


Chapter 2

Credit–Market Imperfection and Monetary Policy Within DSGE Models

Salha Ben Salem

 <https://orcid.org/0000-0002-4946-7782>
University of Monastir, Tunisia

Nadia Mansour

 <https://orcid.org/0000-0001-7690-7096>
University of Sousse, Tunisia & University of Salamanca, Spain

Moez Labidi

University of Monastir, Tunisia

ABSTRACT

This survey presented the various ways that are utilized in the literature to include financial market frictions in dynamic stochastic general equilibrium (DSGE) models. It focuses on the fundamental issue: to what extent the Taylor rules are optimal when the central bank introduces the goal of financial stability. Indeed, the latest financial crisis shows that the vulnerability of the credit cycle is considered the main source for the amplification of a small transitory shock. This conclusion changed the instrument that drives the transmission of monetary policy through the economy and pushed the policymakers to include financial stability as a second objective of the central bank.

DOI: 10.4018/978-1-7998-7716-5.ch002

INTRODUCTION

The great recession reminds us cruelly that credit frictions are a key driver of business cycle variation. Imbalances can construct up during apparently tranquil periods until a trigger leads to great and persistent wealth destructions potentially spilling over to the real economy. While in normal times, the banking (financial) sector can mitigate credit (financial) frictions, in crisis periods the banking (financial) sector's vulnerability aggravates the instability. Adverse feedback loops and liquidity spirals lead to non-linear impacts that can lead to a credit crunch. There has been a large body of empirical literature target to analyze the properties of how to go about modeling the financial crisis in a DSGE framework.

In this chapter, we examine the hypothesis adopted by the DSGE models before the financial crisis and how modelers reacted to the crisis and its aftermath. Inevitably, models must distract from some characteristics of the real economy, raising the issue: which characteristics should we introduce and which characteristics should we eliminate to better model the individuals' behavior? Starting from this question, we survey what the key characteristics of pre-financial crisis models were and why the introduction of these characteristics was justified. We then study how DSGE models extended in reaction to the subprime crisis and how central banks improved the monetary policy rule to better respond to financial instability.

Models discussed in this survey suppose diverse financing restrictions. Depending on the underlying economic friction, financing constraints can arise in different forms. For instance, the financial accelerator model of Bernanke et al (1999) assumes that the returns on capital may be impacted by idiosyncratic shocks and that the posterior performance of this return is private information, which the lenders can observe if they pay a monitoring cost. This cost increases the lending interest rate and decreases the investment project. In contrast, the collateral constraint model of Kiyotaki and Moore (1997) assumes that the borrower cannot borrow as soon as its assets, which uses as collateral, covers at least the entire loan requested. Besides, this model assumes that the entrepreneur never goes bankrupt because the debt is a fraction of its wealth value. Contrary, in the context of the financial accelerator the entrepreneur is faced with the default of the payment since their credit can exceed its net value. However, until here, the payment default of the financial firms was not treated since in both models the bank finances only by the deposit of the households. Also, the impact of bank capital deterioration and the holding effect of toxic assets are excluded in these two models.

After being criticized following the subprime crisis, the DSGE models stand as incomplete models for anticipating the vulnerability of the real economy. The emerging literature on DSGE modeling with financial frictions since the start of the crisis either spells out a banking system or adds financial frictions and/or shocks to

25 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/credit-market-imperfection-and-monetary-policy-within-dsge-models/285844

Related Content

Fuzzy Multi-Objective Association Rule Mining Using Evolutionary Computation

Ganghishetti Pradeep and Vadlamani Ravi (2017). *Handbook of Research on Intelligent Techniques and Modeling Applications in Marketing Analytics* (pp. 119-148).

www.irma-international.org/chapter/fuzzy-multi-objective-association-rule-mining-using-evolutionary-computation/170342

Towards Clinical and Operational Efficiency through Healthcare Process Analytics

Vassiliki Koufi, Flora Malamateniou and George Vassilacopoulos (2016). *International Journal of Big Data and Analytics in Healthcare* (pp. 1-17).

www.irma-international.org/article/towards-clinical-and-operational-efficiency-through-healthcare-process-analytics/171401

A Predictive Analytics Framework for Blood Donor Classification

Kavita Pabreja and Akanksha Bhasin (2021). *International Journal of Big Data and Analytics in Healthcare* (pp. 1-14).

www.irma-international.org/article/a-predictive-analytics-framework-for-blood-donor-classification/277644

A Survey on Models and Methods for Preference Voting and Aggregation

Ali Ebrahimnejad and Farhad Hosseinzadeh Lotfi (2017). *Data Envelopment Analysis and Effective Performance Assessment* (pp. 57-82).

www.irma-international.org/chapter/a-survey-on-models-and-methods-for-preference-voting-and-aggregation/164823

Big Data Applications in Vaccinology

Joseph E. Kasten (2021). *International Journal of Big Data and Analytics in Healthcare* (pp. 59-80).

www.irma-international.org/article/big-data-applications-in-vaccinology/276927