Siena 23-24 March 2009. The complexity of financial crisis in a long-period perspective: facts, theory and models

Buying alone

The Making of the American Consumer as the Prologue to the Current Crisis

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The answered question

Many analyses try to answer the question: Why did an initially small and localized default crisis (sub-prime mortgages in US) become a dramatic global financial crisis?

The answers generally focus on credit supply:

- The abundance of capitals inflows in the US coming from abroad which determined a credit bubble and financed a consumption boom
- The lack of transparency of the default risk implicit in structured assets derived from the securization of mortgages and loans

Credit demand?

- Americans lived for a quarter of a century beyond their possibilities. Mortgages and credit cards were the way Americans bought bigger and nicer houses, and more consumption goods, than those that they could have afforded
- Credit demand was driven by consumption demand
- So there is still an unanswered question

The overlooked question 1.

- What have driven Americans to accumulate an enormous debt, in order to finance their consumption, which was already the most affluent of the world?
- In other words, the favourable credit supply conditions were necessary but not sufficient to generate the current crisis
- Still we have to explain what boosts consumption demand in an (increasingly) affluent economy

The overlooked question 2.

- What drives individuals to consumption bulimia, sacrificing collective infrastructure, environmental and social assets, human relations, leisure, in economies that grow ever more affluent and productive?

- More than that: this consumption bulimia was financed by going deeply into debt, namely sacrificing future linving standards

Some temptative answers to the overlooked question

- Increasing Inequality
- Adaptation (Kahneman)
- Social comparisons
- Negative Endogenous Growth

An answer from the Negative Endogenous Growth (NEG) models

(Bartolini and Bonatti EE 2002, JE 2003, JEBO 2008)

The answer lies in negative externalities

- Individuals react to the decline of their commons by increasing their private (defensive) expenditures (commons: relational and environmental goods)
- In this way the decline in commons feeds consumption, generating economic growth
- The need to finance defensive expenditures boosts the labor supply
- In turn, the growth process generates extensive negative externalities which deteriorate the commons
- NEG is a self-feeding process: negative externalities fuel growth and growth fuels negative externalities

Growth as a substitution process

- Individuals increasingly rely on private goods in order to substitute for the declining commons in their utility functions

NEG: the key equations

NEG models insert some key equations in traditional endogenous (or exogenous) growth models

- $U_t=U(X_t,C_{2t},L_t)$, $U_X>0$, $U_C>0$, $U_L>0$
- $X_t=R_t+\delta C_{1t}$, $\delta>0$

The resource R_t is subject to negative externalities

$R_{t+1}=F(Y_t, R_t)$ $\quad F_Y<0$, $F_R>0$

R: Common

C_1 : Defensive expenditure: substitutes for the common

C_2 : Part of consumption aimed at satisfying other needs: does not substitute for the common

L: Leisure

Y: aggregate output

What boosts consumption demand?

The NEG answer:

- Negative externalities boost consumption and the labor supply along a growth path in a perpetually growing economy
- A positive long run growth rate with labor-leisure choice is ensured by negative externalities

NEG predictions

- The long-run well-being of the representative agent is stable or even decreasing with economic growth
- A more accentuated decline of social and environmental assets lowers the long-run well-being
- A more accentuated decline of social and environmental assets increases the long-run labour supply
- A more accentuated decline of social and environmental assets increases consumption and the long-run growth rate
- Shocks that reduce the endowment of commons increase boost and economic growth (privatization of health care and education)

Evidence 1. Well-being

How to measure the variations over time of well-being?

- A currently popular answer is: Subjective Well-Being (SWB)
- The reason for the popularity of these data lies in the “validation tests”, showing that SWB is well correlated with objective data

Evidence 1. Well-being and social capital

- In the last 30 years SWB was decreasing in the US (Blanchflower and Oswald 2004 JPE)
- Social capital too (Putnam 2000, Costa and Kahn, Kyklos 2003)
- Bartolini, Bilancini and Pugno (WP 2008), show that the decline of relational goods (a component of social capital) accounts for a large part of the decline in American SWB (GSS data of the last 30 years)
- Consistent with the prediction of NEG that the long-run well-being may be decreasing with growth and that this is due to the decline in free goods

Evidence 2. Labor supply

NEG models find a bi-directional relationship between relational goods and the labor supply

Bartolini and Bilancini (WP 2008), using a structural equations model, provide and empirical test (GSS data of the last 30 years)

Results are consistent with NEG:

- Relational goods negatively affect the hours worked.
- Consistent with the NEG result: since relational goods and income are (partial) substitutes in the utility functions, individuals react to a lower endowment of relational goods by increasing their labor supply in order to purchase more consumer's goods

Evidence 2. Labor supply

More results:

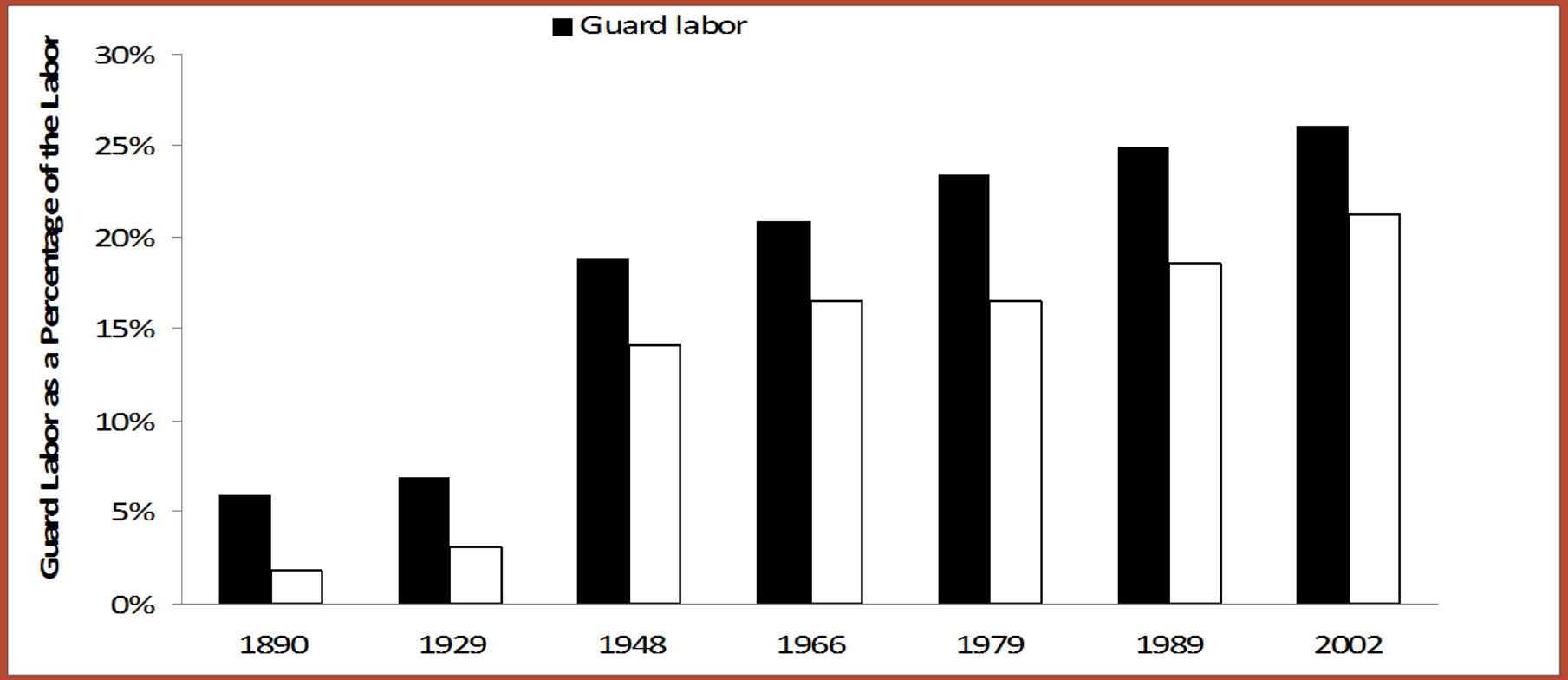
- More hours worked negatively affect the relational goods of an individual. Consistent with NEG prediction
- In turn, individual participation to social networks is positively affected by local average participation. Consistent with NEG network externalities: a greater local participation to social networks increases the returns to individual participation
- Hence the social context affects the labor supply, trough its effect on individual relational goods

The circular relationship between relational goods and the labor supply suggests that:

- Their decline may have played a role in the increase in hours worked in the US in the last 30 years
- In turn, the increase in hours worked may have played a role in the decline of relational goods

Evidence 3. Defensive expenditures

The evolution of “guard labor” in the US (Bowles and Jayadev JDE 2006)



Guard labor

Guard labor without unemployment

Percentage of “guard labor” on the labor force 1890-2002

Notice:

- The result does not depend on the military personnel: now it is less than 1/3 than it was 40 years ago

- Defensive expenditures are under-estimated: e.g. monitoring technologies, protection technologies, even lawyers

Evidence 4. International comparisons

USA (and GB) compared to continental Europe (1980-2000) exhibit:

- More growth
- Increasing vs. decreasing hours worked
- Decreasing vs. increasing happiness
- Decreasing vs. increasing relational goods (Sarracino WP 2009)

Conclusion: this picture is consistent with NEG

Prudence: only descriptive statistics, scarcity of comparable data on relational goods

Conclusions 1.

- Abundant credit supply was a necessary but not sufficient condition to generate the crises which was ignited by the US consumption boom

- Consumerism have played a role in boosting the credit demand

My main argument:

- The decline in common goods may have played a role in shaping the formidable American consumer boom

Conclusions 2.
Limits of NEG models in explaining the crisis

No financial system, closed economy.

Consumerism alone cannot create a crisis of a global dimension

Two other conditions are needed:

- The existence of a global financial system willing to finance one's country consumerism
- Financial innovation generating opacity in the evaluation of default risk

A similar problem in growth theory 1.

- The question on American consumption demand is similar to a central question in growth theory: the vulnerability of endogenous growth models to the endogenisation of the labor supply.

- Once the labor-leisure choice is included in these models, perpetual growth tends to disappear. For the following reason: individuals tend to react to increased productivity by reducing their labor supply (particular hypotheses on preferences aside). If leisure is not irrelevant for well-being, the moment will come to devote increased productivity to increased leisure instead than consumption

A similar problem in growth theory 2.

The theoretical likeness of this problem with our puzzling question is:

- What drives individuals to increase their consumption instead than leisure in economies that grow ever more affluent and productive?
- What boosts consumption demand in an (increasingly) affluent economy?

Increasing Inequality

- Increasing Inequality depressed the aggregate consumption potential of the American economy
- That part of the american society that was left behind tried to emulate the wealthiest consumption standards by going into debt

Reliability of SWB

SWB is well correlated to:

- Assessment of the person's happiness by friends and family members
- Assessment of the person's happiness by her/his spouse
- Duration of authentic smiles (so called Duchenne smiles: this latter occur when the zygomatic major and obicularus orus facial muscles fire, and humans identify this as 'genuine smiles').
- Heart rate and blood pressure measures responses to stress, and psychosomatic illnesses such as digestive disorders and headaches
- Skin resistance measures of responses to stress
- Electroencephalogram measures of pre-frontal brain activity
- Suicides