



**البنك المركزي التونسي**  
BANQUE CENTRALE DE TUNISIE

## *An Estimated DSGE model with Financial Accelerator : The case of Tunisia*

**Hager Ben Romdhane**  
**Central Bank of Tunisia**  
**Unit Research**

**Under Coaching Program,**

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# Outline

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- Motivation
- Methodology
- Data description
- Major findings

# Motivation

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- *After the financial crisis (2008-2009), financial market conditions have turned out to be relevant factor for economic fluctuations,*
- *assess the link between the real and financial sectors has an important issue not only for developed countries but also for developing ones, such as financial channels play an important role to amplify the business cycles,*
- *For Central Banks, a good understanding of the business cycle dynamics requires adding financial market frictions in macroeconomic models,*
- *The object of our paper was to assess the importance of financial frictions and their role in the transmission of transitory shocks.*

# Methodology

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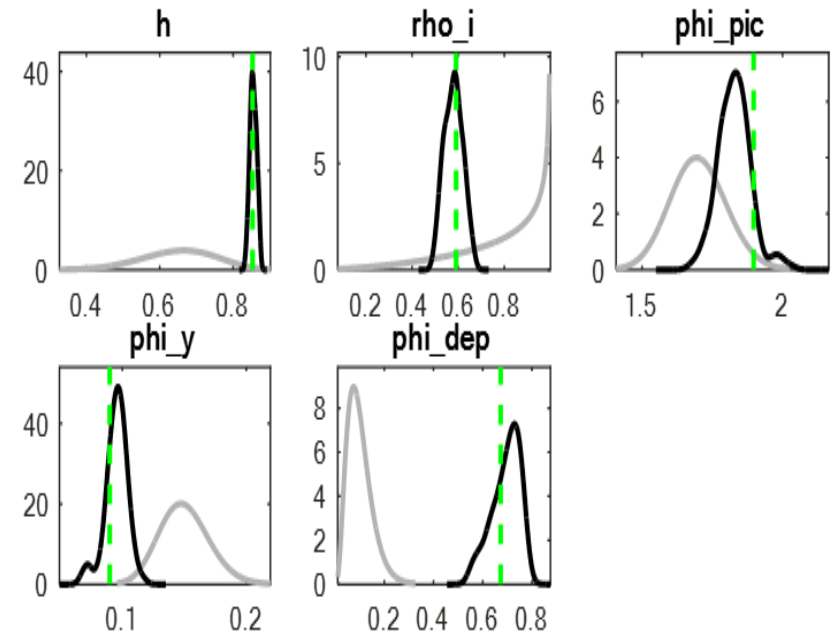
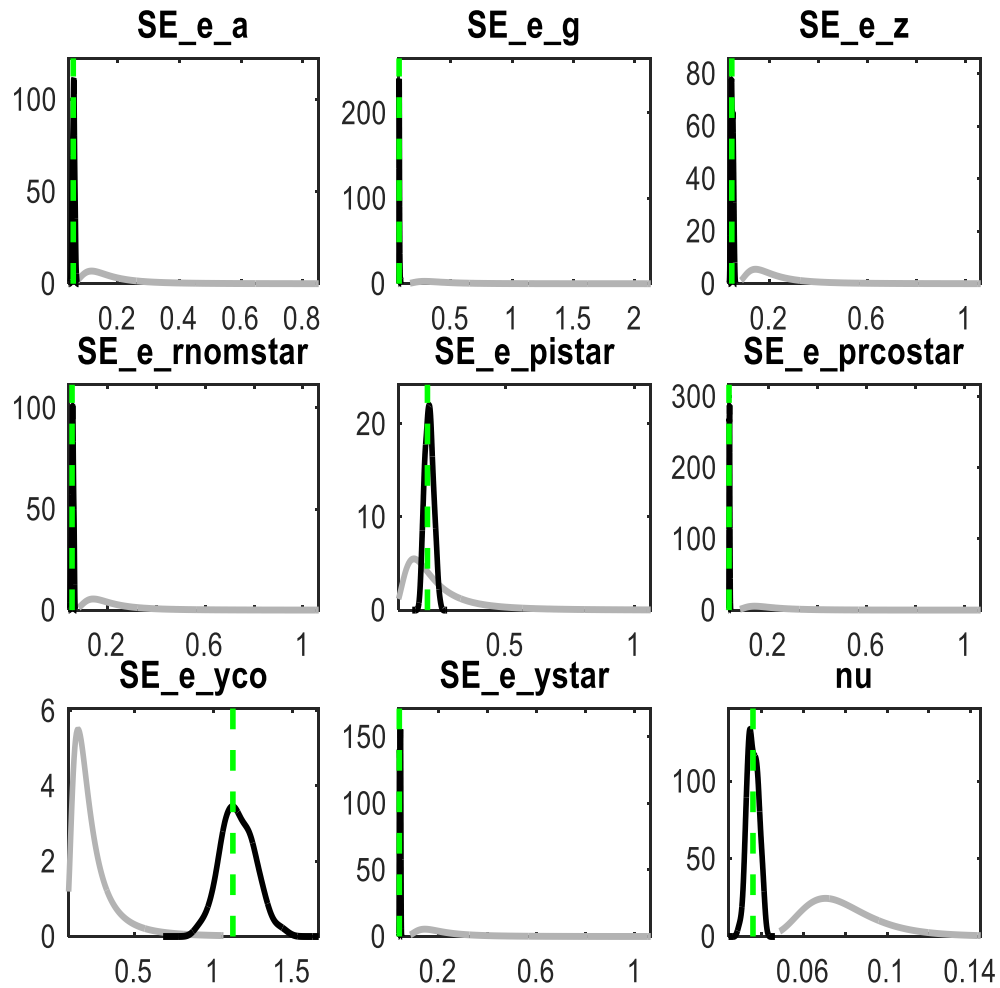
- *Our methodology consist to build a New Keynesian stochastic dynamic General equilibrium (NKDSGE) for a small open economy adding the Financial accelerator mechanism à la Bernanke , Gertler and Gilchrist(1999).*
- *Our model is estimated by Bayesian approach via Metropolis Hasting algorithm using Tunisian Quarterly data.*

# NK DSGE model

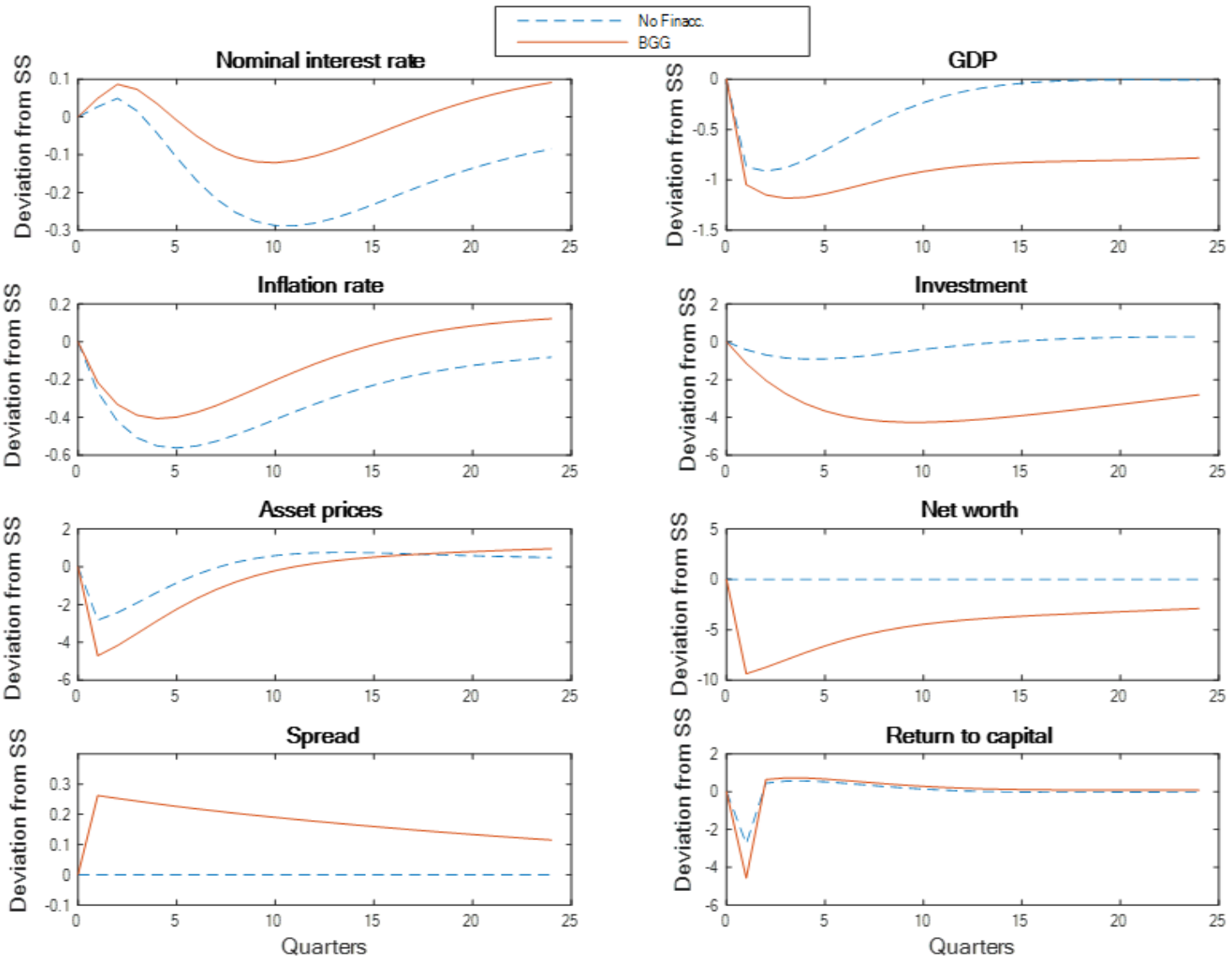
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- *Our economy is populated by a representative households , entrepreneurs foreign sector central bank and the government authority, households consume both domestic and foreign goods thus creating a trade channel adjusted by the real exchange rate, Entrepreneurs borrow from a financial intermediaries that converts household's deposits into business financing for the purchase capital,*
- *In the context of financial accelerator, the net worth net of entrepreneurs is a determining factor in the credit conditions. In fact, a firm's net wealth has an effect on the financing premium demanded by banks. This external financing premium makes credit conditions more binding on borrowers. As a result, the feedback effects of borrowers' financial and credit conditions tend to amplify cyclical fluctuations.*

# Posterior distributions



# Sensitivity analysis



# Major findings

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- *The data are informative, as their posterior distributions did not stay very close to their priors,*
- *Empirical results support the introduction of the financial accelerator in macroeconomic models,*
- *Indeed the estimated elasticity parameter of the external financing premium is statistically significant with a value of 0.04 per quarter*
- *Results of the impulse responses functions support that the introduction of the financial accelerator magnifies the impact of shocks thereby increasing real fluctuations,*



Thank you for your attention !