LONG RUN EFFECTIVE DEMAND

Introducing Residential Investment in a Sraffian Supermultiplier SFC Model

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Summary

- Empirical motivation
- Review of the literature: demand-led growth models
- Stock-Flow Consistent Sraffian Supermutiplier model

Objective: Include residential investment in a heterodox demand-led growth model

Empirical Literature

Non-capacity creating autonomous expenditures

- Freitas and Dweck (2013)
- Braga (2018)
- Girardi and Pariboni (2016, 2018)

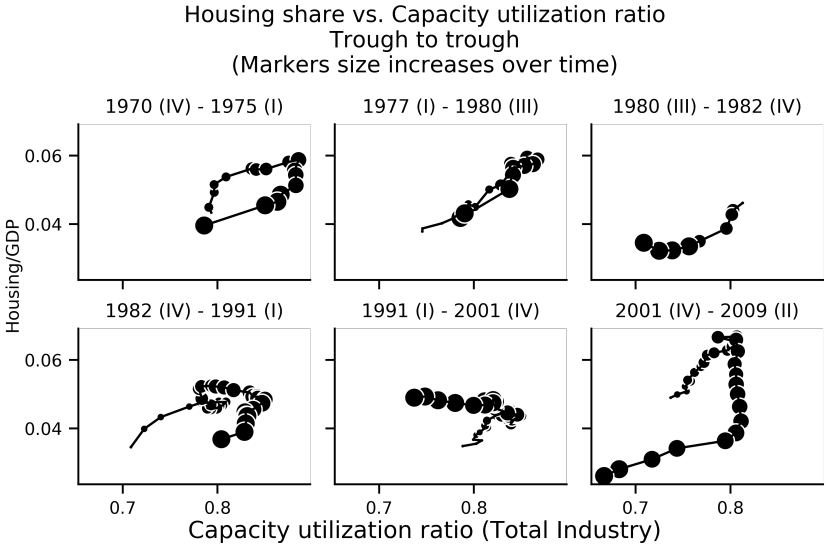
Residential Investment

- Green (1997)
- Leamer (2007)
- Fiebiger (2018)

???

- Freitas and Dweck present a growth accounting decomposition for the Brazilian economy (1970-2005)

Empirical motivation: U.S. Economy



Literature Review: Alternative Closures

Harrod's question: which are the conditions for a balanced growth between demand and supply?

Heterodox alternative closures:

- Cambridge
- Kalecki
- Sraffian Supermultiplier

???

Harrod's main goal in proceeding this way is to analyze the conditions for **balanced growth between supply and demand**

Section goal: analyses the trials to deal with Harrod's problem and verify at what cost they succeeded.

Literature Review: autonomous expenditures

Hybrid neo-Kaleckian models:

- Allain (2015): public expenditures
- Nah and Lavoie (2017): exports

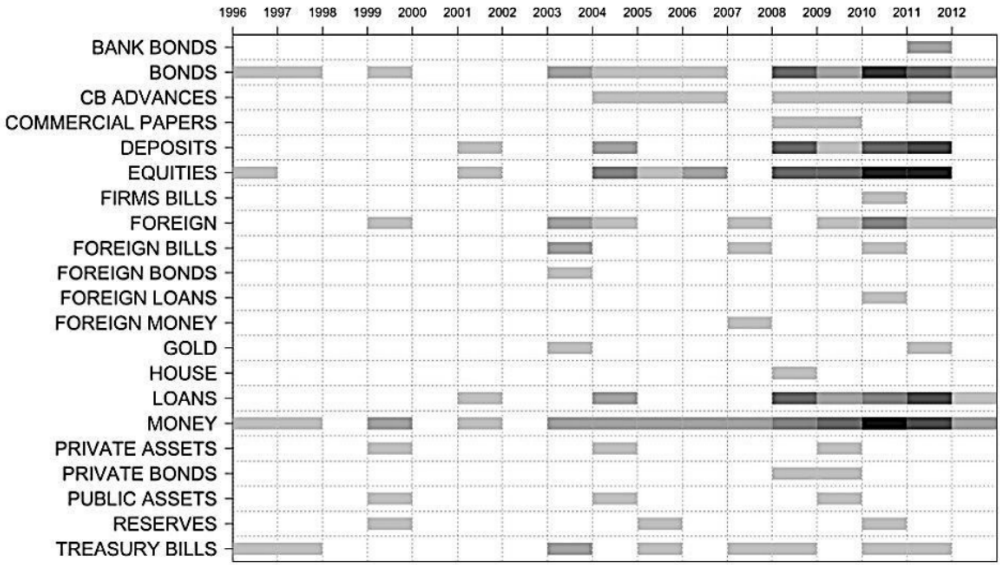
Sraffian Supermultiplier:

- Pariboni (2016), Mandarino, dos Santos and Macedo e Silva (ROKE, forthcoming): debt-financed consumption
- Brochier and Macedo e Silva (2019): fully specified SSM-SFC; wealth-financed consumption

???

Objective: Special focus on how they incorporate non-capacity creating autonomous expenditures

Housing in SFC models



Transaction Flow Matrix and Flow of Funds

	Households		Firms		Banks	Total
	Current	Capital	Current	Capital		Σ
Consumption	$-C$		$+C$			0
Non-Residential investment			$+I_f$	$-I_f$		0
Residential investment		$-I_h$	$+I_h$			0
[Product]			$[Y]$			$[Y]$
Wages	$+W$		$-W$			0
Profits	$+FD$		$-FT$	$+FU$		0
Interest (deposits)	$+r_m \cdot M_{-1}$				$-r_m \cdot M_{-1}$	0
Interest (loans)			$-r_l \cdot L_{-1}$		$+r_l \cdot L_{-1}$	0
Interest (mortages)	$-r_{mo} \cdot MO_{-1}$				$+r_{mo} \cdot MO_{-1}$	0
Subtotal	$+S_h$	$-I_h$		$+NFW_f$	$+NFW_b$	0
Change in deposits	$-\Delta M$				$+\Delta M$	0
Change in mortgages		$+\Delta MO$			$-\Delta MO$	0
Change in Loans				$+\Delta L$	$-\Delta L$	0
Total	0	0	0	0	0	0

??? - Households hold financial wealth as money deposits at banks (M), while finance their residential investment by mortgages (MO).

Model Solution I

Output level:

$$Y_t = \frac{1}{1-\omega-h_t} \cdot (I_h)$$

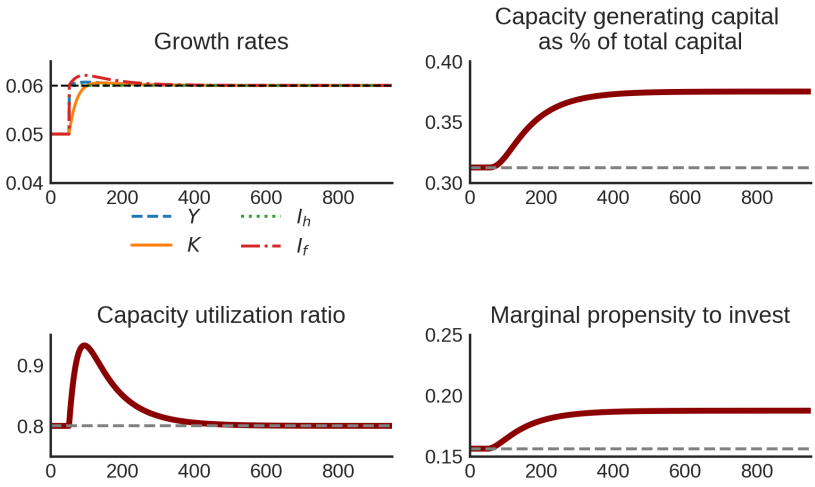
Out of equilibrium growth rate

$$g = g_{I_h} + \frac{h_{t-1} \cdot \gamma_u (u - u_N)}{1-\omega-h_t}$$

Equilibrium rate of growth:

$$g = \overline{g}_{I_h}$$

Numerical Simulations: increase of g_Z



Final Remarks

- Our model preserves Sraffian Supermultipier main results
- Increase of the wage-share does not increase long run growth rate
  - No paradox of costs
- A greater rate of growth of residential investment reduces houses share of total capital
- Further research: to investigate the determinants of residential investment

class: center, inverse

THANK YOU!

Muito Obrigado!

Next steps

- Including housing bubbles

$$g_{I_h} = \phi_0 - \phi_1 \cdot \overbrace{\left(\frac{1 + \bar{r}_m o}{1 + \dot{p}_h} - 1 \right)}^{\text{own}}$$

- Split between two classes and including more autonomous expenditures

$$Z = I_h + C_k$$

- Estimating a time series model (VEC)