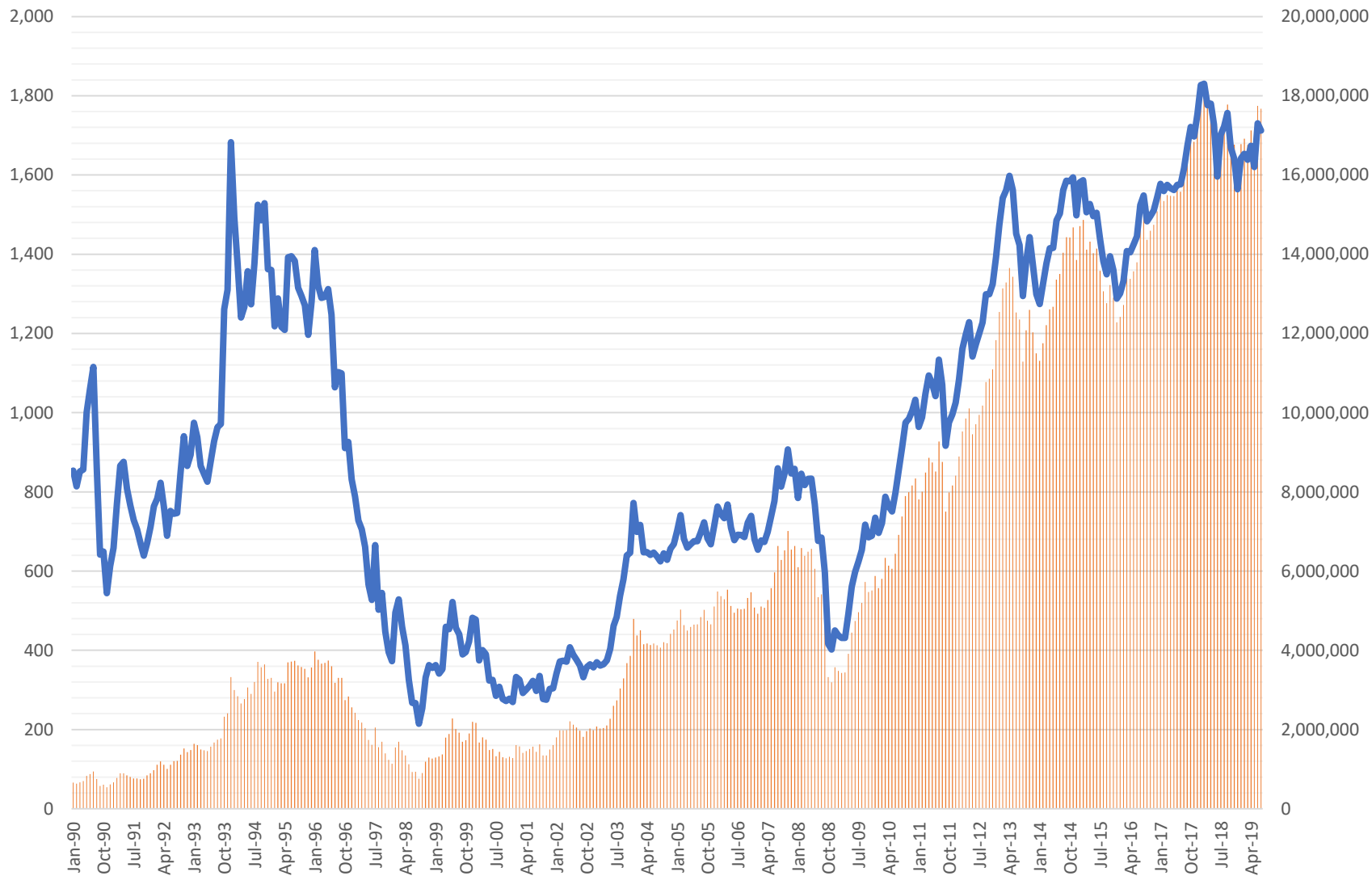


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Office Hours: Tues,  
Thurs 9.30 – 11.00 AM

# EE 431: Economics of Financial Markets and Institutions

Mkt.Cap. SET Index

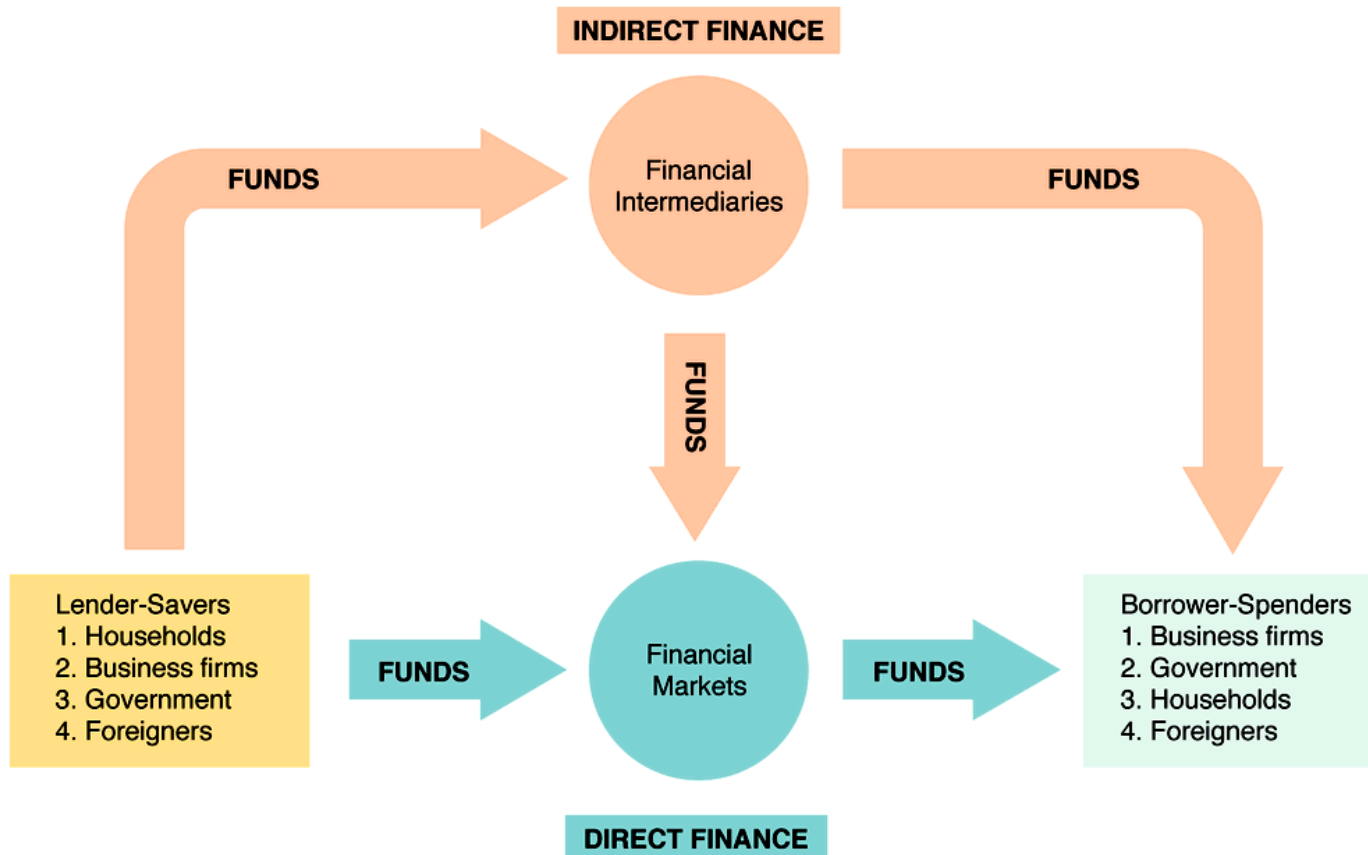


## Course Description

Money and capital markets; Financial assets; Financial risks and financial risks bearing; Asset pricing; the CAPM and APT models; Interest rate structure; Bond and equity instruments; Financial derivatives; Asymmetric information in financial market; Financial institutions; Risk management of financial institutions; Monitoring and controlling of financial institutions; The deposit insurance system

# Money and the Financial System

- We use money in our daily life.
- Why do we use money?
- We will see that money affects our lives in various aspects.
- We, economists, think that **financial system** transfers funds from people who have an excess of funds to people who have a shortage.
- This promotes economic efficiency as well.

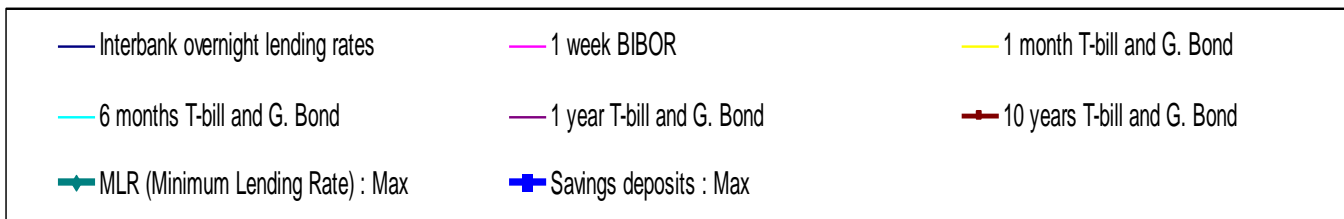
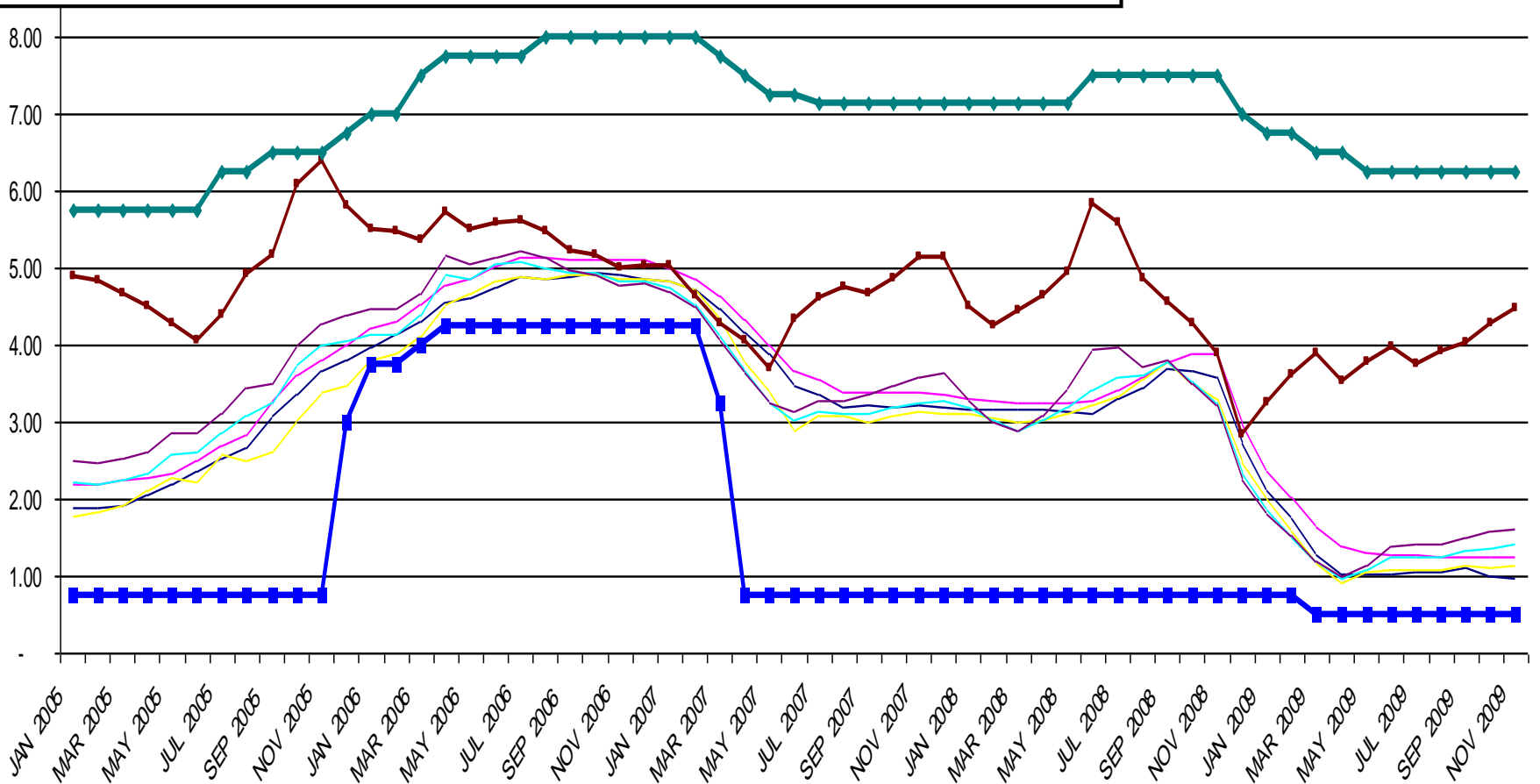


# Financial Markets

- This is a main component of the financial system
- **Bond market**
- A *security* is a claim on the issuer's future income or assets
- A *bond* is a debt security that promises to make payments periodically for a specified period of time
- An *interest rate* is the cost of borrowing for the rental of funds.
- **Stock market**
- A *common stock* represents a share of ownership in a corporation. It is a security that claims on the earnings and assets of a corporation.

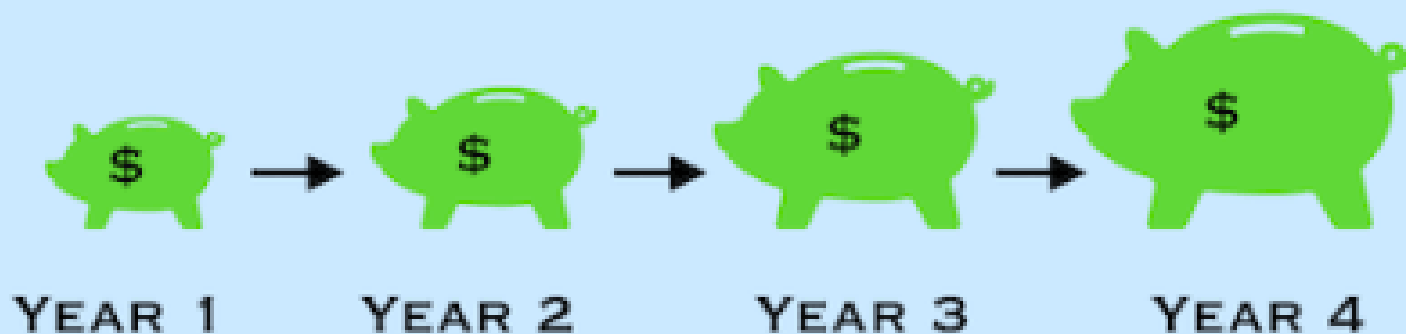
Source:

<http://www.bot.or.th/English/Statistics/FinancialMarkets/InterestRate/Pages/SatInterestRate.aspx>



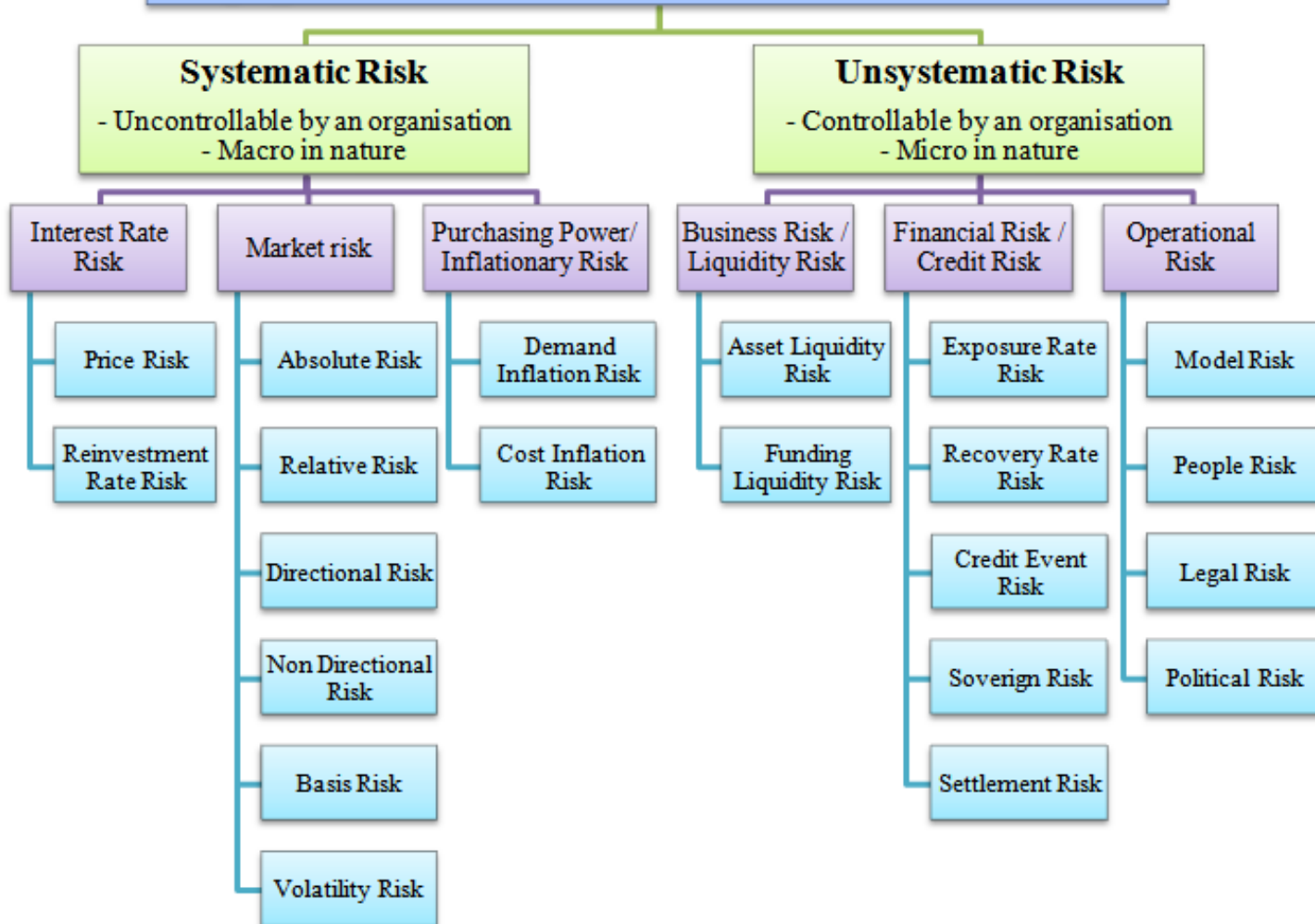
# TIME VALUE OF MONEY

Money placed in deposit account earning interest



"I want payment today. Because if I wait, I lose out on the growth I would have earned."

# Types of Risk in Finance



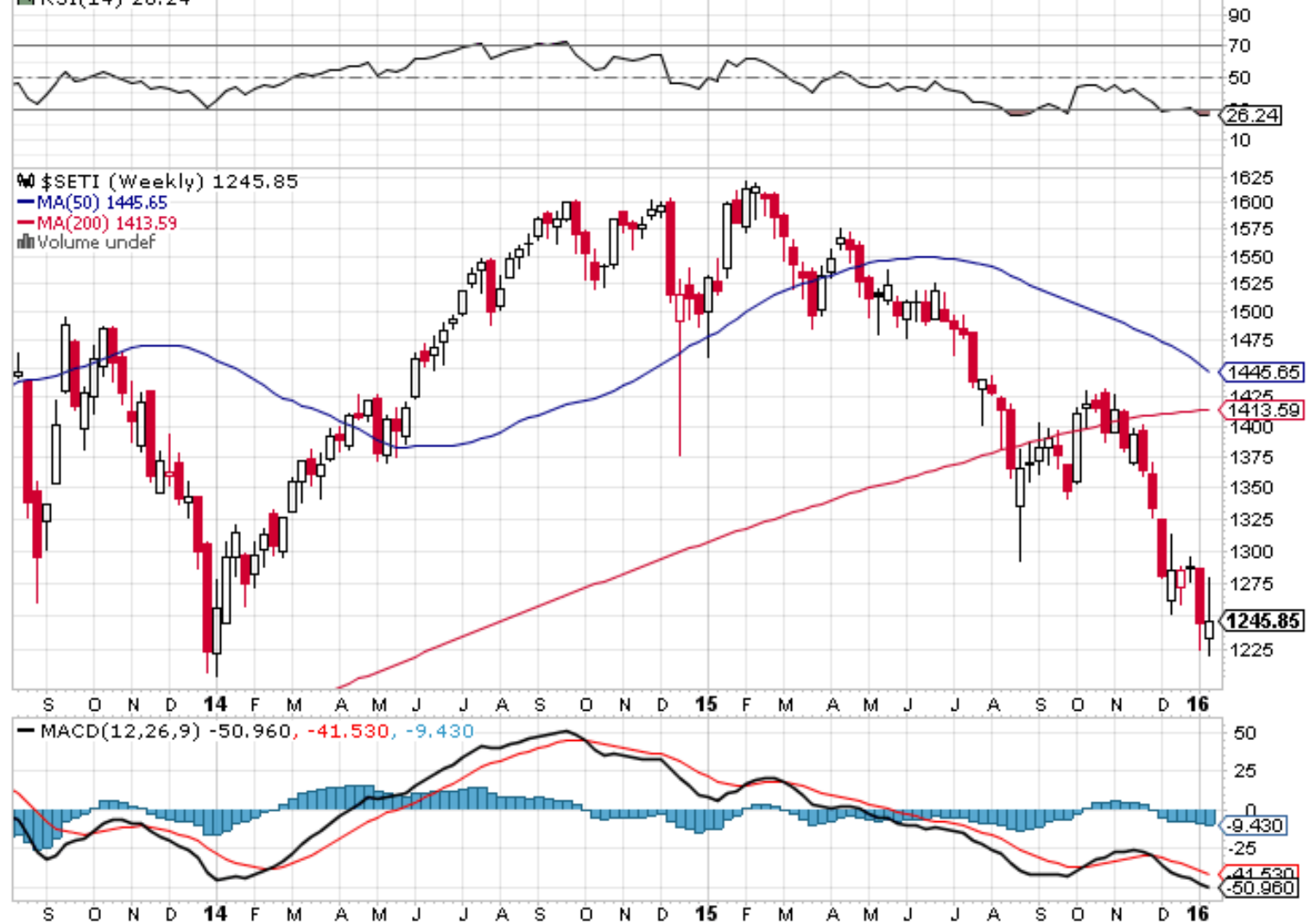
# \$SETI Thailand Set Index (EOD) INDX

© StockCharts.com

15-Jan-2016

Open 1233.86 High 1279.21 Low 1220.96 Close 1245.85 Chg +1.67 (+0.13%) ▲

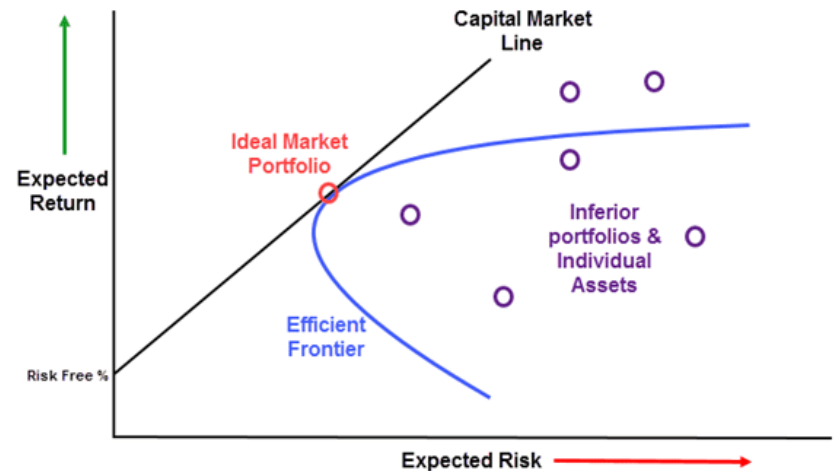
▲ RSI(14) 26.24



# Mainstream Finance

## Efficient Market Hypothesis:

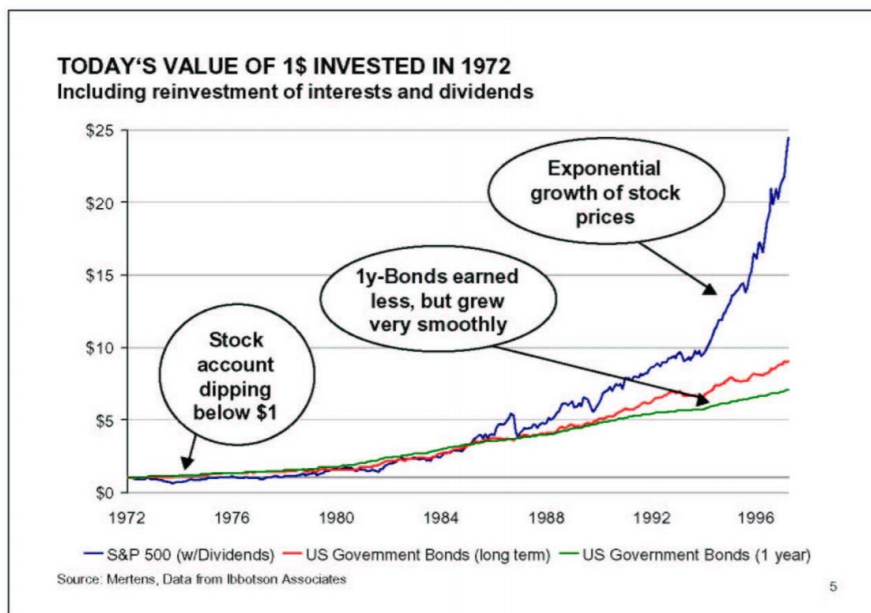
The Theory That Says Beating The Market Is Impossible



# Anomaly #1

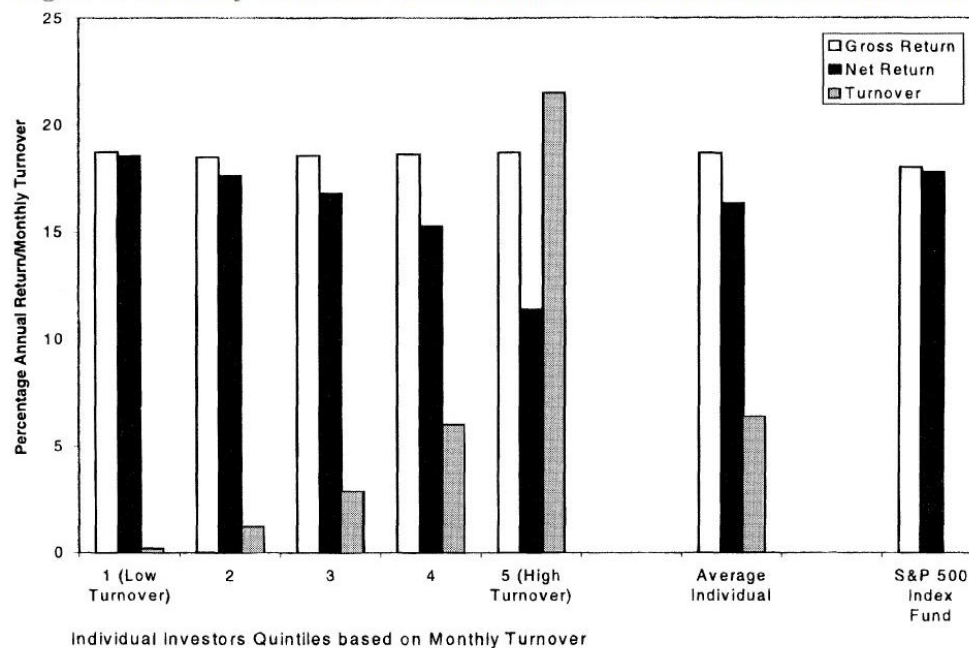


The long-term gains from the stock market have been astounding



# Anomaly #2

Figure 1: Monthly Turnover and Annual Return of Individual Investors



Source: Barber and Odean (2000), Figure 1. The white bar (black bar) represents the gross (net) annualized geometric mean return for February 1991 through January 1997 for individual investor quintiles based on monthly turnover (grey bar). The net return on the S&P 500 Fund is that earned by the Vanguard Index 500.

# Anomaly #3

Performance Measure/ Summary Statistic	CAPM defined with	P/E Portfolios <sup>1</sup>						Market Portfolios <sup>1</sup>	
		<i>A</i>	<i>A*</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>S</i>	<i>F</i>
Median P/E ratio and inter-quartile range <sup>2</sup>	—	35.8 (41.8)	30.5 (21.0)	19.1 (6.7)	15.0 (3.2)	12.8 (2.6)	9.8 (2.9)	15.1 (9.6)	
Average annual rate of return ( $r_p$ ) <sup>3</sup>	—	0.0934	0.0955	0.0928	0.1165	0.1355	0.1630	0.1211	0.1174
Average annual excess return ( $r'_p$ ) <sup>4</sup>	$r_f$	0.0565	0.0585	0.0558	0.0796	0.0985	0.1260	0.0841	0.0804
	$r_z$	0.0194	0.0214	0.0187	0.0425	0.0613	0.0889	0.0470	0.0433
Systematic risk ( $\hat{\beta}_p$ )	$r_f$	1.1121	1.0579	1.0387	0.9678	0.9401	0.9866	1.0085	1.0000
	$r_z$	1.1463	1.0919	1.0224	0.9485	0.9575	1.0413	1.0225	1.0000

Basu, S. (1977). Investment Performance of Common Stocks in Relation to Their Price-Earnings Ratios: A Test of the Efficient Market Hypothesis. *The Journal of Finance* 32(3), pp. 663 – 682.

# Financial Institutions

- This is another main component of the financial system
- **Banks**
- *Banks* are financial institutions that accept deposits and make loans.
- They are the financial intermediaries that the average person interacts with most frequently.
- **Other financial institutions**
- These include, for example, insurance, finance companies, mutual funds, government financial intermediation, and investment banks.

# Some Basic Facts



STOCKS ARE NOT  
THE MOST  
IMPORTANT  
SOURCES OF  
EXTERNAL  
FINANCING FOR  
BUSINESSES



ISSUING  
MARKETABLE DEBT  
AND EQUITY  
SECURITIES IS NOT  
THE PRIMARY WAY  
IN WHICH  
BUSINESSES  
FINANCE THEIR  
OPERATIONS



INDIRECT FINANCE  
IS MANY TIMES  
MORE IMPORTANT  
THAN DIRECT  
FINANCE



FINANCIAL  
INTERMEDIARIES,  
PARTICULARLY  
BANKS, ARE THE  
MOST IMPORTANT  
SOURCE OF  
EXTERNAL FUNDS  
USED TO FINANCE  
BUSINESSES.

# Bank Operation

- Banks make profits by selling liabilities (e.g. deposits) with one set of characteristics and using the proceeds to buy assets (e.g. loans) with a different set of characteristics. → **Asset transformation.**
- Normally, banks borrow from short-dated deposits and lend through long-term loans.

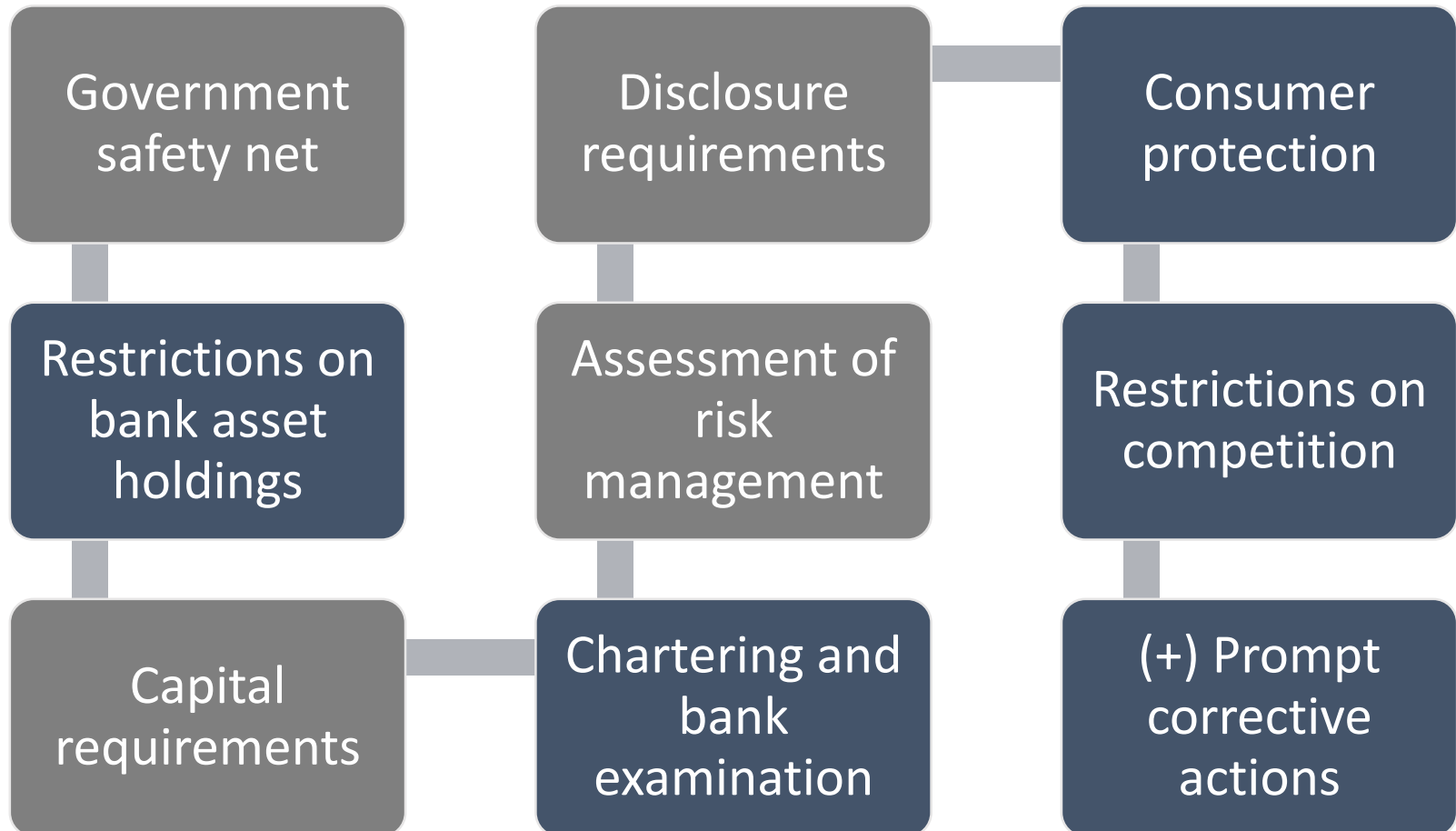
**Table 1 Balance Sheet of All Commercial Banks (items as a percentage of the total, January 2003)**

Assets (Uses of Funds)*		Liabilities (Sources of Funds)	
Reserves and cash items	5	Checkable deposits	9
Securities		Nontransaction deposits	
U.S. government and agency	15	Small-denomination time deposits (< \$100,000) + savings deposits	42
State and local government and other securities	10	Large-denomination time deposits	14
Loans		Borrowings	28
Commercial and industrial	14	Bank capital	7
Real estate	29		
Consumer	9		
Interbank	4		
Other	8		
Other assets (for example, physical capital)	6		
Total	100	Total	100

\*In order of decreasing liquidity.

Source: [www.federalreserve.gov/releases/h8/current/](http://www.federalreserve.gov/releases/h8/current/).

# Financial institutions are heavily regulated



# Financial Crisis

- Financial sector plays an important role to create or amplify many crises in the past.
- We, as economists, need to understand the relationship between financial sector and crises to solve or prevent the problems in the future.
- We will focus on the Sub-prime crisis.
- The sub-prime crisis leads to a big shift in the world of financial regulations.

## Conditions before the crisis

- Credit boom
- Securitization: the “originate and distribute” banks
- Maturity mismatch (Sometimes through “shadow” banking system)
- U.S. housing bubble
- The changes in the banking system (points 2 – 3) also contribute to the housing bubble (point 4): Cheap credits, lending standards fell

## Manufacturing AAA-rated Securities

- Manufacturing securities of a given credit rating requires tailoring the cashflow risk of these securities—as measured by ***the likelihood of default*** and ***the magnitude of loss incurred*** in the event of a default—to satisfy the guidelines set forth by the credit rating agencies
- Structured finance allows originators to accomplish this goal by means of a two-step procedure involving ***pooling*** and ***tranching***

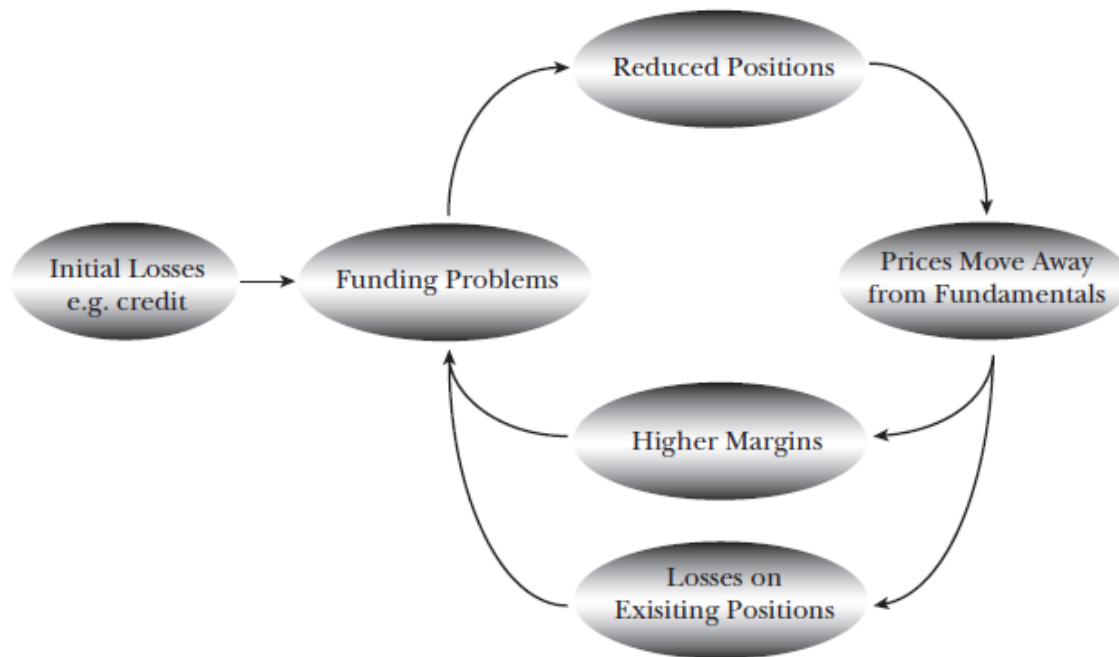
# The Subprime Financial Crisis of 2007 - 2008

- **Housing Price Bubble Bursts**

- When asset prices rise too far out of line with fundamentals, they must come down
- With housing prices falling after their peak in 2006, the rot in the financial system began to be revealed
- The decline in housing prices made the value of the house fall below the amount of the mortgage
- Struggling homeowners had tremendous incentives to walk away from their homes and just send the keys back to the lender
- Defaults on mortgages shot up sharply

Figure 4

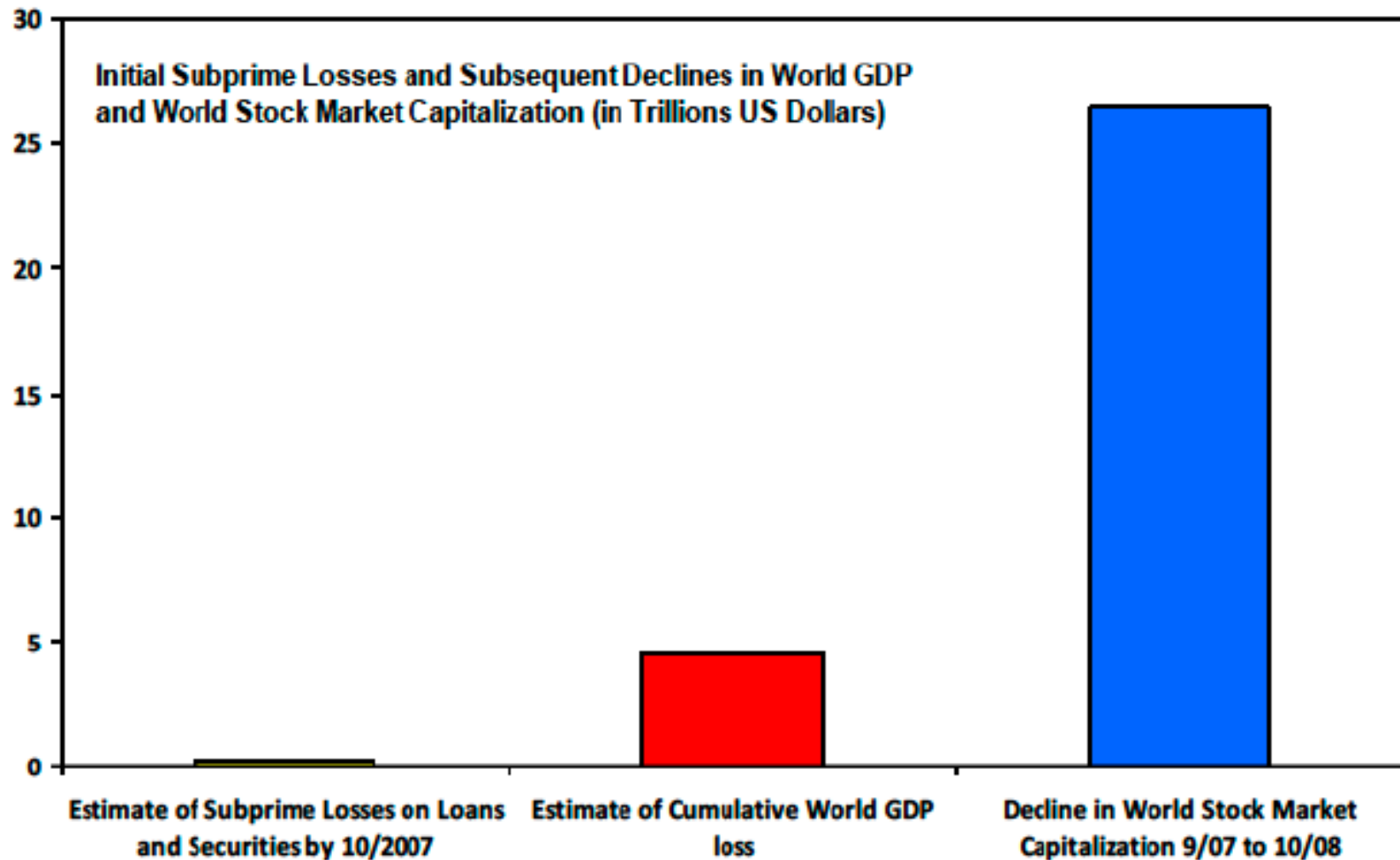
### The Two Liquidity Spirals: Loss Spiral and Margin Spiral



Source: Brunnermeier and Pedersen (forthcoming).

Note: Funding problems force leveraged investors to unwind their positions causing 1) more losses and 2) higher margins and haircuts, which in turn exacerbate the funding problems and so on.

**Figure 1. Initial Subprime Losses and Declines in World GDP and World Stock Market Capitalization**



Source: IMF Global Financial Stability Report; World Economic Outlook November update and estimates; World Federation of Exchanges.

## New Financial Regulation (Idea)

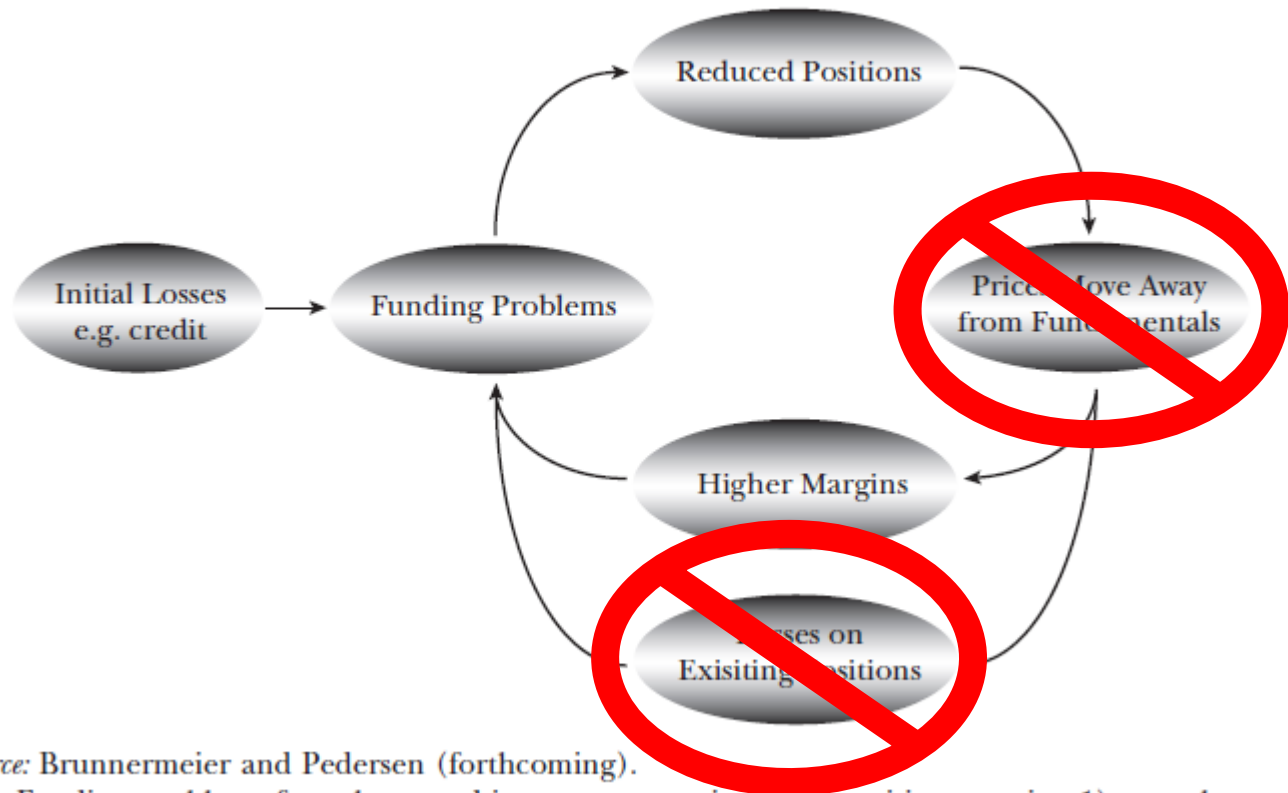
- The crisis has involved a regulatory failure as much as anything else
- The current regulatory approach assumes that we can make the system safe by simply trying to make sure that individual banks are safe (micro-prudential regulation)
- In practice, it represents a fallacy of composition
- The current ***micro-prudential regulation*** should be supplemented by ***macro-prudential regulation***

## New Financial Regulation (Idea)

- Application of CoVaR to measure systemic risk
- Supplementary factor (a function of financial system's variables) for risk-based CAR
- Mark-to-Funding and additional capital charge related to maturity mismatch

Figure 4

## The Two Liquidity Spirals: Loss Spiral and Margin Spiral



Source: Brunnermeier and Pedersen (forthcoming).

Note: Funding problems force leveraged investors to unwind their positions causing 1) more losses and 2) higher margins and haircuts, which in turn exacerbate the funding problems and so on.

# Evaluation

- Class talks 25%
- Midterm examination 30%
- Final examination 45%