On the macroeconomic effects of financialization

Presentation for the Grenoble Post-Keynesian & Institutionalist Conference: Instability, Growth & Regulation

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1 Introduction
Outline

1. Introduction

2. Financialization. Theoretical model
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3. Financialization. Empirical model
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2. Financialization. Theoretical model

3. Financialization. Empirical model
Certain studies have shown that there is a positive association between financial development and economic growth, by assuming that the savings rate is the key variable (for instance Shaw, 1973).
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In line with Epstein (2005), we define financialization as a "pattern of accumulation in which profit making occurs increasingly through financial channels rather than through trade and commodity production".

Some empirical works show that the relation between economic growth and finance is a U-shaped curve (Rousseau et Wachtel, 2011).
The growing complexity of the financial landscape makes regulation and the political economy response less efficient, which increases moral hazard and systemic vulnerability (Buttiglione et al, 2014).
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The development of financial innovations has considerably improved the complexity of the intermediation schemes.
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The development of financial innovations has considerably improved the complexity of the intermediation schemes.

We have witnessed a strong intensification of mergers and acquisitions in the banking sector, which creates a size problem for a few banks considered "too big to fail".
Outline

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3. Financialization. Empirical model
We developed a stock-flow consistent model to study the effects of financialization at a macroeconomic level.
Financialization and theoretical model

Stock-Flow Consistent model (1)

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The model contains 41 equations that respect accounting identities in both spheres, via real variables (GDP, investment, profits, wages) and financial variables (credit, equity, interest rate, equity price).
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The model contains 41 equations that respect accounting identities in both spheres, via real variables (GDP, investment, profits, wages) and financial variables (credit, equity, interest rate, equity price).

We show that an increase in the demand for credit has a positive effect on financial profitability of banks, but at the expense of long term growth and private non-financial investment.
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Some studies use variants of these type of models, for instance:

- Giraud et al (2016) built a model that shows the link between carbon footprint and private debt.
- Caiani et al (2016) and Seppecher (2014) propose models that combine a SFC structure with that proposed by the agent-based literature.
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### Financialization and theoretical model

Stock-flow consistent model: Uses-resources table and matrix of flows

<table>
<thead>
<tr>
<th></th>
<th>H</th>
<th>F</th>
<th>B</th>
<th>CB</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wages</td>
<td>$WB$</td>
<td>$-WB$</td>
<td></td>
<td></td>
<td>$=0$</td>
</tr>
<tr>
<td>Profits</td>
<td>$-\Pi$</td>
<td>$\Pi$</td>
<td></td>
<td></td>
<td>$=0$</td>
</tr>
<tr>
<td>Interests</td>
<td>$-Int^H$</td>
<td>$-Int^F$</td>
<td>$Int$</td>
<td>$-Int^G$</td>
<td>$=0$</td>
</tr>
<tr>
<td>Dividends</td>
<td>$-Div$</td>
<td>$Div$</td>
<td></td>
<td></td>
<td>$=0$</td>
</tr>
<tr>
<td>Taxes</td>
<td>$-T^H$</td>
<td>$-T^F$</td>
<td></td>
<td>$T$</td>
<td>$=0$</td>
</tr>
<tr>
<td>Consumption</td>
<td>$-Cons^H$</td>
<td>$Cons$</td>
<td></td>
<td>$-Cons^G$</td>
<td>$=0$</td>
</tr>
<tr>
<td>Investment</td>
<td>$-I^H$</td>
<td>$I - I^F$</td>
<td></td>
<td>$-I^G$</td>
<td>$=0$</td>
</tr>
<tr>
<td>Saving</td>
<td>$S^H$</td>
<td>$S^F$</td>
<td>$-S + S^B$</td>
<td>0</td>
<td>$S^G$</td>
</tr>
<tr>
<td>Deposits</td>
<td>$p_D\Delta D^H$</td>
<td>$p_D\Delta D^F$</td>
<td></td>
<td>$-p_D\Delta D$</td>
<td>$=0$</td>
</tr>
<tr>
<td>Credit</td>
<td>$-p_L\Delta L^H$</td>
<td>$-p_L\Delta L^F$</td>
<td>$p_L\Delta L$</td>
<td>$-p_L\Delta L^G$</td>
<td>$=0$</td>
</tr>
<tr>
<td>Equity</td>
<td>$-p_E\Delta E$</td>
<td>$p_E\Delta E$</td>
<td></td>
<td></td>
<td>$=0$</td>
</tr>
<tr>
<td>Refinancing</td>
<td></td>
<td></td>
<td>$-\Delta RF$</td>
<td>$\Delta RF$</td>
<td>$=0$</td>
</tr>
</tbody>
</table>
Another type of equilibrium that our model exhibits for all periods is that which stems from the permanent inventory method.
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\[ \text{Stock}^t = \text{Stock}^{t-1} + \text{Flow}^t + \text{Revaluation}^t \]

By separating prices and volumes for equities issued by non-financial firms, we have:

\[ \text{p}^{E} = \text{p}^{E} - \text{p}^{E-1} + \Delta \text{p}^{E} + \text{p}^{E} \]
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The real sector equations relevant for this modeling exercise are the following:
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\[ I = \phi K (I_{\text{lag}}, q - 1, \Pi - 1, r - 1, Y - 1) \]

\[ \text{Int} = r p L - 1 L - 1 \]

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- \( I \) is total investment,
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\frac{LR_F}{LR_F^{lag}, r, E^{lag}, \Delta Y^{t-1}} = \phi \frac{E}{E^{lag}, \Delta E^{lag}, \Delta Y^{t-1}}
\]

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\frac{r_E}{r_E^{lag}, \Delta \Pi^{lag}, \Delta p^{lag}} = \phi \frac{r_E}{r_E^{lag}, \Delta \Pi^{lag}, \Delta p^{lag}}
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Equation \(LR_F\) (leverage ratio of firms in stock form) contains a constant term \(\gamma_F\), on which we apply the shock. \(r\) is the lending interest rate, \(E\) is the volume of equities demanded and \(K\) is the volume of non-financial assets. \(r_E\) is the rate of financial profitability and \(p_E\) is the price of equities.
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Financialization and theoretical model

Stock-flow consistent model: some financial sector equations

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Financialization and theoretical model

Stock-flow consistent model: a simplified diagram

Private banks → Financial profitability → Private non-fin. sector → Real sector

Private non-fin. sector

A1

B1

B2

B2

A1

D

C

Financial profitability
Financialization and theoretical model
Stock-flow consistent model: baseline results
Financialization and theoretical model

Stock-flow consistent model: after shock results (1)

Gimet, Lagoarde, Reyes (IRD)

Macroeconomic effects of financialization
Outline

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2. Financialization. Theoretical model

3. Financialization. Empirical model
We estimated a balanced panel model for 29 high-income countries for the period 1998-2014.
Financialization. Empirical model

Method

- We estimated a balanced panel model for 29 high-income countries for the period 1998-2014.
- In doing so, we calculated a financialization index as follows:

\[
FINANCIALIZATION_{i,t} = \left( \frac{1 + ROA_{i,t}}{1 + LIQ_{i,t}} \right) (1 + CONC_{i,t})
\]

- ROA is the average annual yield of the banking sector,
- LIQ is a liquidity ratio and
- CONC is a measure of concentration in the banking sector.

We integrate this index in a Bayesian structural panel VAR.
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Thank you for your attention

Epstein (2005), *Financialization and the world economy*. 


Gimet, Lagoarde, Reyes (IRD)

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Macroeconomic effects of financialization  
08/12/2017 21 / 21
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