Caiani et al. (2016) - "Agent based-stock flow consistent macroeconomics: Towards a benchmark model"

April 22th, 2020

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Background Great Recession imposed some challenges to standard orthodox macroeconomic models (notably DSGE) in which — besides its improvements — there are still drawbacks: money endogeneity, complexity and fallacy of composition. Authors argue that DSGE models depends on external shocks in order to explain the origins of non-linearities.

Supporting ideas

Contribution Proposes a set or rules and tools to build, calibrate, validate, and display AB-SFC models.

Relevance Brings some ideas to introduce AB-SFC in FAPESP project. Presents some advantages in using SFC models, such as: (i) logical consistency check; (ii) adequacy in modeling endogenous and government money. The authors also maps some critics such as highly aggregate models and does not allow to analyze agents' heterogeneity and agents' disperse interaction. This critic is overcome by AB a proposal in which economy is seen as a complex adaptive system.

Methods A fully decentralized AB-SFC model. **Validation:** numerical simulations are compared to some micro and macro stylized facts. **Calibration:** Employ sensitivity experiments

Results Simulations reports some empirical regularities

Interesting findings

Critics

Keywords
Agent Based Macroeconomics
Stock Flow Consistent Models
Business Cycles
Bank Regulation

Citation: CAIANI, A. et al. Agent based-stock flow consistent macroeconomics: Towards a benchmark model. en. **Journal of Economic Dynamics and Control**, v. 69, p. 375–408, Aug. 2016

5SS: Caiani et al. (2016)

Further readings

Farmer and Foley (2009): ABM approach

Esptein (2006): ABM approach

Delli Gatti et al., (2010a) : Fallacy composition in DSGE models

REFERENCES

CAIANI, A. et al. Agent based-stock flow consistent macroeconomics: Towards a benchmark model. en. **Journal of Economic Dynamics and Control**, v. 69, p. 375–408, Aug. 2016.

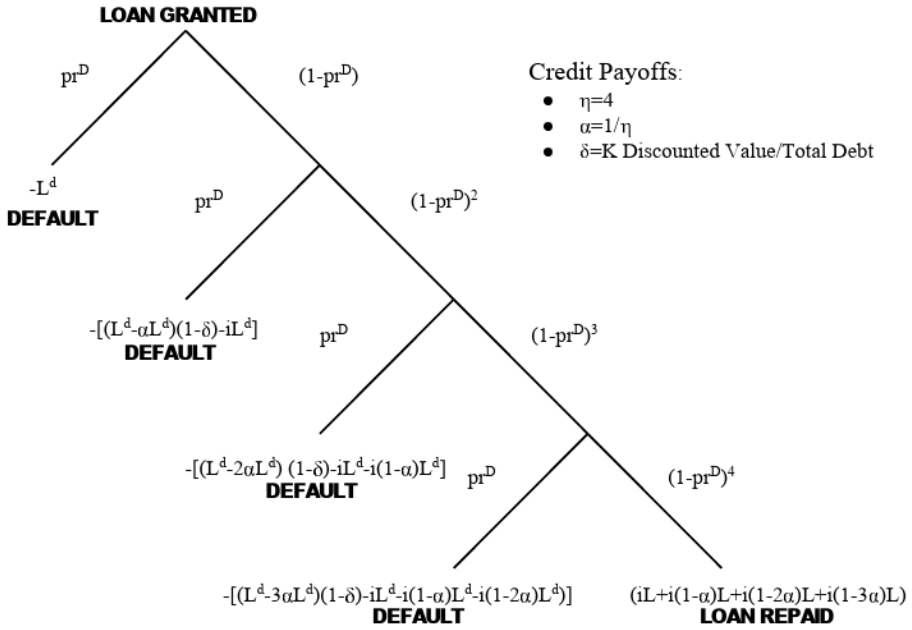
LOAN GRANTED
pr^D
(1-pr^D)
Credit Payoffs:
η=4
α=1/η
δ=K Discounted Value/Total Debt
-L^d
DEFAULT
pr^D
(1-pr^D)^2
-[(L^d-αL^d)(1-δ)-iL^d]
DEFAULT
pr^D
(1-pr^D)^3
-[(L^d-2αL^d) (1-δ)-iL^d-i(1-α)L^d]
DEFAULT
pr^D
(1-pr^D)^4
-[(L^d-3αL^d)(1-δ)-iL^d-i(1-α)L^d-i(1-2α)L^d)]
DEFAULT
(iL+i(1-α)L+i(1-2α)L+i(1-3α)L)
LOAN REPAID

Figure 1