Excess Volatility in Financial Markets: Market Failure and Government Failure

Gurbachan Singh

Independent Economist, and

Visiting Faculty, Indian Statistical Institute (ISI), Delhi Centre

Acknowledgement: ISI, and my family

“... the competition for reputation as "realists" works toward a condition in which students of society are loath to take a minority position.”

(Philbrook, 1953, “Realism” in policy espousal, American Economic Review)

"... the current core of macroeconomics ... has begun to confuse the precision it has achieved about its own world with the precision that it has about the real one. This is dangerous ... we should be in ``broad-exploration'' mode."

(Caballero, 2010, Journal of Economic Perspectives, 24(4), Fall, 85-102)

“Preface”

- The whole is greater than the sum of parts.
- Refinements to prevailing policy solutions have yielded diminishing returns; this motivates a new approach.
- Extensive and inter-disciplinary study:

    1. Economics, and outside of Economics
    2. Within Economics –

        Financial Economics, Macroeconomics, Law and Economics, Public Finance

    This paper complements recent efforts at an inter-disciplinary analysis (Cincotti et al. 2012).
- A need to be brief on many aspects in this presentation.

INTRODUCTION

Diagnosis

- Are financial markets efficient?
- If no, does this imply a market failure?

  Or is there a government failure?

- There are both market failure and government failure.

- *Market failure in financial markets.*
- Market failures elsewhere in the economy.

  Hence, public finance and macroeconomic policy regime.
  However, there are side-effects on financial markets.
  So, there is a *government failure in financial markets*.

Introduction (continued)

Public Policy

Correction to market failure

    Legal-regulatory framework (LRF), basic change in

Correction to government failure

    Tax laws

    Macroeconomic policy regime

The usual discussion around
(a) central bank pricking a perceived bubble, and
(b) Do’s and Don’ts within the prevailing LRF

Macroeconomic Policy Regimes

- Traditional Monetary Policy, and Keynesian Fiscal Policy

- Inflation Targeting, and Keynesian Fiscal Policy

  'Inflation nutters' is a bad idea; no "divine coincidence"

  Refinements: Blanchard, et al. (2010), Woodford (2012)

- Inflation Targeting, and Extended Fiscal Policy

Macroeconomic Policy Regime Proposed Here

- Inflation targeting
  - Core inflation
  - Liquidity needs of financial institutions
    [Keister and McAndrews (2009), Singh (2012)]
- Extended fiscal policy
  - Output (the focus here)
  - Employment (Phelps 1994)
  - Cost-push inflation
  - Capital needs of financial institutions (Kashyap, et al. 2008)
  - Exchange rate stability (Jeanne and Korinek 2010)
  - Zero lower bound on nominal interest rate
    [Correia, et al. (2012), Singh (2014)]

Macroeconomic Policy on Interest Rate

The central bank has used interest rate instrument for the following purposes in varying degrees at various times:

- Exchange rate management
- Public debt management
- Stability of output and employment
- Low and stable inflation

The first two have become less important in many countries. Alternative solutions are now used in the first two cases.

This paper attempts to find an alternative way for the third case.

Prevailing Policy

- The central bank

  lowers interest rate in a recession and increases it in a boom.
- Interest cost for firms falls and interest income for households falls.
- It is as if there is a subsidy for firms and a tax for households.
- This is an <u>implicit tax-subsidy scheme</u> by the central bank.
- Possible effect on investment, output and employment.
- However, the policy has side-effects.

Side-effect 1: Asset Price volatility

- Low interest rate implies a low discount rate.
- Discounted present value of returns from assets rises.
- When interest rate is lowered, asset prices can rise [Modigliani and Cohn (1979), Shiller (2007)].
- When interest rate is increased, asset prices can fall.

- Asset price volatility can be a <u>result</u> of central bank's interest rate policy over a business cycle.
- In fact, it can become difficult to exit the low interest rate policy [Giavazzi and Giovannini (forthcoming)].

Side-effect 2: Consumption Smoothing

- In a recession, central bank reduces interest rate. So interest income is reduced.
- In a boom, central bank increases interest rate. So interest income is increased.

- So the spread in consumption is increased as a <u>result</u> of central bank policy.

Proposed Policy

- The central bank does not (a) lower interest rate in a recession, and (b) increase interest rate in a boom.
- Instead, the treasury intervenes.

- After a recession is announced by an independent agency, the treasury has constitutional mandate and obligation to provide a subsidy to firms. This is <u>effective reduction</u> in interest rate. In a boom, … a tax on firms. This is <u>effective rise</u> in interest rate.
- This is an explicit tax-subsidy scheme for firms.
- There is no tax-subsidy scheme imposed on households.

- Possible effect on investment, output and employment.
- No side-effects on asset price volatility or on consumption smoothing.

Trade-off

Prevailing central bank policy:

- Limited number of instruments. Hence, trade-off.
- There is an implicit tax and implicit subsidy in each period. 'Balanced budget'. So, no trade-off on this account.

Proposed treasury policy:

- No issue of instruments. So, no trade-off on this account
- In a recession, there is an explicit subsidy for firms
  In a boom, there is an explicit tax for firms
  Balanced budget over time; no trade-off on this account.

  Possible trade-off, if Greece, Argentina, …

	Gross Debt	Net Debt
Advanced economies	103.5	72.4
Emerging economies	37.6	27.0
Low income countries	38.2	NA
Oil producers	22.6	NA

Debt as percent of GDP in 2011

(Source: Table 5, p. 9, International Monetary Fund, 2012, Fiscal Monitor)

Even for the US at present, fiscal policy can be used to stabilize output without worsening the fiscal situation (Ball et al. 2014).

Prevailing Policy and Proposed Policy

- The unfamiliarity of the tax-subsidy scheme
- Transparency
- Costs of asset price volatility
  [Case, et al. (2013), Evanoff, et al. (2012)]
- Subsidy on interest cost, and investment tax credit
- Is subsidy to firms a good idea?
- Is tax on households a bad idea?
- Precedence (Jeanne and Korinek 2010a and 2010b, Singh 2014).
- Keynesian fiscal policy, and proposed policy
- Exit from the prevailing policy, and exit from the proposed policy
- Central bank's interest rate policy, and Fama (2013)

Financial markets: Background

- **Efficient market hypothesis**
  Fama (1965), Samuelson (1965), …, Welch and Goyal (2008), Cochrane (2011), …

- **Behavioural Finance**
  Keynes (1936), Shiller (1981), Kindleberger (1989), …

- Impossibility of efficient markets
  Grossman and Stiglitz (1980)

- Adaptive market hypothesis
  Farmer and Lo (1999), Lo (2002, 2004, …)


Dec 1984 : ^N225 11,543
35K
30K
25K
20K
15K
10K
© 2010 Yahoo! Inc.
1984
1985
1990
1995
2000
2005
2010

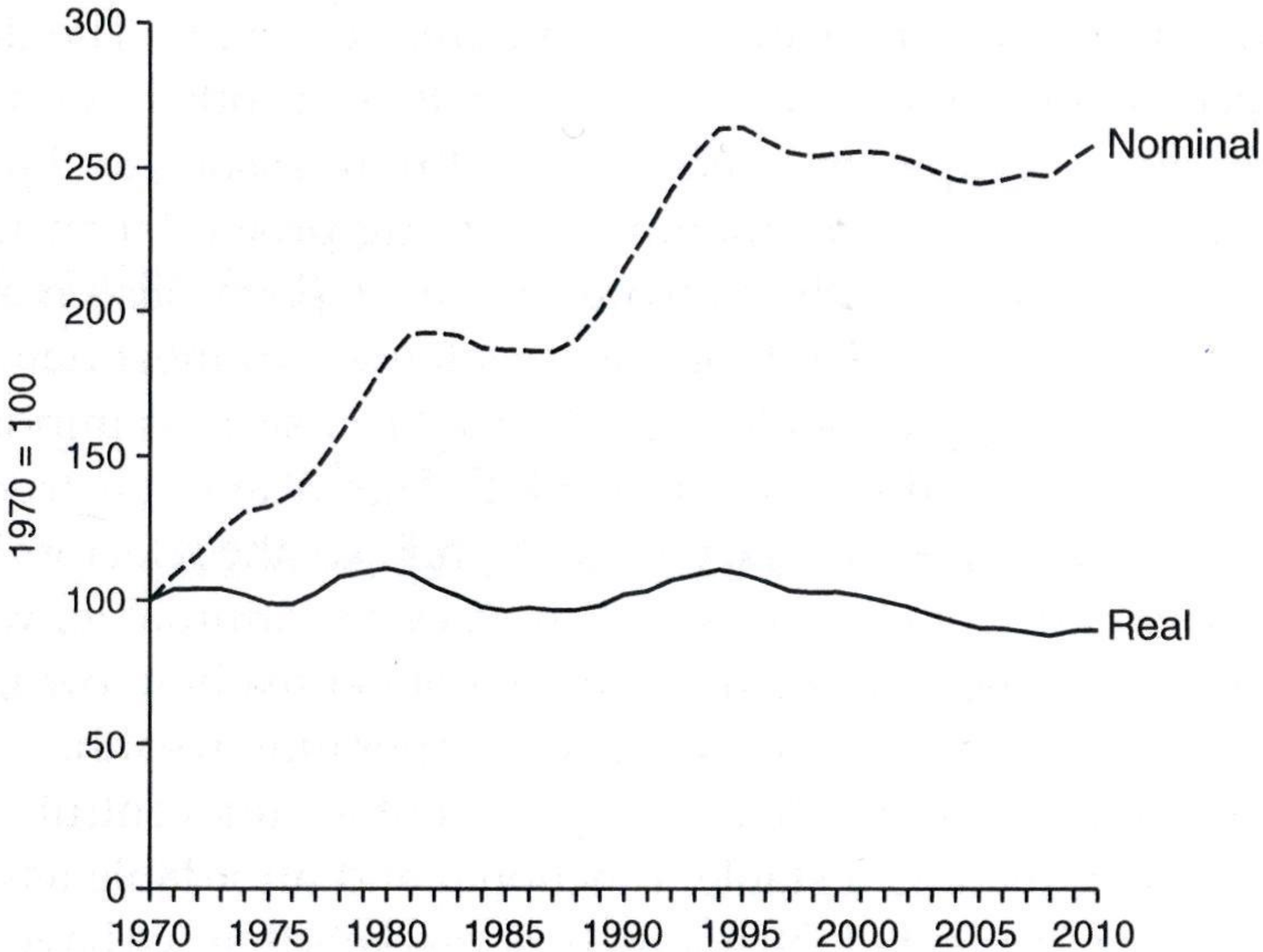
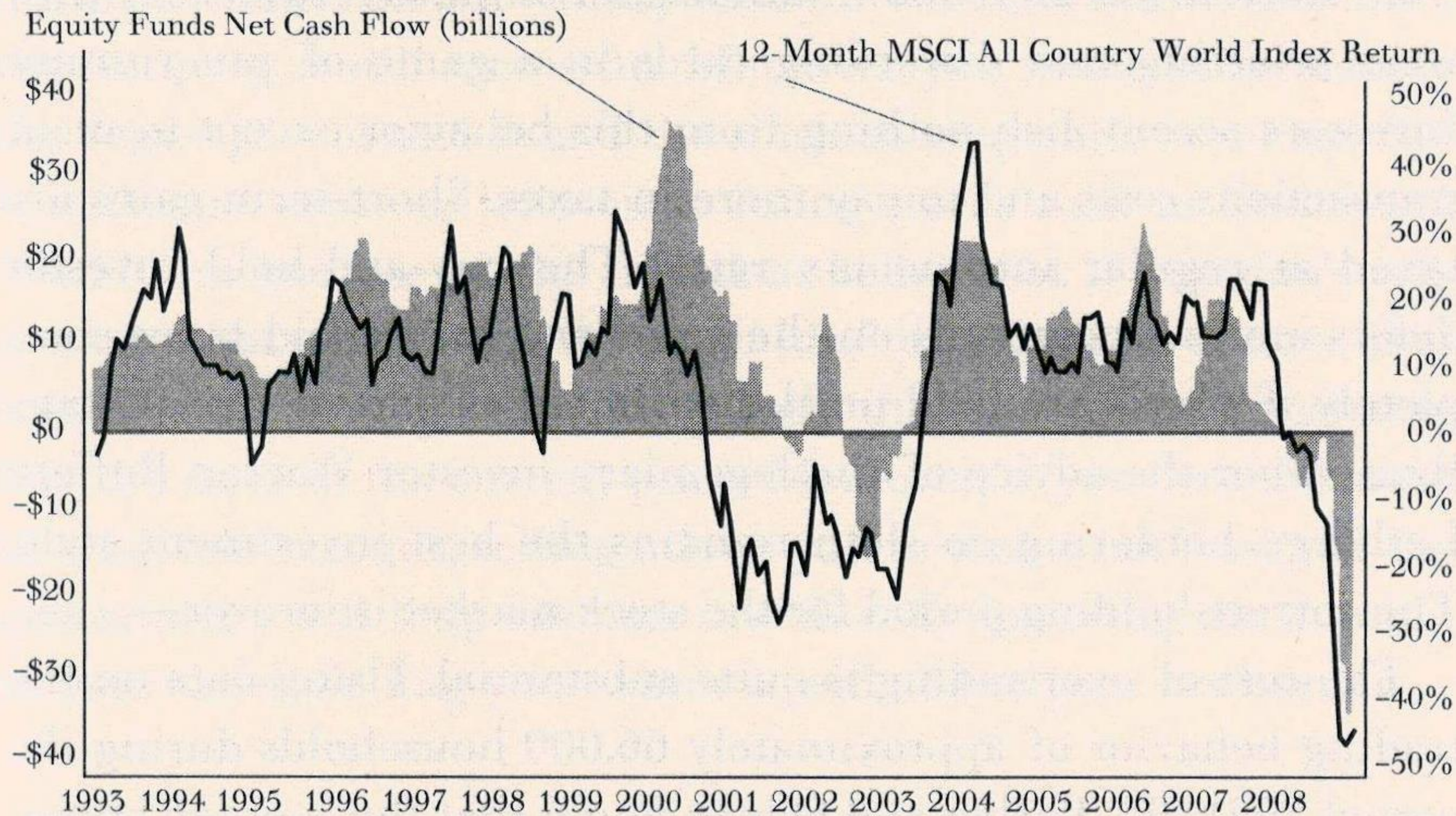


Figure 7.2. Nominal and real German house prices, 1970–2010.
Data source: OECD.

EXHIBIT ONE
THE TIMING PENALTY: EQUITY FUND CASH FLOW FOLLOWS THE STOCK MARKET



Efficient Market Hypothesis, and Behavioural Finance

“prices are right” $\rightarrow$ “no free lunch”

But

“no free lunch” $\nrightarrow$ “prices are right”.

(Barbersis and Thaler, 2003,
Handbook of Economics of Finance, vol 1B, ch 18, p. 1057)

More a case of micro-efficiency than macro-efficiency
[Samuelson (1994), Jung and Shiller (2005)]

Market failure

Noise traders (Black 1986)

Limits of arbitrage (Shleifer and Vishny 1997)

- They can harm others

  - Pecuniary externalities (Laffont 2008)

    [related literature includes

    Jeanne and Korinek (2010a, 2010b) and Titman (2013)]

  - Coordination problem,

    even if the size of noise trader population is small

    [related literature – Li and Li (2014)]

- They can decrease their own expected utility, if not expected wealth

  [related literature - De Long, et al. (1990), Kogan, et al. (2006)]

Role of the government in Financial Markets

I - Separation of ownership and management (Jensen and Meckling, 1976)

Government plays a role to prevent

"tunneling", insider trading, lack of transparency,

and so on (Tirole, 2006)

II – Separation of returns from performance (Shleifer, 2000)

However, government plays little role in ensuring fair returns to owners

Need for a different institutional, legal and regulatory framework

Familiar solutions to the problem of "inefficient markets"

I. Avoid complexity and innovation
(Bookstaber, 2007)

II. Information-insensitive products from banks
[Gorton and Pennacchi (1990) and Gorton (2012)]

III. Real assets in lieu of financial assets

IV. Invest through fund managers

V. Do's and Don'ts (e.g. Dodd-Frank Act, 2010)

VI. Government encourages use of financial assets
(e.g. ELSS, RGESS, quota in IPOs, etc. in India)

VII. Government intervention in leverage cycle (Geanakoplos, 2010)

Financial Literacy
(Lusardi in a series of papers)

But as the saying goes:

‘there are 10 types of people:

those who understand binary numbers and those who don’t’.

Accredited investors
- based on affluence

In India, minimum investment of Rs. 1 crore in private equity funds by individual investors

	Affluent	Not affluent
Educated		Error in exclusion
Not educated	Error in inclusion	

Two difficulties:
1. Government intervenes in other areas regardless of wealth
2. The basic idea of accredited investor is flawed. There is a need for an accredited advisor.

Securities And Exchange Board Of India (Investment Advisers) Regulations, 2013

- There are 10 exemptions!
- The eleventh exemption says

  "Any other person as may be specified by the Board."
- Newspapers (include pink), gurus, popular books, news channels can advise
- Advice for investment is not mandatory
- Regulation treats finance, economics, accountancy, law on finance, actuarial science, and so on in same way. However, only financial economics of asset pricing relevant.

- Behavioural Finance treats irrationality as exogenous
- However, it can be endogenous
- It can be an outcome of the legal-regulatory framework within which financial markets operate
- This paper takes a different approach from Warren (2007), Acharya, et al. (2011), Cambell, et al. (2011), Lusardi and Mitchell (2013), and so on

FINANCE IS SERIOUS – OBVIOUS BUT JUST A REMINDER

- At least from mid 1950s onwards, formal studies in Finance
- Nobel prize in Financial Economics –
  Markowitz, Miller and Sharpe (1990),
  Merton and Scholes (1997), and
  Hansen, Fama and Shiller (2013)
- PhDs in Finance from prestigious universities
- IMF and subsequently GOI appointed a <u>finance</u> expert as <u>economic</u> advisor (Raghuram G. Rajan)
- Considerable use of mathematics, econometrics, analytical history, and in-depth reasoning in finance

Lesson from the LRF in a different field - Medicine

- No participation puzzle in medicine.
- Hardly any sentiment, irrational exuberance, animal spirits or noise involved in medical treatment.
- Hardly any serious proposal to ban or restrict innovation in medicine.
- There is no proposal for banning complex medical products!
- There is hardly any pressing need for medical literacy.

The LRF in Developed Countries in Medicine

- Almost all patients are not well informed on medicine – obviously.
- By law, patients are not permitted to buy medication directly. This is usually not viewed as violation of freedom.
- In principle, patients obtain a prescription from a truly competent, seriously qualified, independent, and registered *medical practitioner*.
- Medical practitioners are carefully selected, rigorously trained, examined, certified, licensed and monitored in developed countries.

- A similar story in other fields like psychology, law, and so on.

The proposed legal-regulatory framework for financial markets

- Basic premise: almost all households are not well informed in finance.
- By law, households are not permitted to invest on the basis of their knowledge. This is usually not viewed as violation of freedom.
- Households obtain a prescription from a truly competent, seriously qualified, independent, and registered finance doctor.
- Finance doctors are carefully selected, rigorously trained, examined, certified, licensed and monitored.

New Writings

- BIS (2009)
- Singh (2009)
- Basu (2010)
- Singapore Monetary Authority (2011)

- These writings

  (1) extend the argument from another discipline to finance

  (2) extend the argument within finance to its logical conclusion

Financial Advisors in the Proposed System

- Need for MBBS and MD type of degree
- Need for comprehensive education in financial economics
- Licensed for a time period, though renewable
- Independent of sellers of financial products
- Code of conduct and an oath, as in medicine
- Advice from licensed financial practitioners only
- All financial advisors should be licensed though … Friedman (1982)
- Advice is mandatory

- But the 'money doctors' part of the problem? (Gennaioli, et al. forthcoming)

  Yes, given the legal, regulatory and institutional framework

  The proposed framework reduces this possibility

- Possible teething troubles in transition

A reconsideration of some issues, given the new paradigm

- Research on crowd behaviour
- ‘Genius’ like Warren Buffet [related literature: Dalbar (2010)]
- Rising economic inequality an economy like the US (Piketty 2014)
- Participation – quantity and quality
- *Home bias*
- Financial inclusion of the wary
- Consumer Financial Protection
  [Warren (2007), Campbell, et al. (2011)]
- IQ and stock market participation (Grinblatt, et al. 2011)
- Neglected risks (Gennaioli, et al. 2012)
- Learning to Invest in an Emerging Stock Market
  [Campbell, Ramadorai, and Ranishy (2013)]

Public Finance

Usual approach (Musgrave 2008)

1. minimizing distortions,
2. improving distribution of income and wealth, and
3. helping with macroeconomic stability.

Also, literature on the effect of taxes on portfolio choice
[for example, Dammon and Spatt (2012)]

But the standard Public Finance literature hardly pays any attention to the effect of taxes on stability of asset markets

Traders' Question and Policy makers' question

- Does a bubble exist?
- If yes, when will it end?

Valuation of assets can be extremely difficult for a layman

but it is no rocket science for a true expert. This is particularly true for valuation in the aggregate.

However,

timing in markets can be very difficult even for experts.

"I can calculate the motion of heavenly bodies, but not the madness of people." (Isaac Newton, 1642-1727)

Public Finance: Policy suggested

Taxes that need to come

- Tax on sudden capital flows (Jeanne and Korinek 2010a)
- Tax in a credit boom (Jeanne and Korinek 2010b)
- Tax on asset purchases in a boom

Taxes that need to go

- Capital gains tax where sale proceeds are reinvested
- Financial transaction tax [contrary to Darvas and Weizsäcker (2011)]
- Relatively higher taxes on foreign investments

Tax treatment for owner-occupied homes and rented homes needs to be similar [Cocco (2005), Wolswijk (2010)]

CONCLUSION

- Macro-inefficiency in financial markets is a case of both market failure and government failure
- Noise traders can harm themselves, and cause externalities and coordination problem. This is a case of market failure in financial markets.
- Market failure elsewhere in the economy. So,

  public finance, and

  macroeconomic policy regime.

  However, there are adverse side-effects for financial markets. This is government failure in financial markets.

Conclusion (continued)

Need for changes in public policy towards financial markets

- Legal-regulatory framework
- Tax laws
- Macroeconomic policy regime

Implications of change in public policy for

Functioning of financial markets in practice, and

Debate between EMH and Behavoioural Finance

Thank you ☺