

A Passbook Savings Account Ad 1982

Better Than 7% Passbook

Passbook Plus

Certificate Rates *Plus* Passbook Availability

7.40%

annual rate

7.79%

effective annual yield

Deposits/Withdrawals Permitted - No Penalties

\$1500 minimum balance

The stated term is three months. However, this savings certificate is very similar to a passbook account because you may make deposits and withdrawals without penalty or loss of earnings, so long as the remaining balance is at least \$1500. Money Market Certificate monthly dividends may be transferred to Passbook Plus.

Deposits and Withdrawals permitted

Earnings from day of deposit to day of withdrawal

Earnings compounded daily credited quarterly

Absolutely no penalty!

Old Court Savings & Loan, Inc.

Downtown

727-3357

Reisterstown

833-5511

Randallstown

922-3357

Middle River

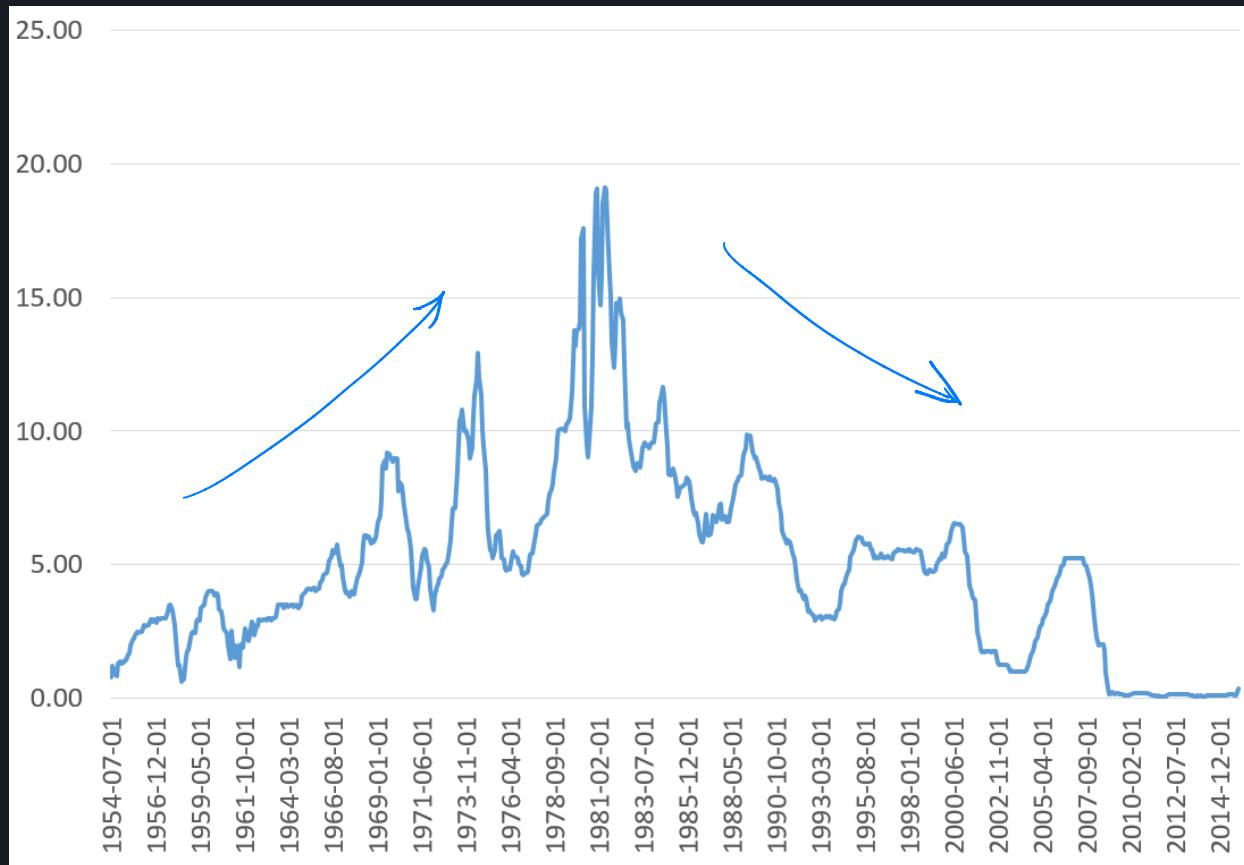
574-2600

Linthicum • Ferndale

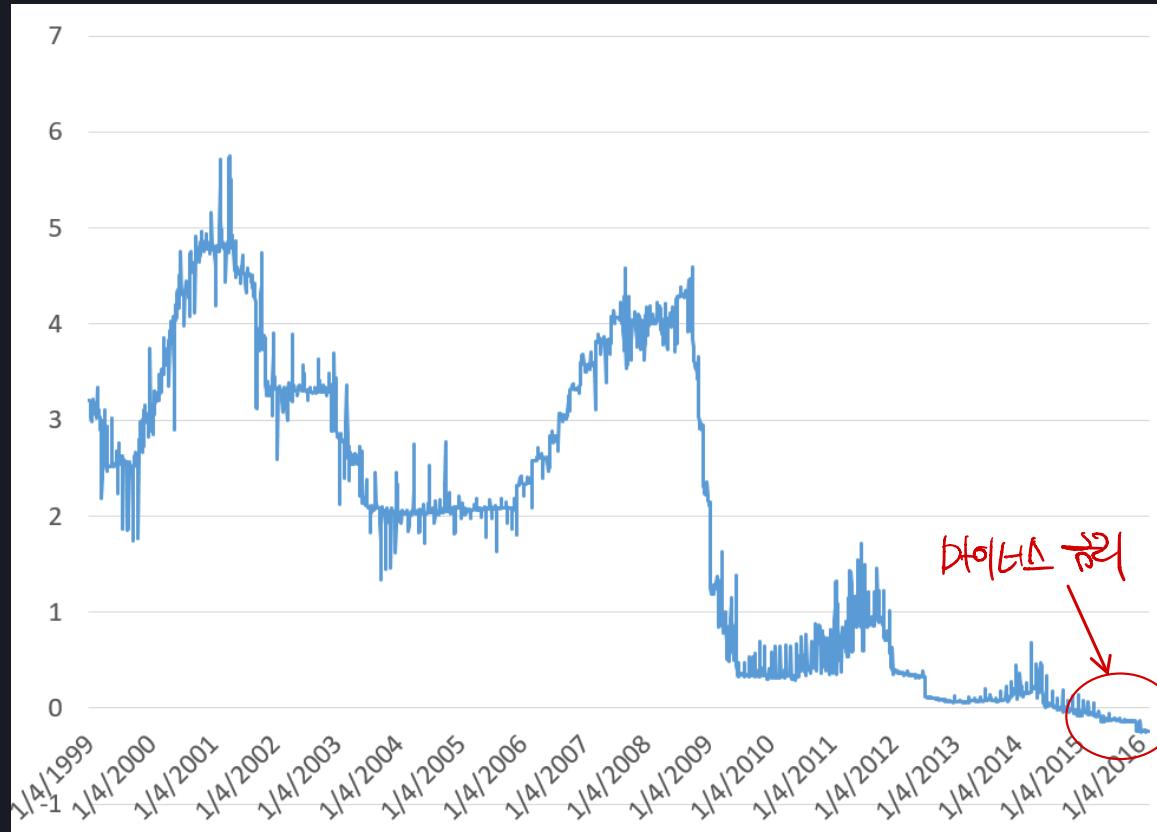
636-5225

A circular seal featuring a central figure, possibly a Native American, holding a bow and arrow. The words "FEDERAL BUREAU OF INVESTIGATION" are inscribed around the perimeter of the seal.

Federal Funds Rate: Shortest-Term Interest Rate in U.S.



EONIA (European Over Night Index Average is European Counterpart to Fed Funds (Percent per Annum))



리아이버스 끝

Causes of Interest Rates

- Eugen von Böhm-Bawerk: *Capital and Interest*, 1884: technological progress, time preferences, advantages to roundaboutness
- Irving Fisher 1867-1947, wrote *Theory of Interest* 1930

* ★ Compound Interest

- If annual rate is r , compounding once per year, balance = $(1+r)^t$ after t years
- If compounded twice per year, balance is $(1+r/2)^{2t}$ after t years
- If compounded n times per year, balance is $(1+r/n)^{nt}$ after t years
- Continuous compounding, balance is e^{rt}

이자율을 고려한 경우,
연금을 받거나 저축하는 경우에 적용되는 원리

$$\lim_{n \rightarrow \infty} \left(1 + \frac{r}{n}\right)^{nt} = e^{rt}$$

દિસ્કાઉન્ટ

Discount Bonds

- No coupon payments, just principal at maturity date (conventionally, \$100).
- Initially sold at a discount (less than \$100) and price rises through time, creating income.
- Term T , Yield to Maturity (YTM) r^{YTM} \Rightarrow $r^{\text{YTM}} = \sqrt[T]{\frac{\text{Face Value}}{\text{Current Value}}} - 1$

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

દિસ્કાઉન્ટિંગ રેટ

$$P = \frac{1}{(1+r/2)^{2T}}$$

$$= \sqrt[T]{\frac{1}{P}} - 1$$

(T : પરિષ્રમની વાર્ષિક કાળ)

Present Discounted Value (PDV)

- PDV of a dollar in one year = $1/(1+r)$
- PDV of a dollar in n years = $1/(1+r)^n$
- PDV of a stream of payments x_1, \dots, x_n

~~$$PDV = \sum_{t=1}^T \frac{x_t}{(1+r)^t}$$~~

Conventional Bonds Carry Coupons

- Conventional Bond Issued at par (100), coupons every six months.
- Term is time to maturity

$$P_t =$$

$$P_t = c\left(\frac{1}{r} - \frac{1}{(1+r)^T} \frac{1}{r}\right) + \frac{100}{(1+r)^T}$$

$$P_t = \frac{c}{2} \left(\frac{1}{r/2} - \frac{1}{(1+r/2)^{2T}} \frac{1}{r/2} \right) + \frac{100}{(1+r/2)^{2T}}$$

Consol and Annuity Formulas

- Consol pays constant quantity x forever
- Growing consol pays $x(1+g)^{t-l}$ in t
- Annuity pays x from time l to T

↑
사람은
수지향자로

기한이
정해져
있어
연금으로
인출의
정체를
취급할
수 있다.

$$\text{Consol PDV} = x / r$$

$$\text{Growing Consol PDV} = x / (r - g)$$

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

→ 영구자산은 오직 투자자만 전하고
주체의 Default risk를 고려해보면
시장가 변동이 있을 수 있으므로...
(→ 시장과 정부는 서로獨立된다...)

$g=r$ 이 되면,
수익률이다...

Growing Consol Formula

- The Growing Consol formula is from Jacob Bernoulli (1654-1705) professor of mathematics, University of Basle, in his *Positionum Des Seriebus Infinitis*
- (See Goetzmann and Rouwenhorst, Origins of Value, pp 185-6)
- (So, it is short-sighted to attribute this to Myron Gordon and to call this the Gordon Model)

r $\{f\}$

Forward Rates

- Forward rates are interest rates that can be taken in advance using term structure
- J. R. Hicks *Value and Capital* 1939

$$\begin{aligned}(1 + r_2)^2 &= (1 + r_1)(1 + f_2) \\ (1 + r_k)^k &= (1 + r_{k-1})^{k-1} (1 + f_k)\end{aligned}$$

Example of Forward Rates

- Suppose I in 1925 expect to have £100 to invest in 1926, but want the money back by 1927. How can I guarantee the interest rate on the £100 investment today (1925)?
- Buy in 1925 $(1+r_2)^2/(1+r_1)$ 2-period discount bonds maturing at £100 in 1927. Cost: $\frac{\text{£1}}{(1+r_1)}$
- Short in 1925 one 1-period discount bond maturing at £100 in 1926 Receive: $\frac{\text{£1}}{(1+r_1)}$
- I have now locked in the interest rate $1+f=(1+r_2)^2/ (1+r_1)$ between 1926 and 1927

Expectations Theory

- Forward rates equal expected spot rates
- Slope of term structure indicates expected future change in interest rates.

Inflation and Interest Rates

- Nominal rate quoted in dollars, real rate quoted market baskets
- Nominal rate usually greater than real rate

$$(1 + r_{money}) = (1 + r_{real})(1 + i)$$

$$r_{money} \cong r_{real} + i$$



$$\text{실질금리} = \text{名义금리} - \text{인플레이션}$$

$$r_{real} \cong r_{money} - i$$

Indexed Bonds

- Paul Revere, Massachusetts, 1780
- U. S. Treasury, 1997
-  **TIPS** Treasury Inflation Protection Securities, in 2006 7% of US national debt
- UK Index-Linked Gilts, by 2006, 25% of UK national debt
- France recently issued Euro Index bonds

→  

가지고 있는 것보다

더 많은 돈을 갖고 싶어하는 것

2008년

① 금리를 낮춰주는 대출

② 저렴한 주택 구매

Risk

Leverage and its Discontents

- The start of the 2008-9 world financial crisis had to do with home buyers in U.S. and elsewhere borrowing to buy homes
- China today is a highly leveraged economy, arousing concerns → 부채비율 평균 70%, 중국 160% ⇒ 성장세가 둘째 무지개보다 위기여 충격으로 우울
- Debt leads to bankruptcies, possible world crises

Irving Fisher “The Debt-Deflation Theory of Great Depressions” *Econometrica* 1933

- Deflation redistributes real wealth from debtors to creditors \Rightarrow $\frac{\text{Debt}}{\text{Price}} \times \frac{\text{Price}}{\text{Original Price}} = \frac{\text{Original Price}}{\text{Price}} \times \frac{\text{Original Price}}{\text{Original Price}} = \frac{\text{Original Price}}{\text{Price}} = \frac{1}{1 + \text{Inflation}} < 1 \Rightarrow \text{Debt} < \text{Original Debt}$
 $\text{Original Price} > \text{Current Price}$
- Creditors tend to be the more cautious
 $\text{Creditors} > \text{Debtors}$!
- (Recent crisis has not been mostly deflationary, but inflation has fallen short of expectations)

John Geanakoplos “The Leverage Cycle” 2009

- 97% 를 대체하는
장기화 된 투자
- 규제 완화 된 시장
- 대출 확장화 ?
증권화 된 부동산 채권
증권화 된 부동산

Leverage dramatically increased in the United States and globally from 1999 to 2006. A bank that in 2006 wanted to buy a AAA-rated mortgage security could borrow 98.4% of the purchase price, using the security as collateral, and pay only 1.6% in cash. The leverage was thus 100 to 1.6, or about 60 to 1. The average leverage in 2006 across all of the US\$2.5 trillion of so-called toxic mortgage securities was about 16 to 1, meaning that the buyers paid down only \$150 billion and borrowed the other \$2.35 trillion. Home buyers could get a mortgage leveraged 35 to 1, with less than a 3% down payment. Security and house prices soared.

⇒ 부동산이 오면 대출이 ↑ → 규제 완화

Stock Market Capitalization by Country 2014

Country	% GDP	US\$ trillions
United States	151%	26.33
United Kingdom	107%	3.183
Canada	117%	2.094
China	58%	6.004
Russia	21%	0.385
Brazil	36%	0.844
India	76%	1.558
Mexico	37%	0.48

- America is in scale.
- US stock market does not belong to America.

Flow of Funds Accounts 2014

- Table B-101 gave household (incl nonprofit) assets as \$98.3 trillion and liabilities of \$14.2 trillion and hence net worth of 84.1 trillion
- Of this, corporate equities only \$13.9 trillion (mutual funds another \$7.8 trillion, pension funds 20.6 trillion)
← Common Stock
- Real estate is bigger than holdings of equities, \$23.7 trillion

The Corporation

법인

(AFC)

- 법인인 원칙, 자본금의 원칙
- 법인으로서 권리와 책임을 갖는 법인체
자본금화

- [1611] A body corporate legally authorized to act as a single individual, an artificial person created by royal charter, prescription, or act of legislature, and having authority to preserve certain rights in perpetual succession. (OED)
- Compare *publicani* of ancient Rome, essentially corporations (though the most prominent were private collecting agencies for taxes)



→ Shareholder's Democracy
→ 주주주도로 회사

Board of Directors

- In US, Board is commonly chaired by CEO
- But CEO is hired by the Board
- In Germany, firms have two boards of directors. There is the Aufsichtsrat (Supervisory Board) and the Vorstand (Management Board).

For-Profit vs. Non-Profit

የኢትዮጵያ ቢሮክ

- For-profit corporation is owned by shareholders, equal claim after debts paid, subject to corporate profits tax
- Non-profit is not owned, self-perpetuating directors. Not subject to corporate profits tax
- For-Profit exists to benefit shareholders, non-profit does not
- So, for-profit has a price per share, non-profit does not
- Ideally, for-profit has value only because the company is dedicated to advancing the shareholder, either through dividends or through share repurchase

Meaning of Shares and Market Cap

- My ownership of company equals my shares divided by total shares
- Splits are essentially meaningless
- If the company pays a dividend, the value of the share should go down by the amount of the dividend per share. → "비당금"
- Ex dividend date : 비당기준일
- If the company does something to increase the value of the company without increasing the number of shares, my shares gain value
- It is all in the ratio, total value of company divided by total number of shares. If you affect numerator and denominator equally, then there is no effect on price per share

* 주식 보유의 기본적 사유: 비당금 → 디스카운트 아웃...

* 비당금 누적이 없고 장기적 관점에서 주가 신뢰에 중요

Common vs. Preferred Stock

보통주

우선주

- Common stock: dividend is at discretion of firm, subject to legal restrictions
- Preferred stock: Specified dividend does not have to be paid, but firm cannot pay dividend on common stock unless all past preferred stock dividends are paid
- Corporate bonds: Firm is contractually obligated to pay coupons and there is a maturity date when principal must be paid
- US bought preferred shares in corporations to bail them out (GM bought back all its govt. preferred shares in 2010, \$2.1 billion, govt. still has common) ↗ 2009 금융위기 때 GM 우선주를 구매하여 차운
(우선주를 몇 번이나 팔았지? 세금회피로 인한 부동산 투기 등...)

Equity = Common stock → မျှော်စွဲ၊ ပိုင်ဆိုရန်!

The Basic Corporate Charter Says All Common Shareholders Treated Equally

- Charter does not say that the firm ever has to raise debt, Board (and officers they appoint) decides
- Charter does not say that the firm ever has to pay dividends, Board decides
- Charter does not say the firm ever has to repurchase shares, Board decides
- Charter does not say that the firm ever has to issue warrants, convertible debt, anything else
- But, the shareholders elect the board!!

⇒ အောက်ပါတော်းများကို ပေါ်လေ့ရှိနိုင်မှု၏ အကြောင်း???

ဗိုလ်ချုပ် အောက်ပါတော်းများ၏

Berle and Means

- Adolf A. Berle Jr., and Gardiner C. Means, *The Modern Corporation and Private Property*, 1933
- Separation of ownership and control
- “ownership is so widely scattered that working control can be maintained with but a minority interest.”
- The “quasi-public corporation” is constrained by law to serve other interests.

소수 주주에 의해 경영권이 유지되는 경우

주주 민주주의 원칙을 지킵시다!

→ 민주주의 원칙을 지킵시다...

Regulatory Efforts to Improve Voting for Corporate Control

- 1935 SEC under authority of Securities Exchange Act of 1934 established rules for proxy contests. Outside parties may solicit proxies but must register with SEC
- 1956 Amendments made proxy contests very difficult: required registration of all proxy communications
- 1992 Relaxed 1956 amendments, resulting in many more proxy contests

Class A와 Class B 차이?

: B는 A에 비해 더 많은 권리가 있다.

→ A는 B에 비해 더 적은 권리가 있다.

Classes of Shares

- Berkshire Hathaway, A Class have voting rights (close to \$200,000 per share), B do not (Listed NYSE)
- New York Times, Class A has less voting rights than Class B, which allows descendants of Adolph Ochs still to control (not publicly traded)
- Facebook: Mark Zuckerberg owns 28% of its shares but 57% of its voting shares (2012)

* 회사의 자금 조달 방법

① Retained Earnings (이익잉여금), ② Loan (대출) & Bond (채권), ③ Issue Shares (신주발행)

☞ How Do Corporations Raise Money?

- In principle, whenever a company wants to raise new money, say to build a factory, it could issue new shares
- This *dilutes* existing shareholders, since they now own a smaller fraction of the company, but, offsetting that, it creates new earning power for the company ⇒ 주주가치는 떨어지지만 회사의 수익성이 커지는 것과 같다
- Shareholders at a meeting could ideally vote on whether they think the prospective profits are worth the dilution, and prospective purchasers of the issue could ponder whether they feel the diluted shares are worth purchasing

ଓঁ হাজু গান্ধী
কল্পনা ওপি

Why Do they Call It Equity

- Equity means equal share. Term goes back only to 1904, originates in US (OED)

c. (See quot. 1966.) orig. U.S.

[Thesaurus »](#)
[Categories »](#)

1904 E. S. MEADE in *Polit. Sci. Q.* Mar. 50 Its preferred stock is quoted at..prices which indicate a general conviction that the equity in the company is worth little.

1928 *New Statesman* 28 July (Finance Suppl.) p. vi, Out of the combined issued capital of £16,629,000 the public put up 93 per cent. of the cash required, but received only 21.8 per cent. of the equity—that is the balance of profits remaining after the fixed dividends have been paid on the Preferred capital.

1930 *Times* 11 Feb. (Financial Rev.) p. iii/2 It was widely imagined that more money was to be made in high pressure equities than in anaemic mortgages.

1966 A. GILPIN *Dict. Econ. Terms* (1967) 72 *Equities*, the ordinary shares of a limited company. They carry the right to the residue of a company's assets after it has paid all its creditors, and share in the distribution of profits, if any, after interest has been paid to preference share-holders and debenture holders each year.

Stuart Myers Pecking Order Theory

자본 조달
순서

- Firms really don't like to issue new shares, because public gives them a bad price, mistrusting management, and it is costly and difficult to issue shares
- Stewart Myers, “The Capital Structure Puzzle, J. Fin. 39:575-92, 1984 proposes “pecking order” theory: firms like to raise money through ① retained earnings first, through ② borrowing second, ③ equity only as last resort

* 같은 맥락의 글: 기부금 사용을 도와주는 법
기부금 사용처를 규제하는 법

Myers Continued

- He says most firms (as of 1984) had not done a single equity offering in the last twenty years, and did not contemplate doing one
- 1973-82 62% of capital expenditures came from retained earnings, only 6% from net equity issuance, rest from net borrowing

Fama & French criticism of Myers JFE 2005

- But Fama and French point out that even 1973-82, 67% of firms issued some equity (Myers referred to net equity at 6%), up to 86% for 1993 to 2002 → 주가가 높지 않은 경우에 전주권이나 저축증권이 중요한 부분...
- Equity issues include issues of stock to employees via options and grants → 공모가 아닌 투자이나 팀워크 등으로 발행되는 경우도 있을 것!
stock option *warrant (전주권)*

Dilution

- If the company gives away new shares, my shares become worth less; that is dilution
- They *do* give away shares
- If the company sells new shares at market price, that generally does not lower the value of my shares because the company has the money
- If the company issues a stock dividend at 5%, then that lowers the value of my original shares by factor $1/1.05$, but I am not worse off since I have an additional $.05/1.05$ of value in the new shares

Dilution \leftrightarrow Share Repurchase

Share Repurchase

자본회수
주식회수

- The opposite comes when a firm buys its own shares on the market.
- The value of the firm should go down by the amount they spent.
- I as a shareholder, however, now own a larger share of the company.
- If the firm repurchases shares instead of paying dividends, then my shares do not lose value, the company loses value but I have a bigger share in it.

각인소득세 (Capital gains tax)는 주식, 부동산 등 재산의 판매 이익에 대한 세금입니다.
주식은 매도일로부터 1년 미만은 종자금으로 간주됩니다.

Reasons for Share Repurchase

- ~~*Tax break for investors (obsolete in sense that tax rate on cap gains=that on dividends, but cap gains tax can be postponed).~~
- Firms' unwillingness to cut dividends, uncertainty that current earnings will continue.
- Price pop after a repurchase. Buybacks taken as a signal. But price pops are fading.
- Now investors sometimes view repurchase as a sign that firm is “old economy.” NASDAQ firms less likely to repurchase shares, as if they think value is too high.

P/E $\frac{P}{E}$

Present Discounted Value
현재 할인가치

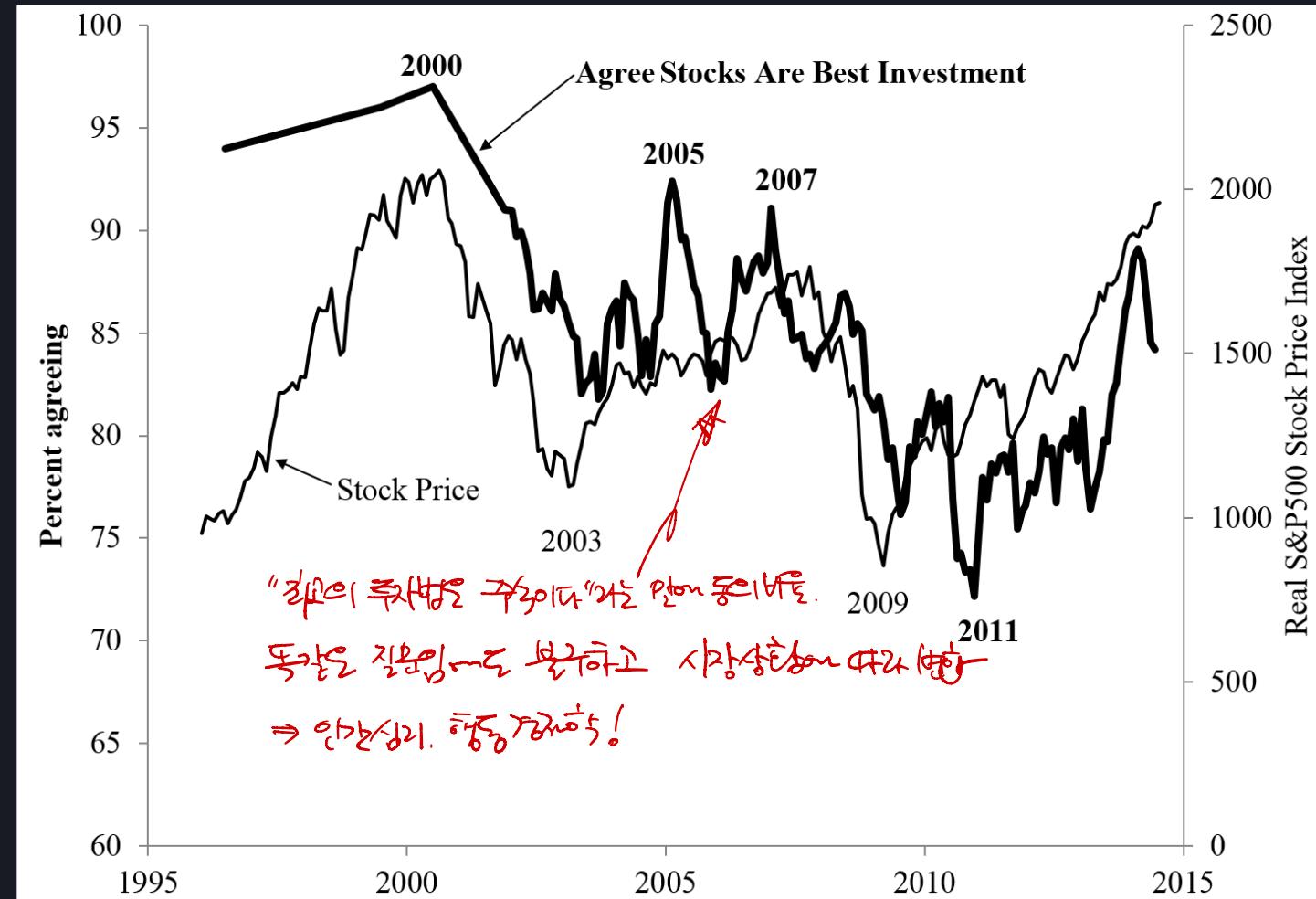
Price as PDV of Expected Dividends

r $\frac{\text{증권수익률}}{\text{영업수익률}} \times \text{Cost of Equity}$
 r $\frac{\text{영업수익률}}{\text{영업수익률}}$

GGM
Gordon Growth Model

- If earnings equal dividends and if dividends grow at long-run rate g , then by growing consol model $P=E/(r-g)$, $P/E=1/(r-g)$. (Gordon Model) \rightarrow GGM
- So, efficient markets theory purports to explain why P/E varies across stocks in terms of r and g \rightarrow CAPM, $\frac{P}{E} = \frac{1}{r-g}$ from CAPM "r", "g" \rightarrow $\frac{P}{E}$ $\frac{1}{r-g}$ 가 된다
- Low P/E does not mean that the stock is a “bargain,” it only means that earnings are rationally forecasted to decrease in future (low g) or that risk is high (high r)
- Efficient markets denies that any rule works other than simple diversification
- Value investing says invest in low P/E

Evidence of Feedback Mechanism: Results of Individual Investor Survey: Stocks are the Best Investment



Why Do Firms Pay Dividends?

- Even when there was a strong tax advantage to capital gains, firms paid dividend → **수익의 투자와 배당금의 차이로 봤을 때, 배당금을 지급하는지?**
- Hersch Shefrin and Meir Statman: Self-control theory of dividends. (analogy to Christmas clubs, overwithholding) Rule of thumb spending rule.
- Prospect theory interpretation: framing matters. Dividends framed as income.
- University endowments once required high-yield investments to provide income

회사가 스스로의 재무상태를 표시합니다



Ex. 회사가 "D" 일 경우, 재정상의 위험성이
증가 → 회사를 빌려 배당을 한다

Dividend Signalling

신호이론

- By raising dividends, firm shows it can court bankruptcy.
- Battacharya, Hakansson, Ross
- Problem: alternative signaling methods are cheaper tax-wise

① 회사의 전략 - 회사가 고수한 신호설정에 따른 경쟁을 우회 > D.

② 회사의 전략 - 회사가 고수한 신호설정에 따른 경쟁을 우회 > D.

③ 회사의 전략 - 회사가 고수한 신호설정에 따른 경쟁을 우회 > D.

④ 회사의 전략 - 회사가 고수한 신호설정에 따른 경쟁을 우회 > D.

Lintner Model of Dividends

- $\text{DIV}_t - \text{DIV}_{t-1} = \rho(\tau \times \text{EPS}_t - \text{DIV}_{t-1})$
- ρ =adjustment rate, $0 < \rho < 1$
- τ =target ratio, $0 < \tau < 1$

$$\text{DIV}_t = \rho \tau \sum_{k=0}^{\infty} (1-\rho)^k \text{EPS}_{t-k}$$

↑
ターゲットペイアウトレシオ (Target Payout Ratio) が大きい
時にペイアウト率は大きくなる

General Public Utilities Corp

- President Kuhn proposed to substitute stock dividends for cash dividends, and offered to sell the stock dividend for any stockholder for minimal transaction cost. (ca. 1968)
- Direct saving to shareholder: \$4 million a year
- Intense negative shareholder reaction

↑
주주를 위한 더 좋은 선택은 투자자에게도 이익이다.
CAPM이 잘 맞지 않는 이유는 투자수익률이 평균으로 아예,
모든 투자자를 대상으로 한 투자수익률을 예상하는 것이다.

Outline of this Lecture

- I. History of mortgage lending
- II. Commercial Real Estate Vehicles
- III. Residential Real Estate Vehicles
- IV. Real Estate Bubbles and the Origins of the 2000s financial crisis in real estate finance