Picking Up the Pieces of Macro Theoery

The 2007 Crisis and Where to Go From Here?

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Abstract

It has been estimated that the global financial (GFC) crisis has cost the world somewhere between \$5-30 trillion USD. By any comparison this is a staggering loss and represents the most serious failure of economic systems since the 1920's. There were many reasons for the crisis, and analysis is ongoing, but what seems to be emerging as the leading cause of the crisis was the lack of macroeconomic models to account for major sections of the economy, mainly the housing sector and financial asset pricing. Just as important, but prehaps more theoretically challanging to address, are the lack of heterogeneity of economic agents, the lack of (or innappropriate) microfoundation underpinnings, and relaxing the requirement of rational expectations. The singular focus of macroeconomists and central bankers, pre-crisis, was on the Dynamic Stochastic General Equilibrium model (DSGE). None of the DSGE models were capable of alerting economists to the impending crisis. In this paper I examine the modeling paradigm pre-crisis and review the literature that has dawned as a result of the GFC. Much of this literature has been written by well-regarded macroeconomists and is highly critical of the field. The criticism cuts deep and results in a range of suggestions that include; adding elements to the DSGE framework to account for missing variables, to starting over with a completely new way to model complicated and emergent systems, ie. Agent Based Modeling.

1 Introduction

2 Appendix

2.0.1 The New Keynesian Dynamic Stochastic General Equillibrium Benchmark Model (DSGE)

A simplified version of the New Keynesian DSGE Benchmark Model (hereafter NK-DSGE) is given by the following eight equations[1]:

$$\frac{1}{C_t} = \beta R_t E_t \left(\frac{1}{C_{t-1}} \right) \tag{1}$$

$$w_t = X C_t L_t^{\varphi} \tag{2}$$

$$Y_t = Y_t K_t^{\alpha} L_t^{1-\alpha} \tag{3}$$

$$w_t = (1 - \alpha) \frac{Y_t}{L_t} \tag{4}$$

$$R_t = E_t \left[\frac{\alpha \frac{Y_{t+1}}{K_{t+1}} + 1 - \delta + (Q_{t+1} - 1) + \frac{1}{2\xi}(Q_{t+1} - 1)^2}{Q_t} \right] \tag{5}$$

$$I_t = K_{t+1} - (1 - \delta)K_t + \frac{\xi}{2} \frac{(K_{t+1} - K_t)^2}{K_t} \tag{6}$$

$$Q_t = 1 - \xi + \xi \frac{K_{t+1}}{K_t} \tag{7}$$

$$Y_t = C_t + I_t \tag{8}$$

where, C, I, Y, L, K, w, R, and Q are consumption, investment, output, labor supply, capital stock, real wage, real interest rate (gross), and Tobin's Q, respectivly.

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[1]A more detailed exposition of the benchmark model can be found in Schmitt-Grohe´ and Uribe (2007)

For simplicity, the individual consumers utility maximization problem is not explicitly shown. For the same reason, the representative firms profit maximization problem is not detailed. Equations 1-8 assume the first order conditions have been satisfied and equillibrium conditions exist. Another simplifying assumption is a constant labor force and the level of technology remains unchanged.

3   Refernces

Schmitt-Grohé, S., & Uribe, M. (2007). Optimal simple and implementable monetary and fiscal rules. *Journal of monetary Economics, 54* (6), 1702–1725.