Dysfunctionality of Capital Markets?

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Putting Crisis Into Context

Is the sub-prime crisis

1. Part of the rough and tumble we have come to expect from an efficient market?
2. Serious aberration in a more or less efficient market?
3. Symptom of the intrinsic dysfunctionality of capital markets?

The answer is important for the policy solutions

Dominant Paradigm

Dominant paradigm: capital markets are efficient, both informationally and allocationally. Has held sway for half a century

Consistent with classical notion that competitive markets are efficient markets

So long as all participants pursue individual self-interest (maximising profits), highest utility for all

Academics have looked at frictions, the obstacles that potentially contradict this paradigm

So far they have done this mainly in the field of corporate finance and banking. Have not explored frictions in the share markets – where, arguably, trouble mostly starts – to same degree

Behaviouralists have qualified (not challenged) dominant paradigm

Academic Endorsement

The present structure and functioning of the finance sector is one that is:

- Endorsed by academics
  (competitive markets are efficient markets)
- Enjoyed by practitioners
  (who maximise profits)
- Encouraged by governments
  (who compete for size internationally and welcome tax revenue)

The Evidence

Shortcomings of existing theory in explaining the financial world as we experience it

Volatile stock markets, bubbles, crashes and now collapsing banking sector

Sub-prime crisis latest twist in the long tail of macro-economic consequences of Technology bubble of 1999/2000

Collapsing stock prices in 2000/02

➡ **Policy-makers lowered interest rates**

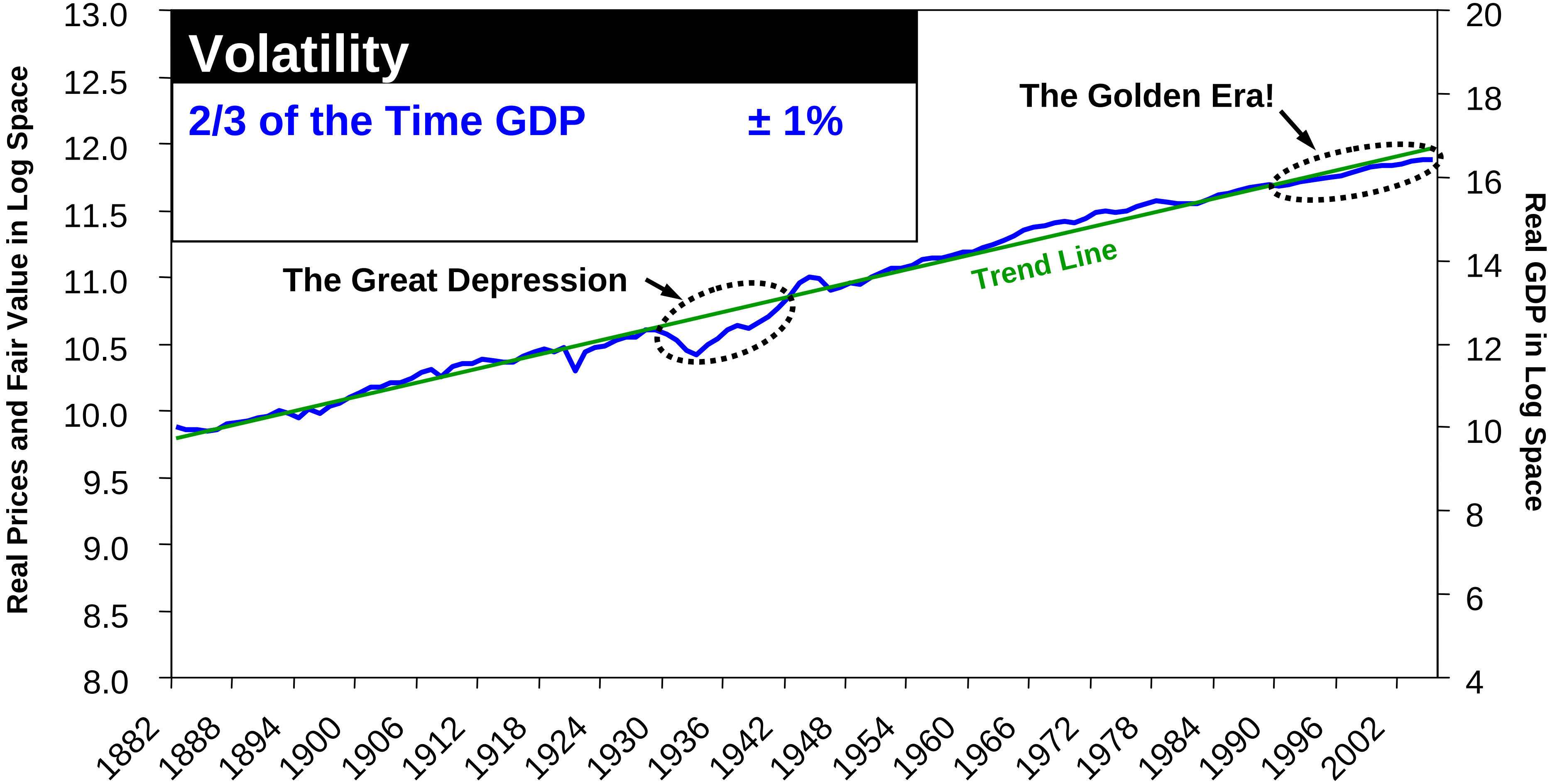
➡ **Triggered real estate and debt bubble**

➡ **Sub-prime crisis and policy response**

➡ **Contagion to real sector**

GDP is Very Stable and
Seems to Offer Little Long-Term Risk

Real S&P price vs. perfect foresight fair value*: 1882 – 2005



*Shiller model

Source: GMO, Standard & Poor's, Federal Reserve

As of 12/31/05

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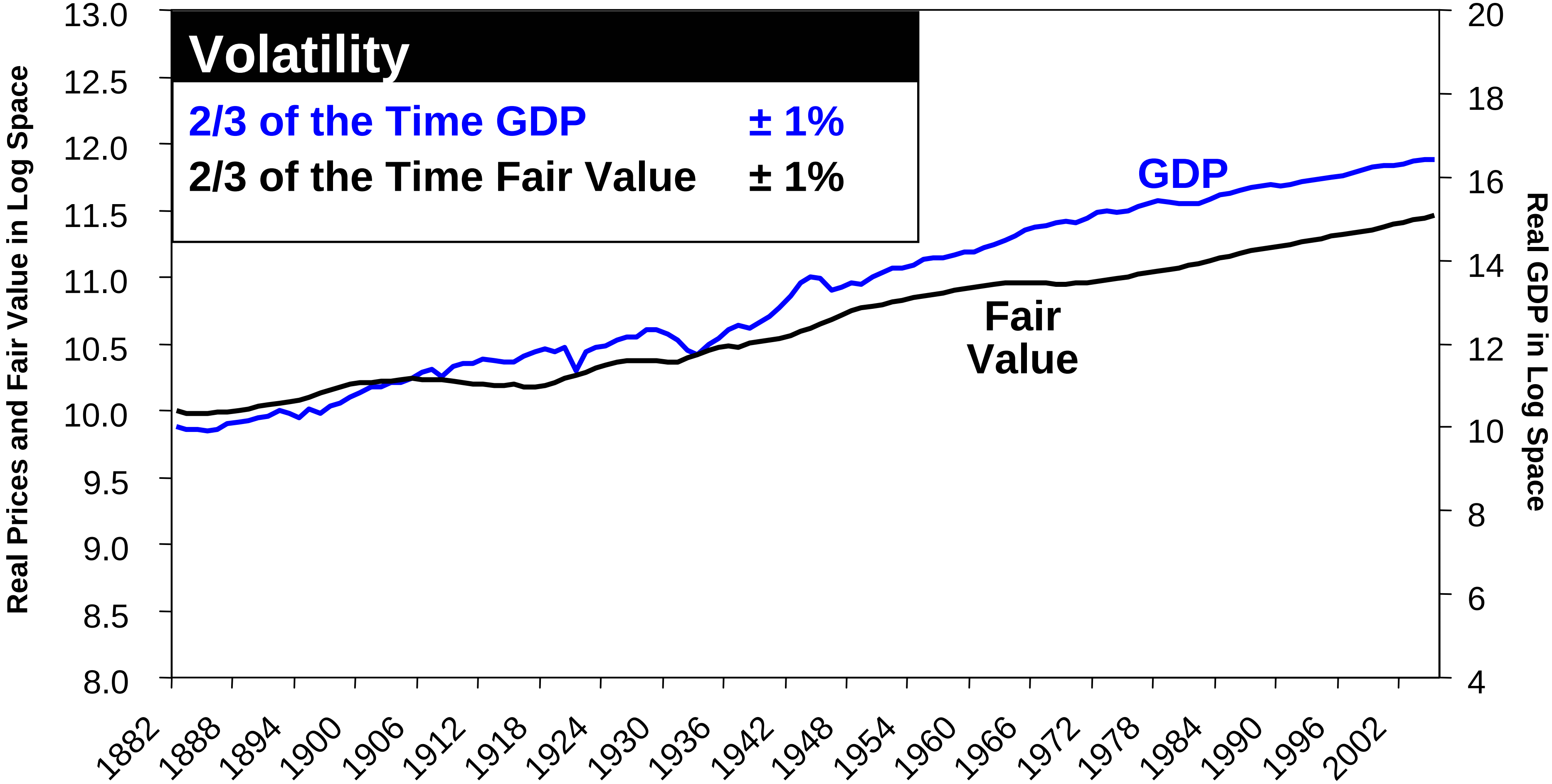

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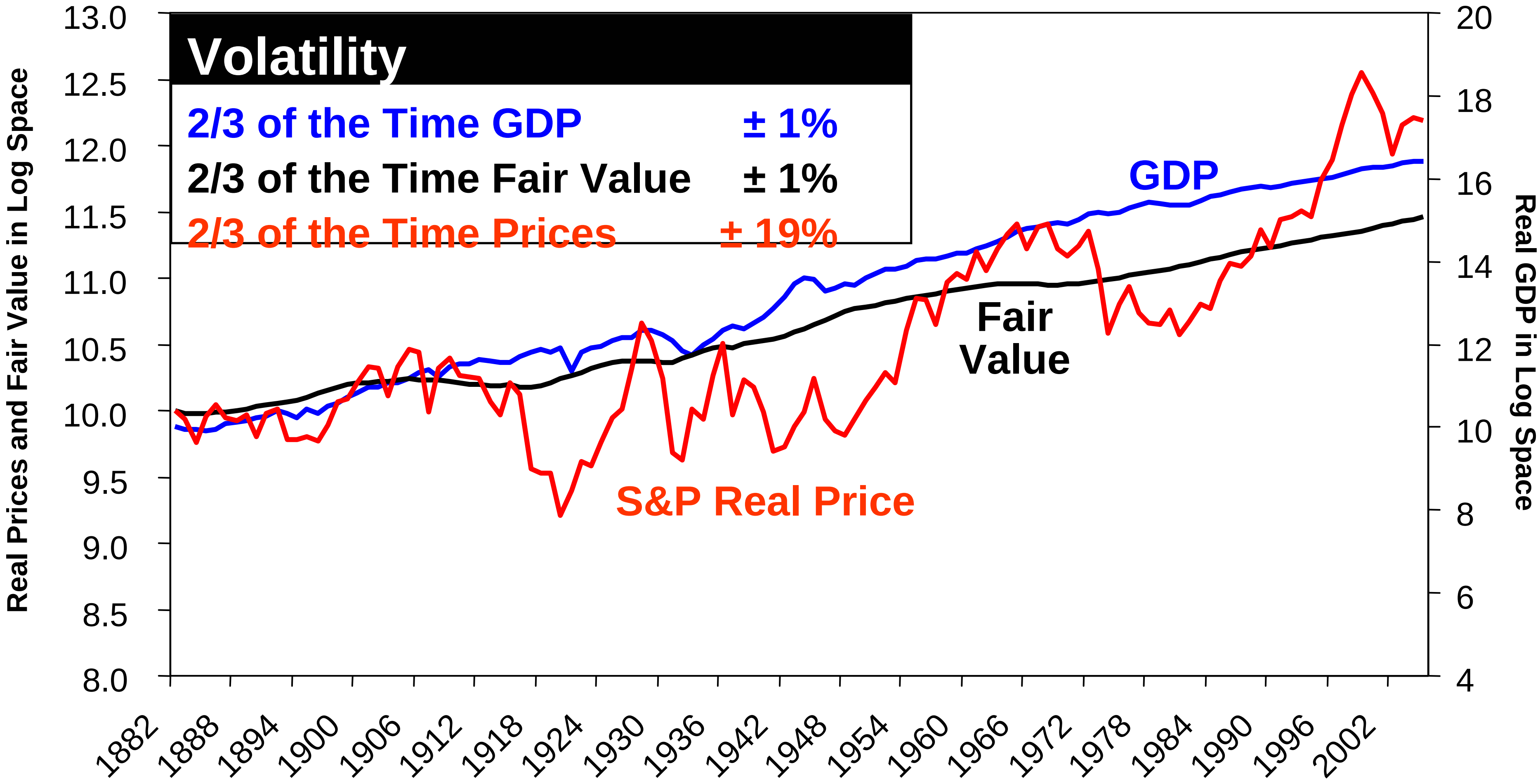

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Size of Finance Sector

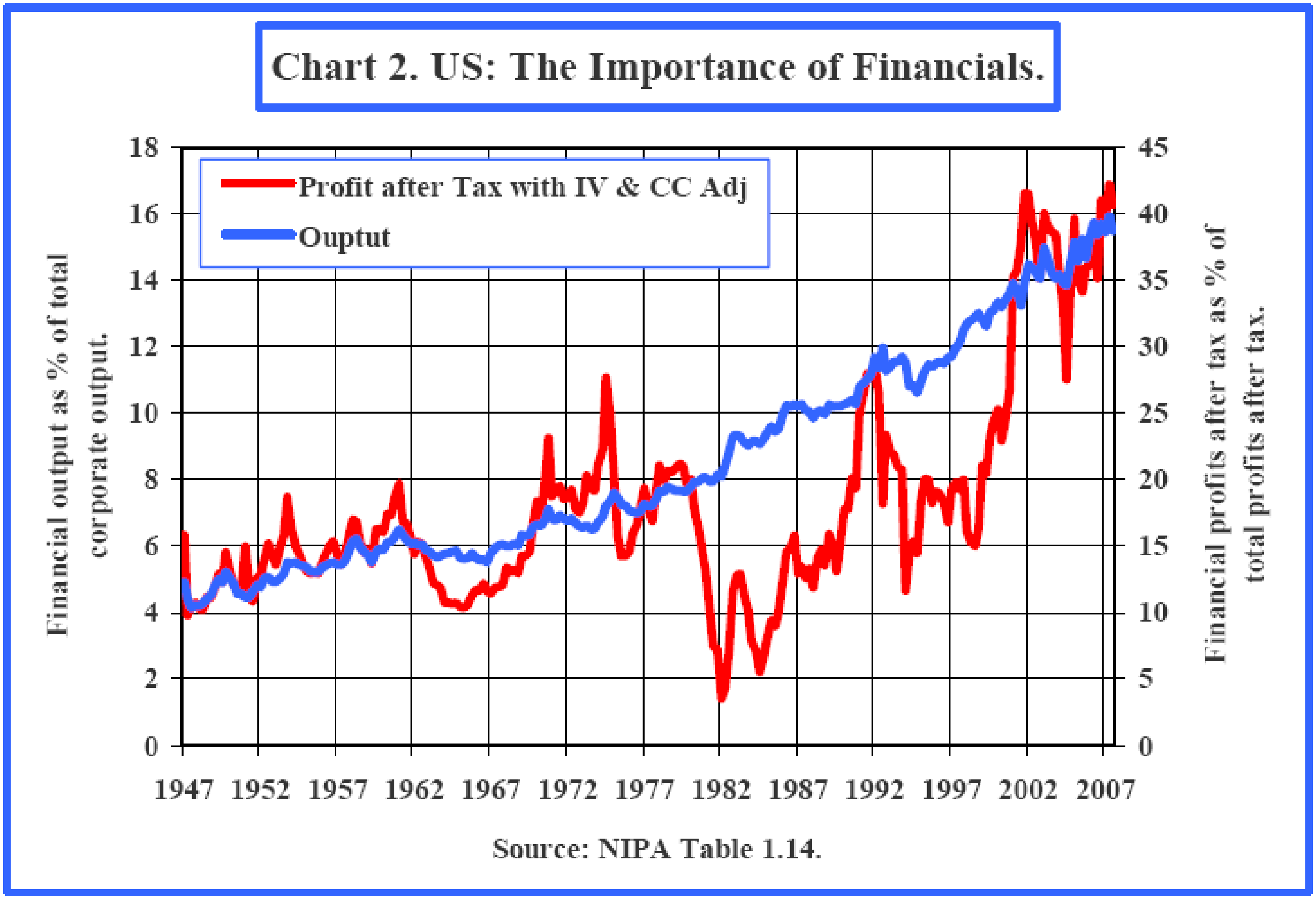
Efficiency of stock market implies that the infrastructure of markets and the costs of intermediation should be lean

On the contrary, we find the finance sector to be bloated and getting fatter over time

30-40% of corporate profits globally accounted for by banks and other financial intermediaries- up from 10% in 1960's

50% of revenue of investment banks and fund managers goes to staff. Absorbs best talent

Financial Output and Profit Margins.



Allocational Role

Finance sector performs a valuable role but only as an intermediary, with no final good or service

Sector whose role it is to allocate scarce resources ends up allocating most to itself

Profits currently down but large-scale capital-raising from public and private sources

Only a small handful of academic papers address the size of finance sector. Quite extraordinary that so much research on efficiency of market prices and so little on the size and cost of the infrastructure

Dysfunctional Features

Challenging the Efficient Market Paradigm

Asymmetric information
-especially agency/principal conflict
(remarkably little attention paid to this)

Asymmetric pay-offs for agents

Momentum investing
-reinforced by procyclical responses

Opacity
-developed to a fine art

RESULT: **Fundamental dysfunctionality of capital markets**

Agent/ Principal Conflict

Agents are

- Commercial Banks
- Investment Banks
- Fund Managers/ Hedge Funds
- Market Makers
- Insurance companies
- Rating Agencies
- Actuaries etc.

Even the major end-investors, such as pension fund managers/ trustees, college endowment funds are agents

Principal is the man on the Clapham omnibus with a bank account, mortgage, pension fund and a few investments, who pays tax, and has no power

Momentum Investing

Momentum is the most insidious source of mispricing. Investor disregards fair value and buys stocks/ asset classes whose prices are rising and sells those that are falling

Academics cannot understand why investors use momentum rather than fair value. Agents obliged to use it to stay in business

Momentum gets into the system:

-Controlling tracking error
-Portfolio Insurance (stop-loss)
-Leverage
-Manager Hiring and Firing

These reinforced by investors/agents using momentum for added value/ diversification

Momentum's Consequences

Momentum hugely pervasive. Potential to distort stocks, sectors (value/growth) asset classes (equities, bonds, real estate, commodities)

Part of the game-playing in secondary markets that imposes huge and unnecessary social cost

Investors see mispricing, choose active management rather than passive, hire managers thus perpetuating the distortions

Recipe for endless tiers of active management, using derivatives, leverage

Size of financial markets not constrained like toothpaste or shoes where there is a finite market

Inefficiency → complexity → scale → fees

Asymmetric Pay-Offs

Asymmetric pay-offs include:
- Traders' bonuses
- Hedge-fund performance fees
  - -encourages short term risk-taking
- Limited liability
- Bail-outs for banks

Agents both help to create and benefit from volatile conditions

Annual performance fees for hedge funds foster momentum strategies, aggressive shorting of stocks, sectors and markets

Seeing that today: collapsing banks, booming commodities

Opacity

Opacity is one way that agents can extract rent/ excess profits

Nobody has any idea how much they spend on financial services: banks nibble (or bite) away at so many items of consumer's budget: credit cards, bank charges, insurance policies, pensions. Embedded in everything we buy

GDP does a poor job of informing us for same reason; inferred and understated

Opacity is increasing:

- <u>Hedge funds</u>: strategy, leverage, cost structure
- <u>OTC markets</u>: CDO's with sub-prime component
- <u>Companies</u>: occasional buy-backs replacing dividends

Finance Sector Dominance

Financial intermediaries, endorsed by academic conventional wisdom, act rationally and optimally in their individual interest

They exploit opacity, asymmetric pay-offs

The benefit from economics of scale in credit-ratings, market-making

They are obliged to adopt momentum-like strategies by the rules of the game

RESULT: - Allocative inefficiency

- A vast unstable financial sector

New Paradigm- Dysfunctional Markets

Two papers in progress:

- “An Institutional Theory of Momentum and Reversal” (LSE)
  - Attempts to explain how momentum enters the pricing system
- “Booms, crashes and choking in the finance sector and other speculative industries” (Toulouse)
  - Using optimal contract theory shows how finance sector grows to the point where rents capture all the gains from financial innovation

Conducted in the rational expectations framework and do not need behavioural assumptions to support the analysis

Implications for Policy

A massive, unstable finance sector has been allowed to flourish unchecked. Crises likely to get worse unless fundamental dysfunctionality addressed.

Recognition of the issues is a first step towards remedy

Source of the problem is probably equity market instability. Therefore need to recognise agent/ principal conflict and change principal behaviour and contracts with agents

- -Reduce overtrading, momentum
- -Create buy-and-hold instruments such as GPD bonds
- -Curtail asymmetry of pay-offs

Implications for Policy (Cont.)

Better understanding of social costs and benefits of finance sector

More research into implications of mispriced asset classes, rather than relative stock prices

Disappointing that finance has become separated from economics in research and teaching

Finance is taught in business schools to train financial intermediaries rather than question inherited theory

Everybody is acting optimally and rationally but outcome is socially sub-optimal **PRIVATE GAIN: PUBLIC COST**