Yet Another Effort, Macroeconomists, If You Would Become Revolutionaries

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Macroeconomics

Macroeconomics: started after the 1929 Crisis. Keynes and others.

National Accounts, macro-economics aggregates

2 separate fields in the 1990's.

- Business Cycles: Pro-market, Competitive Real Business Cycles, small costs of cycles for representative agent.
- Growth: Pro-public intervention, Externalities in Growth models (Paul Romer (1983)).

The current crisis and macroeconomics

They say they want a revolution

Example: Institute for New Economic Thinking.

DSGE models bashing.

Harsh debates.

Why do they?

Guilt by economists misunderstanding of the upcoming crisis?

Old memories. Fighting back against Lucas' rational expectations?

A new macroeconomic regime with weakly regulated financial sector?

You say you got a real solution
Well you know
We'd all want to see the plan

Plan: 3 parts

1. We have a problem
2. Solutions of yesterday
3. Solutions for tomorrow

I. We have a problem

I. Why « it » will happen again tomorrow.

We need a reason to do a revolution in mainstream macroeconomics.

The reason is: « It » will happen again in the next 3 business cycles (3x8years).

« It »: another large world major financial crisis in developped countries.

One world crisis every 80 years? Or every three cycles?

The low frequency of the last two major world crisis (1 every 80 years) is related to the stability period which followed Bretton Woods

(1945-1973).

This period is also related to « a great reversal » in the balance of power for promoting international private banking and international capital flows, with respect to the period 1870-1940.

A great reversal: From A…

Regime A: Weakly regulated international finance regime.

- Large size of capital flows
- Opacity of capital flows (offshore finance).
- Unreliable asset prices
- Unreliable balance sheet of banks, unreliable estimates of bankruptcy risk
- Risk taking behaviour due to the bail out of too interconnected banks.

… to B

Regime B: Strongly regulated international finance.

- Control of international capital flows.
- Control of the amount of credit upwards or downwards by large retail banks in order to limit bubbles at the national level (strong macro-prudential policy).

Strong involvement of government in the allocation of capital.

Strengthes/Weaknesses

Regime A:

+ Better allocation of world capital.

- High probability of world systemic bankruptcy with large cost.

Regime B:

- Weaker allocation of world capital.

+ Very low probability of world systemic bankruptcy (including low contagion effects).

Condition for A to B in 1945

Weak bargaining power of international banking.

1. Decrease in trade
2. Decrease in capital flows (war).
3. Banking Regulations in 1933

Condition for A to B in 1945

4. War economies and expected reconstruction economies with strong involvement of government in the banking sector and in the allocation of capital.
5. Willingness to move to fixed exchange rate and international stability for the western world.

Others…

Conditions from A to B in 2010

Strong bargaining power of international finance.

None of the former sixth conditions met.

Banking sector regulations:

1933 (4 years) : Glass Steagall Act.

2010 (2,5 years): Basel 3 in the next 8 years.

International Coordination issues among jurisdictions; National level.

Many factors why governments may not fight opacity

- International capital flows and opacity creating bubbles.
- One short term strategy of exit of the crisis.
- Creating bubbles in emerging economies.
- Banks profitability restored quickly.
- Government cash given to banks comes back
- Probability of sovereign default decreases.

Low frequency of world crisis: a Bretton Woods II

To reach a low frequency of world crisis, one needs a ***Bretton Woods II*** along with a ***great reversal*** of the balance of power of international private banking, limiting its activities.

The (geo)-political conditions for a great reversal where built in by 1945. They are very far from being built in 2010.

There will not be a Bretton Woods II in the next years. **The probability of world systemic bankruptcy and related crisis will remain high.**

II. Solutions of Yesterday

Financial accelerator DSGE

- Imperfect capital markets with bankruptcy costs for non financial firms and also for banks.
- Debt backed by collateral valued at next period asset price.
- Next period asset price determined as the fundamental value of the asset (efficient market hypothesis).

Hypothesis: collateral backed credit rationing

$$(1+\mathrm{r_t})\cdot \mathrm{B_t} < \mathrm{m}(\mathrm{Z_t})\cdot \mathrm{E_t}(q_{t+1})\cdot K_t$$

$$\frac{\mathrm{B_t}}{q_t K_t} < \mathrm{m}(\mathrm{Z_t})\cdot\left(1+\frac{\mathrm{E_t}(q_{t+1})-q_t}{q_t}-r_t\right).$$

Hypothesis: default risk premium

$$r_t = r_0 + h\left(\frac{B_t}{\frac{\mathrm{E_t}\left(q_{t+1}\right)}{q_t} \cdot q_t K_t}\right)$$

Wealth accumulation

$$q_t\left(K_t - K_{t-1}\right) = B_t - B_{t-1} + \mathrm{F}\left(\mathrm{K}_t\right) - \left(1 + r_{t-1}\right)B_{t-1}$$

Asset pricing

$$r_t = \frac{G'\left(K_{t,lenders}\right) + E_t\left(q_{t+1}\right) - q_t}{q_t}$$

$$q_t = \frac{G'\left(K_{t,lenders}\right)}{r_t}$$

$$E_t\left(q_{t+1}\right) = \left(1 + r_t\right)q_t + G'\left(K_{t,lenders}\right)$$

Jackson Hole consensus 2001

Central Banks should not try to stop asset price bubbles before they burst. They have to accommodate ex post, to decrease their repo interest rate only once the bubble burst. Taylor rules with asset prices have a negligible effect in DGSE including the financial accelerator effect.

Game of Seven Errors

1. Understated cost in terms of GDP loss: persistent, slower recovery.
2. Effect of the fall of asset prices on subsequent GDP loss understated.
3. Variation of asset prices with respect to output variation and with respect to the variation of the consumer price index understated.

Seven errors

4. Little additional information of asset prices with respect to CPI and output gap: asset prices predicted not to be useful in Taylor rules.
5. The ability of a monetary policy with Taylor rule to accommodate the crisis is overstated.
6. The ability of the fiscal policy to accommodate the crisis is understated due to an emphasis of the ricardian effect.

Seven errors

7. The asymmetry of the volatility of asset prices for a negative shock with respect to a positive shock was not predicted.

You say you'll change the constitution
Well you know
We'd all love to change your head

III. Solutions for tomorrow

New assumptions

New assumptions have to match the « structural research program » which followed the Lucas critique:

Model explicitly agents and governments preferences, their expectations and the interactions between government and agents preferences and expectations.

More flexible that several hypothesis added in « rational expectations.»

Five easy pieces

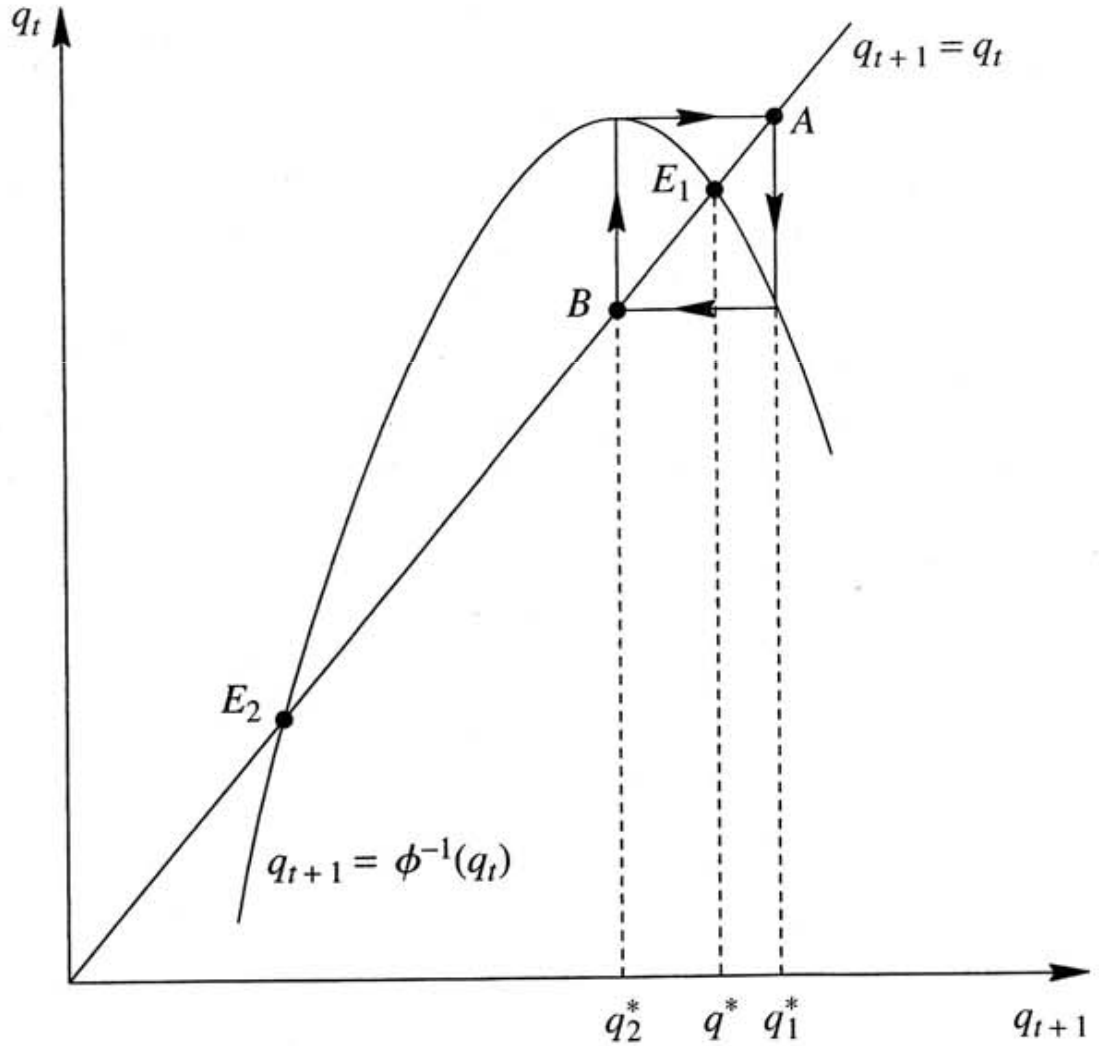
1. No systemic default/bankruptcy; No liquidity crisis second equilibrium
2. Efficient market hypothesis: assets value = fundamental value.
3. No Ponzi Game condition.
4. Unique stable path dynamics
5. Unconstrained Euler consumption growth equation.

1. Systemic default equilibrium.

Misundertanding Irving Fisher

"*But clearly, over-investment rather than over-indebtedness is the primary cause of the breakdown… We may thus conclude that the "debt-factor" plays an independent role as intensifier of the depression, but can hardly be regarded as an independent cause of the breakdown.*" Harberler (1941).

Stability corridor and breakdown



Systemic default/bankruptcy equilibrium

Systemic crisis equilibrium: high proba of default due to lack of confidence, depositors runs or interbank lending collapse, then banking crisis, then government bailing out, then public debt crisis, then taxes, savers and/or wage earners pay: transfer from old to young, with large swings in income distribution (lenders/borrowers).

Expectation driven equilibrium

Consistent with the « structural research program »

Modelling expectations of government bailing out or not and of depositors or bankers lending to distressed financial institutions.

2. Reject the efficient market hypothesis valuation of assets = fundamental

Else:

No bubbles. No over-valuation.

No liquidity crisis, leading to too few exchanges on the financial markets, with improper price.

No fire sales and asymmetry of reactions to negative shocks versus positive shocks.

Efficient market hypothesis and Lucas critique

One may model according to the « structural research program »

two groups of agents have different sets of (possibly asymmetric) information and expectations,

Then an asset price may differ from its fundamental value.

3. Reject the No Ponzi Game condition

Add on « for doing interesting macro »

Not necessary for optimization.

1. Utility<Infinity.
2. Rule out bubbles from the model.
3. Inconsistent with growth miracles.
4. Necessary for « Ricardian equivalence ». No effect of budgetary policy.
5. Infinite horizon solvency different from short run solvency (collateral constraints).

$$g(B) < r$$

Short run versus infinite horizon solvency

$$(1+\mathrm{r_t})\cdot \mathrm{B_t}$$

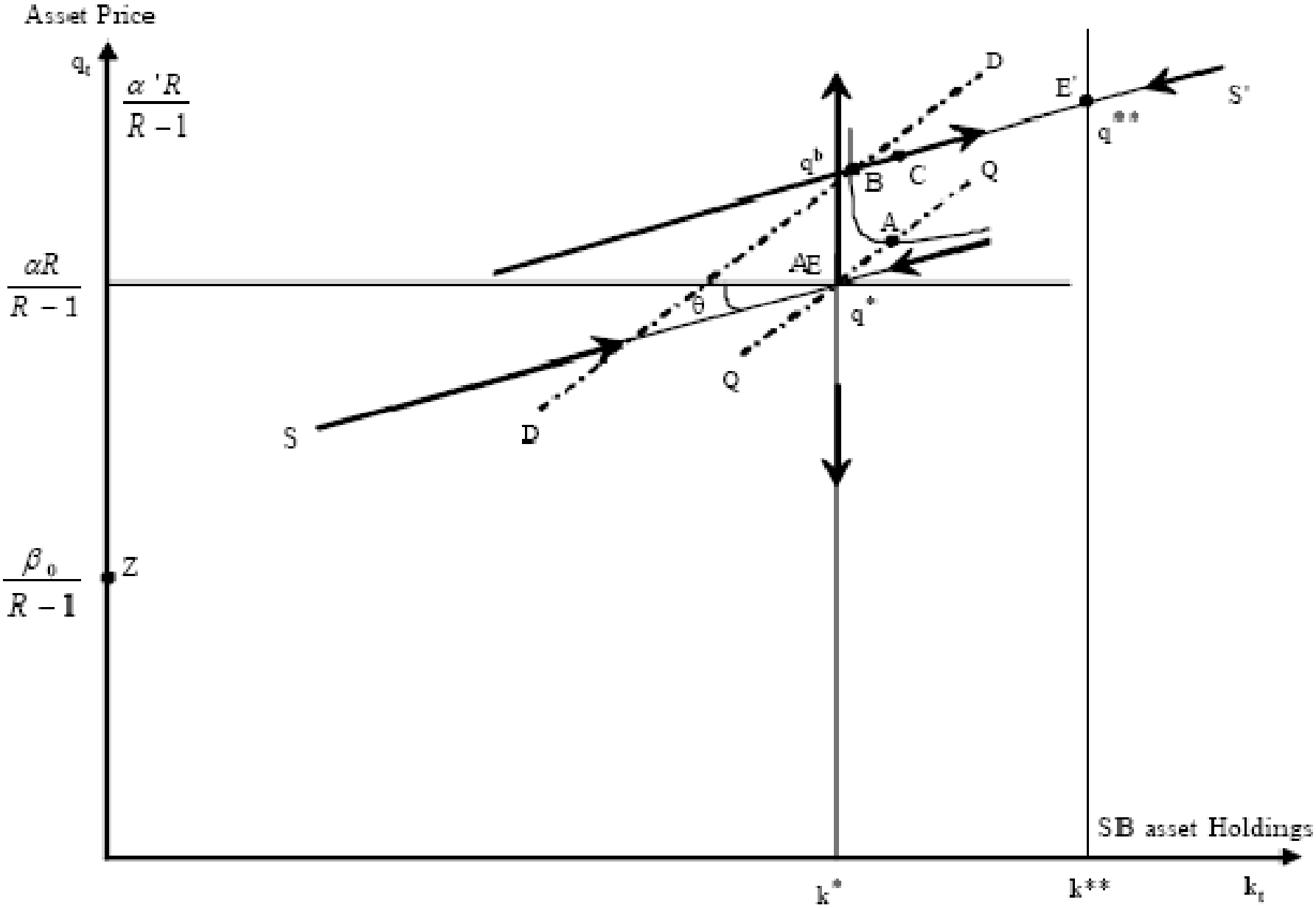
$$< \tau_{t+1}\cdot Y_t\left(1+\mathrm{g_{t+1}}\left(\mathrm{Y}\right)\right)-\mathrm{G_t}\left(1+\mathrm{g_{t+1}}\left(\mathrm{Y}\right)\right)$$

or

$$\mathrm{g_{t+1}}\left(\mathrm{Y}\right)=\mathrm{g_{t+1}}(B)<r$$

4. Reject the « unique stable path dynamics » for asset prices

The *linearization* around the equilibrium of the *unique* stable path leading to a *unique* long term equilibrium, reducing the study of macroeconomics dynamics to qualitatively similar responses of macroeconomic variables to shocks


Asset Price
q_t
$\frac{\alpha' R}{R-1}$
$\frac{\alpha R}{R-1}$
$\frac{\beta_0}{R-1}$
Z
D
E'
S'
q^{**}
q^b
B
C
Q
A
AE
θ
q^*
Q
S
D
SB asset Holdings
k^*
k^{**}
k_t

Stable path

Intertemporal optimization with discount rate leads nearly always to saddlepath dynamics. Only one « path » of lower dimension is stable.

Rational expectations: rule out ALL unstable paths by assumption.

But the volatility of variables on this path is much lower than on unstable paths.

Consequences

Underestimate the volatility of asset prices

Alters their relationship with macroeconomic aggregates.

Eliminate the non-linearity of the optimizing model

Rule out a second equilibrium.

5. Reject unconstrained Euler consumption growth equation

(First order condition of intertemporal optimisation).

Always taken for granted for up to 200/400 pages of macroeconomic textbooks.

Smooth consumption volatility

$$g(C) = \frac{r_t - \rho}{\sigma}$$

1) Empirical failure.

2) Different with resources constraints (credit constraints).

The utility loss due to consumption volatility is far too small

"*It indicates that economic instability at the level we have experience since the second world war is a minor minor problem, even relative to historically experiences inflation and certainly relative to the cost of modestly reduced rates of economic growth.*" Lucas (1987, p.30)

You tell me it's the institution
Well you know
You better free your mind instead

Related literature

1. Asian Crisis, international economics.
2. Post internet bubble literature
3. Japanese Crisis 1990’s-2000’s.
4. Macro prudential regulation
5. Microeconomics of banking and liquidity crisis.

Ongoing Crisis and Macroeconomics Literature

1. Leverage for banks and for firms
2. Interbank liquidity
3. Asymmetric reaction to shocks
4. Large shock
5. Assets fire sales
6. Systemic crisis

Coming into macroeconomics

In the making

1. Not as *radically* different from DSGE than advertised by some authors. Similar outcomes although much larger swings.
2. Still very orthodox with respect to efficient asset pricing and efficient market hypothesis.
3. Unelegant modelling with many heavy equations
4. Need for an undergraduate level model.

Yet another effort, Macroeconomists!

I confess that I am disturbed by the presentiment that we are on the eve of failing once again to arrive there.

Key assumptions in the current way of doing mainstream macroeconomics may not be changed for a long time.