The Financial Crisis and Securities Regulation: Towards Which New Fundamentals?

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Presentation prepared for the ASIC Summer School
Securities and Investment Regulation Beyond the Crisis
Melbourne, March 2010

A simultaneous Minsky process: building up a bubble-prone economy

Sub process I: Ex ante stability gradually appeared

- "Great Moderation", ex ante more stable economy
  - Monetary policy
    - Better understanding of the monetary process (1980's and 90's)
    - Improved institutional design for Central Banks (1990-1998)
    - Inflation targeting scheme (1990-1999)
  - Larger service sector, better inventory management,…
  - Better fiscal policy (despite large debts): US and EU (1990's)
- Inflationary pressures faded away even faster due to
  - The IT supply shock: improved productivity
  - Emergence of China and India as economic powers with low costs
- (Political risk fell due to the fall of the Berlin Wall)
- All these led to a period of supposedly increased stability
  - Risk premia fell across the board (eventually overshoot long term level)
  - Individuals and firms increased leverage (eventually too much)

A simultaneous Minsky process: building up a bubble-prone economy

Sub process II: Sowing instability

- Deregulation
  - 1980 Monetary Control Act
  - 1982 Garn-St Germain Act
  - 1988 -1999 gradual abolition of Glass-Steagall Act
  - Persistent regulatory consent to the appearance of unregulated entities (eg., hedge funds), unregulated markets (eg., CDS) and uncooperative jurisdictions
- Liberalization of capital flows (without proper institutions in place)
  - Europe (crisis in early 90's: Pound expelled from MU, Swedish crisis)
  - Mexico (1994-95) – OECD accession process
  - Asian Crisis (1997-98) – Korea under OECD accession process
- Regulation
  - Procyclical capital requirements (due to risk endogeneity)
  - "Procyclical" accounting standards (ie., fair value accounting)
- Lax Monetary policy: without creating inflation avoided two recessions associated to bursting bubbles
  - Bubble on Asian assets, that led to the Asian crisis
  - Bubble of High Tech assets, that led to the dotcom crisis

Household refinance mortgages and borrow against the value of homes

What we thought we knew… macro framework

Blanchard, Dell'Ariccia and Mauro (IMF, 2010): we thought we knew that the appropriate macro framework included

1. Limited role for fiscal policy
2. Stable inflation
3. Low inflation
4. One instrument: policy rate set by Central Bank
    - Real effects of monetary policy came through interest rates (and asset prices). No role from money aggregates
    - Interest rates and asset prices were linked through arbitrage:
        - Liquid markets
        - Long rate was weighted average of future short rates
        - Asset prices given by fundamentals **EMH**

5. Financial regulation was not considered a macro policy tool (and they are almost uniquely considering bank regulation)

What we thought we knew… financial regulation

- *Irrational behaviour was unimportant*
  - it cancelled each other out: “irrationality” or “bounded rationality” mattered at the individual level but not at the aggregate. The market worked as if rationality were the rule **(assumption)**
- *Risk was understood and kept under control*.
  - Sophisticated models **assumed** exogenous risk because it’s too complex to endogeneize. (Danielsson, 2001 and 2010). Risk is endogenous, VAR underestimate risk in “tail events” and becomes procyclical
  - Risk exogeneity assumes you know the distribution. What if not? Uncertainty
  - “Risk management has improved significantly, and the major firms have made substantial progress toward more sophisticated measurement and control of concentration of specific risks”, Geithner (end of 2006):
- *Agency problems were solved: no externalities, no public goods*
  - Basel II expected banks to “act in a way that promotes confidence to their primary stakeholders” (Caruana, 2010)
  - Internal risk models designed by banks were expected to induce them to have an appropriate cushion for risk taking. What about the asymmetry of information with the regulator itself? **Assumption**: without conflict of int, they can do it well
- *Disclosure was a legal problem*
  - As long as you disclose, we **assumed** you are being transparent

Reviewing fundamentals

1. The failure of the EMH (at least its strong form)
   - Rationality of the individual
   - Rationality of the firm
   - Transparency beyond disclosure
2. Regulatory consequences *of* financial markets' *systemic risk*
   - Basel II / Solvency II: some lessons
     - Governance
     - Risk
     - Procyclicality
   - Competition in the financial sector
   - Governance of regulators
     - Rules vs discretion
     - National implications
     - International consequences
   - A special role for Hedge Funds?

The failure of the EMH

- The Efficient Market Hypothesis, according to Samuelson, first developed by Louis Bachelier at La Sorbonne in early 20th Century, was popularized by Fama in 1960-70
- A strict formulation is the following

$$P_t = E_{i=t}^{\infty}(P^*_i\,(1+r^*_i)^{-1}) \text{ given information set } I_t$$

$$P^*_i = P_i + u_i \text{ with } u_i \text{ a forecast error}$$

- Simply speaking:
  - Market prices coincide with fundamentals, except for noise
  - Markets will incorporate into asset prices all available information
  - Process: Information is incorporated into prices by means of iterative transactions (liquidity) which marginally affect market prices driving them towards its fundamental value.

The underlying micro causes of the crisis

- The previous version of the EMH (“markets will incorporate into asset prices all available information”) is a definition without clear mechanics (“iterative transactions which marginally affect market prices”)

- Let’s use an alternative definition of the EMH due to Robert Lucas which is more workable

traders

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(rational) traders

will not miss the opportunity to make a gain, provided there is

enough and timely (relevant) information

1. Trader's rationality

2. Transparency, disclosure

How rational were we?

- "The trader". We think of the trader as the one rational agent that using all available information would take "optimal decisions". There is too much evidence that this was not the case in this crisis.

- *Olivier Blanchard, Chief Economist of the IMF*, said
  - investors replicated the price pattern of the last couple of years to forecast the behaviour of real estate prices in the next couple of years.

(Recall Minsky: stability is distabilizing because capitalists have a herding tendency to extrapolate stability putting in place ever-more risky structures that undermine stability)

- *Ben Bernanke, Chairman of the Federal Reserve*, testifying before Congress on September 23, 2008 said
  - "The troubles at Lehman had been well known for some time, and investors clearly recognized- as evidenced by the high cost of insuring Lehman's debt in the market for CDS- that the failure of the firm was a significant possibility. Thus we judged that investors and counterparties had had time to take precautionary measures" (Caballero and Kurlat, 2009).

Individual rationality and its limits

- **Rationality**. How bounded or limited is the economic agent's rationality. Among other issues, behavioural finance has identified that individuals
  - tend to stick to prior beliefs,
  - look for closest match to past patterns ignoring probabilities
  - attribute events that confirm their actions to their own high abilities
  - successful traders have an exaggerated opinion of themselves (they beat the market)

  so that ***feedback effects*** appear in the market (as inexplicable randomness) inducing prices to depart from fundamentals

- The tricky thing is this: once involved in an unstable path, it may be rational to continue.

- Does it matter? In normal times not so much because "most of the time people's actions cancel each other out" (crazy buyers with crazy sellers)

- But rarely the market is managed by individuals.

  Firms do the task.

The complex rationality of corporations

Corporate Governance

Beyond individuals, firms have strategies and structures of control and surveillance of traders

Firm's rationality depends on

- **Individual's rationality** (behavioural finance)
- **Intentional governance of the firm** (following Oliver Williamson's words as opposed to spontaneous governance or Adam Smith's invisible hand)
- **Context**
  - **Regulation** (including accounting issues)
  - **Competition**
  - **Taxation**

Issues of Corporate Governance

- Remuneration:

– Bebchuck: Managers influence performance-based remuneration, both level and conditions. Boards have little say.
– Remuneration schemes are unduly complex and opaque
– Akeloff-Kranton: performance pay is hard to monitor, attracts risk takers, easy manipulation

- Boards

– Independence : Necessary (but not sufficient) condition:
– How are boards chosen? What incentives do they face?
– Boards should enforce decisions

- Risk

– (a) identification, (b) understanding, (c) management, (d) timely communication
  - Danielsson-Shin: Endogenous risks and Tail events
  - Risk manager should report straight to the board and
  - Should not a be cost centre.

- Specific concerns:

– Credit rating agencies
– Auditors
– Institutional Investors
– Regulators

Disclosure and Transparency

- We securities regulators are permanently looking for more transparency. We believe information is necessary for markets to work properly.
- But, what do we mean by “enough information”?
  - Is “enough information” that contained in prospectuses of hundreds of pages?
  - Is it enough the innumerable quantity of notes to financial statements under IFRS? We need some standardization of information
  - When significant portions of information are unknown (such as the size and characteristics of the CDS market, the positions of Hedge Funds, etc…) a shock may create uncertainty if that hidden information is useful to understand the underlying distribution (Knightean uncertainty)
- This crisis suggests that eventually not. We now know that most of that information was basically useless, nobody read it.
- Traders or more generally investors finally did not take into account all available information.

Governance of regulators

- **Why should change governance of financial regulators?**
  - The systemic effects of financial markets,
  - The failure of traditional macromanagement based on monetary policy
  - Macroprudential policies (as proposed by BoE) need to consider securities
  - Minsky process just talk about capitalists: regulators are also part of it

- Which changes do regulators need?
  - *Rules vs discretion*.
    - If prices depart from fundamentals and monetary policy can't solve one market disarray, financial regulators can focus on the bubble. This means **discretion** to act.
    - Discretion is **ex post inefficient**. Governance rules should mimic Central Banks': an hybrid model mixing rules and discretion under transparency
  - *Conventionally wrong vs unconventionally right*.
    - Fighting a bubble is unpopular. Regulators need to be **independent, transparent and accountable** enough to properly do so.
  - *Appropriate financing conditions*
    - A condition for effective authonomy, **financing must be secure**: many regulators receive funding from government (like SVS, Chile) or congress (SEC, US).
  - *Research and policy actions: towards market reputation*
    - Identifying bubbles and taking care of them requires extremely sophisticated analysis. Financial regulators should devote resources to **build reputation** in this regard

International governance of regulators

- Considerations
  - Bubbles are often not country specific: international action is required to identify bubbles and tackle them.
  - Unpopular measures may induce national pressures to avoid stopping the party
- Therefore
  1. A web rather than one leader
  2. Intellectual competition rather than consensus
  3. A dynamic composition of concerned countries rather than a fixed group

International governance of regulators

1. A web of various parties *engaged in intellectual competition*
   - We need problems to be raised despite some countries being interested in denying issues or postponing their treatment
   - A unique leader institution in charge of macroprudential supervision may be kept under the influence of few jurisdictions
   - A web of international organization in charge of diverse issues may be better protected from those influences:
     - IMF, WB looking for anomalies at the global level dev/no dev
     - IOSCO, BCBS, IAIS, IOPS, looking at the situation in various markets
     - Regional banks looking at regions
     - All of them compete to bring to the market news from the market
2. A dynamic composition of concerned countries rather than a fixed group
   - The G20 is a group formed during the Asian Crisis. We need to grant countries outside G20 that there will be some room to participate. We cannot freeze that membership.

Let's be careful about competition

- Reason 1: Competition and financial innovation. We need to take a closer look at how competition takes place in financial markets:
  - One general model:
    - Competition induces innovation
    - Innovation spreads fast
      - within the financial industry
      - across countries
    - Herd behaviour
    - Outcome: being conservative may not be a dominant strategy when all other participants play risky bets.

Let's be careful about competition

- Reason 2: competition and the length of deviations from fair value
  - Several authors have documented prolonged significant deviations from fair value (ie., some ex post long term estimate of it).
  - The time length of such deviations impede arbitrage taking place, even if some traders (firms) even wish so:
    - If prices are considered too high, a short seller may pass quite a long time waiting for the correction and eventually run out of funds
    - If a manager simply sells an asset judged to be overvalued, and the correction does not take place in a short time, it will lose clients.
  - These elements induce more herd behaviour and to some extent prolong the over/under valuation

Let's be careful about competition

- Reason 3: concentration and strategic behaviour
  - Financial markets have become more concentrated in the last decade.

TABLE 3
Concentration Trends in Equity-Linked Over-the-Counter Markets

Market	Average HHI	Growth in HHI (Percent)	Top Two (Percent)
Panel A: Global concentration: BIS surveys, 1998-2004			
Forward, swap, and option			
United States	924	7.44	—
Europe	827	4.30	—
Asia (ex Japan)	2,707	35.88	—
Latin America	5,771	12.81	—
Panel B: U.S. reporters only, 2000-04			
Forward, swap, and option			
United States	2,162	-0.001	53.3
Europe	3,239	-9.65	70.5
Asia (ex Japan)	4,257	25.15	77.6
Latin America	6,976	4.38	96.2

Sources: Bank for International Settlements, Triennial and Semiannual Surveys on Positions in Global Over-the-Counter Derivatives Markets (2004); Federal Reserve Bank of New York; company annual reports.

TABLE 4
Concentration Trends for Primary Dealers, 1995-2004

Market	Average HHI	Growth in HHI (Percent)	Top Five (Percent)
Treasury securities			
Bills	515	4.88	37.6
Coupons	596	3.44	42.5
TIPS	1,826	11.43	71.9
Other securities			
Mortgage-backed	954	0.39	58.2
Corporate	1,336	-5.76	73.6
Federal agency	694	1.20	45.8

Source: Board of Governors of the Federal Reserve System, Weekly Report of Dealer Transactions (FR 2004B).

  - An example: Credit Rating Agencies
    - For all practical purposes, the world market for rating services is an oligopoly and they face conflicts of interest
      - rating the same firm that pays for it and
      - providing it with additional services designed to improve rating
    - An oligopoly does not help: strategic behaviour is easily attained.

Final thought: remember Churchill…

"The era of procrastination, of half-measures, of soothing and baffling expedients, of delays

is coming to its close.

In its place we are entering a period of consequences"

Winston Churchill, November, 1936

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