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Regulation is not something stable, when focusing on financial markets, where innovation is the reason of the process. It needs to be renovated continuously.

CRD = Capital Requirement Directive.

The Global financial crisis (2007-2008) was endogenous, it had something to do with the financial world, this means that something wasn't working in the FW.

SEC = Security and Exchange Commission.

Problem = Real Estate Market in the southern USA.

Core idea = Separation between "banking" and "markets" => different regulations.

We are living longer, and our retirement period is always shorter.

Changes in the last few decades:

- a. Demography pushes towards financial markets
- b. Equity is cool
- c. Technology makes it easy
- d. It's the globalization

Treasury bonds were the solution for allocating your savings, and they were performed by financial and equity markets.

Treasury bond = country's bonds, investors decide to invest on the country.

Financial markets in Europe = considered extremely dangerous.

So, they started investing abroad, this caused globalization. Globalization related to transportation, because you buy something from another country, without shipping costs.

Taiwan specialization in microchips, Japan was the leading country at the time, but they asked Taiwan to provide firms able to create those microchips.

The idea of globalization was something very positive for the financial market (portfolio diversification).

Interest rate swap = derivative

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If you are investing in traditional options (securities and stocks), you know how much you can lose. With more sophisticated items this risk increases, there is a leverage that makes you unable to see the end of the trend (you can lose a lot more than the original investment).

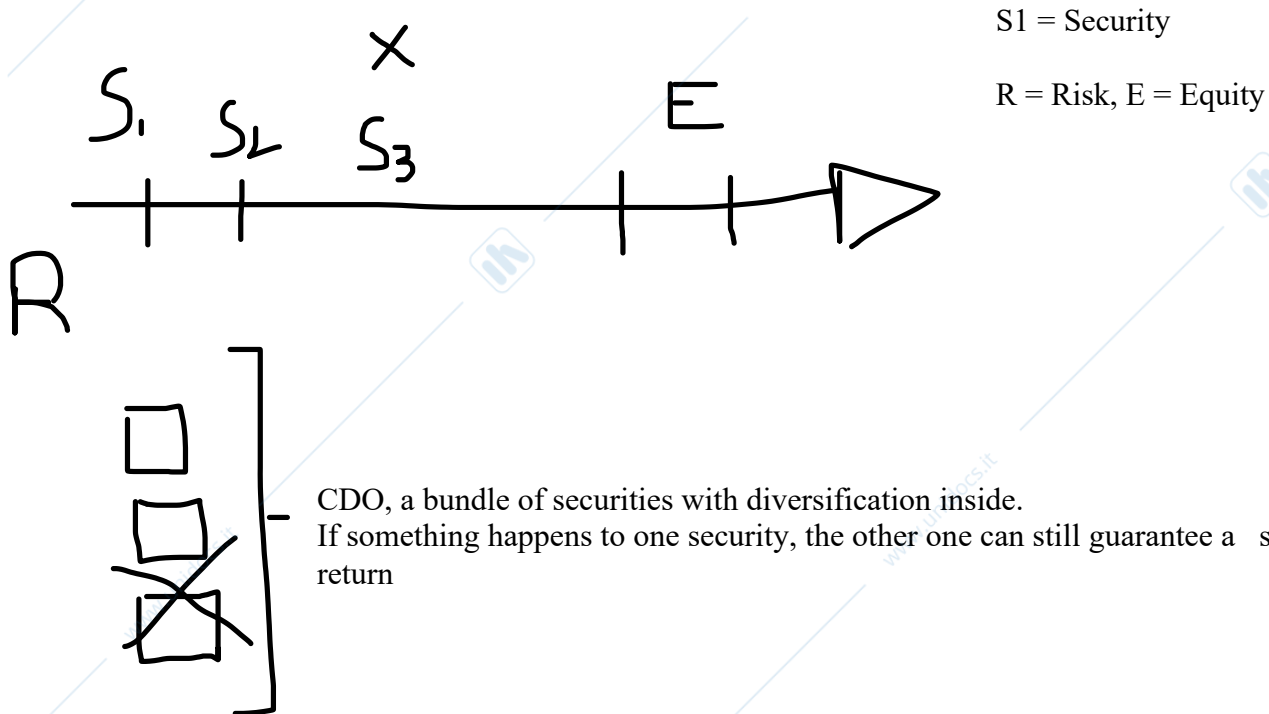
The inability to foresee what would be the risk produces uncertainty, an obvious issue. During the 90s the idea in Europe the idea was that profit was always good, because the market could be able to balance it, but it wasn't.

Banks were looking for something safe and profitable (high return).

They found out that if you create a new security with slices of previous securities, the outcome may be safer and with higher return. Diversification inside the single, so buying securities which are composed by other securities / positions with different kind of risks.

CDOs = collateralized debt obligation, a complex structured finance product that is backed by a pool of loans and other assets and sold to institutional investors.

With equities the risk is usually higher.



Rating in finance it has to do with something very specific.

→ It means in real world.

S&P = standard and poor (credit rating agency), it's a market facilitator.

The rating has a very specific way to be described (AAA is the best one, means the security has less than 1% probability of default in the next one or two years, safest with an high return).

Subprime mortgage = real estate market.

The idea was to provide everyone with their own house, even if the person is not reliable.

Nobody wanted to stop that, also politicians liked this type of situation.

What's the connection between subprime mortgage and the global financial crisis?

Taking these risky loans and cutting them into slices, and mixing them with safer securities, makes the outcome the magical AAA. They were spreading them in the markets, nobody knew what was inside and nobody was interested in knowing what was inside, since it was a AAA.

In 2007 there was a slowdown of the economy, and the money coming from the subprime mortgage were decreasing, then the bubble of the house market exploded.

The weaker borrower = **NINJAS** = no income / no jobs and / no assets.

Financial outcome = because of the interconnection with globalization, the reduction of cash flow shows how the AAA was misgiven, and in 2007/2008 80% of AAA became junk bonds (degraded), something below the investment grade. Banks started to lose money, and to repay their debts they were forced to act on the bank capital level, they started to burn cash.

At a certain point (Lehman Brothers is the most important) they all defaulted.

When everyone understood that something was truly wrong, nobody knew exactly how many non-performing loans every bank had. (if you are filled with non-performing loans your credit awareness is very low, the credit is not performing means that nobody will repay you).

So, banks started to be pickier in lending money to other banks.

Credit crunch = nobody trusted the others, since we are a market economy, if you stop the market the whole system collapses.

That brought negative effects on the real economy.

Investment grade = AAA to BBB

Junk bonds = from BBB to the lowest

It came out that rules to protect the market were insufficient, so new rules were made, in the following decade new regulations were much more detailed (general principles like behave properly, or a very punctual regulation). After the global financial crisis, we have thousands of pages of regulations, and this was a spark to move forward the fintech (financial technology).

Suptech = technologies for supervision

Regtech = technologies used to create new regulations

Regulation should be efficient, since you're dealing with something highly dynamic.

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Financial systems (2nd chapter)

Financial market problem = not having a subject, we have units in surplus and units in deficit, with a risk taker in the middle (the bank). When you buy a stock, you're investing immediately without intermediaries. To provide help, financial markets have many financial intermediaries (credit rating agencies...).

The credit crunch was the reason why it became something that had an impact on general businesses, causing an economic crisis (recession).

When your reliable source of resources is not there anymore you struggle a lot.

Five fundamental roles of financial systems:

a. Exchange through the payment system:

by providing secure mechanism for payments conducted over large geographic distances, the payment system facilitates arm's length transactions across the entire economy. It is a fundamental role, even if it's simple.

b. Mobilize savings from units in surplus (households) to units in deficit (firms):

for example, a mortgage for your house. Households are playing the unit in surplus, means that you are saving part of your income to face uncertainty. Households are allowed to retain a bigger part of the income, and this surplus must be invested (for inflation). Ideal level of inflation is 2%.

Firms need money to start a new project, firms are leveraged because the founder is usually putting money and ideas in it, but the other part of it is coming from loans and investments.

c. Investment selection:

Not every investment needs to be done, the financial system should discriminate between good investments and bad investments.

Financial systems allow to select those projects that will yield the best return.

Virtuous circle (more return more investments).

How financial system are dealing with the issues of investment selection?

- You may find advisors, explaining the situation and the best suggestions for investment targets.
- You need a transparent market, with available information. The value of every stock is given real time, and this is a way to get information in real time.
- The ability to know the price is a great way to diversification. Financial statements are a very important **part** of the available information.

An efficient market has available and **transparent information**, with an advisor you can process this information and transform them in investment advice. this information moves the price also because of the behavior of people inside the market.

Prices are a way to convey the tools needed to select investments.

Reputation conveys information, for example S&P is very reliable.

We have hard and soft information; the behavior of market intermediaries is important to provide accurate prices.

d. Project monitoring:

Selecting a good investment is crucial, but after that you have to monitor the investment.

Financial systems allow to monitor the performance of those projects which have received funding ensuring that they remain true to their original promise and that those how manage their execution do not divert resources to other goal (how?).

If you are listed you should provide documents (financial statements, balance sheets).

We use the **price** of the single security listed in a regulated market.

e. Risk management:

Mainly manage the risk of the management, through portfolio diversification.

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100 110 / 90
T0 t+1

The investment bank will take the burden of the higher price, if the price goes down the investment bank would have gotten a profit.

I bought 100 shares in t0, in t1 UniCredit will give me 100. If the value of the shares is going up, I'm somehow insulated, because I already bought the shares (same if they are going down).

When you pass another threshold in a bank (10%) you need an approval of the supervisor authority. The time and the role of the information are important.

There is a relation between the financial world and the corporations, we have a unit in surplus (UniCredit) who's willing to increase its voting rates in another bank.

Corporations: decisions are taken with majority vote, but in a listed corporation the majority is calculated on the shareholders attending every single general meeting, and most of them do not participate.

The position of a shareholder may vary considering the number of the participants: if 60% of them are attending, to win a majority vote you need 30% + 1.

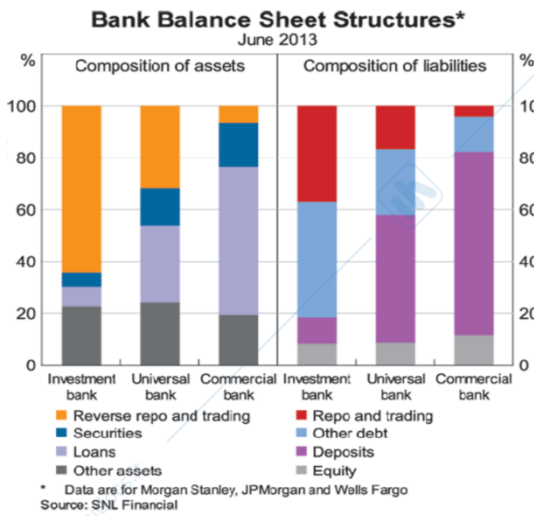
In a general meeting the average you need is 35%.

BANKS

Banks are the beginning of the financial system. The goal of banking was to provide paying systems (loans for the merchants and then the states, payments ...). They provided safety in trades.

The idea of bankruptcy came from the idea that when a banker became insolvent, he actually broke the desk on the public square to let everyone know that he wasn't a banker anymore.

The Financial System



The traditional components of Financial System:

Direct intermediaries => BANKS

Commercial banks act as intermediaries between savers and borrowers.

What are they doing?

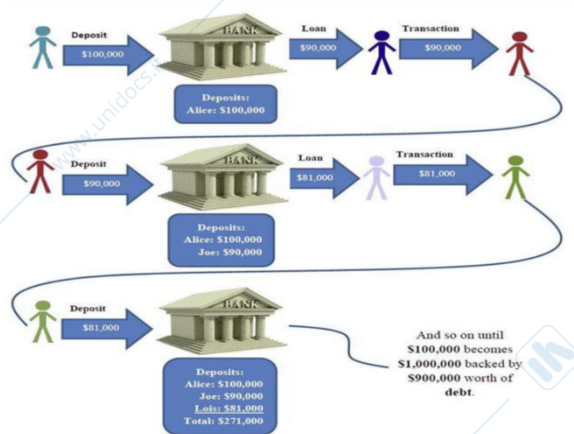
- Collecting money** (savings) from units in surplus.
- Lending money** (loans) = biggest part of the assets of a commercial bank.
- Deposits** (liability) = contractual skim to show that the bank is a debtor to its clients, and usually clients can withdraw money every time they want.

Those were the main part of this picture, if we switch to **investment banks** we have a different composition, for example deposits are a tiny part of the liabilities, and this indicates that an investment bank does not collect money from households.

Also, loans are a very small part of the assets, the main part has to do with **trading**, that's because they are working within the financial markets (commercial banks are outside the financial market, they just provide the derivatives for Bank of America).

Investment banks act globally, commercial start as a local enterprise, and **universal banks** is a mixture of both.

Fractional reserve banking



The cash at the very beginning was just 100.000, however, the liability of the bank is much bigger, with just 3 layers the total amount of deposits is 271.000. of course, on the other side we have loans as assets for the bank.

If the bank stops lending money, the 2nd, 3rd and 4th part is impossible, thus creating the issue of credit crunch.

We are dealing with a critical asset (household), that's why banking systems must be regulated.

Functions of banks

- Liquidity transformation** = certainty of value and immediacy (fractional reserve banking).

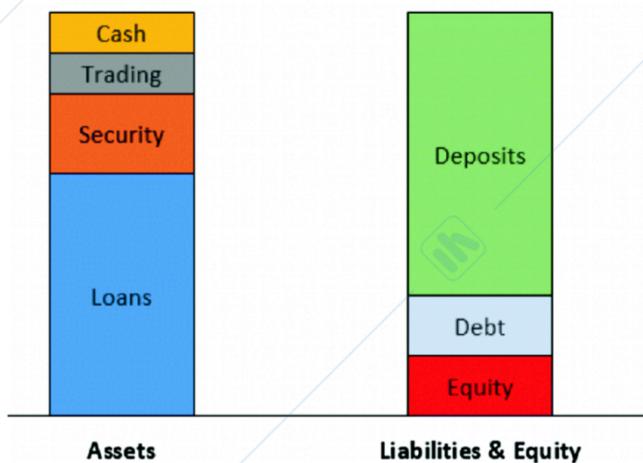
- b. **Maturity of transformations** = long term investment and immediate withdrawal right, we have long term loans and short-term deposits, we must focus on statistics, households are keeping their money in the banks.
We have to be sure that our loans are repaid, so we should check your borrower.
- c. **Credit transformation** = monitoring, controlling the risk, diversifying the loans.

Roles of banks

- a. Payment services
- b. Mobilize savings
- c. Project selection
- d. Monitoring
- e. Risk management

Assets and Liabilities

Stylized Bank Balance Sheet



Liabilities

A bank, and only a bank, is a deposit-taker → the deposits form a part of a country payment system (e.g. a check).

1. the claim against the assets of a bank is less expensive than other investments, because the depositors are paying the bank for the provision of liquidity service.
2. the failure of a bank impacts on payment system = even if depositors don't lose money, they lose the ability to perform and receive payments → to avoid that deposit insurance is present and bail out is probable.

The banks are supervised and authorized, but what is happening when we have other players that may do the same job of a bank but without being a bank?