

Macerata Ottobre 2010  
 Can it happen again?  
 Sustainable policies to mitigate and prevent financial crises

*Cognitive Capitalism as a Financial Economy of Production*

Andrea Fumagalli and Stefano Lucarelli  
 (Università di Pavia and Università di Bergamo)

## Outline

1. Structural changes in the accumulation and valorization process: stylized facts
2. A financial production economy: a (new) stock-flow approach.
3. Financial instability and the rise and fall of financial conventions

## Structural changes

1. From credit money to pure sign financial money since 1971 (collapse of Bretton Woods) → *financialization*
2. From material static technologies to immaterial dynamic technologies → *a new technological paradigm (first financial convention)*
3. Income Financial Multiplier  
 → wealth effect, affecting income distribution  
 → increasing inequality and households debt

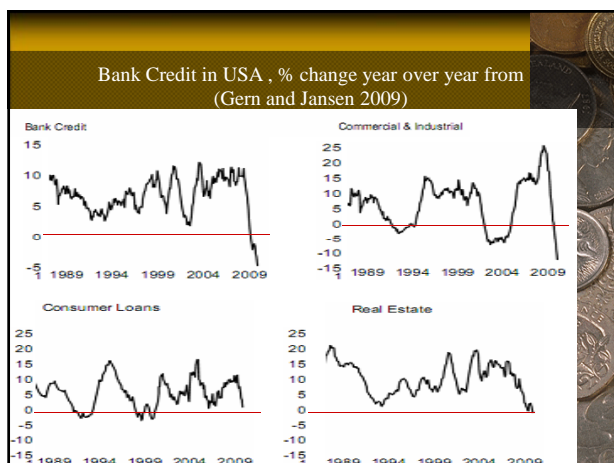
## The Financialization of Bank Credit (and of Government debt)

Financial Market:  $T_s, T_p, CG, i_t$

State:  $T_s$

Legenda

- $\Delta M$  = Money creation flow (initial finance)
- CR = bank credit
- $i_c$  = rate of interest on credit
- $T_s$  = Public bonds
- $T_p$  = Private bonds
- CG = capital gains (financial money creation)



## “Financial Money”

It has to be noted that this doesn't mean that the financial markets create their own specific currency, different from the one created by the Central Bank; it means that the Central Bank in order to create money and to assure the circulation of values, is obliged to follow the movements of financial markets.

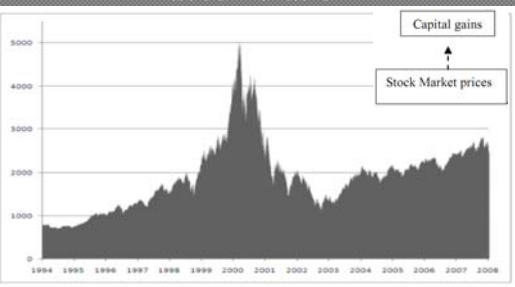
### The new laws of capital accumulation

- Complementarity between financial markets and IPR at the heart of the 'New Economy' to launch a very special kind of companies following unprecedented business models.
- During 90s many Internet companies were promoted on the basis of the financial markets evaluations of their intangible assets, which took the form of patents and other IPR on computer methods
- Towards a new logic of innovative investment

### The new laws of capital accumulation

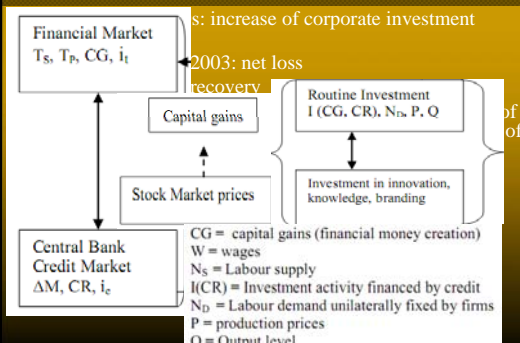
- The worldwide increase in equity prices in the 1990s has been widely linked to permanent productivity-growth effects and the significant generation of intangible assets during the ICT revolution. (Madsen and Davis 2004)
- The acceleration in productivity in the 1990s increased firms' current and expected real cash flows and therefore contributed to an increase in the value of firms.

### The new laws of capital accumulation

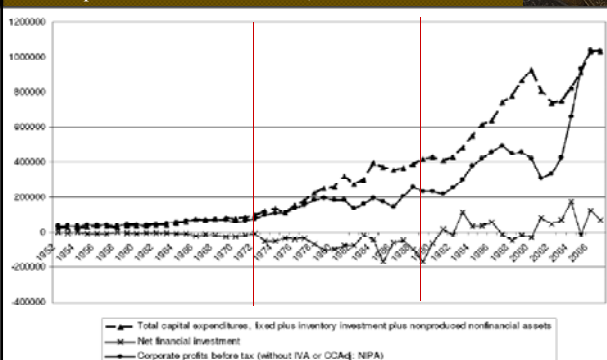


The technology-heavy NASDAQ Composite index peaked at 5,048 in March 2000, reflecting the high point of the dot-com bubble.

### Business Investment, Net Financial Investment and Corporate Profits before taxes (Usa 1952-2007; millions \$)



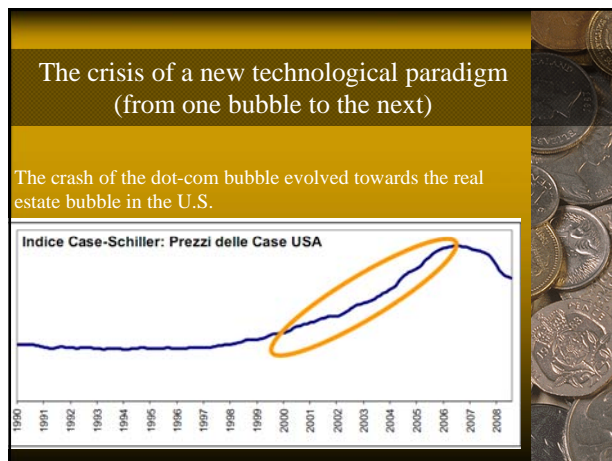
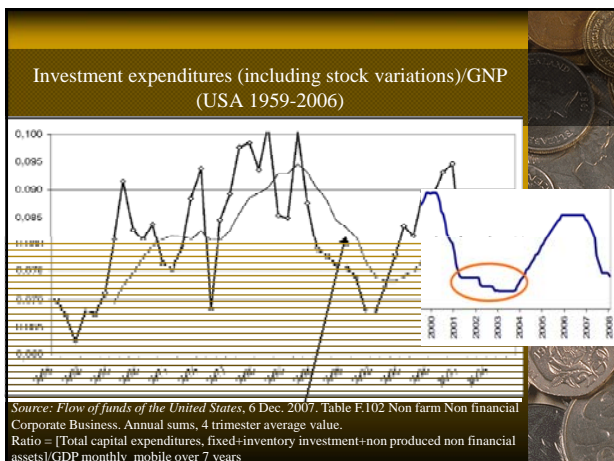
### Business Investment, Net Financial Investment and Corporate Profits before taxes (Usa 1952-2007; millions \$)



Source: Flow of funds of the United States, 6 Dec. 2007. Table F.102 Non farm Non financial Corporate Business. Annual sums, 4 trimester average value.

### Investment expenditures (including stock variations)/GNP (USA 1959-2006)

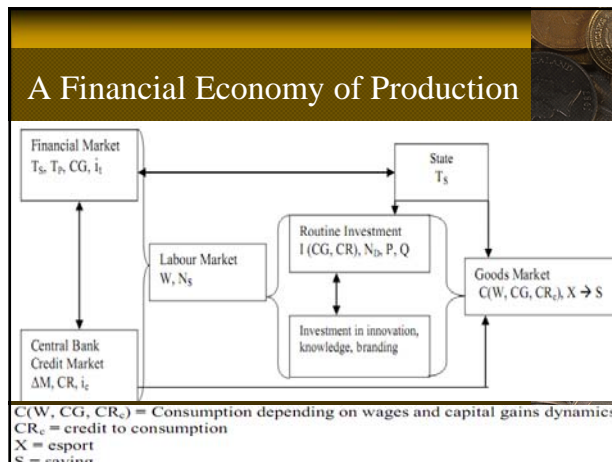
- Business investment expenditures with respect to GNP fluctuate from 6% to 10%
- From 1992 to 2000: investment expenditures over GNP increase!
- From 2000 to 2004 investment expenditures over GNP decrease (with decreasing rate of interest!)



## Conventions

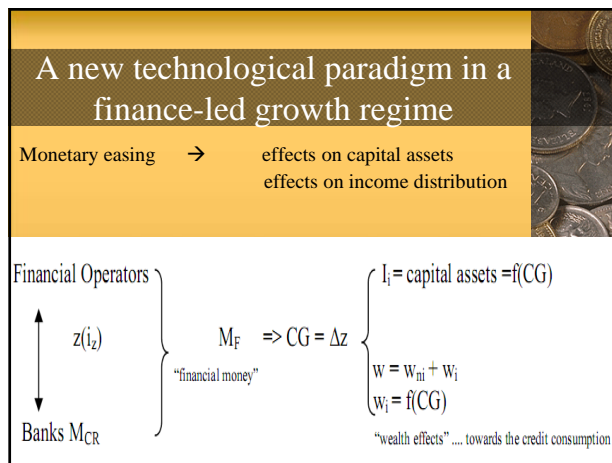
Markets move in waves of conventions, able to produce movements of public opinion through institutional financial operators.

Conventions are market trends originated within the investors community according to a logic of self-referential rationality. Self-rationality has to be interpreted as a prodigious mechanism for amplifying rumours (Orléan 2004).



### Monetary Circuit in a Transactions-Flow Matrix ... Evolving towards a Financial Economy of Production

	Households	Traditional Firms (not innovative I)		New Firm (innovative I)		Banks + Financial Operators		Σ
		Current	Capital	Current	Capital	Current	Capital	
Consumption	-C <sub>PC</sub>	+C <sub>PC</sub>						0
Investment		+I <sub>IP</sub>	-βI <sub>IP</sub>	-I <sub>IP</sub>	-αI <sub>IP</sub>			0
Past stocks		-ΔV <sub>IP</sub>		+ΔV <sub>IP</sub>	-ΔV <sub>IP</sub>			0
Wages	+wN <sub>IP</sub> + w <sub>NI</sub>	-wN <sub>IP</sub>		-wN <sub>IP</sub>				0
Net Profits	+Π <sub>IP</sub> + Π <sub>NI</sub>	-Π <sub>IP</sub>	+Π <sub>NI</sub>	-Π <sub>IP</sub>	+Π <sub>NI</sub>			0
Interest on loans		-i <sub>L</sub> L <sub>CR(i)</sub>				+i <sub>L</sub> L <sub>CR(i)</sub>		0
Interests on deposits	0					0		0
Δ in loans			+ΔL <sub>CR</sub>	+ΔL <sub>CR</sub>		-ΔL <sub>CR</sub> - ΔL <sub>CR</sub>		0
Δ money						-ΔM <sub>CR</sub> - ΔM <sub>CR</sub>	+ΔM <sub>CR</sub> + ΔM <sub>CR</sub>	0
Issue of equities	-z <sub>0</sub> (i <sub>j</sub> ) - z <sub>1</sub> (i <sub>j</sub> )		+z <sub>0</sub> (i <sub>j</sub> )	+z <sub>1</sub> (i <sub>j</sub> )				0
Σ	0	0	0	0	0	0	0	0



## Income financial multiplier

$$\frac{\Delta Y}{\Delta z(i_i)} = \frac{\Delta Y}{CG}$$

Necessary conditions for financial governance:

$$CG \rightarrow \begin{array}{l} I_i \uparrow \rightarrow Y \uparrow \text{ if } I_i > I_{ni} \\ W_i \uparrow \rightarrow C_i \uparrow \\ W_{ni} \downarrow \rightarrow C_{ni} \downarrow \rightarrow Y \uparrow \text{ if } C_i > C_{ni} \end{array}$$

$$W_i = W_{ni} + f(CG)$$

$$C = C_i + C_{ni} = f(W_i + W_{ni}, CR_C) \text{ and } I = I_i + I_{ni}$$

## Internet convention

(exploitation of dynamic learning and network economies outsourcing, delocalization,).

Enlargement of financial markets thanks to the new entry of dotcom firms, whose debt (due to the growth) is covered by capital gains increase in a virtuous circle.

Income financial multiplier > 1

Until  $I_i > I_{ni}$  and  $C_i > C_{ni}$ .

The internet bubble explodes when  $I_i \downarrow$ .

Here, we have: traumatised workers, spendthrift consumer, unconscious/simple-minded saver

Real Estate Convention: increase in house prices and securitization activity on real estate markets.

Enlargement of financial markets thanks to the debt of household with  $W_{ni} \rightarrow$  increase of financial intensity.

We have: traumatised worker, indebted consumer, unconscious /maniac saver.

Instability and insolvency risks increase but they can be compensated by....

## China Convention

The entry of China in Wto in December 2001 provide a stimulus in the international demand, with the effect to enlarge financial basis.

This convention falls when the real estate bubble explodes, because of the decrease of house-prices.

The real estate subprime crash increases the level of debt (first, households', then sovereign states, for the bail out of credit and financial activities) with the consequence to stimulate negative expectations:

$$W_i \downarrow, \text{Debt} \uparrow \rightarrow C \downarrow \rightarrow \text{Income financial multiplier} < 1 \rightarrow Y \downarrow \text{ (recession)}$$

We have: traumatised worker, indebted consumer, schizophrenic saver

“UP AGAINST THE WALL (STREET),  
MOTHERFU.....S” Jefferson Airplane

THANK-YOU FOR YOUR ATTENTION

Dedicated to the memory of Jimi Hendrix (40° anniversary of his death)