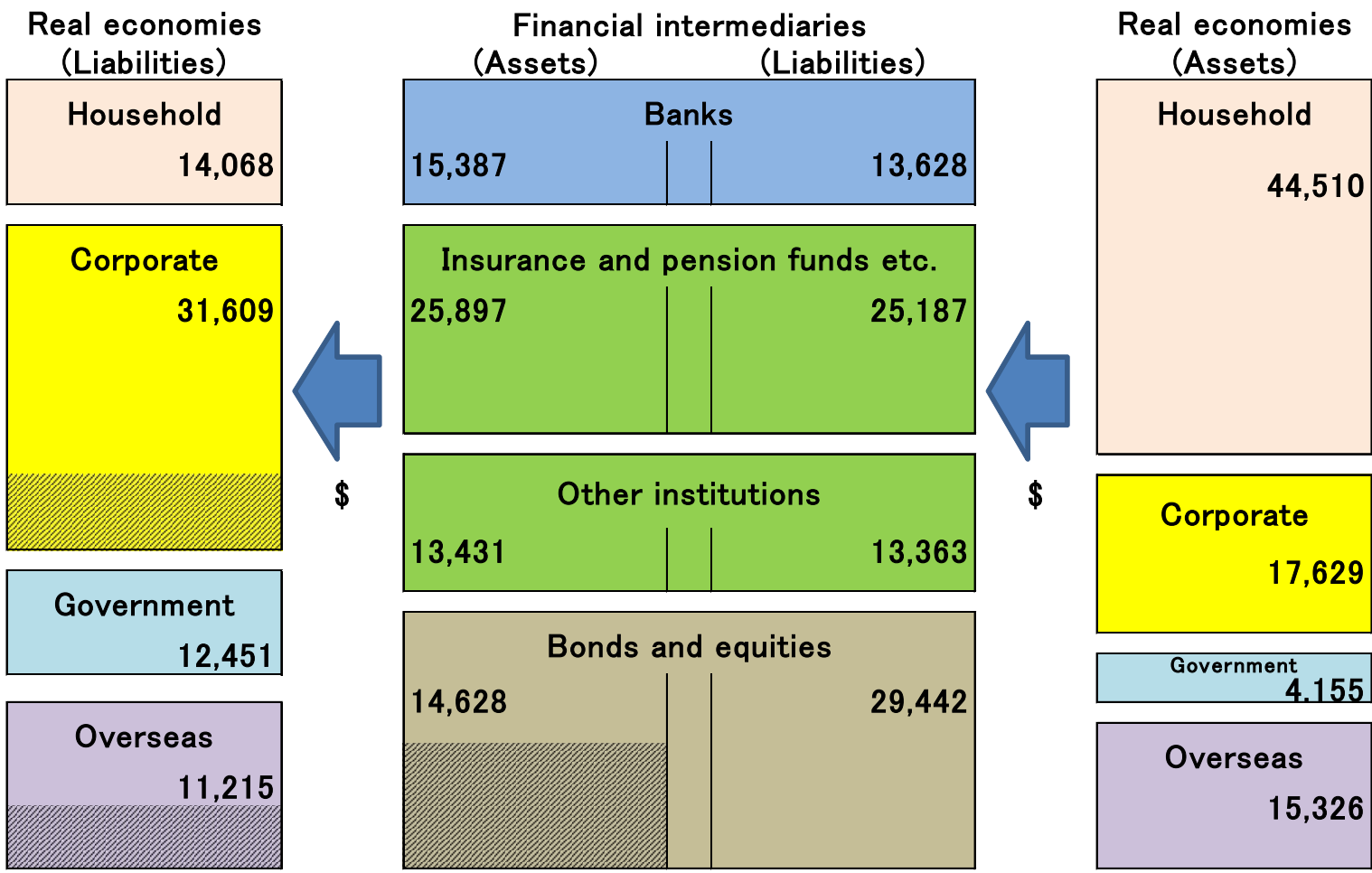


[Japan]

➤ Outstanding feature is the dominance of banks in the financial intermediaries.

Flows of Funds of U.S. (outstanding base)

Flow of Funds, US (bil.dollars, end of 2009)



[US]

➤ Banks' role is small while institutional investors and securities (papers) play a bigger role in financial intermediation.

What regulators need to pay attention in Flow of Funds:

Financial Intermediaries:

- numerous channels: banks, insurance and pension funds, bonds and securities.
 - good for risk diversification, but if they become excessively complex, it becomes more difficult to identify and cope with the problem in time of crisis.
- commercial banks are protected preferentially by deposit insurance and capital injection by the government because of the bank's fundamental economic functions; deposit taking and settlement.

(3) Bank Finance vs. Bond Finance

How bank finance works:

- A) banks collect deposits as a source of lending. If they can't collect enough deposit, they call money in interbank money markets.

- B) banks lend money to borrowers and traditionally banks keep the claim and monitor until maturity (the subprime crisis occurred when this basic role of bank was disregarded)

- C) regarding credit enhancement, following questions i–ii–iii need to be answered :
 - i. How the credit information of borrowers is collected and checked?
 - ii. If the credibility is not sufficient, how will banks try to enhance it?
 - iii. What would happen, if a borrower fails to pay?

In case of Bank Finance

i. How the credit information of borrowers is collected and checked?

Bank officers do it before lending and during lending until maturity date comes. It is called MONITORING. Usually a bank handles various financial transactions with borrowers so that it can grasp borrowers' financial situation on a daily basis.

ii. If the credibility is not sufficient, how will banks try to enhance it?

When the credit status of the borrower gets deteriorated, bank demands additional cash or other collaterals. Bank monitors each transaction of borrowers' deposits with them and can freeze the borrowers' deposits or force them to deposit more cash.

Banks are absolutely powerful in monitoring the borrowers₁₁

iii. What would happen, if a borrower fails to pay?

Bank runs to the borrower to seize and dispose any remaining assets of the borrower to recover the loss. If the bank fail to make a full recovery, they dispose it on their own capital.



If the loss becomes bigger than their capital, the government announces that the depositors are protected by the Deposit Insurance System and starts preparing for capital injection by using public funds.



If the government fails to act in time, the depositors run to the bank to withdraw their deposit. It is called BANK RUN.



If the government alone cannot cope, the IMF or a supranational union it belongs to (e.g. EU) will lend the government money for capital injection (e.g. Greece in 2010).

In case of Bond Finance

How bond finance works

- A) While a bank is an institution where many people work for bank finance, a bond is a paper on which a contract is written. Under that contract, investors and issuers agree on a money transaction.
- B) A company, if well-known for its credibility, can borrow larger amount of money by issuing bond at a lower cost than bank loans.
- C) Higher yield and higher liquidity are attractive points for investors compared to finances channeled by banks.
- D) Regarding credit enhancement, following questions i – ii – iii need to be answered:
- i. How the credit information of borrowers is collected and checked?
 - ii. How the credit of borrowers can be enhanced?
 - iii. What would happen, if a borrower fails to pay?

- i. How the credit information of borrowers is collected and checked?

A securities house, who originate a bond finance, ask a bond issuer to prepare a “prospectus of issuance”, that explains the credibility of the issuer so that investors can know necessary credit information before investment.

It is investors that are responsible for credit analysis. They are the ones to check the prospectus or any other public information of the issuers.

ii. How the credit of issuers can be enhanced?

It is possible to set up a collateral in bond as often seen in the case of asset backed bonds. But once a bond is launched, it is very difficult to obtain additional collateral.

Although investors are responsible to watch the credit of the issuer, investors can practically do very little to monitor the issuer.

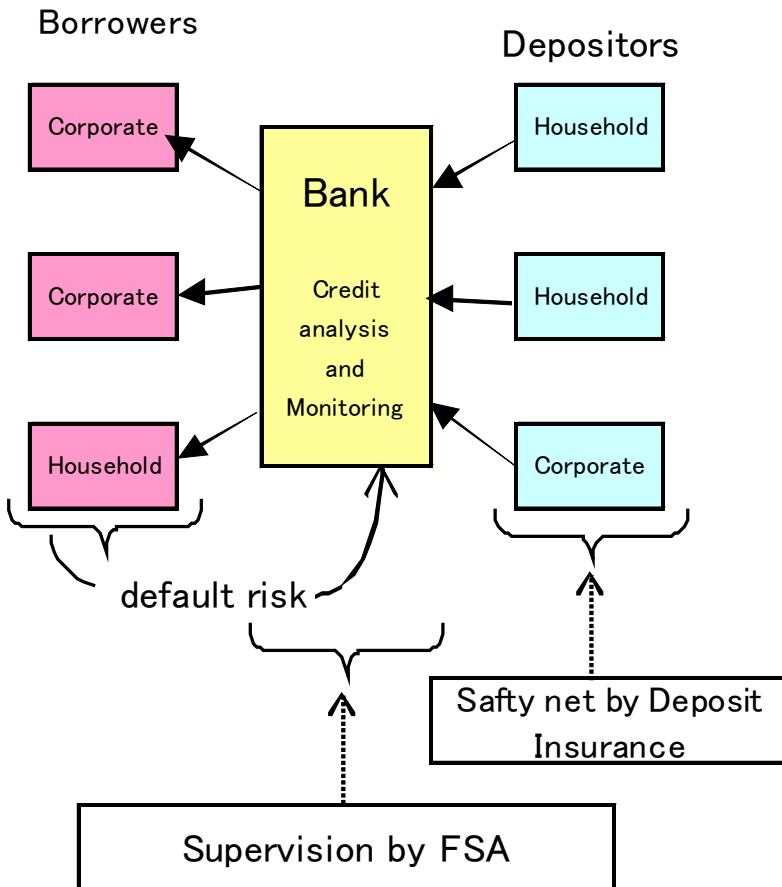
iii. What would happen, if an issuer defaults?

Default is a crucial damage for the issuer. They will be shut out of capital markets for new funding for a long time after that.

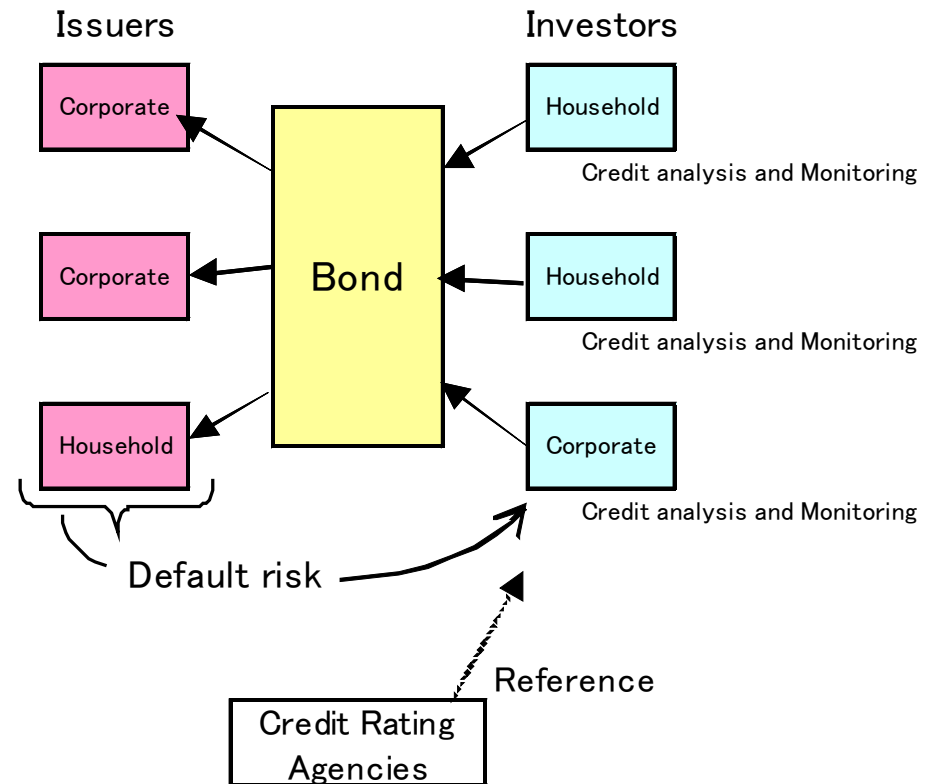
Investors suffer, also. There is no practical action that investors can take to preserve the value of their investment when the issuer defaults.

Bank finance and bond finance has a similar structure in a good times. But once debtors default, fundamental differences emerge on the surface.

Bank Finance



Bond Finance



(4) Government Intervention and Market Principles in Finance

Finance should be left to the private sector in market principles in most of the time. But governmental support sometimes is justified or even indispensable. What is such case?

(A) How far should a government support SME Finance?:

Case of Japan

(B) Quick Underwriting Measure in Korea(2000)

(A) How far should a government support SME Finance?:

Case of Japan

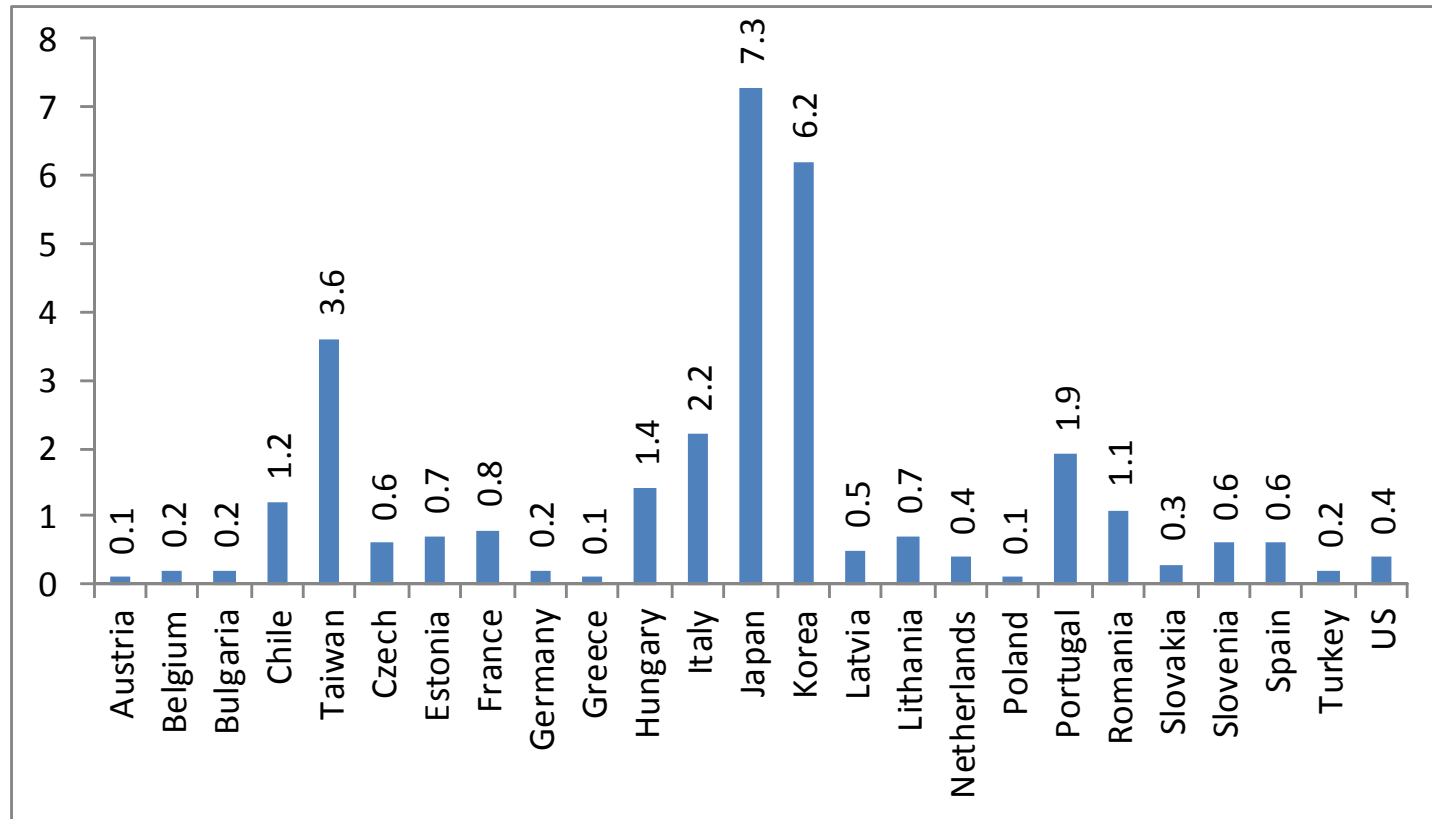
- SMEs play a special role in the economy of a country. They are the source of economic vitality and innovation. Because they are small, they can quickly change their business models by capturing instinctively the rising demand of the society.
- At the same time, the SMEs have a weakness in that they are vulnerable to the economic cycle because they often adopt unilinear business model.
- Leaving the situation to the market principle and having a large number of bankruptcy of the SMEs at every economic slump would incur a heavy cost to the whole society. Therefore, there should be public support to the SMEs. However, the issue is to what extent public funds can be infused for that.

How far should a government support SME Finance?:

Case of Japan

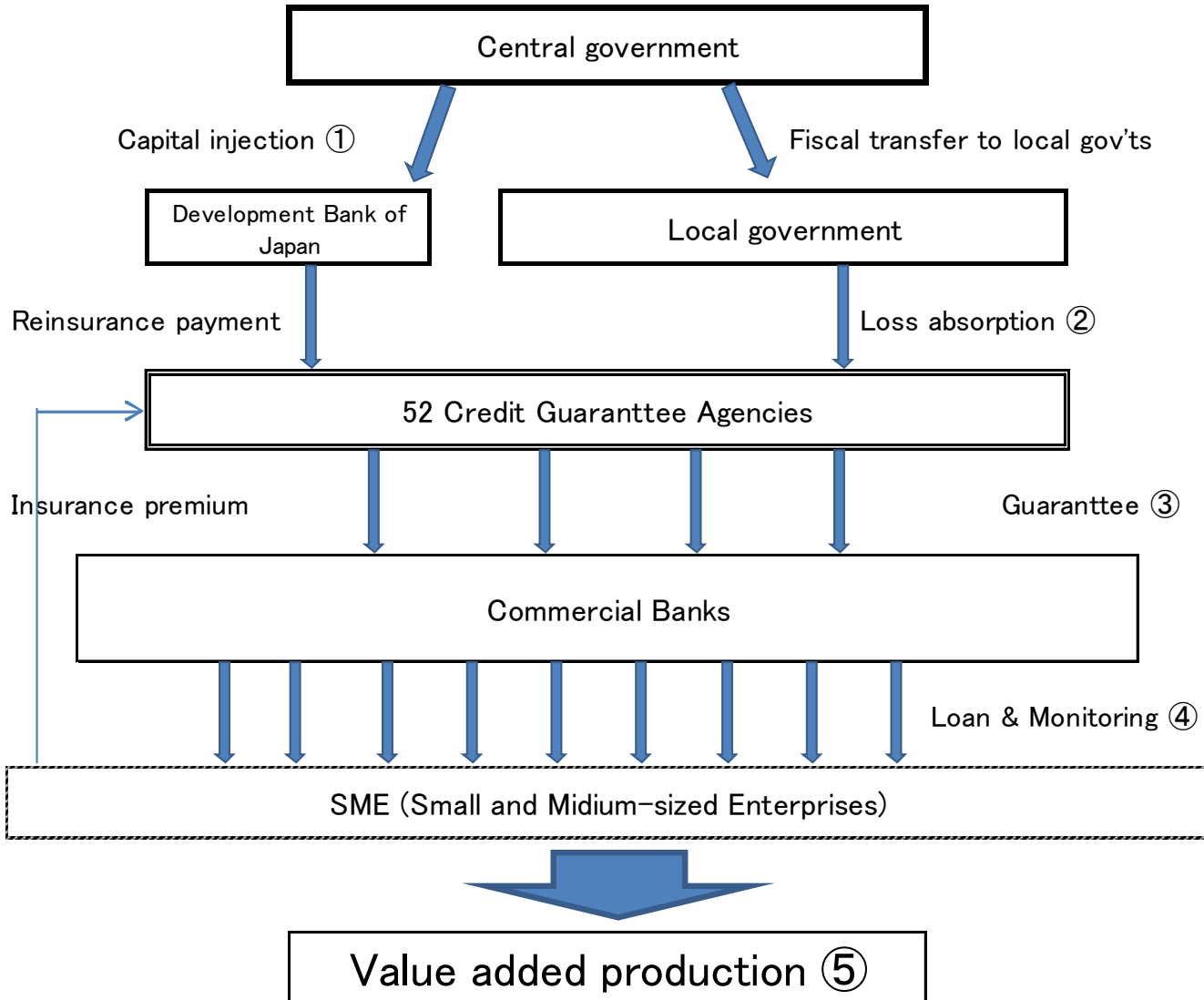
Government involvement in SME finance in Japan is quite large.

Volume of outstanding guarantees in portfolio, 2011
As a percentage of GDP



(Source) OECD

Cost and Benefit of Governmental Support for SME in Japan (2011)



| | |
|----------------|----------------------|
| ① | 1.04trillion yen |
| ② | 0.75 trillion yen |
| Cost | 1.79 trillion |
| ③ | 34 trillion yen |
| ④ | 227 trillion yen |
| ⑤ | 148 trillion yen |
| Benefit | 148 trillion |

(B) Quick Underwriting Measure in Korea(2000)

When bond-redemption risks began to spread in bond markets in 2001 following the Asian crisis of late 90's, Korea Development Bank (KDB) acted very quickly and effectively to maintain confidence in the markets under the instructions of the South Korean government.

The policy was called “Quick Underwriting Measure”. KDB played the core role as the underwriter to calm spreading concerns in bond markets.

Corporate bonds subject to the “Quick Underwriting Measure” had to meet the condition that 20 percent of those becoming due must be repaid by the issuers themselves, with the remaining 80 percent to be renewed and underwritten by KDB.

The corporate bonds of major South Korean companies were successfully renewed using this funding scheme, which helped avoid panic in the bond markets.

If it were not for the government's intervention, healthier companies might also be negatively affected damaging whole economy. Market sentiments needs to be dealt with fast and effectively.

It is important to note that development banks' efforts to recover market confidence always raise the issue of moral hazards for both creditors and debtors, who easily come to believe that the financial authorities will always rescue them in times of emergency.

Discouraging such moral hazard requires establishment of transparent criteria for the selection of businesses to be revitalized.

KDB set forth the following conditions for companies eligible for the "Quick Underwriting Measure", to discourage moral hazards.

- Companies must be facing temporary liquidity risks and problems caused by repayments of debentures with concentrated maturities, although they can refund 20 percent of debentures at maturity.
- Companies conducting workout or under legal control are excluded, as are good-credit-standing companies that can renew their bonds by themselves.
- Companies whose business reconstruction plans are deemed effective.
- The "Quick Underwriting Measure" underwrites renewed corporate debentures with a maturity of one year.

2. World of Bond

(1) Key Words and Key Actors

Key Words

| Words | Meaning |
|---------------------------|--|
| Coupon | Interest rate is called coupon in bonds. It is usually fixed interest rate. Coupon is usually paid semiannually. |
| Principle | Nominal amount of a bond. |
| Maturity | Due date when the principle amount and final coupon is paid. |
| Floating rate bonds | Also called Floating Rate Note (FRN). This is a bond whose interest rate is variable. |
| Discount or premium | Bonds are priced out of a hundred in full value. If the price is below 100, say 98.5, it is called “discount” and if the price is above 100, say 102.5, it is called “premium”. If the price is 100, it is called “per value”. |
| Yield to maturity (YTM) | It is an yield or a return for investors in case they buy it now and hold it until maturity. Yield to maturity depends on the size of the coupon and purchased value. If the remaining maturity is one year, coupon is 5% and purchased price is 98.5, YTM is $((100+5)/98.5-1)=6.59\%$ |
| Credit rating (or Rating) | Rating that describe the credibility of bond issuers. Rating agencies provide this service. Typically AAA is the highest rating and then becomes AA, A, BBB, BB, B, CCC, ...as credit status lowers. |

| Actors | Meaning |
|-----------------|--|
| Issuers | Those who issue bonds. Debtors or borrowers in bank finance |
| Investors | Those who invest bonds. Depositors in bank finance. The most important difference between investors and depositors is that investors are in charge of credit judgment and it is them who take a credit risk when debtors default, while depositors are not in charge of credit judgment and they are partly protected by a deposit insurance when debtors default. |
| Lead manager | The financial institution who originate a bond issuance for a company. In case of bank finance, it will be a loan officer. If the lead manager and underwriters can't place all of the issued amount in markets, the lead manager is responsible to invest all remaining bonds. |
| Underwriters | They will purchase directly from the lead manager newly issued bonds at launching and then they sell the bonds to investors. If they can't sell all, they hold the remaining bonds or sell back to the lead manager. |
| Custodian | They provide back office service such as cash payment, transferring bond holders, coupon payment, etc. |
| Rating agencies | They provide credit ratings to each bond or bond issuer. Ratings are credit information which most of investors rely on when they invest |

2. World of Bond

(2) How Bond Finance Starts

Start of bond finance is called **LAUNCH**. Different from bank loans, each launch is evaluated as success or failure by general market participants.

Success means well received by investors, and all issued amount is quickly sold out.

Success depends on two factors:

- **Appropriate pricing which appears on the yield spread of the bonds against benchmark bond, usually long term central government bond of the country denominated in the same currency.**
- **General sentiments of bond markets of the country. Although the pricing of the bond is appropriate, investors' appetite will subdue if the market sentiment is deteriorated due to e.g. a surprise announcement of monetary tightening by central bank.**

What is good pricing?

Appropriate pricing of bond is crucial for successful launching.

What issuers care is the cost of issuance. They are happier if the cost is lower. But too cheap funding cost will risk at bad perception of bond.

What investors care is the yield of bond. They are happier if the yield is higher.

