

BASIC NOTIONS

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These notes are preparatory to Chapter XII of LEVI
(Macroeconomic dimension of intm. finance)

① Nominal vs. real interest rate

Since inflation erodes purchasing power, when making an investment we are interested in its "real" return/interest rate.

$$\text{Real Int. rate} = r^{\text{nominal}} - \pi$$

$\pi \rightarrow$ inflation rate

The higher is "expected" inflation over the lending period, the higher will be the (nominal) interest rate a lender will charge the borrower.
In fact one can also write:

$$r^{\text{nominal}} = r^{\text{real}} + \pi$$

Ex. Suppose X is willing to lend money to Y at an interest rate of 10% but he expects inflation to be 0.5% in a year. Therefore, to keep his real return unchanged he will charge

$$r^{\text{nominal}} = 10\% + 0.5\%$$
$$= 10.5\%$$

Over the economic cycle, int. rates will tend to be higher (on average) during inflationary periods as opposed to low inflation economic stages like the one ~~that is~~ ^{that is} undergoing.

② Short-term vs long-term interest rates

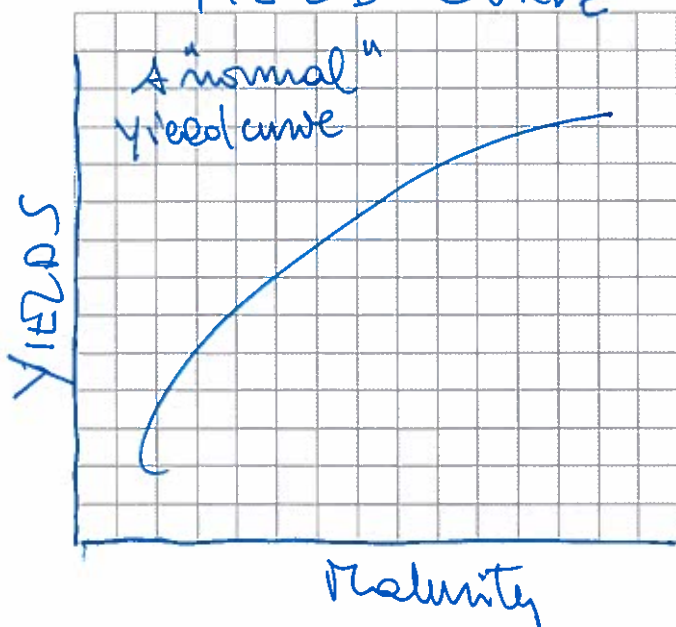
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• This distinction refers to the length of the lending period, however the precise definition of short vs long-term i.r. differs. Some organizations define short-term i.r. on assets up to 5 years of maturity but for others short-term refers only to periods less than a year.

• The longer the time horizon, the greater will be the risk for the lender. Simply put, the future is uncertain! It will be more difficult, for instance, to predict inflation over a 10 or 30 year horizon compared to a 1 year horizon.

→ long-term interest rates are normally higher than short-term ones.

YIELD CURVE



However, historically it is not rare to observe an "inverted" yield curve. This may depend either on inflation being expected to lower over time or an imminent recession (or both!)

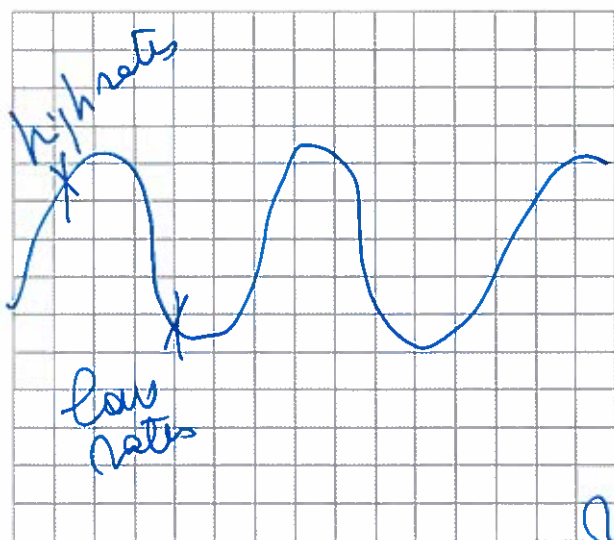
Short vs long term rates (continues)

The variability of returns due to differing maturities is what economists call TERM STRUCTURE of interest rates.

- Central Banks "tune" monetary policy through changes in official/policy rates thereby raising or lowering the cost for banks to get liquidity from the CB.

CBs control short-term rates, not long-term ones!

Interest rates therefore will tend to raise during expansionary phases ~~and~~ whereas they will tend to lower during recessionary phases.



In an expansionary phase the CB will rise rates to prevent inflation & over-heating of the economy. By contrast, during recessions, when the demand for credit is low, they will lower rates to foster a recovery.

Monetary Policy

- Central Banks use official/policy rates to change the (so-called) "stance" of monetary policy. For instance the Fed uses the Federal Funds Rate and the ECB the "repo" rate. Each central bank has its own policy rates that determine the degree of restriction of monetary policy.

- In stl econome models, however, such as the IS-LM basic model, we are used to consider changes in M^S = money supply. How does this fit with what we ^{just} said on the importance of policy rates?

- In reality M^S & r move together, since there is a strict relation between money supply & (official) i. rates, albeit they move in opposite directions.

Remember

$$M^S \uparrow \rightarrow r \downarrow$$

and vice versa

Explanation 1

When changing the money supply a C.B. normally acts through "open market operations", i.e.



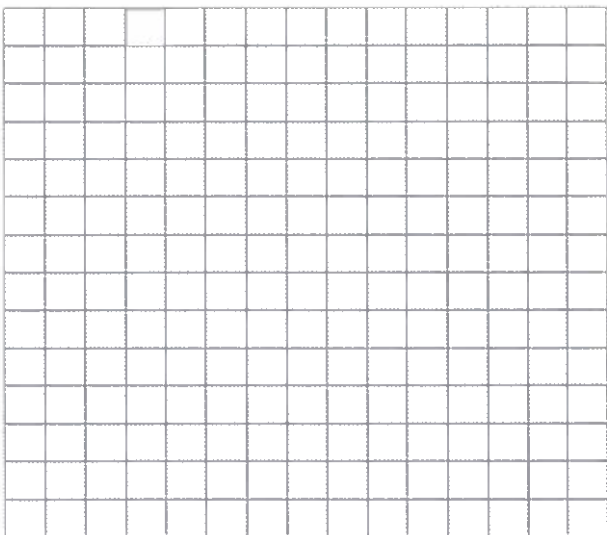
→ Monetary Policy (continues)

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• she buys bonds on the secondary market, in exchange for money. This raises the value of bonds (the demand for bond is higher) thus lowering their return -

Explanation 2

If a C.B. raises its policy rate r , it means that it will be more costly for commercial banks to obtain liquidity from the C.B. Therefore they will tend to transfer the higher cost on their clients, who in turn will demand less credit than before → $M^S \downarrow$



A discussion on Secular Stagnation

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Interest rates have never been so low as in the last decade, when they are close to zero. Why?

In general, the level of interest rates varies over time depending on a number of factors. Some of these factors can be cyclical others "structural" in nature, some may be nominal factors (such as inflation) others "real" factors (more related to real economic growth) -

Let's reconsider the definition of nominal interest rate

$$r^{\text{nominal}} = r^{\text{real}} + \pi \rightarrow \text{inflation}$$

Inflation, π , has never been so low and ^{this} is certainly one explanation for (average) rates to be low. But is it the only explanation?

