Outline

- Introduction
- Research Program
- Theory of Investment
- Financial Instability Hypothesis
- Limits vs. Originality

Main references:

- H.P. Minsky, (1981), *Can It happen again?*, M.E. Sharpe, NY, chp. 1-6, 10
Why is Hyman Minsky often misinterpreted?

- There are two different kinds of Economists
  - foxes vs. hedgehogs
- There is a conventional language in Economics
  - the use of math and the supremacy of theory over practice
- The use of alternative language and concepts
  - the financial instability hypothesis develops around accounting and finance ideas
Neoclassical view

Supply side
- Institutions
- Labor Market

Demand side
- Real Economy
- Money
Elements of the “vision”

Demand side
- Financial Relations
- Institutions Labor Market
- Real Economy

Supply side
Research Program

1. John Maynard Keynes (1975)

- Main critiques:
  - foundation of economic dynamics;
  - foundation of aggregate demand
Research Program

1. **Interpretation and critique of Keynes and “keynesian” economics**
   - Consumption models → I cause of fluctuations
   - IS-LM models → instability of liquidity preference
     - role of interest rate
     - structure of investment function
   - AD-AS models → countercyclical w/p no vertical IS and liquidity trap

2 & 3 **Development of Financial Instability Hypothesis + Policy Implications**
   → Big Government
   → Lender of Last Resort
   → Employer of Last Resort
THE ECONOMIST OF TRIADS

- Capitalistic system is intrinsically (explicit reference to monetary production economies)

- Incoherent

- Dynamic

- Unstable
Incoherence: pervasive and systemic

Equilibrium in this market as a function of long run expectations of firms; automatic adjustments do not necessarily lead to full employment. Downward stickiness of wages.

Labour Market
(real dimension/AS)

Changes in prices due to shocks are also determined by financial positions.

Goods Market
(real dimension/AD)

Keynesian speculation is the dominant feature.

Money Market
(monetary dimension/AD)
Substantial dynamics requires historical time: likely divergence between ex-ante vs. ex-post:

Evolutionary Environment: Institutions and Conventions

Expectations

Coordination

Relevant phases of a dynamic process imply cycles (take it as a pendulum with extremes):

Normal times

Panics

Euphoria
Instability:

- Fundamental psychological laws
- Marginal propensity to consume
- Marginal efficiency of capital
- Liquidity preference
- Economic uncertainty
- Limited information
- Asymmetric information
- Risk
- Speculative
- Ponzi
- Hedge
- Cash flows
- Balance-sheet
- Income
- Safe
- Risky
- Types of assets
- Essential role for financial dimension
Cornerstones of Wall Street Paradigm

- **Financial capitalism**: monetary production economy → fundamental uncertainty & dynamics → money as financial asset
- **Network of balance-sheet relations**: stratified financial system where risk is “socialized”
- **Speculation as the engine of economic dynamics**: firms as banks → accumulation of wealth through creation of positions and instruments for their financing
- **Role for (evolutive) institutions**
**Consequences**

- Need for policy intervention:
  - Big Government
  - Lender of Last Resort
  - Employer of Last Resort
Microeconomic Aspects of the Theory of Investment

- **Theory of two prices (as in Keynes GT)**

  \[ P_k \]
  Demand price: maximum price the investor is ready to pay in order to undertake the investment (basically the NPV of expected cash flows evaluated from the point of view of the investor)

  \[ P_i \]
  Supply price: determined by the cost of production of capital goods

  **Investment > 0 only if** \( P_k > P_i \)
Microeconomic Aspects of the Theory of Investment

- Price of current output includes price of capital goods and consumption goods
- In the short run expectations about costs and demand are given
- Producers set the price of output à la mark-up
- This in turn determines gross profits
- Gross capital income less gross cash payment on debt and dividends lead to the amount of internal financing
- If firms want to invest more than internal financing they have to run into debt
Microeconomic Aspects of the Theory of Investment

The evaluation of $P_k$ is difficult:

- Investment may be financed by different types of investors (internal vs. external)
- Investment is affected by
  - Liquidity
  - Uncertainty

When uncertainty $\to 0$ and liquidity $\to \infty$ financial structure does not affect investment.

In other words M&M theorem holds...
Microeconomic Aspects of the Theory of Investment

But the M&M’s conditions do not hold in general:

- Assets and liabilities do not have the same degree of liquidity
- Cash inflows and outflows do not have the same degree of uncertainty

As a result $p_k$ unstable

$P_k = f(\text{liquidity preference, expectations, liabilities structure})$
Microeconomic Aspects of the Theory of Investment

- **From \( P_k \) to borrower’s risk**
  - Subjective nature (doubts in the mind of entrepreneurs)
  - Increases with the investment, hence it leads to a decrease of the demand price above a threshold.

- **From \( P_i \) to lender’s risk**
  - Objective nature (shows-up in contracts)
  - Increases with the amount of investment, it leads to an increase of supply price above a threshold
Microeconomic Aspects of the Theory of Investment

Lender's risk

Borrower's risk

Internal Funds

$P_k$

$P_i$

$I^*$
Behind lender’s risk

Reasons to increase the cost of funds:

- **different attitudes towards risk**
  - lenders are more risk averse than borrowers

- **differentials in expectations**
  - lenders will not fund projects whose expected return is negative, zero or insufficient to guarantee the refund

Both explanations are grounded on **fundamental uncertainty alone**, they do not need market imperfections such as asymmetric information.
Behind lender’s risk

- Even Keynes’ GT underlines that lender’s risk is due to both disappointed expectations (fundamental uncertainty) and moral hazard (asymmetric information).
- In any case, uncertainty and asymmetric information are not independent in a complex world where there exists heterogeneity among agents’ informative sets.
- Lenders’ risk aversion explains \( P_i \), but does not explain credit rationing: why not to lend money when it is possible to increase price?
- Wolfson’s defense: radical importance in the differentials of expectations in a world of fundamental uncertainty and heterogenous agents.
Behind lender’s risk

The justification is grounded upon asymmetric information alone (does not matter whether true or potential, need to be just perceived)

It is fundamental the lenders believe that borrowers possess privileged information. Hence lenders adopt defensive strategies such as credit rationing and equity rationing.

**PRICE EFFECT:**
Asymmetric information leads to an increase of external finance hence to the creation of the so called hierarchy of funds.

**QUANTITY EFFECT:**
Moral hazard and adverse selection lead lenders to leave part of the demand of funds not satisfied instead of clearing the market through an increase in price.
Behind borrower’s risk

- Explanations conceptually symmetric to the ones given for lender’s risk.

- Link to Kalecki, Theory of increasing risk: borrowers have a double incentive to increase leverage:
  - If failure: socialization of risk;
  - If success: increase in the value of the firm

\[ ROE = ROI + (ROI - i) \times lev \]
From Micro to Macro: Alternative Perspectives

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<td>✤ Subjectivist background</td>
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<td>✤ Endogenous explanation of financial fragility and business cycles.</td>
<td>✤ Imperfect capital markets inside EEG</td>
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<td>✤ Focus on liquidity and cash flows.</td>
<td>✤ Binding financial constraints:</td>
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<td>✤ Trust on conventional views (possibility to have panics and euphoria)</td>
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<td>✤ Role of speculation</td>
<td>✤ Financial constraints on borrowers (equity rationing)</td>
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From Micro to Macro: Types of Cash flows and Assets

- **Income Cash flows** (wages and profits)
- **Balance Cash flows** (capitals and interests due to lenders)
- **Portfolio Cash flows** (sale of assets)

It is also possible to classify assets according to their liquidity:

- **Safe Assets** (gold, public bonds)
- **Protected Assets** (deposits and bonds)
- **Risky Assets** (capital, private loans, equity)

Portfolio composition is the result of individual preferences and especially of individual attitude towards uncertainty.
From Micro to Macro: The Minskian Triad of financial units

- **Hedge firms** (Inflows > Outflows always)
- **Speculative firms** (normally as hedge, but sometimes need to refinance)
- **Ponzi’s firms** (extreme case; basically outflows > inflows for a long period, at the end of which there is a really high expected return such that the present value of the project is positive; Ponzi units need to refinance as a norm)

The composition of the population of firms changes during the different phases of the business cycle

N.B. Units are not positions. Starting point = units; as time passes = positions. It may happen that a unit starting as hedge, develops a speculative position; and hence that a speculative develops into a ultra-speculative (looking like Ponzi)
The essence of FIH

- Stability is destabilizing
- Instability is the effect of the conflict between microeconomic self-interest and macroeconomic coordination
- Unavoidable “Ponzification” of the economy
The essence of FIH

Financial Instability Hypothesis is an **endogenous** explanation of cycles.

According to Minsky there exist conditions leading a solid financial system towards **fragility**.

Fragility can be defined as a condition where a small shock is sufficient to start a **debt deflation**.

**Financial Instability Hypothesis** is strictly connected to Fisher (1933) Debt Deflation Theory.

According to Fisher main factors conducive to a depression are:

a) **excessive** indebtedness
b) deflation
# The essence of FIH: Fisher vs. Minsky

1. Starting point General Equilibrium: shock due to excess indebtedness
2. Diffusion of alarm among lenders and borrowers: debt liquidation
3. Difficulty to sell
4. Deposit contraction (loans not honoured) fall of \( v \)
5. Fall in \( p \). If deflation is not stopped …
6. Further fall of assets’ value. Bankruptcies accelerate
7. Profits fall
8. Fall in production, commerce, employment
9. Pessimism and confidence fall
10. Money hoarding and further fall of \( v \)
11. Complex changes of \( i \)
The essence of FIH: Fisher vs. Minsky

When indebtedness can be defined excessive?

**Fisher**: relative to GDP and bank reserves

**Minsky**: relative to profits too

Why does a debt deflation set in?

Through time liabilities structures develop such that they cannot be validated by cash flows and/or market asset values
UNDERLYING HYPOTHESIS BEHIND DIFFUSION OF FINANCIAL INSTABILITY

1. Banks seek profit max checking for credit risk and liquidity

2. After the check of risks banks do not have a limit to lend (bank creates money issuing new financial instruments)

3. Economic stability generates optimism (risk perception softens)

4. Agents in general use increasingly financial leverage in order to gain profits (Modigliani and Miller Theorem does not hold)

5. Investment ruled by fundamental uncertainty (function of indebtedness: level, change, financing)

6. Agents share the same expectation climate (keynesian idea of conventional wisdom)
The essence of FIH

- **Financial fragility**: sensitivity of the firm with respect to the negative impact due to divergence between ex-ante expectation and ex-post realizations

  $f(\text{CHF, lev})$

  **Positive Impact:**
  1. ↑ availability of internal funds (↓ financial fragility)
  2. ↑ availability of external funds (↑ financial fragility)

  **Destabilizing Effect as (2) stronger than (1)**

  **Negative Impact:**
  Greater leverage implies higher probability of failure if CHF<interests

  **Stabilizing Effect**
  (↓ incentive to indebtedness)
The interaction of FU & AI during the cycle: General considerations

- Integration of FU and AI allows a better microfoundation of FIH (especially it gives an endogenous rationale to the existence of a downward limit to the cycle);
- FU and AI play a different role during the cycle
- Simplifying a lot:
  - AI is responsible of min and max of cycles
  - FU is responsible of intermediate changes (from reprise to expansion; from recession to depression);
- Euphorias and panics are the effect of “extreme” subjective expectations: either too optimistic or too pessimistic.
The interaction between FU & AI during the cycle: Starting point

- **Starting point**  
  **Minimum of the cycle** (end of a depression)

  - Low levels of all real variables
  - High market uncertainty (High systemic risk)
  - Pessimistic conventional view and low confidence in the view
  - Only hedge units
  - Excess Capacity
  - Low financial fragility

**Simplifying hp:** depression stops as an effect of exogenous public intervention addressed to the increase of aggregate demand.
The interaction between FU & AI during the cycle: Phase 1 - Recovery

- At the beginning use of internal funds and excess capacity in order to satisfy demand:
  - ↑ employment ↑ consumption ↑ AD ↑ funds for investment

- Internal funds non longer enough in order to face the increase in demand. Existing firms ask for external sources (especially bank financing).

- Asymmetric information start to increase due to the access of new firms, strategy applied by the banks: increase the interest rate.

- Expectations (subjective) in this phase turn to be optimistic but still the confidence is low.
  - As a result it is easier to validate such expectations ex-post.

- Validation of expectations has two main effects:
  - Reduction of fundamental uncertainty
  - Conventional view that becomes more optimistic (increase in the values of expectations)

- Change in the distribution of income (from firms to workers (?), from lenders to borrowers and so increase in overall systemic leverage)
The interaction between FU & AI during the cycle: Phase 2 - Expansion

- Fundamental uncertainty starts to increase
  - due to the fact that subjective expectations become more detached from objective values
- Expectations move towards “euphoric state”
- More and more speculative units and Ponzi
- Increase in the level of systemic fragility (→max)
- Asymmetric information reaches the maximum level: banks start credit rationing
- Possible formation of speculative bubble: expectations “too optimistic” (i.e. ex-post such expectations will be disappointed)
- The bubble bursts
The interaction between FU & AI during the cycle: Phase 3 - Recession

- Highly speculative investment become unsustainable:
  - Cash flows are no longer sufficient to repay debts
- Firms (and in general borrowers) face increasing liquidity problems
- Banks reduce credit
- Firms (and other borrowers) become insolvent
- A process of contagious failure sets up
- ↓ investment ↓ income ↓ employment
- Disappointed expectations
- Both AI and FU decrease
- Towards a more pessimistic conventional view
- When FU reaches the min depression starts.
The interaction between FU & AI during the cycle: Phase 4 - Depression

- Expectations become too pessimistic
- Possibility to have panics (likely the higher the peak, the lower the trough)
- Change in the structure of the population: failure of almost all Ponzi units, failure of many speculative, survival of hedge
- Only the ones with good reputation survive (asymmetric information decreases)
- Positive aspect of depression: financial fragility decreases (a process of creative destruction on financial side of the economy)
Depressions like 1929 should not happen again (?)

Nevertheless sophisticated capitalistic systems are more sensitive to financial fragility

Negative phases of cycles might be tamed better than in the past (?!)

This does not mean cycles are less intense or «permanent»: financial dynamics determines heavy redistribution of resources

Anyway, any attempt to stabilize the economy has at best a temporary success: the interaction between individuals and institutions unavoidably leads to attempts to overcome constraints
### A Further Step...

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