# 1982 Savings Account.

passbook savings account
- in old times you'd take the passbook to a teller, deposit/withdraw & they'd write the new balance on passbook but interest rates have gotten very low now.

term of a contract - compulsory time period you need to keep your money in it,
presently, @ the short-term, interest rates are virtually zero.

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## Federal Funds & Interest Rates

Federal funds rate – interest rate for one day. Has been virtually zero since the 2008 crisis. (shot up ~2021)

European Over Night Index Avg (EONIA) → interest rate has been negative!

Banks are lending to other banks @ negative interest rate since the cost of securing cash is high.

Interest rate is largely dep. on the rate of growth of the economy at large.

Compound Interest

if compounded n times per year, balance is $(1+r/n)^{nt}$ after t years.

continuous compounding:

balance is $e^{rt}$

21 June, '23

Discount Bonds.

typical bonds – buy for a certain fixed amt, coupons are clipped sa once in 6 months.

discount bonds – no coupon payme sold at a discount, at maturity you get the principal.

present value of the bond.

$$P = \frac{1}{(1+r)^T}$$

present discounted value (pdv.)

pdv of \$1 in n years $= 1/(1+r)^n$

r = yield to Maturity (return rate of the bond)

Consol & Annuity

↓

pays const quantity x forever.

growing consol PDV $= \dfrac{x}{r-g}$

consol PDV $= \dfrac{x}{r}$

**bonds have market risk**

yield to maturity is dep. on the price of the bond whic constantly changes in the mkt expected rate (yield) on a bond several months/years from now

Annuity – pays x from time 1 to T

Annuity pdv = $x \frac{1 - 1/(1+r)^T}{r}$

Forward Rates: shorting discount bonds equivalent to an interest rate in the future.

Interest Rates & Inflation:
real interest rate ⟹ inflation rate correction done while calculating interest rate.

Indexed bonds → bonds that pay in terms of real money (coupons are tied to the inflation rate)

Leverage: if a company/ind borrows money to buy assets, they're "leveraging".
- leveraging increases risk.
China is a highly leveraged country (160% of GDP is companies borrowing).

When there's deflation (money's value increases), entities become more leverages, people who give out loans are negatively impacted while people who have loaned out money enjoy money that's worth more.
⟹ the solution to this is inflation indexed debt.

Irving Fisher's Debt Deflation Theory:
Deflation redistributed real wealth from debtors (people who give loans) to creditors (people who receive loans)

Module #9
Market Capitalization:
price per share x no. of shares
Even in the US, real estate is bigger than holdings of equities.

The Corporation - an organization that is legally authorized to act as an individuals

Modern Company

-governed by a board of directors elected by the shareholders (one share = one vote)

* Board elects a CEO/President

-A for-profit corporation is subject to corporate profits tax, unlike non-profits.

Shares & Dividend

splits → optimal price per share in the US, target price is ~$30.

→ makes it easier to buy shares

* corporate charter defines everything

→ framed @ incorporation.

Dividend → distribution of a company's earnings to shareholders

return on a corporation → dividends

return on a corporation → capital gain : appreciation in price per share

What happens to the share price when a company pays dividend?

share price ↓ since the company has given out mon

x dividend date : company will pay dividend to share h on this particular date

common stock / Equity : dividend is @ discretion firm, subject to law.

Preferred Stock: specified fixed amt of divid doesn't have to be paid but firm cant pay common sto div unless all pref. stock d is paid.

Corporate bonds - contractua obligation to pay coupon & there's a maturity da

*US bought preferred share from corporations to bai them out. ~~Buyer~~ Buying common stocks would be socialism!

Capital gains taxes don't have to be paid until you sell the share.

Corporate Charter
- all common shareholders should be treated equal.
Board can repurchase shares instead of paying dividend!
* shareholder democracy
  - proxy contests
* Classes of shares - voting & non-voting shares.
  Zuckerberg owns 28% of its shares but 57% of its voting shares

How do companies raise money?
1) retained money - wait, save use
2) borrow money
3) issue debt (corporate bond
4) issue new shares.
"dilution" - your share in the company goes ↓ since they issue more shares. (giving up voting power)

"EQUITY" - all common shares owners are equal.

reverse splits are possible.

Pecking order Theory of Corp. Fin.
retained earnings first, borrowing second, equity last

the price of a share in the market influences the amt. of money a company can raise.

Dilution
Sometimes, the company may pay dividend in terms of stock
→ "stock dividend"
Some investors may prefer companies that always pay dividends. Some prefer companies that don't pay dividends & grow biz.

Share Repurchase
- reverse of dilution. your ownership goes up.
- alternative way of paying dividend (w/ a tax break)

PDV of Expected Dividends

Efficient markets theory: what you're really pricing is a claim on dividend.

P/E ratio

P/D ratio (Dividend/E)

P/E ≈ 15 (takes 15yrs to pay out original investment)

companies that have (tend to covary w/ market have low P/E ratios or very high q values.

Value investing - invest in low P/E.

Why firms pay dividends?

- signalling theory - affect mindset of public.

gradually dividends are just adjusted to a target EPS.